RESEARCH IN EDUCATION

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RESEARCH IN EDUCATION

(INTER - DISCIPLINARY APPROACH)

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FOREWORD

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Research in Education has not received adequate attention in our country. 'A Study of Education' is therefore a welcome addition to the available literature. The success of the new educational policy depends so much on educating and reorienting the educators. This Volume consists of a number of thought provoking essays covering a wide range of subjects from Teaching and research in education in South Indian Universities to case studies in communication behaviour of educational administrators. Other topics covered include Philosophy and Educational research, Psychology and educational research, Sociology and educational research, Economics and educational research. History and educational research, Political Science and educational research and Management concepts and educational research. Prof. J.K. Pillai, Editor, deserves to be congratulated on this thoughtful Collection of Essays at a time the nation is preparing to introduce the New Education policy.

PREFACE

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This book is the outcome of a national workshop sponsored by the Indian Council of Social Science Research, New Delhi, organised by the Department of Education, Madurai Kamaraj University from 5th to 7th November, 1981.

The goal of the Workshop was to explore ways and means of enriching educational research from related disciplines such as, Philosophy, Psychology, Sociology, Economics, History Political Science and Management Science.

The Workshop tried 1) to identify educational problems which could be studied in the context of the related social sources, (2) select priority areas in the new and emerging areas bordering education and allied social science research (3) develop special skills and competencies in designing research proposals in the above areas and (4) develop appropriate methodologies, constructs, tools and techniques for studying the identified problems.

Scholars from different disciplines presented papers and several others participated in the discussion of the theme of the seminar. The papers are grouped into various sections and each section has an overview.

The First Section deals with the study of education and the interdisciplinary models and approach to be used. The Second Section describes how educational research could be enriched through associations with Philosophical enquiry. The third points out the need for Psychological approach to educational research. The next section explains how a sociological view point is necessary for research and education. The fifth section points out that economic aspects of Education should be given top priority in educational research; Looking

at a problem in its historical perspective is the theme of the next section. Educational problems must be approached from a political point of view is the subject of the seventh section. The need for management techniques in educational planning and administration is described in the papers of the last section.

My sincere thanks to all the participants of the seminar who presented papers and participated in the discussions. I thank the research scholars who helped me to organise the material and Publications Division of Madurai KamarajUniversity for publishing this book.

MADURAI-625 021 J.K. PILLAI

I. THE STUDY OF EDUCATION

I. I TEACHING AND RESEARCH IN EDUCATION IN SOUTH INDIAN UNIVERSITIES ★

1. Education as a subject of study

Even though the theoretical and academic study of education is as old as Satapatha Brahmana and Chandogya Upanishad in India, and Plato and Aristotle in the West, and has been discussed again and again throughout the centuries by philosophers, historians, political scientists, sociologists, economists and behavioural scientists, an integrated, interdisciplinary approach to the study of education is yet to be established in our universities.

The study of education developed largely out of the one year professional preparation of school teachers. This course was essentially a semi vocational course with a strong practical bias and emphasis on preparing for efficiency in the class room. Hence the study of education as distinct from practice became cramped and limited.

Education as a subject of study did not find a place in Indian universities till 1917, when the Sadler commission made a positive recommendation that "A Department of Education should be set up in each university to promote systematic and practical study of the science and art of Education". It also stressed that this department should function in close collaboration with those engaged in the related practical areas

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of Educational Psychology, Philosophy, History, Economics and sociology. The commission hoped that the "Education Departments would develop into centres in which educational problems would be studied in their entirety by utilizing fully the theory and methods of other fields which have something to offer to the understanding and solving of these problems". These recommendations are of great significance in the history and development of the study of education and Educational Research

Following the recommendations of Sadler's Commission, the universities of Aligarh and Banaras started departments of Education during the twenties of this century. Bombay started the M Ed degree in 1936 and Madras in 1940, both in their affiliated training colleges only By 1951, in the whole of India, 16 universities had facilities to offer M Ed. and by the sixties, more than 50 universities started the post-graduate M Ed. courses.

The picture of the study of Education in South India is slightly different. Till recently, all aspects of Education, which meant only 'Teacher Education', and even the post graduate and advanced study of Education, were looked after by the Training Colleges-later called 'The Teachers Colleges, or Colleges of Education' Meston Training College, Madras, Teachers College, Saidapet and Sri Ramakrishna Mission Vidyalaya Teachers College in Tamil Nadu, Government Training College, Rajahmundri, College of Education and Osmania University in Andhra Pradesh, university Training college of Karnatak university are worth referring for their contribution in the field of Teacher Education Excepting for university of Kerala and Annamalai university which started their Departments of Education during the late fifties, in all the other universities including the oldest, the university of Madras, departments of Education came into existence only during the sixties and senventies.

2. ***Profiles of the departments of Education*** :-

A questionnaire was sent out to the departments of

Education of all the Southern universities and the basic data provided in this paper is based on the responses received. (See Annexure) (Some universities did not respond.)

Courses and course Content.

It is found that all universities except Annamalai university, offer, in the departments. courses beyond the B.Ed., Course, B Ed being offered by the colleges of Education affiliated to the universities.

B Ed ,

The courses connected with teacher education, namely B Ed and M. Ed. have broadly similar course content in all the universities The one year B.Ed course offered has a theoretical and practical aspect and there is quite some uniformity in the 'foundation papers' Almost all universities include philosophical, psychological, sociological and historical foundations as compulsory subjects. Under teaching methods, two school subjects are prescribed for specialisation. The recent trend is to revise the B.Ed , syllabus on the pattern of the 'framework' suggested by the National Council of Teacher Education, to include 'working with Community' as one of the important practical activities

M Ed ,

M Ed., as an advanced professional cum academic course of one year's duration for full time students and two years for part time students is offered in almost all university departments except University of Madras. All the fourteen affiliated colleges of Education in Madras, University area and five colleges of Madurai Kamaraj University area offer M.Ed , course. The course content for M Ed also is more or less similar, the differences being only in emphasis Advanced courses in Educational Psychology, Educational Sociology, Research Methodology, and Educational statistics are offered in some form or the other as compulsory papers in all the university. The elective areas vary from university to universities Besides the conventional courses like Comparative Education, Educational Administration and History of Education, most of the southern

universities are breaking new grounds and include the latest and most recent developments in the study of Education, depending on the academic inclinations and the expertise of the departmental staff Educational Technology which comprises systems approach to Education, programmed instruction, personalized system of instruction, modular scheduling etc, is one area of specialization of the Department of Education of Madura Kamaraj University. The new direction of the university of Kerala is specialisation in Environmental Education, Science Education, Mathematics Education, and pre-school Education. Calicut seems to be interested in Nonformal education and Psychometry: Karnatak University in Educometry, S.V. University offering Economics of Education and Experimental Education, Bangalore offering Advanced Educational Sociology Communication and Education etc. Madras. University offers two groups of elective subjects, one dealing with Science Education, Language Education, Mathematics Education etc. and the other, education at different levels such as pre-primary education, secondary Education, etc.

In addition to the core and elective papers, dissertation is compulsory in all the universities execpting the correspondence M Ed of Annamalai and Madurai-Kamaraj Universities where theory papers in lieu of dissertation are offered.

B.A.

Education is offered as a subject of study at the undergraduate level only by the Karnatak University in the affiliated arts colleges.

M.A / M Sc.

Andhra and Osmania Universities offer two years, M A. programme in Education, originally started as liberal course but recently there is a move to make it equivalent to M Ed. with inclusion of some teaching practice. The criticism is that the courses offered for the M.A. as liberal studies programme, are not very different The Regional College of Education Mysory offers, besides B.Ed., M.Ed. and Ph D., a two year M.Sc., Science Education course.

M. Phil.

From the available information, it is seen that at least seven universities offer M Phil courses in Education. The course is generally of two semesters and there is a large variation in course content. Advanced Research Methodology and Dissertation are uniformly offered in all the universities In Sri Venkateswara University the M. Phil course is primarily a research training course with two written papers and dissertation. University of Kerala has designed the M.Phil course oriented towards Mathematics and Science Education for masters degree holders in Science and Mathematics Calicut University offers a flexibile programme with four compulsory papers and one dissertation and the details of syllabus are worked out for each individual student. In the university of Madras three written papers with a dissertation are offered, one of the written papers being an internal paper. Madurai Kamaraj University offers two programmes, one as a Pre-Ph D.programme for the M.Ed. candidates and another interdisciplinary M Phil for candidates with a good masters degree in any of the related disciplines such as Philosophy, Psychology, History, Sociology, Economics and Political science. The aim of this interdisciplinary M Phil is to introduce the social science scholars to studies in Education and enable them to study educational problems related to their parent disciplines.

Ph.D

All the universities register students for the Ph D. degree and on analysing the topics, it is seen that the area covered is not thematic in the correct sense but there is an attempt to focus on certain areas. University of Kerala seems to have done a fair amount of work on Folklore Education, Environmental studies, Language Education and preschool education. S V University is currently engaged in research on Reading, Bangalore on Psycho-Social-Economic correlates of Scholastic achievement. Calicut University on models of non formal education for culturally deprived. University of Madras on micro teaching and feedback analysis, Madurai Kamaraj University on individualization of instruction and teaching competencies

in higher education, and Karnatak in lecture pattern and educational supervision.

Diploma Courses :

Atleast four of the Southern Universities offer diploma/degree courses for teachers of Higher Education. Madurai Kamaraj University offers a two summer vacation course for serving college teachers leading to a post graduate Diploma in Higher Education. University of Madras offers a one semester evening course leading to a Diploma in Higher Education and Annamalai and Calicut offer full time two semester courses for candidates with masters degree in Arts and Sciences leading to masters degrees in Higher Education/College Teaching (M H Ed, M C T) respectively (Both these courses have been suspended during the year '79-80) Other diploma courses offered are in School Management Educational Technology, Adult Education, Guidance and counselling and Educational management.

Staffing :

As most of the Departments of Education of the Southern universities have come into existence recently, they are all small in size with one Professor, one or two Readers and two or three Lectureres. The University of Kerala has a big department with one Professor, 5 Readers and 6 Lectureres, Annamalai University has about 22 members on the staff.

Teacher-Student ratio :

As most of the university departments offer mainly M Ed., M Phil, and Ph.D. programmes, the teacher-student ratio is around 1 : 5 to 1 : 8 The ratio for Annamalai University is 1 : 39, as their Department offers full time B Ed, and M H.Ed., besides M Ed and P.hD programmes.

Facilities :

Most of the departments have departmental library and equipment like duplicators, projectors, calculators, taperecorders and other audio visual aids. The University of Madras has

established a closed circuit television studio and lab and plans to do more research in teacher behaviour. Bangalore, Kerala and S.V. University have Psychology laboratories and Kerala has a language laboratory in addition Madurai Kamaraj University is developing an Educational Technology laboratory and Karnatak University has an 'Educometrics laboratory'.

Departmental research :

Most of the staff of the departments have taken up one or two research projects with financial aid from U.G C. or NCERT or ICSSR mostly in the areas of individual interests of the staff There is not much evidence of consistent work around a theme of field or study.

Services :

Most of the University Departments have recorded that they do not have a specific extension services department but do extension services to schools and colleges by conducting courses, seminars, symposia, workshops etc. in teaching techniques, evaluation techniques, guidance and counselling with financial support from UGC or the university or the respective colleges

Developmental plans :

Most of the universities plan to offer new courses, especially diploma courses in need based areas such as Adult education, Nonformal education, Education for the Blind, Handicapped etc

Quite a few departments have plans to establish Testing centres, Guidance Bureaus Curriculum Wings, Adult education Departments etc. University of Madras and S.V University have separate full fledged Departments of Adult and Continuing Education.

Correspondence courses :

The recent trend in the southern universities seems to be to open up correspondence courses in Teacher Education Mysore, Annamalai and Madurai offer correspondence cum/contact B.Ed

and M.Ed. courses mostly for teachers in service. The M.Ed. correspondence course is criticized on the score that they are sacrificing the research element by offering theory papers in lieu of dissertation.

3. *Limitations, controversies and Achievements* :

The very fact that the departments of Education were started only recently in the Southern universities has proved to be a great strength. These departments have managed to overcome some of the weaknesses which other older departments had developed during the forties and the fifties. Some of the weaknesses associated with the study and research in Education are :

1. The study of Education has been dominated by the Teacher Education; mostly school teachers have availed themselves of the opportunities to study 'Education' at the post graduate level.

2, Teaching and study of Education is disjointed and disintegrated, and it is more a "series of unrelated pursuits on a confused discussion of educational problems. where, philosophical, historical, psychological or sociological or other issues jostle against one another, none being adequately dealt with".

3. Educational research has failed to cater to the educational needs of the country. It has failed to provide meaningful solutions to real problems of Indian social conditions.

4. Educational researches are rather introverted and very little effort has been taken for enriching educational research by bringing together various disciplines. Many factors have limited the full development of Education as a subject of study in its own right. The controversies such as,

—whether it is a discipline or a field of study,

—whether it is a liberal or professional study,

—whether Education is essentially a practical activity or a theoretical pursuit.

—whether it should be offered as a part of undergraduate programme or post graduate programme or continue to be offered only in B.Ed. and M.Ed.,

—whether Education as a discipline is derived from other basic disciplines or whether the basic disciplines also have developed out of studies on Education — continue to be debated even today.

The departments of Education of most of the Southern universities have had certain advantages over the departments established earlier in the north.

Most of the Heads of department and the staff members of southern universities have had exposures and training in empirical research techniques and related statistical techniques, the trends of the sixties.

The Southern Universities insist that the staff of the Education Departments and colleges of Education should have a basic post graduate degree besides M.Ed and/ or Ph.D. in Education. Hence scholars having a master's degree in the related disciplines and who have done some interdisciplinary research projects are being recruited more and more in these departments. This has made possible, a dynamic relationship between the related fields and borrowing, on equal footing of methods and constructs from cognate disciplines. A survey of the research topics the departments of Education are working on, proves this point.

Researches in Teacher Behaviour, Motivation, Leadership, Decisionmaking, Achievement Motivation, Correlates of Achievement, Aptitude, Interests etc show the integration of Psychology, Social Psychology and Education. Studies on sociometric status, role analysis etc. prove the interchange between sociology and Education. Researches in language learning resort to mathematical models of communication. Correlational analysis, measures of dispersion, regression analysis etc. are widely used as statistical techniques in educational research. Research on Compensatory Education, Factors of Cultural Deprivation, Poverty

and Illiteracy, Effectiveness of mass communication media etc. use transdisciplinary, cross or multi-disciplinary methods and constructs. Studying costs of education, Manpower Planning. Costbenefit analysis, Accountability in Education etc use research techniques of Economics Political behaviour of students and teachers is of recent interest. Management concepts such as Systems approach, Management by Objectives, O.D. approach, PPBS etc. are being applied to study the functioning of Educational organisations.

Thus we can, with confidence, maintain that teaching and research in the departments of Education of Southern universities are more relevant, up to date and interdisciplinary in approach. There is intermingling of related disciplines to some extent and educational problems are being studied in the context of the related social sciences.

The Southern Universities would do well to develop a number of specialised departments based on the different subdisciplines within the field of Education, on the model of the Sociology of Education unit in Tata Institute of Social Sciences the Economics of Education unit of Bombay University, Social-Psychology unit of Allahabad University etc. We need to develop centres with special skills and competence in applied fields such as Educational Management, Distance Education, Educational Technology, Science Education, Higher education etc.

With closer liaison between the disciplines allied to Education, with reciprocity, mutual understanding and respect among the disciplines and better colloboration among the social scientists, the hopes of Sadler that Education departments should become centres which would contribute to solving educational problems would come true.

REFERENCES.

1. Buch. M B. (Ed) A Survey of Research in Education, 1974.
2 Tibble J W (Ed), The Study of Education, 1966.
3. Shukla, S., The Study of Education in Some Indian Universities, 1979.

ANNEXURE

Department Profiles

State	University	Year of establishment of Education department	Courses offered	Teacher Sutdent ratio
Tamil Nadu	University of Madras	1976	M.Phil, Ph.D., Dip.in Higher Education. Dip. in School Management	1 : 10
	Madurai-Kamaraj University	1976	M.Ed., M.Phil, Ph.D., P.G. Dip. in Higher Education,	1 : 10
	Annamalai University	N.A.	Basic and applied pedagogy courses for all M.Phils.	
			B.Ed., M.Ed., M.Phil, Ph.D. M.H.Ed., Dip. in Tamil Teaching	1 : 39
Karnataka	Karnatak University	1962	M.A.,M.Ed., M.Phil., Ph.D.	1 : 12
	Mysore University	1960	M Ed., D.Ed., Ph.D. ,	1 : 6
	Bangalore University	1967	M Ed., Ph.D.,	N.A.

Andhra Pradesh	Andhra University	N.A.	M.A., Ph.D.	1 : 8
	Osmania University	N.A.	M.A., M.Ed., M.Phil.,Ph.D. Dip. in Collegiate Ed.	N.A. 1 : 5
	S.V. University	1971	M.Ed., M.Phil., Ph.D.,	1 : 5
	Hyderabad University	X		
	Kakatiya University	X		
	Nagarjuna University	X		
Kerala	University of Kerala	1957	M.Ed., M.Phil, Ph.D.,	1 : 5
	Calicut University	1974	M.Ed., M.Phil., Ph.D. M.C.T.	1 : 5
	University of Cochin	X		

N.A. = Not Available.

x = does not exist.

I.2. THE INTERDISCIPLINARY APPROACH

A Conceptual-Theoretical Framework

The term interdisciplinary research is unfortunately one of the most misunderstood terms in social research. The fact that a correct understanding of the concept is necessary for its useful application needs very little emphasising. The present paper attempts to examine the conceptual and theoretical implications of the concept, with a view to developing a broader and more functional definition and understanding of the concept.

The Basic Framework For Operations :

Interdisciplinary approaches refer to designed activities for creating scientific knowledge by the interaction of two or more disciplines, made to interact in appropriate ways. The interaction can occur in a natural way when two established disciplines have common objects of discourse: We can classify these disciplines as *intersecting* disciplines, where the interaction is more or less involuntary and natural. But there are disciplines which can be purposely made to interact with the sole intention of creating new knowledge. These disciplines are mostly non-intersecting, but made to interact according to some defined design or system. We will label them as interactable disciplines. It is the second type of disciplines that is of interest to inter disciplinary workers.

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The distinction can be illustrated by considering two established intersecting disciplines which are interesting disciplines—Physics and Chemistry. Both the disciplines have common objects of discourse in that both the disciplines are concerned with the study of matter and energy Hence research work in one area is bound to lead to the creation of knowledge in the other area and vice versa. Mathematics and Physics can more appropriately be classified as interactable disciplines. The methods of Mathematics were willfully introduced into Physics, to make the study of the dicipline more precise, at a particular stage of development of the subject. Other examples of this approach are the use of statistical method in Psychology, use of the comparative method in education, or the use of the Scientific method in sociology.

Usually, when two interactable disciplines are interacting, the resulting product may be of more utility to one discipline rather than to the other. In very few cases at least, the interaction may be of mutual benefit to both the disciplines. The extension of measurement techniques from Psychology to Sociology has resulted in new knowledge whidh is shared equally by both Psychology and Sociology.

Knowledge And Modern Society :

Modern society considers knowledge as an important resource. Since knowledge has the potential for economic-development, it is one of the most valued assets of a society. From an 'agrarian society' and a 'producing society' and a 'learning society' we are fast progressing to the status of an 'information society'. The wealth of a modern society has to be measured in terms of the quantum of functional information available to it, and the different means available for processing this information. When we speak of the modern 'cybernetic revolution', and the 'information technologies' in modern society we are admitting the fact that 'modern societies have become 'information-conscious' or 'knowledge-conscious'. Information resources then have to be explored and developed in same way we have been developing physical and human

resources in the past. In modern connotation, knowledge is used synonymous with information, or its different derivatives, information processing, ideation, conceptualization, symbolization etc.

The term knowledge, as used in modern Social Sciences refers a description of same object, real, or imaginary. When knowledge is symbolically expressed, it has both a subject and a predicate. We say that *Knowledge of something consists* in asserting some proposition about any object of discourse. Whether grounds for developing the proposition are sound-enough will be decided by a theory of knowledge. Theory of knowledge enters into the question of the goodness or soundness of the bases or premises used for developing a proposition (eg. the defensibility of the logical structure used, conformity with empirical evidence adduced etc). New propositions in any field can be developed by borrowing constructs, methods and data drawn from one or more of the interacting disciplines. With what efficiency we can do this, becomes an important concern of an 'information society'.

Research as Information Processing :

When broadly interpreted, all research activities are acceptable methods of 'information creations' attained through 'information processing'. The processed information (information that stands the test of empirical verification) are fed into the body of existing scientific knowledge, and thus the discipline made to grow or develop. When we speak of scientific knowledge, we are referring not only to the disciplines which were traditionally classified as the sciences, but to all disciplines which are built upon knowledge drawn from empirically verifiable observations or facts and systematised according to some logical scheme. It is in this context that interdisciplinary methods of research, need detailed exploration as methods of information processing.

Characteristics Of A Discipline :

We have to consider in some detail the actual process by which disciplines interact. For this we have to consider the term discipline before we can consider the secondary implications. We may assume the existence of a discipline under the following conditions :

a. A body of knowledge of sufficient depth and breadth exist within it.

b. There is some logically meaningful method or system using which the 'apparently discrete' pieces of knowledge existing in the area can be integrated in the conceptual system.

The process of putting together of pieces of knowledge (or integration of isolated elements) is usually achieved with the help of any one or more of the following logical approaches.

1. *Functionally* in terms of what the knowledge does; for eg. different aspects of knowledge relating to the study and treatment of diseases is integrated into one discipline viz. Medical Science, study of human social conduct as prescribed or enforced by the society or the state gets organized into the discipline of Law.

2. *Constructually* in terms of the major constructs or objects of discussion. eg. Knowledge relating to living things gets differentiated into Biology; study of phenomena relating to matter and energy gets differentiated into Physcial Science : study of the properties of spatial elements and constructs gets differentiated into Geometry, study of symbols and systems used for human communication gets differentiated into Linguistics etc.

3. *Methodologically* in terms of the major method used in processing knowledge.

eg. deductive method used in Mathematics: historical method used in History; experimental method used in the Sciences.

Processes used in the creation of new knowledge :

With the term discipline defined, we are in a position to examine in detail the process by which new knowledge is created. The following major processes can be identified :

1. Processing knowledge within a discipline using methods peculiar to the discipline :

eg. use of experimental method to find out new laws in Physics; use of the deductive method to prove new propositions in Geometry.

2. *Processing of knowledge within a discipline using methods peculiar to another discipline.*

eg. use of the experimental method peculiar to the physical sciences for the study of Psychology.

3. *Processing of knowledge outside a discipline using methods peculiar to a discipline.*

eg. analysis of demographic and census data for testing their arguement with known distributions in mathematical and statistics.

4 *Use of theoretical models within a discipline to create knowledge within a discipline.*

eg. The normal distribution model of abilities in Psychology is used for tests of significance, which in turn, leads to data relating to group differences in mental abilities for the psychologist.

5. *Use of theoretical models outside a discipline to create new models within a discipline*

eg Use of kinetic theory of gases in Physics to explain the positioning of stellar bodies in Astronomy: the use of the theory of evolution in Biology to explain the evolution of social institutions by Sociologists.

The creation of new knowledge by any one or more of the above methods, is usully done using any one or more of the following operations:

a. *Induction*: Studying sufficient number of individual cases in a logical category to find out general principles binding them, by abstracting commonalities in phenomena or properties or behavious.

eg. Piagetian developmental stages are true for culture X. Culture Y, Culture Z, etc. Hence the developmental stages are valid for all cultures.

b. *Deduction*: Using laws or principles valid for a bigger set, obtain laws or principles which are valid for subsets of the bigger set.

eg. Counselling improves an individual's adjustment to his social environment; hence counselling well help maladjusted pupils to effect better forms of classroom-adjustment.

c. *Parallelisms*:

A theory, principle or model in one discipline is transplanted into another discipline, by replacing the constructs in one discipline by equivalent constructs in the new discipline.

eg. the moelecular theory of gases in physics used by keynes to explain the movement of money in economics. The above procedures are often combined suitable to evolve new knowledge.

TERMINOLOGY.

With the basic ideas defined or discussed,we are now in a position to enter into the Scientific defintion of the term 'interdisciplinary approach'. The term can be better understood if we try to define some of the overlapping terms as well. The important terms allied to this concept are also defined and explained at some length.

1. Unidisciplinary approach.

A research approach in which research is conducted by a single researcher or a team of researchers from one discipline work as a problem from within the discipline.

The constructs and procedures are confined to those which exist at the time of the study. The newly created

knowledge is an improvement over what exists or is only an extension of available knowledge, or in a reprocessed version of existing knowledge. The created knowledge is easily identified as belonging to the discipline. Training in the discipline is sufficient to cover the research procedures as well.

2 *Multidisciplinary approach* : a research approach in which an investigator(or an investigating team) solves a problem in one discipline by mere juxtaposition of the discipline with another discipline which has no common ground with the first.

Two apparently unrelated disciplines like mathematics and music can be juxtaposed for studying the mathematical properties of musical scales by one who is doing research in the theory of music. The system can be extended to three or more disciplines:

3. *Pluridisciplinary approach* : a research approach in which a researcher solves problems in a discipline by juxtaposing two or more disciplines which share some commonalities.

The Combination of Chemistry and physics to study borderline problems (Physical chemistry) or the Combination of Psychology and linguistics (Psycholinguistics) are illustrative of this approach :

4. *Interdisciplinary approach* :

a research approach in which research groups trained in different disciplines cooperate in solving research problems of common interest to all the contributing disciplines:

The different teams have highly varied constructs and procedures at their disposal which enlarge their sphere of action and increase their operational efficiency. There is a sound organizational structure and free intercommunication. Intercommunication is through one or more people in the team who are specially trained for such trans-disciplinary dialogues. The dialogue, is used often for solving problems peculiar to one's discipline.

The interaction between disciplines could range from simple communication of ideas and evolving common framework for actions to the higher levels of interaction and synthesis involving the use of constructs, research procedures, derivative of common principles etc. The major assumption in this form of dialogue is that no discipline is complete or self-contained; at particular stages of its development we have to think in terms of redesigning the frame work to contain parts of other disciplines. A discipline, at this stage of its growth, outgrows its methods and constructs. The sum in this case is greater than the parts. Knowledge created through such interaction can be claimed by all the contributing disciplines. Subjects like Social anthropology, bio-cryogenics, Psycho-linguistics, Philosophy of Science are all examples of interdisciplinary interaction.

V. *Interdisciplinary approach* : a research approach intended to develop a common set of axioms for one group of disciplines in an effort to develop knowledge for a superdiscipline' constructed out of the interacting disciplines.

One example of this approach is to define mathematics as symbolic logic, define the basic axioms for the symbolic system and then integrate subjects like geometry, analysis, philosophy, mathematical logic, information theroy, biomathematics, statistics etc.. into the common structure. One form of this synthesis was achieved when mathematicians tried to synthesise the two apparently unrelated areas within mathematics (geometry and analysis) into an integrated mathematical discipline. The transdisciplinary approach suggested above wi'l be an extension of the synthesis attained already.

Still another illustration is to start with anthropology as the science of man and his accomplishments', and extend its horizons to include sociological study of races. genetics, human ecology, study of culture and historical antecedents, demographic peculiarities, human communication systems etc., and evolve a superdiscipline centred round him and his accomplishments.

Specific Suggestions for Fostering Interdisciplinary Dialogue :

1. Redesign the curriculam in higher education to provide for unusual subject combinations (Mathematics with Archeology, Engineering with Sociology etc.)
2. Adopt concrete measures for interdisciplinary dialogue in higher education (eg. adoption of process oriented or problem oriented teaching to bring in other disciplines, Starting of journals in interdisciplinary areas etc.)
3. Establish 'Link Departments' in Universities (starting Departments for Philosophy of Science, Educational Psychology, Biomathematics etc)
4. Provide for many 'Service Departments (Computer Science, Cybernetics, Statistics, Operation Research, Social Science Research etc.,)
5. Develop a team of multidisciplinary social Scientists who can help interdisciplinary dialogue.
6. Develop a machinery for inter-disciplinary documentation and dissemination of research (preferably using multiple classification).
7. Start inter-departmental and interdisciplinary councils in higher education.
8. Adopt suitable steps to avoid undesirable forms of interactions personality clashes and rivalry between disciplines.

I.3 CHOICES FOR RESEARCH IN EDUCATION A NOTE ON CRITERIA

Perspective :

Research in Education has enormous potential to promote and foster a wide variety of development efforts. It can, and ought to be so, provide the bases for decision-making in Planned social and economic change. It can create a platform for meaningful dialogues between the educational thinkers, field-workers such as teachers (in schools, colleges and the University),teacher-educators (at all levels),educational researchers on the one hand and the planners, policy-makers, administrators in general (and educational planners and administrators in Particular), on the other hand, such 'meaningful dialogues' may concern those problems where in education is a causative factor or an integral component of both in planned efforts at social and economic change. It can create a rich data-base for decisions regarding: alternatives in educational and socio-economic planning, implications of policy choices on social and economic and political life; costs of alternative strategies and relative returns; human resource requirements and adequacy to work out the plans; methods of human resource development etc. It can try out (experiment) many of these strategies in educational and socio-economic planning and provide 'tested truths' to decision-makers Such research and experimentation would enable one and all to

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minimise the costs on development and maximise the returns. In these terms, the role of an educational researcher is that of 'a friend, philosopher and guide' to the educational planner, policy - maker and administrator. Such a role cannot be underplayed in a developing society like India where the investment on education itself is 4 percent of the total national expenditure (Data from VI Five Year Plan) and that on research is hardly 4 percent Every rupee spent on educational research has to be utilised to the maximum advantage of planned socio-economic (including demographic, political, psycho-social etc.) changes and development-efforts.

Criterion I:

Identification of problems and priorities in educational research has to be made in the context of the forgoing frame work. It would be advantageous to initially identify the wide variety of problems in educational research and then lay down priorities The objectives of national development (especially social and economic development) as defined in the constitution, the amendments to the constitutions there in : documents on planning with special reference to the VI Five Year Plan, the outlines of sub-plans (plans for weaker sections of society), the minimum needs programme : other plan-documents such as perspective plans, reports (of committees and commissions); etc., would be the sign-posts for identification of problems and priorities. Problems of research in education may be broadly classified into two types :

(a) Planned efforts in using education as an instrument of social and economic change : special reference is made here to the various levels of education such as the primary, the secondary and university education; technical and technological education; vocational education etc; Research is possible not only in the various levels and forms of education taken as independent units but also regarding the relative advantages in investments on such levels and forms of education; the investment strategies and socio-economic returns from the same for individuals and society as a whole. Questions of social and

economic mobility, social change, social stratification; implications of such mobility and change for emotional integration and national stability; equalisation of educational opportunity-socio-economic implications of 'sponsored mobility' in contrast to 'contest mobility'; returns to education of women, physically handicapped, socially disadvantaged persons; regional imbalance in educational and socio economic development and the role of education in narrowing or widening, such imbalances; etc., are all illustrations of problems. They are merely suggestive. Research on curriculum, the learning process, evaluation practices etc , may also gyrate around these problems.

(b). Planned efforts in social and economic change where education is an integral component Many efforts in development (rural, urban, rural-urban continuum) pre-suppose certain conditions for their success. The planner, the policy - maker and the administrator may not be aware of such pre-conditions or simply ignore them. For instance, society may offer many development opportunities for the ruralite. Apart from the intrinsic merit of these opportunities, response to such opportunities also lies in the (level of aspiration, needs, education etc;) motivations of the ruralite (Twenty can carry a horse to the pond; but the horse alone has to drink). Rural response to development also depends upon the level of education of the ruralite. To what extent, taking note of economic level and social class of the ruralite, is education a factor in development planning. The field of non-formal education provides rich possibilities in preparing the ruralite for development-response. Similarly, there are many development efforts the success of which depends upon the training, perception and field level efficiency of the functionaries in such efforts. The planner may either be unaware or deliberately ignore these requirements. The manpower needs of development need attention.

Criterion II.

Learning from what others are doing :

India is not the only developing country in the world. There are many other such countries, Research is being

carried out on strategies and methods of planned socio-economic change in relation to education in these countries also either by themselves or by international agencies like the International Institute for Educational Planning, Paris, (IIEP), the organisation for Economic Cooperation and Development (OECD), the World Bank, internationally reputed research institutes, etc. It would be advantageous to familiarise oneself about the foci of interest; results of research in terms of policy implications, methods and strategies of solving problems; implications of cost etc., before one lays down problems and priorities.

Criterion III.

Not to repeat what has been done :

Research in education has a long history though planned efforts to streamline it are recently being made. As at present there is a rich and varied research literature on educational problems and problems of social and economic development where education is a variable. It would be useful to familiarise oneself with such literature so as to identify gaps and limitations in research-information. This would help the researcher in avoiding duplication of effort and wastage of resources. The survey made by the Centre of Advanced Studies in Education (CASE; 'Survey of Research in Education' 2nd Edition) is one such source book. There are many other similar efforts also.

Criterion IV,

Workable research plans :

It would be advantageous to keep in mind questions of cost (for research), man-power needs, time constraints and practicability while laying down problems and priorities.

This paper is only normative, illustrative and suggestive. It could not be organised better for want of time Still I hope that it would assist a meaningful and valuable discussion.

1.4 INTERDISCIPLINARY MODELS IN EARLY TAMIL LITERATURE.

It is fashionable to talk about 'disciplines' rather than subjects, even when the speaker is thinking only of subject matter, conveniently organised, transmitted, and unfortunately memorised for examinations and forgotten soon after. Actually disciplines of knowledge are much deeper in conceptualisation and significance. King and Brownell have analyzed the literature on the subject and characterised a discipline as a community of persons: a domain; a syntactical structure- a mode of enquiry; a specialised language or other system of symbols; an expression of human imagination; a tradition; a conceptual structure; a heritage of literature, artifacts and network of communications a valuative and affective stance; an instructive community.

Interdisciplinarity is a term loosely used by many people, ranging from mere co-pressence of or contact between two disciplines to genuine interaction between them. Juntsch has developed a hierarchical model of interdisciplinarity. The lowest level is termed by him as *multidisciplinarity* in which a variety of disciplines are simultaneously presented without developing any explicit relation.

It is a one-level, multi-goal array of the disciplines, without any attempt to develop any co-operation between them. *Pluridisciplinarity* also is a one-level, multi goal array or

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juxtaposition of disciplines, but in this case there is some co-operation, though not coordination.

The disciplines are grouped to enhance the relation between them. In *cross-disciplinarity* too the disciplines operate on the same hierarchical level. But there is a tendency to develop one goal through the imposition of rigid control and axiomatics from one discipline.

When we come to genuine *interdisciplinarity*, it is possible to discern two levels of organisation. On the one hand each discipline can be seen as juxtaposed at one hierarchical level.

But coordination is effected from a higher level, i.e. the common axiomatics for a group of related disciplines is defined at the next higher hierarchical or sub-level, giving a sense of purpose to the corporative enterprise. Coordinated interdisciplinary exercises can lead to *transdisciplinarity* in which all the disciplines are coordinated in an educational innovation system on the basis of a generalised axiomatics.

Thus a multilevel, multigoal model, unified and coordinated towards a common purpose tends to be developed.

This brief preamble on interdisciplinarity would hopefully give us the needed perspective to see early models on the treatment of disciplines in a broader perspective than that of the compartmentalized subject-matter divisions euphemistically called disciplines) to which our rigid educational system has conditioned us (which of course the greatest among the scholars even today tend to transcend and develop genuine sense of discipline, interdisciplinarity and even transdisciplinarity.)

The Tamil scholastic tradition not withstanding its high analytical stance, does not present the truncated subject matter fields as the primary component in the transaction of knowledge.

Tolkappiyam presents only two classes of work:-

1. Mudal nul (the original or primary work) is that which has been written by the Pioneer (munaivan) of Lustrous

knowledge who has broken the fetters of action. 2. Vazhi-nul (the secondary work) which has arisen out of the original work. As shall be seen in the further discussion, both these classes of works had a breadth far above what we would now call disciplines of knowledge. Later grammatical works recognise a third class of works called Sarbu nul (tertiary or dependent work) which may fall closer to what we woulp now call subject fields or disciplines. They are just dependent auxillary works and lack the comprehensive purpose reflected in the Primary work or even in the first degree secondary works.

We skip the discussion about the doubtful identific cation by a Tolkappiyan commentator of primary work as *Ahattiyam* (Agestyam) and proceed with a discipline-related analysis of Tolkappiyam itself and the collateral works called sangam literature and Cilappadikaram dating back to nearly two millenia, since these are fairly complete primary sources which could yield rich divident if subjected to a disciplinary process analysis. The arguments made out in the present analysis cannot be fully appreciated unless the reader is able to transcend the restricted meaning in which scholastic terms are now being used. The word 'pulavar' is now taken to mean poet or scholar in the field of Tamil. On the other hand the sangam Pulawar is simple one who is a master of the fields of knowledge (pulam) He was simultaneously a poet, master of literature, botany, philosophy etc. Let us pursue this analysis by taking two models.

A The sangam convention of transacting knowledge using the naturalistic-amoristic convention as the disciplinary base or pretext.

B. The muttamizh model, typically illustrated by Cilappadikaram among the extant works.

A) The sangam disciplines using naturalistic-amoristic classification

The point made out in this section is that the Tolkka-ppiyam/Sangam classification of the major literary themes (thinai) and subthemes (turai) represent a unified form of disciplinary

processing which cuts across what we call disciplines in the present day. Even according to the classificatory model of the sangam times, there are two levels-14 major themes being presented at one hierarchical level, and the unifying concepts of private life (aham) and public life (puram) at another level.

This interdisciplinary Perspective of Sangam literature dawned on the investigator in the course of his long investigations on the Tamil concept of education and particularly after reading the doctoral dissertations of two distinguished Vice-Chancellors of the Madurai-Kamaraj University. Dr. Mu. Varadarajan has made a valuable analysis of the treatment of nature in Tamil literature. The present Vice Chancellor; Dr. V. Sp. Manickam in his work on the concept of Love in Tamil literature has underlined two typical features in Tamil-love-mutuality and the mental dimension. The nature-love parallelism developed in Sangam literature and the concepts of mutuality and mental relation naturally lead one into an educational transactional base. In developing the extension into education of his analysis, Dr. Sp. Manickam sees Aham literature as a means of providing sex education. The present writer sees in it a pretextual treatment of all education. In an earlier paper the present writer (V All India Tamil Teacher's Association, 1973) had indicated that of the simpler didactic works could be seen as materials for primary education and if Pattupattu, the epics and the more complex works of religious poets could be seen as materials for higher education the sangam aham works could be seen as materials for secondary or middle level education.

The perfect parallelism of aham puram (tinais) themes, with educational priority to aham, the theory of latent similes (ullurai Uvamam) and iraichi (more subtle overtones) which enable the treatment of geographical, climatical, botanical, zoological, anthropological and other features to be woven dextrously into the love-nature themes put in the foreground in the scholastic works. This centralisation of the amoristic naturalistic themes, make them the disciplines in the Sangam-Tolkappiyam convention. Thus Kapilar is a specialist in

kurunchi hill life) and his keen knowledge of plant life, animal life, psychology, anthropology etc. are cleverly and situationally woven with the hill as centre (vide his Kurinchippa Kurinchikkali and numerous short aham poems). Palaipatiya Perumkatumko is a specialist in Palai (desert), Ammuvanar in (neital coastal area), Peyanar in mullai (forest and pastoral land) and Orampokiyar in marutam (fertile land) Usually poems are confined to one tinai. (occasionaly the fauna, flora and 'appropriate behaviour' of one division of land occur in another. This is called tinai mayakkam (confounding of themes), a very interesting secondary model of inter-disciplinary approach) In this treatment, puram (public life) comes later with focus on history, civics, jurisprudence, ethics of social life etc. In aham the disciplinary focus is on the nature-love complex but the natural sciences, social and mental sciences, art and even history (as in paranar) come as latent similes or overtones. The arguments for the educational and discipinary transactional priority of aham treatment is summarised below :

1. The Tamil Scholastic division was based on the natural regions hill tract, pastoral land, fertile land, coastal region and desert. This provided an opportunity for scholars to specialize in terms of regions cutting across the boundaries of our present disciplines of knowldge such as geography, zoology, botany, climatology etc. In order to incorporate the social and human studies into this scheme, each region was matched against a love theme.

2. The Tamil scheme of division of the scholastic domains into tinai and turai is derived from the dramatic situations of love literature but gradually extened to other areas. In course of time the term turai (sub-theme) tended to gain independence and bagan to denote any specialized area of study:

3. The sangam works seem to have been edited, compiled and classified as if they were graded as learning materials for advanced students. Since pattupattu represents the most advanced level among these, the rest appear to constitute the secondary aham literature. Similarly among the nine sections

(iyal) of Tolkappiyam Porulatikaram, three (uvamai, ceyyul and marapu) are general; one (purattinaiyiyal) treats puram; and the other five (ahattinai, kalavau, karpu, meippattu, porul), deal with aham. The commentaries for the three general sections are heavily loaded with aham content (because aham literature is far more extensive than puram). Read with the Iraiyanar Ahapporulurai interpretation that Eluttu and col are after all instrumental and that only porulatikaram has instrinsic worth, it appears that the main intent of Tolkappiyam is to give a thorough grounding in aham scholasticim so that the advanced students would be ready to proceed to the next higher level.

4. In sangam literature it is the works dealing with aham which have been subjected to a high degree of scholastic classification and what appears to be a pedagogic gradation. These compilations are by length-from Ainkurunuru to Ahananuru and by type.

5. Aham poems of varying length are available illustrating the techniques of gradually introducing content matter in increasing depth. For example a small poem in Ainkurunuru or kuruntokai may introduce a simple unitary idea (vide, the ten short-poems starting with Nanre katalar cenra are'; but even here an emotional overtone is implied). Gradually more and more aspects of 'resultant' content describing natures' products (Karupporul) and appropriative content describing mental and dramatic behaviour (uripporul) are added. These 'pretextual' accretions in an aham 'text' are actually what we would now call the disciplines. There is both an art and a science in the way the overt and covert similies are piled one upon another. Several styles of expression, cadences, arrangements of ideas, playing with feelings, direct and indirect approaches etc are represented in aham works.

6. The psychology of emotions (meippattiyal) is dealt with in relation to aham themes. Observation of human behaviour under varying conditions of stress appears to have been systematically and scientifically done at some stage.

7. The theory of communication is very well developed in ahapporul. Though the educator's dictum that nothing is given till it is taken was not unknown to the Tamil thinkers it does not appear to have been generally observed at the primary level where tabloid works were available which could be just 'given.' But at the highest level of spiritual and intellectual education the principles of the autonomy of the learner and of partnership between the disciple and the master appear to have been very well recognised. The bridge between these two positions is found in aham literature. The Tamil concept of mutuality in anpin aintinai requires that one soul has to court another independent soul and communicate, with it in the sense of making ideas and feelings common to both. The Tamil term utampatuppu used in aham literature exactly connotes this idea of communication. A crude direct approach might very often produce the opposite of the desired effect in this delicate affair. Hence a series of sophisticated techniques implying applied Psychology, theory of communication, covert and overt similes etc, are adopted. Some of the result of poetic investigation in this field, such as nokku (look) Kurippunartal (understanding cues) etc. have been extended for their applications in the social situations as in the court and in the higher religious experience of ecstatic union with the Divine.

8. One of the typical features of higher education is the use of symbolic expression. Aham literature and its grammar seem to be designed to train scholars for symbolic expression.

9. One interesting feature of the sangam is that all sects, irrespective of their attitude to sex and love have to fit into the scholastic system based on nature and love. The Saivaite and Vaishanavaite saints of the post Sangam period reveal in this approach, treat religion in terms of sublimated love and elaborate the symbols, communication theory and scholastic sub-themes (turai). Manikkavachakar's 400 turais in Tirukkovaiyar is a contribution to the taxonomy of scholastic themes in addition to its spiritual value. But even Buddhistic and Jain scholars who would not consider sexual love as good

had to fall into this scheme. Some like Uloccanar solve the problem by singing of neidal which describes the distress which follows human love. Others adopted symbolic techniques or developed their own scheme of compromises. Anyway to pass through the scholasticism of aham was a must before one could trise to the advanced level of Tamil scholarship. Kapilar's long poem Kurincipattu depicting love in union and its national and social backgrounds to teach an Aryan King what Tamil meant is a conformation of this view. Even Lord Siva had to submit to the norms laid down by the scholars in the reatment of aham.

10. The learning of aham literature was preparatory not only to specialisation on the spiritual side as indicated above, but also to social services such as those offered in court, war and in improving the general culture of the people.

11. The crucial evidence for the hypothesis advanced in this paper is found in Tolkappiyam. If those who have faultlessly understood ahattinai set out to learn systematically the grammar of purattinai, Vetci is the 'external' of kurinchi (Tol Porul. 59).Tolkappiyar actually adds two landless themes Kaikkilai (unrequitted love) and peruntinai (abnormal love) to the basic five 'landed' or mutual love themes. Then he matches each one of the "external" or public life themes to the 'internal' or 'private' or love themes. The public themes are mainly devoted to war, instability, motivating one to a higher life, and courtly praise.

The interdisciplinary paradigm based on the Tolkappiyam/Sangam literary conventions can be represented as given in table 1.

TABLE I

Mutal Porul
Primary content science of land and time.

Karupporul
'Crop content' plant life, animal life,-a customs, dreams, ragas, religion etc.

Natural Regions of the Earth

Added Landless theme	Hill	Forest	Cultivable land	Coastal area	Desert	Added landless theme
Kaikkilai +	Kurinchi	Mullai	Marutam	Neital	Palai +	Perumtinai

Uriporul
(appropriate mental) social relations content) Psychology Human relations etc.

One-sided love + union	setting patient waiting	lovers' quarrels	longing	separation	abnormal love

Corresponding Aham (private) it Themes
Parallel Puram (Public Live) thems

Patan	Vetci	Vanci	Ulinai	Tumbai	Vahai	Kanchi
praise (of kings) etc.	steading cow preparatory to war	Aggressive war	fight around fortress	battle in the open field	victory	instability

Instrumental studies language literature Phoneme. morphone syntax poeties, science of figures of speech etc.

Military strategy. History, Politics. Civics.

Towards praise of God Higher form of religion.

Towards Higher dimension of philosophy/religion.

It is thus clear that studying naturalistic-amoristic disciplines provided the student with a firm basis for learning grammar, natural regions and their products, aspects of psychology, art, relegion, customs, social relations, theory of communication, understanding of symbols, varieties of expression overt and covert, direct and indirect, mild and strong, techniques of classification and re-classification and applied dialectic. It is possible that many students would have dropped out various stages of this process. Still their learning was not a waste. Many of them could still appreciate good drama and literature. But those who could enter into all the classifications grammar, symbols etc. implied in aham were introduced systematically to the higher form of learning which prepared them for service in the court, war, public life and religion. Many of them did original or even 'reversed' application of what was taught in aham literature and grammar example if a war episode can be a covert simile for gossip around a love affair, why not a love poem itself be used to communicate secret information in war? After all vetci is kurinchi's 'external'. Absence of explicit evidence or grammar does not weaken this argument because (1) this refers to the realm of the secret which would not be recorded (2) this is done by the advanced scholar who has passed beyond grammar.

When we take higher works like Maduraikkanchi we can see the culmination of the training obtained through these disciplines. The Pandya Prince is taken by his guru on an excursion into the History of his Kingdom (what earlier Paranar could have given only in latent simile), the various natural regions, their products and their economic value, the markets, the customs of the people, the need for justice and the highest ethical goals. We also see in this treatment excellent models of what we would now call environmental education, or even what Shafter would call ekistics (i.e, environmental education with a built in disciplinary base).

B. THE MUTTAMIZH (Three-fold Tamil)

Tamil, in the context of the discussions above, is much more than a language or even literature. It is considered as a

system of preserving and processing all relevant knowledge available to the people of the region according to certain accepted patterns of symbols, conventions, codes, disciplinary syntax, specialised language, affective stance etc, in the framework of an intellective and instructive community. In the muttamizh concept Tamil can be thought of as a supersystem which includes not only the cognitive aspects of science and literature (iyal), but also the disciplined affective components (isai=music) and Psychomotor components (natakam=dance=drama). Many of the works attributed to the early Sangam in the area of dance and music are now extinct. However, it is possible to reconstruct in some measure the interdisciplinarity in muttamizh from cilappatikaram which is fortunately available to us even though some valuable portions from the commentaries, particularly those relating to dance and music have been lost. We shall briefly present here an analysis from arangetru katai and from aicciyar kuravai. One represents the interdisciplinary analysis from and (intellectual) elitist perspective, the other from a folk perspective.

In arangettu katai the education and formal presentation of the danseuse Matavi is explained. It explains the competencies required of the masters in the several fields who have presumably instructed and are accompanying Matavi in this dance. The dance master is expected to know both the folk and classical forms, the eleven dance types and the corresponding types of song and drum, the eight styles of musical elaboration, various rhythm types, gestures for beauty and for expression of ideas, clearly demarcated analysis of different styles of dancing. The musician is expected to know the different anguages and musical tonality appropriate to each, the style of Presentation of flute, Yal (stringed instrument), drum and voice, the idea intended by the poet and how to relate all these appropriately to dance. The poet who composes and renders the song is expected to be a master of all aspects of Tamil besides being aware of the King's court (classical) style and the popular (folk) style in dance presentation and

the classification of shades, order, stress, and quality in music. Similarly the experts in drum, flute, and yal are also expected to have a keen insight into musicology and into the other musical forms as well as into dance forms, poetry and singing styles.

A still more interesting interdisciplinary insight is seen in Aicciyar Kuravi where a circle is drawn (with possibility of twelve segments, each representing a musical note corresponding roughtly to the seven white and five black notes of the harmonium), and seven girls being named after the seven notes of the musical scale. There is a hint that there is actually a transposition of music scales by the change of the tonic (Sa or Kural) as the dance progresses. In a paper presented in the First World Malayalam Conference Smt. Leela Omceri gave a demonstration of a reconstruction of the singing. She sang in the style of the old sopana Sangitam, a folk tradition of the distant past. The emphasis here was on the slow alapana style with weight on different notes, but without change of raga. The models developed by the Prof. Ramanathan, Dr. Premlatha School would yield a change of raga by treating different notes of the scale as tonic, for example, if mohanam is produced by taking any given notes Sa, and then if ri is taken as sa and the same notes are played madhyamavati will be produced, if ga is treated as Sa, the same notes will field hindolam, if pa treated as Sa the same notes will yield suddha saveri, and if da is treated as sa, suddha danyasi. These are complex musicological points which arise from simple folk dance rotation and from folk song permutations without very complicated skill variation. It is interesting that Illango has been able to see this complex musicological and multi-perspective analysis in the ordinary folk art situation. Leela Omceri proceeds to see the metaphysical significance of the dance circle divided into a possible twelve segments in its relation with the 12 segments of the celestical sphere. In the light of this one begins to understand why a folk dance of the people with a musicological variation can be expected

to affect even the stars She also proceeded to explain how a Yogic teacher and disciples can divide the parts of the body into segments and how finger mudras can be made to stand for Sa, ri, ga etc., with connection with the relevant part of the body in which one has to concentrate.

These two models can be considered as typical model of interdisciplinary and even transdisciplinary analysis comparable to the deepest points in the Jaentschean hierarchy. They represent excellent ways of developing disciplines based on environment and regional culture. They also represent models of discipline which do not shut up higher scholasticism in an ivory tower or make it a monopoly of the elite, but brings intellect into service of the ordinary people and bridges the folk and elite knowledge patterns.

Lastly, the fact that Tamil literature has produced such models is no reason to believe that we are on the top of the world or to rest on our oars and dream of the past instead of facing the challenge of the present. It should actually be a stimulus to develop working models for the present, using the relevant strengths of the past.

I.5 INTERDISCIPLINARY APPROACH TO RESEARCH IN EDUCATION

Educational Research workers are frequently criticized for the 'irrelevance' or merely marginal relevance of their work. What is more it is alleged, the findings of elaborate enquiries are either confirmations of common sense or manifestly absurd. They merely prove what we think we know. There is a grain of truth in remarks like these.

As an applied science educational research is derived from the social sciences. It is dependent upon theoretical and experimental development in various fields for its researchinstrumentation. We can show many examples to throw light upon the relations between the growth of knowledge in the basic sciences like Economics, Psychology, Sociology, Child Development and Social-Psychology and the applied, essentially interdisciplinary science of educational research. Essentially educational research is concerned with the problems of learning as they confront the teacher, the administrator and the policy maker in all the complexity of the day to day situation.

The following problems can be studied in the context of the related social sciences:

1) Financing of secondary education in Tamil Nadu-A-Cost benefit study.

2) Financing of University education in Tamil Nadu-A-cost benefit study.

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3) A trend study of Government expenditure on professional education.

4) A study of the economics of human resources and development.

5) Contribution of education to economic growth.

6) A study of basic education for rural reconstruction.

7) Achievements of children in basic and non-basic type of schools.

8) Problems of women's education at secondary level in Tamil Nadu.

9) Attitude of teachers and parents toward co-education.

10) The contribution of private management to the progress of education in Tamil Nadu.

11) A study of educational administration in TamilNadu.

12) A study of the laws relating to educational institutions (to establish, maintain and financing of educational institutions).

13) A study of the acts relating to universities and their structural aspects.

14) A study of principles of law governing staff in educational institutions of various states.

15) Progress of secondary education during the plan periods in Tamil Nadu.

16) Society and female education in Tamil Nadu before independence

17) The impact of democracy on secondary education in Tamil Nadu.

18) Study of relationship of teachers and pupils in Higher Secondary Schools in TamilNadu.

19) Socio-economic conditions of teachers working in aided and government colleges.

20) Student Union in Colleges with reference to student discipline.

21) Attitude of students towards internal assessment in colleges.

These problems show what is meant by an inter-disciplinary approach in educational research. Broadly these researches answer questions like the following :

At what age should children transfer from primary to secondary school? Does the middle school provide an appropriate solution? In primary schools, each class usually has its own teacher, but in secondary schools there are specialist teachers for each subject. Is the change-over in methods and organisation too abrupt? All these questions are interrelated. Only inter disciplinary approach to Research in Education identifies and clarifies the issues on which judgement must be made.

1.6. NATURE OF VARIABLES AND RELEVANT STATISTICS

[A researcher must have a good understanding of different variables in his research design and application of relevant statistics for their analysis. This knowledge will help him for collecting the relevant data after imposing necessary controls and more than that for the appropriate statistical treatment of the data to derive valid conclusions. The present paper attempts to discuss the different types of variables and statistial tests relevant to social science in general]

INTRODUCTION

Research is the activity of solving problems which leads to new knowledge using methods of enquiry which are currently accepted as adequate by the scholars in the field This research is designed to contribute to the understanding of ways to facilitate constructive change in the direction of human needs. Social sciences deal with the social relationships of men. The social sciences have a crucial role to play in guiding social planning. Adequate social planning depends for its success on a systematic knowledge of the societal resources and liabilities of the people and their culture of similarities and differences of organisations and operative controls of their needs, hopes and problems etc. In general the social sciences research is broadly interested in four types of data, such as,

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i. demographic characteristic of the people

ii. the study of the social environment in which people live.

iii. studying the activities in which people engage themselves.

iv. to study the opinion and attitudes of the people on a variety of social issues.

Though Sociology, Education, Psychology, Economics, Politics, Philosophy etc, share the task of scientific exploration of social behaviour and its products and therefore one finds it difficult to draw a hard and fast line of demarcation between these social sciences, nevertheless, important differences of central emphasis in the underlying principles of each devides one from the other. In social sciences research generally the individual or group behaviours are involved. The behaviours of human beings are being affected by diverse influences, such as, environmental, temporal, biological, psychological and socio-cultural factors all of them affecting contemporaneously. The complexity of the social data can largely be attributed to this. The assumption that A is present and B follows cannot be made in social sciences. This type of cause and effect laws cannot be applied to many of the variables of the social sciences. Moreover, the social scientist must realise that he is basically a part of the problem that he is studying viz, humanity. Therefore, only conditioned validity can be expected.

Variables

The term 'Variable' refers to the characteristic or a property where by a member of a group or set differ from one another. Age, sex, eyecolour, intelligence; attitude to any issue etc, are examples. The following are some of the variables under different disciplines among social sciences.

Economics : It tries to analyse the economic relationships of man, Costs, financial gains, labour, wage scales, allocated funds, demand, supply, man power needs, etc are the variables.

Politics : attempts to study the political relationships of man. Ideologies, systems, elections, trends, impact, governmental policies, political party affiliations, tenancy, owner rights, etc.

History : tries to study the activities of the races. Reforms impacts, acts, proclamations, relics, monuments etc.

Sociology : explains the social relationship of man. Structures, functions, forms, relationships, processe-size, quality, law, organisations, etc

Education : the content of education is teaching and learning. Different developments, such as, physical, mental, moral, emotional, attitudinal, methods of teaching and learning are the variables.

Psychology : deals with the behaviour of man. Reactions, emotions, opinions, attitudes of individuals, etc.

TYPES OF VARIABLES

Deperding upon the nature of variables, the variables, are classified in a number of ways. One classification may be (i.) variables of continuous series. e.g. achievement test scores, and (ii.) discrete variables. e.g. children in a family.

Variables are also known as Two valued variables and multivalued variables, with reference to the number of strata possible within the variable. Sex is a two valued variable whereas social status is a multi valued variable.

Variables are again classified as independent and dependent variables. An independent variable is the antecedent and the dependent variable is the consequent. These terminologies are mainly used in experiments. In experiments, independent variable is the treatment variable or the manipulated variable or otherwise known as active variable. In non-experimental studies, this variable is known as variate. A variate is a variable whose relationship to criterion is being studied. Here the variate is characteristic or experience shared in common

by a group of individuals. It serves as the basis for classifying individuals into groups for study.

Criterion variable otherwise known as dependent variable is a particular variable on which the subjects performance is measured. From operation point of view, it is a matter of varying the independent variable in order to study the effect of such variable on the dependent variable.

The next classification of the variables is (i.) Parametric variables and (ii) Non-parametric variables.

Parametric variables are normally distributed variables. They are measured in interval or ratio scales. The statistical tests applied to these vairables assume a mathematical model and population The observation must be independent. The non-parametric variables are measured by nominal and ordinal type of scales. They are non-normal in their distribution. The statistical tests applied to these variables do not assume any statistical model.

SCALES OF MEASUREMENT

The different variables are measured under four types of scales. They are:

i) Nominal Scale: Here numerals are assigned only to give identity and nothing else. Only equality and differences possible under this scale, e.g. eye colour, car number, phone number etc.

ii) Ordinal Scale: Certain other variables permit rank ordering of the member of the group besides the equality and difference of the variables. e.g. agressiveness, co-operativeness, etc.

iii) Interval Scale: Some other variables permit the making of statements of equality of intervals in addition to the sameness or difference or greater than or less than qualities. Here, there may not be a true zero point. It is only arbitrarily decided. Different achievement test scores are the examples for this type.

iv) Ratio Scales: These variables permit the making of statements of equality of ratios in addition to all other kinds of

statements discussed above. An absolute zero is implied always. e.g variables of physical science.

Out of these four types, the nominal and ordinal variables are of qualitative nature while the other two are of quantitative type.

SELECTION OF RELEVANT STATISTICS

Like any other part of scientific method, statistics is also capable of misuse. Not only the misuses be recognised as consumers of statistics, but in addition a study of them will help as good producers of statistics. The misuse and misinterpretation of statistical treatments are generally done in the following areas and situations.

Failure to consider changes in classification, biased sample, incomplete enumeration, use of percentages instead of actual numbers, faulty use of percentages, misuse of mean, failure to use weighted mean, faulty use of the median. mode, range, failure to use a measure of dispersion, faulty extrapolation of trend, faulty use of index, misuse of correlation, failure to comprehend the background of the data, confusion of averages, etc.

The criteria which should be considered in the choice of a statistical test for use in making a decision about a research hypothesis are (a) the power of the test, (b) the applicability of the statistical model on which the test is based to the data of the research, (c) power efficiency and the level of measure ment achieved in the research.

NON-PARAMETRIC TESTS

Non-parametric statistical measures are appropriate for ordinal data and to some extent to nominal type. A non-parametric test does not specify conditions about the parameters of the population from which the sample is drawn. The assumptions associated with non-parametric statistical tests are, (i) the observations are independent, (ii) the variables under study have underlying continuity. These assumptions are fewer and much weaker than those associated with parametric tests.

Moreover, these tests do not require measurement so strong as that required for the parametric tests.

Non-parametric tests are frequently spoken of as distribution free tests. The application is that they are free or independent of some characteristics of the population distribution. Non-parametric tests are available to treat data which are inherently in ranks as well as data whose seemingly numerical scores have the strength of ranks, (more or less of the characteristics with out being able to say howmuch more or less. E.g. anxiety). This data cannot be treated by parametric methods unless precarious and unrealistic assumptions are made about the underlying distributions. Even with small sample non-parametric test can be applied. These methods are typically much easier to learn and to apply. Type I or Type II errors are reduced in a non-parametrical test.

In many of the non-parametric tests, the data are changed form scores to ranks or even to signs All observations above a fixed value, such as the median may be assigned a plus or all below a minus. The original value is replaced by or transferred to another variable which takes the sign values plus or minus. The sign test is otherwise known as median test. The corresponding parametric test is t-test. Another class of nonparametric tests employ the rank properties of the data. The original observations are replaced by the numbers 1, 2, 3...N Subsequent statistical manipulations and inferences are based on ranks.

In situations where little is known about the population distribution of the dependent variable or this distribution is known to depart appreciably from the normal form, non-parametric tests may be appropriately used.

PARAMETRIC TESTS

A parametric statistical test is most powerful when all the assumptions of its statistical model are met and when the variable under analysis are measured atleast in an interval scale Here randomness makes it possible to predict mass behaviour but the irregularities of a random process deem

individual events unpredictable e g. t-test, analysis of variance, analysis of co-variance, product moment correlation etc.

Baker et al (1972) suggests the following statistical treatment for the different variables.

Criterion Variables

Variates	Nominal	Ordinal	Interval
Nominal	Chi-square test of independence, contingency co-efficient, Cochran 2 test, Fisher's Exact Probability test for 2 x 2 tables	Sign test median test Mann-Whitney U test, Krushal-Wallis One way analysis of variance	Analysis of Vairance
Ordinal		Spearman's rank correlation, Kendall's Rank correlation	Analysis of Variancewith Trend analysis
Interval	Analysis of Variance		Regression Analysis (mutiple correlationco-efficient)

CONCLUSION

It is wasteful to apply a non-parametric test if the assumptions of parametric statistical model are infact met and the measurement is of required strength. In the same way by increasing the sample size, a non-parametric test can be used rather than the parametric one and yet retain the same power to reject or accept the hypotheses. In most measurement situations in social sciences, the raw data consists of a number of responses to each of the stimuli or stimulus combinations. In such situations many of the variables infact ordinal, although for statistical purposes they are quite justifiably commonly treated as if they were interval or ratio scale. Only a thorough understanding of the nature of the variable under study and the power and assumptions of the statistical tests will help the researcher in the selection of the right type of tests for analysing the data.

REFERENCES

Fisher Ronald (1956) Statistical Measures and Scientific Inferences, Noafner, Newyork.

Ferguson George. A (1976) Statistical Analysis in Psychology and Education, McGraw Hill Ltd, Tokyo.

Mouly George, J (1963) The Science of Educational Research, Eurasia Publishing House, New Delhi.

Sidney Siegal (1956) Non-Parametric Statistics for Behavioural Sciences, McGraw Hill Book Co, New york.

2. PHILOSOPHY AND EDUCATIONAL RESEARCH

OVERVIEW

A philosophical inquiry to educational problems consti tutes research in the philosophy of education. In order to chieve direct and tangible solutions to educational problems, a systematic, scientific and planned attack is necessary. Philo sophy forms the basis of education; determines the aims and relevance of education and gives useful guidelines for curri culum construction and hence its contribution to the develop ment of education is widely acknowledged The rapid expansion and democratization of education throughout the World have necessitated systematic discussions of educational problems on a philosophical level.

Two papers are presented under this discipline and they are entitled, 'Enriching Educational Research through associating it with the philosophy of education' and 'Relevance of Existentialism to education respectively. The first paper, as its title indicates suggests ways and means of enriching educational research, giving special emphasis to the philosophic aspect of education. Scientific and philosophic methods of research are compared and the need for philosophical approach is discussed. Also, it outlines the content of educational philosophy and the areas in education to be studied at the philosophical level. An overview of the research done so far in the philosophy of education is given. In addition to this, the paper lists and discusses the problems in education to be studied in the context of philosophy in terms of the nature and aims of education, the organisation and administration of schools, the curriculum and teaching learning process Numerous pertinent questions are raised. The paper offers somewhat different

perspectives on defining and analysing the problems of education in the philosophic point of view. Though not aimed specifically at explaining the techniques and tools of investigation, it provides a brief account on this aspect also.

The next paper provides a firm discussion on the essential features of existential school of philosophy and the purpose of this paper is to provide the ways of linking existential thoughts with the educational field by giving special emphasis to the school, the curriculum and the process of education. 'Existentialism is defined and explained and the concepts of 'freedom', 'free thinking' 'being' 'I-thou' relationship are very well brought into focus. This paper is a worthwhile treatment on 'Existentialism' from the point of view of education.

A mildly critical presentation of the relevance of existen tialism to education is provided. It includes categories such as the school, the curriculum and the process of education. After citing the importance of teacher-student relationship, the paper suggests that students must be given the top priority in planning the curriculum and so on. The paper gives a wider chance to grasp the *essence* of existentialism in its *true colour*. Special emphasis is given to individualized form of instruction and it throws the challenge on the instructors to find ways of implementing it.

2.1. ENRICHING EDUCATIONAL RESEARCH THROUGH ASSOCIATING IT WITH THE PHILOSOPHY OF EDUCATION ★

Educational research is a relatively recent branch of knowledge in India. The rapid expansion and democratization of education throughout the world have necessitated the realization of the importance of the subject. As a result of the growth a number of new educational problems have arisen. Besides, many old problems have become more complicated and they are to be understood in the light of these changes.

The complexity and diversity of the problems in education demand a systematic, scientific, careful and planned attack in order to achieve direct and tangible solutions. Such a systematic discussion of educational problems on a philosophical level is regarded as the philosophy of education. And we all know that our motherland has a long and varied tradition of philosophical thinking.

Comparison of Scientific and Philosophic Methods

A Philosophical inquiry to educational problems constitutes reearch in the philosophy of education. Ordinarily one relates research with such disciplines as Science and History. All researches-whether scientific or philosophical-lead to more and more substantially grounded meanings. Research or inquiry into the more exact meanings of the different variables in the educational situation or any other situation for that matter may take either one of the two directions.

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On the one hand inquiry may attempt to gain rigid control of each variable to ascertin its exact effect on the educational situations contain plenty of variables so complexly intertwined that it is not possible to isolate each variable to study its bearing on the total situations. Inquiry by rigid control of variable usually confines its attention to a very limited number of variables and such observations and experiments go by the name of scientific reesarch. But unfortunately the validity of this research is for only narrow limited set of circumstances.

On the other hand, inquiry may not be content with meanings of such limited scope. It may prefer to know the meaning of the total situations, that is the total complex of variables. Investigations resulting in exclusive meanings arrived at by gathering, organizing, integrating and synthesizing as against the limited meanings of science, justly carries the title of philosophical research.

Like the scientist, the philosopher attempts to be exacting in his logic so as to win the concurrence of fellow philosophers. However, there may be disagreements between philosophers. This is because the philosopher is trying to deal not with just few variables, that can be controlled but with all the variables, controlled and uncontrolled. Hence if he sacrifices the reliability and objectivity of the scientist, he compensates by gaining the comperhensiveness of the philosopher.

Some people may contend that the philosophical inquiry is not scientfic because the philosopher makes no observations, gathers no facts, conducts no experiments. But the conclusions of philosophy are quite superior, both practically and theoretically, to those of science. Philosophy is a science, or rather a superscience par excellence, because, unlike the individual sciences, which are content with merely finding proximate and efficient causes, it seeks final and ultimate cause of things.

The need for Philosophical Approach :

While the scientist might determine as a matter of fact what aims or values are actually held in a school or a comm-

unity or what the outcome of pursuing certain aims or values under given conditions is likely to be, he possesses no technique for determining what should be the aims or values of education. (Kilpatrick, W.H. "The Relation of Philosophy to Scientific Research".) Bode in his "Modren Educational Theories" has severely criticized the so called scientific methods of determining the aims of schools and hence their curriculum by concensus of "Experts" and by job or activity analysis. Methods like these are useful in determining the socio-educational status-quo, but apart from some comprehensive theory of philosophy of education, they make no contribution to whether the schools should perpetuate that status quo or move toward some improved state of affairs.

The meaning of the facts depends on a thorough analysis of concepts underlying them. When this is understood the value of philosophical handling of issues will be realized. For instance, it is recommenced that teacher should try to teach children to think: But what do we mean by the concept "think"? Or to cite another illustration, it iswell enough to prescribe educational procedures on the basis of the results of educational measurement, but just what do we mean by "Measurement"? Unless a critical analysis of the concept is done it will be dangerous if teachers simply adopt measurement results to edcational practices. It was the two philosophical studies by smith (1938) and (1942) that made a warning to professionals in adopting the results of measurement to educational enterprise.

Originally philosophy was the principal method of inquiry. It was only at a later time that the "natural philosophy" was divided into the sciences of chemistry and physics and the 'mental philosphy into the science of psychology. So too the modern social sciences of Politics, Economics and Sociology were originally divisions of "Moral philosophy". Hence there is no wonder if philosophy has long been known as the Mother of sciences.

In many of his writings, Harry S. Broudy has drawn attention to the fact that decisions can be at any one of several levels of generality. Teachers as leaders have the responsibility of making many decisions. In certain areas, activities become habitual so that decisions are not ordinarily needed. The typewriting key may be given as an example for this. At a slightly higher level, we build upon from experience a stock of loosely coordinated information which assists in our decision making. However, experiences become experience only when they are assimilated by a sensitive mind into some sort of conceptual scheme which functions in a quasi-explanatory way on particular occasions A good teacher, even if he thinks that he is drawing solely from his experience is in fact operating at the third level of generality, that is, the heoretical level. At this level we have some general theory. which we can use in what Broudy calls an "applicative" way to solve new problems. For example, a teacher can solve some of his problems in the light of "democratic Principles" or in terms of a "progressive" theory of education.

Though for many situations the theoretical level is valuable, it is not always sufficient. For one will have to ask whether one agrees with this that philosophical approach is a superior level or not, there can be two opinions regarding its value in raising the decision making process in education which is a pivotal aspect, from the level of "Rule of Thumb" to a more critical and self-consistent one.

The knowledge explosion poses a number of problems day by day and this is a challenge to the philosophers. Our experience shows that each scientific solution often educational difficulty seems to beget as many and often more problems than it solves. If this is the case, the need for philosophical approach is still greater and will last as long as the need for science. However, the potential contribution of philosophy for teachers ought not to be sought in terms of answers so much as in terms of questions. Bertrand Russell once remarked, "Philosophy is to be studied not for the sake of any definite

answers to its questions, but rather for the sake of the questions themselves: because these questions enlarge our conception of what is possible, enrich our intellectual imagination and diminish the dogmatic aassurance which closes the mind". For instance let us assume that it is recommended that educational practices done abroad may be followed in our country. In this context to raise questions like "whether it is feasible". "whether such practices are of any value in the Indian context" itself will be a significant contribution.

The Content of Educational Philosophy and the Areas in Education to be studied at the philosophical level

Brubacher in his "Modern philosophies of Education" draws our special attention to the difficulty in delineating the proper spheres of philosophy in education. This difficulty is only of a recent origin because philosophy to start with comprised the sciences also. We have already discussed this somewhere in this paper.

Philosophy has given birth to educational philosophy also and the nature of relation between the two is to be determined at the moment. There are several opinions regarding this. Most obvious is that which holds a philosophy of life basic and primary to a philosophy of education. The former establishes fundamental principles, the latter carries out their implications in a special field. Quite the opposite is the view that strictly speaking there is no philosophy of education at all. To think of philosophy as a prefix to eductation is to put the cart before the horse. Philosophy is the flower, not the root, of education. Other opinion takes the position that educational philosophy, can stand independently on its own feet. It will, to be sure, benefit from contact with general philosophy, but this contact is neither necessary nor essential. Finally there is the view which virtually merges philosophy and philosophy of education by defining philosophy as the theory of education in its most general phases.

Which ever of these views is most appealing, it still remains to consider just what disciplines are still left under

the philosophic roof with which to attack educational problems. There are three which principally concern education. They are ethics, or the theory of values; epistemology, or the theory of knowledge, and metaphysics, or the general theory of being or reality. In examining the aims of education, the motivation of learning or the measurement of its results we are inescapably dealing with ethical problems, problems of value. The ethics of education concerns itself with the recommendations which education makes concerning those persons and things. The ethics of education is a check upon the justification which education gives for its own recommendations. The question "What things are right and good?" has its counterpart in the ethics of education. Ethics of education uncovers the nature of goodness and rightness of things education recommends as well as that of their justification. For instance one may say realisation of democratic principles is good but one should know at the same time what it means to be good.

Ethical considerations also come up unavoidably in examining the social or political setting of the educative process, to say nothing of its religious and moral dimensions. Values are also an important consideration in selecting which studies shall be included in the curriculum. But the curriculum also raises very important questions of epistemology The epistemology of education consists in an attempt to derive from an epistemological study of the method of knowledge a description of the prcedures by which learning may be furthered, and a consequent recommendation that such courses be pursued in the schools. The curriculum being the students avenue of approach to knowledge, it is necessary that we understand the nature of knowledge.

The nature of knowledge will not only have an influence on the way in which the curriculum is organised and taught, but it will also depend upon the conception of truth and the freedom with which it is taught. Ultimately, difficulties in the problems of knowledge and value, epistemology and ethics, will rest back on our notions of what kind of world we live in anyhow, that is, the study of metaphysics. Here we

will have to consider the nature as well as the world in which it abides, also, whether the whole story may be had from an examination of nature or whether there is a supernatural realm affecting education as well.

A clarification regarding the disagreements between philosophers is to be made at this juncture. This disagreement is the charm of philosophy. These differences are inevitable in the philosophical approach to educational problems because of the metaphysical commitment of the philosophers. However, it is not necessary that metaphysics should explain the statements of fact in education; and it is not, because it is impossible. If metaphysics did explain them, either metaphysics would be about the observable world as well as reality, or some statements of fact would transcend the world, and both these alternatives are impossible.

There are a number of philosophers who are very distrustful of philosophical inquiry which tries to shed light on ultimate reality by transcending ordinary experience. Conforming themselves to ordinary experience they concern themselves with its sequences. They are more interested in how things work out in educational practice than in getting to know things in their ultimate reality. For instance there are many educational questions on which substantial agreement has been reached between philosophers who are at odds with each other in metaphysics and epistemology. The importance of motivation, the use of visual aids in instruction, the integration of cognate subject matters by educators are some issues in which we find agreement. The specific educational problems about which they differ, like, say, the different methods of teaching reading, they hope to settle as a rule through continued empirical inquiry. This is a very practical outlook.

An Overview Of The Research In The Philosophy Of Education Done So Far :

As per the account of the Third Indian Year book of Education nearly 15 percent of the Ph.D theses and 4 per-

cent of the M.Ed., dissertations approved during the period between 1939 and 1961 are devoted to the area of educational philosophy The Universities of Allahabad, Bombay, Nagpur, Osmania and Patna have the largest contribution in the area of research in philosophy of education. More than half the numbers of theses at the M.Ed., as well as the Ph D , level are confined to the study of Indian thinkers and their contributions to education. Some investigators have done comparative studies of Indian and Western thinkers. In some studies the ideals of ancient education, the Jain system, the Buddhist system, the Islamic system and the Gurukula system have been examined.

In western countries, specially in the U.S.A., the philosophical approach to educational problems has been ethical, epistemological and metaphysical.

It is interesting that hardly seventy investigations were carried out in the area of educational philosophy at the M Ed , level in India during the period 1939—61. More than 50 percent of these investigations aimed at studying the educational philosophy of great Indian thinkers, e.g. Manu, Gandhi, Gopal Krishna Gokhale, Radhakrishnan, Siry Syed Ahmed Khan, Rabindra Nath Tagore, Swami Vivekananda, Maharishi Karve, Goswami Thulasidas, Anni Besant, Hali, Akbar, Iqbal, Vinoba Bhave, Maithili Sharan Gupta. In some inquiries comparative studies of Western and Indian thinkers in education were made, e.g., Pestalozzi and Gandhiji, John Dewey and Gandhiji and so on. A few investigations attempted to examine critically the ideals of ancient Indian education and the place of religion in modern education, philosophical evaluation of certain systems of education, e.g., Nail Talim and Gurukula system were made. A study pertaining to the teachers philosophy of life was also done.

Attention may now be focussed on some of the prominent research work done in educational philosophy at the Ph D , level during 1944 to 1975.

Thirty five studies at the doctoral level have been made during the above said period of thirty one years. During the first two five year spans of 1940—44 and 1945—49 only one thesis per five years was produced. The next three five-year periods produced five theses each. The period 1965 to 1969 has witnessed the production of seven theses. Five theses have been produced in 1970—72. During the last three years (1973—75) six more theses have come out.

Two theses are in the area of values. Out of these, Mr. Pandya's study, is restricted to an elementary treatment of materials from documentary sources with a view to considering the historical. philosophical, psychological and practical values in education.

Goswami (1961) in his enquiry into the fundamentals of educational philosophy in the east and the west has attempted to a peep into a fairly wide orbit of study covering the basic thinking in ancient China, Japan, Middle East and the West.

Ancient education thought has been dealt with in five theses. Divekar (1960) undertook a critical study of the educational philosophy of the upanishads. A similar study was done by Charlu (1971) on the educational philosophy of the Bhagavat Gita. The Buddhistic and Jain systems have been studied by two scholars.

Saran (1954) has attempted to analyse the Gurukula system of education and to explore the possibility of reinstating it in India in modernised form. Safaya (1965) has given a critical and historical analysis of the psychological speculation in Indian philosphical Literature.

Three studies deal with trends or evolutionary themes. Deopurkar (1964) has confined his work to the nineteenth and twentieth centuries. He has covered a large number of thinkers and identified elements of Idealism, Naturalism, Pragmatism, Supernaturalism and Internalism treated in very broad categories. In Varma's (1969) study the broad common features of

Indian philosophers, and how western impact cross-fertilized the Indian mind without transforming it out of recognition and other typical aspects of the Indian temper have been identified.

Nineteen out of thirtyfive theses abstracted relate to the philosophy of modern thinkers. The philosophy of Gandhiji is a favourable theme. Nayak (1965), Subrahmanyam (1958) Kuzhandaivelu (1965) Robinson (1970), Ramji (1968), Sen (1973) are some investigators who have done studies on Gandhiji and his philosophy of education.

Three scholars (Sharma, Sayyot and Rasool) have attempted to reconstruct the philosophies of Indian thinkers using Hindi, Arabic or Persian sources. Chaube (1962) has discussed the recent philosophies of education in India as represented by recent thinkers like Dayananda, Vivekananda, Besant, Aurobindo, Tagore and Gandhi set against the General background of Indian thinkers. Vinoba is represented in two studies in the last three year period by Bhatt (1973) and Singh (1974).

Hossain's (1973) D. Phil study on Swami Vivekananda's philosophy of education claims to have made a psychometaphysical approach. Sharma's (1975) study on the philosophy of work oriented education in the context of democratic sociaistic India contains a number of findings which are now commonly accepted by exponents of the philosophy of work.

Thacone's (1949) study of some aspects of the educational thoughts of India is in actual practice confined to an attempt to revive some of the past traditions and institutions of India-the Gurukula system, Viswa Bharati, Jamia Millia and Wardha system.

Dr. Vedamani Manuel gives a critical account of the research studies done in philosophy of education He writes that the studies done so far indicate that in scope and in depth of treatment they are only in the initial phase. within the doctoral theses there have been unnecessary repetitions. Though it is not expected that philosophy should come out

with entirely new findings every now and then as one would expect from the sciences, with each stage in the growth of philosophy some new element is clearly identified and focussed. If is this aspect of either new concept or new approach or new form of synthesis that seems to be lacking in the progression of Ph.D theses with time.

SOME PROBLEMS IN EDUCATION TO BE STUDIED IN THE CONTEXT OF PHILOSOPHY

The scope of educational philosophy should be widened and vitalised by inquiry into real educational problems with referance to reorientation of objectives, curriculum, methods, evaluation guidance, school and society and a host of other problems.

There is ample scope for research on the following important aspects of educational philosophy :

1. the changing aims and values in education.
2. the humanist tradition in Indian education.
3. comparative study of tradition and modernity,
4. recent philosophical trends in curriculum construction.
5. philosophy of teacher training,
6. philosophy of craft and work experience.
7. formation of self-concept.
8. semantic clarity of educational concepts.
9. nationalism and internationalism as reflected in school Practices etc.

Some important questions posed by the principal problem areas in education-the nature and aims of education; the organization and administration of education; the curriculum and the teaching - learning prosess - are given below. These questions have been virtually taken from "Concepts in Education" edited by J.V.D Cruz and P.J. Shechan.

1. The nature and aims of Education.

When we begin to ask questions about the nature of education we are thrown immediately into consideration of what it is to be fully human and when we face concrete proposals about what educators should do, we are led to the problem of justifying basic values and commitments. Is education, for example, intimately connected with the development of human reason and if so, how do we know? Is it because man as man has a function, as Aristotle and his modern followers allege? And what, anyway, is a function? Could man be said to have a function in the way that carburettors have functions? Is it instead to human wants that we ought to look to determine the basis for our thinking about education? Do we need to look to a balance between the wants of all human beings or can we presume that, if everyone follows his own wants, the wants of everyone will in the long run be satisfied? Can we instead dismiss all this is summary fashion and assert, like the emotivists in ethics, that education is what we decide that it will be and then get on with the ob? Is philosophy of education the subject which when pursued does itself out of business leaving the direction of education to the social planners, the technocrats, the social scientists and the politicians?

2. The organization and Administration of Schools :

What should be the relationship between the school and the society? Does the school exist to preserve society's values. to criticize them, or to infuse the young with a new vision of society? Is there a General will as Rousseau, Hegel, and Gentile argued, which we cannot reject without contraditions ourselves? Or is Marx right in holding that the school is the agent of the dominant social class and must be conversed to the interests of the oppressed? Is it possible for us to deschool society as proposed by Ivan Illich? What of Skinner and his proposals to eliminate the sphere of values and control the future with sophisticated technology? What of freedom, equality, and justice ; must these be given concrete expression in the

way that schools are provided and managed, or are the problems facing us so great that we cannot afford the luxury of social principles?

3. *The curriculum*:

What, if anything, is worth knowing for its own sake? Is the pursuit of truth the highest pursuit of man and if so, how do we know? Is there such a thing anyhow or is there only "warranted assertability?" What it is to be rational? Is it to have good reasons for all our beliefs or is this an unreasonable requirements. Are there various levels of knowledge in the Platonic sense of in the Comtean sense, and is this significant in planning a curriculum? Are there disciplines required for a soundly based curriculum or can we organise knowledge in any way we like for any purpose we like? Could the whole curriculum be organized around the needs and interests of the child? What, indeed, are "needs" and "interests?" Could the curriculum be arranged around problems so that the whole school day is an exercise in problem solving? What is a problem and what does it mean to solve it? Is there a structure of knowledge as is fashionable these days, and what is meant by "structure"?

4. *Teaching and Learning* :

Is teaching any form of influence or must one perform certain specified acts? Is it true that "if you have ,taught that someone should have learned"? What is the relationship between "teaching" "telling", and "training", "drilling", and "indoctrination"? What does learning entail? Is it a change in behaviour or is something more (or less) required? How do we know when someone has learned? Can the psychologist tell us, or is it the case that "the problem of the verification of learning is not very different from the problem of a criterion of truth in general philosophy". How does learning in the school situation relate to the psychologist's notion of learning? Is all learning conditioning?. Could beliefs be the result of conditioning?

Can there be a general method of teaching or are methods embedded in content areas? Are there particular "models" of teaching in vogue today e.g. a discovery-learning model, a behavioural model? What does it mean to learn by discovery? What is behaviour and what is the point of behavioural objectives? Are they the answer to our educational problems or are they a subversion of true education? Can virtue be taught? If not, why not? if so, how can we do it? Should we do it, or is this an interference with the liberty of the child? Should children be punished? What for and to what extent? What is punishment? Can it be justified at all? If it can, can it be justified in an educational institution?

While attempting to find answers to this array of questions one should have two things in one's mind. First as we have already seen, our purpose should be to get more exact meanings of the different variables. These questions enlarge our conception of what is possible. Moreover they enrich our intellectual imagination. That is why philosophy is to be studied for the sake of the questions themselves rather than for getting any definite answer. Secondly, one should be very clear with regard to the questions which one is attempting to answer. This will avoid confusions that appear later in our inquiry. G.E.Moore in the preface to Principia Ethica, points out that many of the difficulties and disagreements in ethics, "are mainly due to a very simple cause: namely to the attempt to answer questions, without first discovering what questions it is which you desire to answer", and this remark applies equally to philosophy of education

Dr. Manuel brings this difficulty in his discussion on philosophy of Education in second survey of Research in Education. Research of the empirical type has attained considerable sophistication at least in some centres, largely by borrowing models, paradigms and techniques from abroad. It is the business of the philosophers to interpret such research at levels beyond that of statistics and methods of empirical

science, draw out the implications and synthesise them. Philosophy also has the task of exploring an unstructured situation, attempting to grapple with those for which no methodology has been devised, and feed in the daughter disciplines viz., the empirical sciences with precise problems. As soon as the philosophical enquiry has been able to identify, analyse and evolve methods for specifically attacking a problem, it would pass into the hands of the empirical researcher. *Thus every research problem begins with philosophy and ends in science.* The philosopher may, however, again take up the truncated findings of empirical research and try to synthesise them. At the moment most of the empirical researchers find it very difficult to do the initial unstructured enquiry and the final synthesis though they are quite at home at the middle phases of technical sophistication.

Techniques and Tools of Investigation.

The studies conducted so far have employed either one or more of the following tools for collecting data:

1. Description, critical analysis and reinterpretation of views with reference to different contexts.

2 Writings of philosophers in the form of books, articles, biographies and other literature.

3. Observation, interview, field trip and discussion.

Though the method adopted by some investigators is claimed to be partly philosophical, their position is questionable. Most of the approaches are historical as pointed out by Dr. Manuel. It would be, therefore, particularly necessary for further investigatiors who wish to conduct studies of philosophers already covered to try to include more sophisticated methodologies, in terms of logic, linguistic analysis, and criticism. Even when new topics are chosen, it would be desirable to adopt methods which command intellectual respect and which might yield significant new findings

The need for using sources which have not so far come into conventional books particularly those relating to the

South and the folk literature is apparent. It is important to proceed beyond the informational level using the higher techniques of philosophical enquiry.

In order to carry out investigations like these through interdisciplinary approach, an adequate exposure to various disciplines with their respective tools and techniques of research should be given to research students. Above all professional communication between members of different faculties should be established for better collaboration and coordination. This will go a long way in enhancing the methodologies of educational research in general and improving the quality and reliability of the research findings of education in particular.

Bibliography :

1. John S.Brubacher, "Philosophy of Education" in "Encyclopedia of Educational Research" edited by Paul Monroe.

2. "Second Survey of Research in Education" (1972-1978) edited by M.B.Buch. Baroda : Society for Educational Research and Development 1979.

3. "The Third Year book of Education"–Educational Research. General editor S.B.Adaval. New Delhi NCERT 1968.

4. Harry S.Broudy, "Building a Philosophy of Education". New Delhi : Prentice Hall of India (Pvt) Ltd. 1965.

5. John S Brubacher, "Modern Philosophies of Education" New York: McGraw Hill Book company– 1962.

6. H.W.Burns and C.J.Brauner "Philosophy of Education" New York: The Ronald Press company-1962.

7. J V.D. Cruz and P J.Sheehan, "Concepts in Education". Australia, Dove communications Pvt. Ltd., 1975.

8. Gleann Langford, "Philosophy of Education. An-Introduction". London, Macmillan. 1968.

9. Christopher J Lucas, "What is philosophy of Education?" London: The Macmillan company 1969.

2.2 RELEVANCE OF EXISTENTIALISM TO EDUCATION ★

1.00 Introduction

Education as a discipline is broad based. It is a super structure based on many pillars, namely, Psychology, Philosophy, Sociology and many other related disciplines. The very existence of Education is denied, if it is devoid of other allied disciplines. These allied branches of knowledge have helped in many ways the growth of Education. For its further growth interdisciplinary approach is appreciated and this type of research is gaining more importance now-a-days. In this line philosophy's contribution to the development of education is widely acknowledged. Philosophy forms the basis of Education; it determines the aims of education, relevance of education, helps to form the curriculum and so on and so forth. Different schools of philosophy have done their best to the development of this discipline of Education, which is of recent origin Idealism provided lofty ideas or aims of education: Pragmatism reduced education to the level of mere experience, of course useful; Realism gave importance to Knowledge from outside; and Naturalism subjected the education of man to Nature For that matter, Humanism, which gave due importance to man, also could not recognize man in his true nature. But Existentialism, relatively a modern philosophy, exposes the existence of man in its true colour. Today, the very existence of modern man is troubled; he is becoming aware of this;Hence he wants to explore

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the nature and meaning of his existence. To this bewildered man of the 20th century Existential philosophy becomes more acceptable. Existentialism, aims at deformalization and individualisation in every thing, wants to do away with the conventional irrelevant ideologies. The scope of this paper is an attempt to bring out the relevance of Existentialism to Education.

2. 00 EXISTENTIALISM

What is Existentialism? William Brett (1969) answers, "Existentialism is a philosophy that confronts the human situation in its totality to ask what the basic conditions of human existence are and how man can establish his own meaning out of these conditions". Its method is to begin with this human existence as a fact without any ready made preconceptions about the essence of man. The notion that man has no predetermined nature is the central reason for the existentialist doctrine that, "*existence is prior essence*" It affirms that man exists first; then because he is free, he creates his own essence. Existentialism is a philosophy of crisis, a theory of life and man particularly fitted for our anxious times. Man's impermanent nature, his dread of death, his social alienation and his freedom to choose are very clearly focused in this philosophy. Max Wingo (1974) Points out." Existential Philosophy is a protest against an age in which the individal is reduced to his social security number and a computer card with holes punched in it It is a protest against mass society, mass religion, mass education, and mass communication". The importance of the individual is considered over society in this *Philosophy*. Existentialism is against any thinking which submerges the individual in an impersonal social world. It is a recent intellectual movement and calls for a redefinition of liberalism.

By its very nature existentialism rejects the schemata necessary for a traditional philosophic system. It belongs to human beings, to human emotions, to human life, and therefore more behavioural and phenomenological than rational or conceptual.

3. 00 EXISTENTIALISTS.

A brief introduction to some of the important existentialists is necessary to have a better understanding of the relevance of their ideas to education.

Existentialists are mainly divided into four groups as 1. theists or christians, 2. atheists, 3. theologians and 4. artists. Thinkers like Sorenkierkegaard, Marcel and Jaspers form the theists or Christian group; others like Sartre, Nietzsche and Heideggar form the atheist group; some are theologians like Buber and Illich; and many are novelists, play wright and artists like. Comus, Kafka, Dostoevski and so on. Soren Kierkegaard (1813-1855) the Danish philosopher, religious thinker and man of letters is considered to be the father of Existentialism. Martin Heideggar (1899) and Friedrich Nietzsche (1844-1900) German philosphers. atheists and leading exponents of Existentialism exerted profound influence on the younger generation of their time. Martin Buber (1878-1965) the Jewist theologian identified with Existentialism has also written essays in the field of education. Jean Paul Sartre (1905-1980) the French novelist, playwright and philosopher is acknowledged by contemporary Thinkers as the out standing leader of the 20th century revival of Existentialism

Kierkegaard advocates *Subjective knowledge.* and Sartre is noted for his concept of *freedom*. Heideggar has made a study of the *Being*; Buber argues that the theory of knowledge is based on *I-thou* relationship. Likewise different thinkers of this philosophy are noted for their major ideas. But instead of concentrating on the life history and ideas of exist entialists. it is better to turn our attention to the relevance of Existential philosophy as a whole to Education.

4. 00 Relevance of existentialism to education.

"In seeking to locate connections of some kind between existential philosophy and ideas on education, we are at a disadvantage... This disadvantage lies in the fact that the leading figure of this tradition have had little to say about education", says Max Wingo. According to Vancleve Morris (1969)"indeed,

the case might even be developed that Existentialism is the very denial of education as we understand today." No doubt that existentialists have not treated the problem of education formally and it is also accepted that Existentialism is against the present institutionalized form of education. Yet, in the wider sense, the problems of human existence, its nature and meaning became the problem of education; and existentialists are more concerned about these problems, and so no one can deny the relevance of existentialism to Education. Of course, one can not find ready made answers or solutions for educational problems in existentialism, but a new dimension of liberal education-liberal than the Dewey school-can be aimed at. George Kneller (1958) argues, "fortunately existentialism is more than a merely speculative way of life. In its exhortation to commitment and to the attainment of man's greatest possibilities, existentialism is on common ground with certain educational ideals prevailing today". Based on thesfacts a venture can be attempted to extract the existential idea of school, curriculum, teaching learning process etc.

4.1 *The school* :

Existential philosophy makes a protest against the existing modes of life and education in our society. Existentialt ists struggle hard against formal training of any kind, for that matter formal education also This is a time, nonformal as well as informal education, is welcomed. So this philosophy is relevant to the modern times. Existentialists are against the institutionalized form of education. Then how can we justify the existence of school according to existential philosophy? Existential school justify its existence only if its goal is the development of *free individual.* The development of free individual' means the following :

1. to free the individual from following the crowd.
2. to make him free to understand his own loneliness, dreadful, unsecured condition in this world.

3. to feel free to make use of his freedom and accept the consequence and
4. to feel free that 'man' is the basis of all activities.

"The primary aim of the existential school" according to Kneller, "would be to develop moral freedom". Buber points out "education worthy of the name is eseentially education of character". According to Kierkegaard, to build self-reliance and self-respect in young citizens may be the purpose of school.

Existentialism is against compulsory education; students should come to school on their own accord. School must be a free choice of the students. From this we can infer that existentialist school must be quite contrary to the traditional school which gives emphasis to *theory* ahead of *experience* and *essence* ahead of *existence*. Existential school gives importance to *existence* and *experience* and does not fail to account the individuality of the students. In this school students gain experience and knowledge on that own. Thus existentialism accepts a type of school without any rigid system or fixed form.

4.11. THE CURRICULUM

One cannot fix the curriculum according to existential philosophy. Generally existentialists give humanities a central place in the curriculum, then science, because humanities exert in revealing man's inherent guilt, sin, suffering, tragedy, death, hate, love etc. Man, as a free agent, would constitute the only possible centre of the existential curriculum. According to Sartre and Heidigger, the existence of man in all its poignant character is most clearly portrayed in humanistic studies Nietzsche foresaw accurately the problem of extreme specialization that is characteristic of both the pure science and the technology of our own time. "The main existentialist objection to science" observes Wingo "is that it is cold, aloof, and objective in its approach to nature and to man, and that as an intellectual enterprise it is concerned only with abstractions....., When the methods of science have

been applied to human nature, the results have been simply disastrous". This does not mean that we should not have vocational education or science education. These forms of education can also be approached from the existential outlook. So long as the existence of the individual and the human values are also given due importance in the central focus of these subjects, they can be truly educative. Existential school curriculum should be made as the instrument for the realization of subjective feeling such as dread and anguish. Existential curriculum is for the education of human feelings. We are living in a highly mechanised age. Man is computerised and he lacks feeling. So existential approach to teach modern man about human feeling is very relevant.

A common characteristic of all existential writing is the desire to change man from his past illusions, and make him not only think, but even live differently. Kierkegaard points out that man is under the illusion of objectivity. He says that we have lost the capacity for subjectivity, and it can be said according to Kierkegaard, it is the task of education to rediscover it for us. Our curriculum should be in a way to draw the inwardness of man out. The real knowledge as per existential curriculum is subjective. There are three essential characteristics of subjective knowledge.

1. It cannot be passed on from one person to the other, not added to by different researches: It cannot be taught in the class room.

2. What is known as subjectivity always has the nature of paradox.

3. Subjective knowledge is concrete, not abstract. This is because it must necessarily be related to the actual concrete existence of a living individual.

4. 12. *The Process of Education.*

The educative process according to existentialists should take its primary direction of analysing the basic character of human existence and calling the attention of individual

to their freedom. This process of education is more individual centred. Individualized instruction, a modern approach to education, has relevance to the existential approach of edu cation. The 'group method' of democratic experimentalism is to be discorded. Existential students are left alone in the world to make their own choices and so the existential teachers are seem to be commited to the task of developing the choice-making power of the individual To achieve this the 'Socratic method" of teaching is favoured by existentialist philosophy "Socrates did not give lectures, or prepare course outlines, or administer comprehensive examinations. There were no entrance requirements to his school; he had no school. There were no administrators and no tuition and no overhead. His method of teaching was one of asking questions, refining answers, asking more questions, and pushing the issue until some acceptable conclusion was reached". Buber advocates one educational theory based on a continuing dialogue between pupil and teachers Indoctrination is against the principles of existentialism. Teachers according to this philosophy, cannot spoonfeed anything to their students, but prepare ground for students, self learning. Educational experts of today accept this method.

Existentialism favours the thesis that, the teacher-student relation should be more personal and more interactive. I-thou form of relation, a more personal and informal, is expected between the teacher and the taught.It can be inferred that if there is anything that the existential teacher can do for his students, it is to bring them to a more critical analysis and understanding of the meaning and purpose of existence. Teacher can provide ground for this understanding. But the actual understanding is subjective. Kierkegaard says that man should understand the truth of his existence by himself; he has got freedom of choice.

The over sophistication of pedagogical methods of 20th century depersonalize the teaching-learning process. Even then, according to existentialistic principles, the teacher- should see to that his relationship with his student is more than an information given. The teacher should expose the student to

many complicated situations and leave him to find out the solution by himself. Existentialists find scope for this kind of personal experience in arts. But the aim of existential process of education, in science subjects also is the teacher should do his best to make the classroom activities a personal experience for the learner.

The student should not be in a state of *bad faith* Bad faith, as Sartre explains consists in pretending to one-self that one is bound by necessity, and has no choice open to one. Students should not be in the mode of *Being-What he is not* He should Know himself first, his existence, his- loneliness in the crowd, his freedom, his responsibility etc. Existential students should not choose to do things because society, parents or any other extraneous factors want him to do so. He is free to act according to his own interest. The student is free to select subjects of his own interest. While referring to the freedom of existential student, Brubacher (1962) comments, "oddly enough the existentialist- philosophy of education has found its greatest popularity among students rather than teachers. Thus some restless elements of younger generation, especially in college, have sometimes justified their abtrasive behaviour on existentialist principles Students can feel the sense of achievement if they learn anything by themselves. Existential process of teaching-learning advocates this kind of method and this has relevance to modern system of education.

4. 13. *Freedom and Discipline* :

Existentialists speak much about freedom in a different way. Sartre points out that 'man is what he makes himself, he is condemned to be free'. That is man has freedom and at the same time he is accountable for his use of freedom. Man has to taste, all alone, the fruit of freedom, bitter or sweet, based on his choice of use. Existential freedom is disciplined freedom'. According to this philosophy no external force can enforce any discipline on man. He is disciplined from within. The very thought of the consequence of his action, based on his freedom of choice, disciplines his

freedom. This kind of freedom and discipline can have better relevance to the present pattern of education

Existential students' freedom is also a responsible freedom. He must be given greater freedom of choice in selecting subjects, projects etc, and boundless freedom of creative expression. But this kind of freedom of a student should not be a hindrance to the freedom of another individual. In this way this freedom has to be disciplined. In general freedom and discipline can be enshrined in the school if only educators place the individual at the centre of the educative process.

4.14. Research.

From the existential principles we can infer that the following areas may be considered for research in education.

1. Freedom and Creativity.
2. Freedom and student activism.
3. Self-learning and student achievement

and so on.

Existential methodology may be highly situational. Formal methodology cannot be used in this type of research. The researcher is free to adopt suitable methods, warranted by the different situations. Perhaps case-study method can be suitable for this kind of research, because the research findings cannot be generalised. Existential type of research in education may be qualitative and quantitative also. For quantification the relevent techniques used in education can be adopted.

5.00 Conclusion.

Existentialism as a philosophy that is directed against absolutes and universal, and as one that is critical of mass technological society and institutionalised form of anything is especially attractive to those who cherish freedom and creative originality. As Professor Allen has so correctly points out, "Existentialism is an attempt at philosophying from the stand point of the actor instead of as has been customary from that of the spectator". The involvement of existential student in the

process of education is very much appreciated. Though existential curriculum is not giving full justice to science disciplines, its appreciation of aesthetic sense in man can be understood in proper sense. Existential-form of education can be more a protest against the existing system of liberal education and the conventional system, than a source of positive solutions to the problems of education today.

Existentialism is not a pain-killer, but in a sense a pain-increaser, so that the malady can be noticed in its seriousness. Existentialism exposes the pitfalls in education very clearly so that individuals can come out with different answers in different situations.

References

1. ALLEN E.L. *Existentialism from within* Routledge & Kegan Paul Ltd, 1953.

2. BRUBACHER. S. JOHN *Modern Philosophies of Education.* Tata- M cGraw-Hill publishing Co Pvt Ltd. Bombay 1962.

3. GRUBER C. FREDRICK. *Historical and Contemporary Philosophies of Education.* Thames Y. Growell company, N.C. Newyork, 1973.

4. KNELLER F. GEORGE *Existentialism and Education* John Wiley & sons, N.C. Newyork 1958.

5. MORRIS CLEVE VAN. *Modern Movements in Educational Philosophy.* Houghton Mifflin company, Boston 1969.

6. WINGO MAX G. *Philosophies of Education. An Introduction* D.C. Heath and company. London 1974.

3. PYCHOLOGY AND EDUCATIONAL RESEARCH.

OVER VIEW

Education is concerned with the welfare of the individual and it intends to bring out one's potentiality to the maximum utilisation. According to modern educational thinkers and psychologists, an individual must be educated psychologically. According to them individual difference, aptitude of the individual etc. must be taken into consideration when planning a curriculum as well as in the teaching-learning process. So, psychological approach to Educational research is a must according to modern point of view.

Four papers are presented under this discipline and the one on 'Research in Child Development' effectively given a thoughtful discussion on various aspects of child development. This well-written paper covers a brief history of research in child development, its relationship with education and the constraints in research in child development. Some recommendations are also given. The paper focuses pivotal importance on adolescents as they are neither children nor adults. The paper brings into view giving special attention to slow earners and gifted one. Problem areas are identified for research. The emphasizes the felt need for more research in the field of child psychology. Moreover the paper warns that if the content and the methodology in any educational system are not based on the child's capacity aptitude and attitude, it will surely fail.

The purpose of the paper on 'Psychology based interdisciplinary approach for educational research' is to outline the important aspects of interdisciplinary approach with respect to psychology. In the introduction itself, the functions of

education and teaching are analysed. Psychology in relation to teaching-learning process is explained. The interaction among teacher, child, curriculum and community is derived. The paper gives a clear-cut idea about the learning process, learning situation and learner. By bringing out the relationship of psychology to Education, the paper points out many areas for research. Common problems for investigation are also listed out.

The paper titled as 'Research in Creativity—An Interdisciplinary Approach', after defining what is creativity, explains teachers' part in fostering creativity among children. Certain topics for research are identified. It is emphasized that, every subject can be used to develop creativity in children. An illustration is given from language teaching. It is noted that, through providing situations for divergent thinking, creativity also can be promoted. Finally, the responsibility is put on teachers as they play the key role and they are called for developing this potentiality in their children.

The paper on Physio-Chemical nature of the brain and the behaviour' clearly depicts the impact of brain on behaviour modification. Nature of brainwaves, types of wave etc., are discussed. Illustrations are also given when describing about psychological states, their EEG correlates, functions, controlled by cerebral cortex etc. Chemistry of the brain is also described in detail.

3.1 RESEARCH IN CHILD DEVELOPMENT. ★

It has become a fascination to study the child to-day. Understanding of children has become a basis for almost all the disciplines in the field of education. The invention of the existence of the child in the educative process has made us feel that it is inevitable to have a clear understanding of child's growth and development and his behaviour for a better input, proper processing and a desired output. But this realisation is of a recent one. The discipline called child development or child psychology or development psychology, being of a recent origin not much researches have been undertaken as in other disciplines. But there is an awareness which could be observed now in sociologists, psychologists, anthropologists, medicos and educationists, who started research in child development from different angles and base this knowledge for all their programmes.

A brief history of research in child development:-

Children were not treated as important persons in ancient days. During the 4th Century. A.D. the practice of infanticide was a common one. The children were allowed to live only when they were healthy. Otherwise they were put to death. The childern were not allowed to be with their parents; Wet mothers or nurses used to bring up them. Only during 17th century the parents started to pay more attention in the care and rearing of their children. A real change in the treatment

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of children was eventually apparent when the first great education and child psychologist, Jan Amost Comenius of 16th century said that the purpose of care and education of children was to generate happiness in them During 18th century Rousseau formulated an educational system for his imaginary boy Emile on the basis of stages of development of the child and thus revolutionised the educational system. And thus Rousseau became the first person who studied the child scientifically This was followed by Pestalozi, Herbart, Froebel, Madam Montessori and others whose contributions to education used to be on the basis of the knowledge of the child.

During 18th Century Pediatrics, a branch of medicine which deals with the care of children, was born. In the 19th Century this interest in the scientific study of the child became more systematic when Charles Darwin published a record of his observation of his own child. At the end of this century Stanley Hall of United States was interested in child rearing and experiential content, and their impact on learning experiences. Systematic study of child's different aspects of growth and development from conception, began from then on. Sigmund Freud, a neurologist revolutionised the thinking about children and their behaviour. He stressed that it is necessary in order to understand human behaviour we must know the psycho dynamic forces at work during infancy and early childhood period. It was useful in predicting human behaviour and hence was accepted by those who were interested in knowing the behaviour and behaviour modification of children A systematic approach to test the mental abilities of children began in 1906 by Binet and he published a set of tests and revised them many times with his collegues. Sears, who was interested in Learning formulated a theory of his own. A number of child guidance clinics were also started during this period. Piaget, who was interested in development of his own children had scientific observation and published how the cognitive development takes place step by step. Child study movement in U.S.A. after the world

war second, started funding many individuals and agencies to take up studies on children.

In India child development as a discipline has been accepted very recently and only in a few universities we find a department of child development. Hence it is obvious that research in child development is just 2 to 3 decades old only. It has not yet attracted many as a field of study. Still it is being considered as part of general psychology and developmental psychology.

Child development and its relationship with education:-

Education could become more meaningful and purposeful only when the child becomes an important element in the educative process. However in olden days when the subject of study or the teacher was considered as important and the child was neglected. Whereas after the realization of the importance of the child on the basis of researchers done on child development, the importance has been given to the learner (ie) the child, Especially during the early childhood and adolesence which are of critical periods in the life of an individual should get much attention. Education during early childhood should be based on the maturation and experiences of the child. It should become an antedote especially for those children who are coming from —disadvantaged families. The deprivation should be eliminated. The child should find a compensatory programme in an organised place called pre-school.

In the same manner, an adolescent who is neither a child nor an adult, should have a proper and smooth transition from childhood to adult life. Education should not be only for the intellectual development At this period it should aim at developing a balanced personality. Proper guidance and counselling is to be provided on the basis of their requirements.

The slow learners and the gifted ones in a classroom are to be identified and education to be provided on the basis of their abilities and achievements. Frustration of both teacher and the learner will be reduced if a teacher knows the level

of achievement of his students and is able to adjust his teaching accordingly. The individual differences are prone to exist inspite of the great effort of an able teacher and a conducive atmosphere in the educational institutions, due to the child's heredity and socio-economic background of the home. An understanding of this nature would help us to provide an education which will suit their level.

The study of child development insists that education, the content and the methodology is to be based on the child's capacity, aptitude and attitude. If any educational system fails to take into account these aspects of a child, it will fail.

Constraints in Research in child Development:-

This being a new discipline and of a very latest origin especially in India there are only very few people who have undertaken any study in this area in different parts of our country. Only 4 or 5 universities in India offer this subject as a specialization at the master's level and a very few have done reseorch at the doctorate level. National Council for Educational Research and Training (NCERT) and Indian Council for social Science Researches are the two national level organisations which have come forward in establishing certain norms in child development on the basis of research studies taken up by them. Even for these studies the representation of the sample is not from throughout India. The sample has been drawn from a few big cities and their sub urban areas which may not truly represent the conditions of the rest of the country. Studies undertaken in some of the Universities by the department of psychology and education are not being known to others. Hence we observe much repetitions.

Most of these studies seem to be of basic in Nature without using the result. No agency has yet taken up the responsibility of pooling all these studies which had been undertaken, so that they could be disseminated and utilised by those who are interested in. Only recently the Child study unit of NCERT has come forward in compiling and disseminating the researches which have been done in the fields of child

development and preschool education. There is also an effort to utilise the data and disseminate the results.

As most of the studies which have been taken up are by the students and the teachers either for their masters degree in Child Development, in Psychology or in education and for the doctoral programme, they remain as mere basic level research and not of applied research So far no longitudinal, cross sectional and cross cultural studies have been taken up in India due to their expensive nature and the time required for which no individual or institution could afford to mostly the cross sectional studies on Language development, Cognative development, Learning, Motivation, "Adolescence etc. have been undertaken. But they are not of action oriented. Except in one or two institutions in India we do not find sophisticated and more scientific child study laboratories. In other places usually observation techniques; interview schedule and testing have been followed as the common procedures to obtain the required data. We must also accept that children are not the same as rate or monkeys which makes for a major pioblem in conducting research in child development. Children are complicated organisms and they are human beings. So researchers cannot control and manipulate any part of their lives as freely as they do the lives of rats and other animals. It is also difficult to except the uniform result even by providing same environment or testing situations. To establish norms it is essential that scientific procedures are followed in gathering data from a larger sample, representind different sections of the people in India.

A research cell in child development is to be created in every state and at the centre so that these cells could gather all the researches done in different universities and data could be processed at the centre. This will enable us to have a larger sample at the same time a comparison is possible. Every university should establish a department of child development and encourage the scholars to take up the studies in child development from different spheres. Researchers, those who

are interested in the study of the child should be encouraged by providing the financial assistance and other recruitements either from the university or government. The specialists in child development should be encouraged to write books which are based on the studies done in India. There are News letters which are being published by few universities and organisations in which the research articles in child development appear, which do not reach many. If ten centre organisation which is responsible for research in child development could publish a research journal it would be of use to people who are working in the field of education.

Conclusion :

Unlike many other disciplines, child development emerged from the demands of various fields, for more systematic knowledge about children. These demands are more of practical in nature, to give guidance to the people who are involved in those fields with regard to caring, rearing and education of children. So to conclude we would say that the researches in child development must deal with practical as well as academic issues, if it is to continue to enjoy and grow the vitality and usefulness it has.

3.2 PSYCHOLOGY BASED INTERDISCIPLINARY APPROACH TO EDUCATIONAL RESEARCH ★

Modern education is concerned with the welfare of both the individual and society. As educationists, we strive to develop the innate potentialities of every individual as fully as possible. Education is also intended to enhance one's adjust ment with his surroundings. The functions of education, and teaching, when analysed from these points of view will be as follows.

1. Setting and developing clear-cut educational goals.
2. Organizing and planning curriculum to achieve these goals.
3. Adapting the curriculum to the child's varied levels of readiness and abilities.
4. Making provision for effective learning, retention and application.
5. Developing healthy emotional, social intellectual and moral development.
6. Making continuous and systematic evaluation of Child's progress with respect to their educational goals.

With the functions of education defined as above, the emphasis will not be exclusively on the child alone, the new education will have to be teacher centered and even subject

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matter-centered. It is the interaction-Teacher-child-Curriculum -Community Centered (T-C-C-C-C) that constitutes modern education as a discipline in the above context, is based mainly on the use of the constructs and methods used in Psychology, which in turn has enriched the field of Psychology also. The justification of Education as a separate discipline is to be so, ught on the strength of procedures and models available in several allied disciplines like Psychology, Philosophy, Sociology, Economics, Politics, and Anthropology.

Psychology in Relation to Teaching-Learning Process :-

When we look at the major functions of education and teaching there are three—elements that concern Psychologists and educationists. They are the learner, the learning process and the learning situation. When we try to analyse these factors in detail one will be astonished to find the close association between these two disciplines. One without the other is like body without a soul or spirit. And it is Psychology which has made education more objective and scientific and therefore respectable. An indepth analysis of the teaching learning process and its various components will clarify the above relationship.

The Learner :-

There is no education or learning without a learner. As John Dewey has pointed out, unless some one is learning, there is no teaching just as there is no selling without customers. The word "learner" here denotes the receipients of education ie. the pupils or students or participants—the persons for whom the educational programme has been designed. A good deal of what happens in the class room can be explained in terms of the learner and the learner characteristics. These two aspects of education have stimulated substantial amount of research in Education and Psychology. These include variables like personality, learning readiness, intelligence, aptitudes and study of developmental stages. for different aspects of growth. Psychological problems of pupils, demographic characteristics of the learner, impact of special programme like guidance and counsselling, diagnosis and remedial measures, treatment of

problem children etc. are other problems which emerge from the above.

The learning Process :

This is a process by which persons acquire changes in their behaviour, improve performance, recognize, their thinking or discover new ways of behaving. Learning process includes all forms of behaviour, both overt and covert, occuring on the part of the learner. Overt ones are behaviours such as reading writing, computing, listening, talking etc. covert behaviours include perceiving, thinking, remembering, etc.

The Learning Situation :

This refers to the environment in which the learner is placed. The learning situation denotes the various conditions that affect the learner in his learning process. The teacher, or example, is one of the major factors in the learning situation. The other factors of learning situation are class room setting, physical facilities, the attitudes and reactions of the teacher, the morale of the class, the emotional climate of the school, the teaching procedures etc. Besides these, there are variables like social and Political pressures which also enter into the learning situation. All these provide important and critical areas for interdisciplinary research in Education and Psychoology. In addition to these Psychologists and educationists are interested in developing adequate theories about learning. Thus obviously, there is much common ground in these two disciplines.

Research in Psychology and Education :

Educational research is a relatively new field of endeavour and suffers from dearth of satisfactory techniques. Though the idea that education can be studied as a science originated with Herbart and others as early as the first half of the 19th century, no real research was conducted till 1895. In education the survey was the most popular method of research till Psychological methods entered into the discipline. For example, in the area of mental testing, the contributions

of Galton, Binet Spearman etc. are note worthy. The work of these psychologists has helped the practical educators in understanding individual differences among children, and they have evolved specialized methods to cater to the individual needs of children.

The monumental researches of Thorndike and Skinner on human learning represent important landmarks in the history of education. Again the work of Gessell in developmental Psychology is another important contribution of Psychology to education. After the second world war much advancement has been made in the study of personality factors such as aptitude, interest, attitudes, needs, temperament etc.

Another modern research in Psychology that has been used by educationists is the Psychology of creativity. Here the work of Guilford and Torrance found extended use in education. Thus Psychology has made immense contributions to the educational research in the course of the last three decades.

Listed below are some of the common areas for interdisciplinary research in education and Psychology.

1. Studies on personality development of children.
2. Intelligence in relation to various forms of School. performance.
3. Factors associated with achievements and underachievement.
4. Personality characteristics of various categories of problem children.
5. Studies on the interaction of creativity, intelligence, and Personality factors.
6. Anxiety in relation to test performance, learning conditions etc.
7. Personality characteristics of gifted children.
8. Role of attention and interest in learning.
9. Nature and causesof forgetting and researches on memory.

10. Studies on reading and writing readiness and various other developmental areas.
11. Nature of learning and factors associated with effective learning.
12. Personality characteristics of effective teachers.
13. Development of technological models of instruction.
14. Influence of Teacher's personality on Pupil's performance and personality.
15. Measurement of affective and Psychomotor outcomes of education.
16. Cross-cultural replication of some important Psychological studies conducted in the west for eg. Studies of Wallach, Cogen, Piaget, Inhelder, Cattell, Guilford etc.

The major Psychological approaches, namely analytical, behavioural and eclectic can be applied fruitfully in educational research, particularly on counselling needs and Problems, learning principles etc. Education cannot function as an effective discipline if it does not adequately tap the varied resources from its sister discipline viz. Psychology.

33. RESEARCH IN CREATIVITY— AN INTERDISCIPLINARY APPROACH. ★

Knowledge verified by the methods of science has made possible many of man's most conspicuous achievements; we ame wild rivers, build dams, invent pesticides, extract minerals, prevent and cure diseases. We create marvels in electronics. We do thousands of accomplishments. Through science we not only achieved these practical ends but also have obtained many answers to our questions and speculations about the universe about the nature of matter, energy and electricity; about distant stars and subatomic particles. The foundation for these inventions and discoveries lie in creative thoughts of individuals.

What is creativity?

To explain in simple terms creativity is constructive thinking involving imagination and originality, resulting in new ideas. Do we afford scope for creative work among pupils? Majority of teachers are more concerned with the transmission of knowledge incorporated in the syllabus than nurturing the creative abilities of the students. Parents and Teachers in general are prone to encourage conformity among the pupils; out of ignorance, when their wards become curious they snub them; kill their initiative and resourcefulness. No wonder under these circumstances the students remain

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placid and indifferent. It must be the primary duty of every teacher to see that the classrooms are transformed into miniature studios or workshops where in the students would be whole-heartedly engaged in the pursuit of knowledge. The progress of our nation primarily depends upon the contributions of creative scientists, engineers, statesman, educationists as well as philosophers. Do we take any effort to promote creativity in the classroom? We have a sort of craze to increase the number of subjects in the curriculum. Do we venture to introduce a creative method of teaching?. No.

Let us take up the area of history teaching. The teaching of history is degenerated to the level of giving out names of kings and wars, warriors and their defeats and victories Frequently the spirit behind the learning of history is not brought to the students. Why not for example ask the students to write an imaginary dialogue between Aurangazeb and Shivaji? Why not ask the students to write a conversation between Gandhiji and Nehru, assuming that they two meet in the other world and discuss functioning of Indian democracy'? This may sound preposterous. No wonder, an assignment of this type. would make the students depart from the beaten track; it makes the students more imaginative and creative.

Like the above, we can adopt many innovative methods in teaching language, biology and physical sciences. But in reality, we teachers, offering certain lame excuses do not come forward to follow innovations in teaching and thereby we fail to foster creativity in students. Hence I venture to suggest needed research in the area of creativity in humanities and sciences. There is great need for research in the areas mentioned below as the progress of our nation depends on recognising and fostering creativity.

(1). Institutional climate and creativity
(2). Teacher and creativity
(3). Instructional procedures and creativity
(4). Psychological background of pupils and creativity.
(5). Socio economic background of pupils and creativity

(6). Culture and Creativity.

(7). Curriculum and creativity.

(8). Personality traits of creative persons.

(9). Creativity and adolescence.

(10). Sex and creativity.

(11). Birth order of the child and creativity.

(12). Influence of home environment and creativity.

The Educationists may not go for extensive research in the areas mentioned above due to paucity of funds, lack of research personnel etc. It is advocated as an experimental measure, we teachers can initiate action research in different disciplines.

Let us take for example Language teaching. Teachers generally ask the students to write an essay about Deepavali festival. The students also write an essay in a stereotyped manner. Instead why not teachers should ask the students to write an essay on the festival of his favourite choice. Let the student expose his divergent thinking.

A little more adventure might generate greater interest among the pupils. Usually science is taught with examination point of view. The students also learn and they know their answers will be graded. Suppose the teacher selects the students with divergent thinking and assigns a small project. A small piece of land is allotted to the students. Let them cultivate a particular plant in the field. They, creative by nature, select best seed, watch the germination of seed with curiosity, sprouting of the plant, water the plant, prevent it from diseases, use manures, etc. Because of the freedom and innovativeness, they even try to create hybrid variety of the plant. Now if their experiment proves to be fruitful we get one or more promising scientist or scientists.

What I am labouring to explain is the students with divergent thinking can be identified and with the help of

action research their's creative potentiality can be fostered and developed.

In conclusion, we may say that the teacher has the key role in fostering creativity among pupils. He makes or mars creativity. It is in his hands. So instead of preaching the four steps preparation, incubation, illumination, and verification and broadcasting the significance of creativity aloud, the educationists can come forward to do action research in creativity from interdisciplinary dimension.

References:-

1. Dandapani S. "Simplify Psychology."
2. Hahn, Roberto. Creative Teachers: who wants them? New york Johnwiley, 1973.
3. Hilgard and Atkinson: "An introduction to Psychology" Holt Rinehart.
4. Torrance E.P. "Encourging creativity in the Class room". Dubeque, Iowa WMC Brown company Published. 1970.

3.4. PHYSIO-CHEMICAL NATURE OF THE BRAIN AND THE BEHAVIOUR ★

Introduction :

Contributions from the allied disciplines can enrich any research if it can cross the barriers of compartmentalization. None the less the research findings from the fields of Biology, Psychology, Neurophysiology and Biochemistry have helped to foster deeper understanding in Educational research. This paper cites a few relevant findings of the human brain in behaviourae modification from these disciplines.

The ability of the brain to generate electrical impluse is known for long and the development of technological facilities have helped to record and derive certain valuable informations through Electro-Enchephalogram (E. E. G). The weak signals of the microvolt range are amplified and displayed on an oscilloscope or on a polygraph. The difference in the display pattern of EEG was used to study the status of the mind at dreaming, excited and normal levels. At present multifarious deductions are drawn from simple diagnosis and treatment of focal brain malfunctions to complex processes of behaviour and learning, Considerable clinical interest, degree of excitability of brain loci and magnitude of brain waves and behavioural patterns are understood by using EEG,EDR, ESP etc., Isotopic studies and electronic scanning and Electron microscopic pictures in anatomical studies are widely used as well.

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Brain Waves : It is rather simplistic to accept that the brain is a 'super computer'. It is more than that. Though it is one of the organs, it is different from others by its complicated functions. It is made up of nerve cells the 'neurotransmitters' which release a variety of chemical and electrical messengers. As early as 1895, Caton, an English scientist reported that the brain can show variations in voltage. With the improvement of precise instruments to measure the 'Brain Wave' electronically, the field has richly developed at present.

Basic method of recording the brain wave is by fixing the electrodes on the scalp with some conducting jelly. The electrodes are connected to an amplifier to increase the amplitude of the voltage. The signals from the amplifier filtered for specific wave lengths are either directly recorded on magnetic tapes or scanned on oscillascope screens. The graph displays the changes in voltage over the time of the electrical activity of the brain. The introduction of this instrument in human brain analysis is a boon to unveil the complexities of the brain (fig 3). The current strength and duration are adjusted for the individual.

Types of Wave :

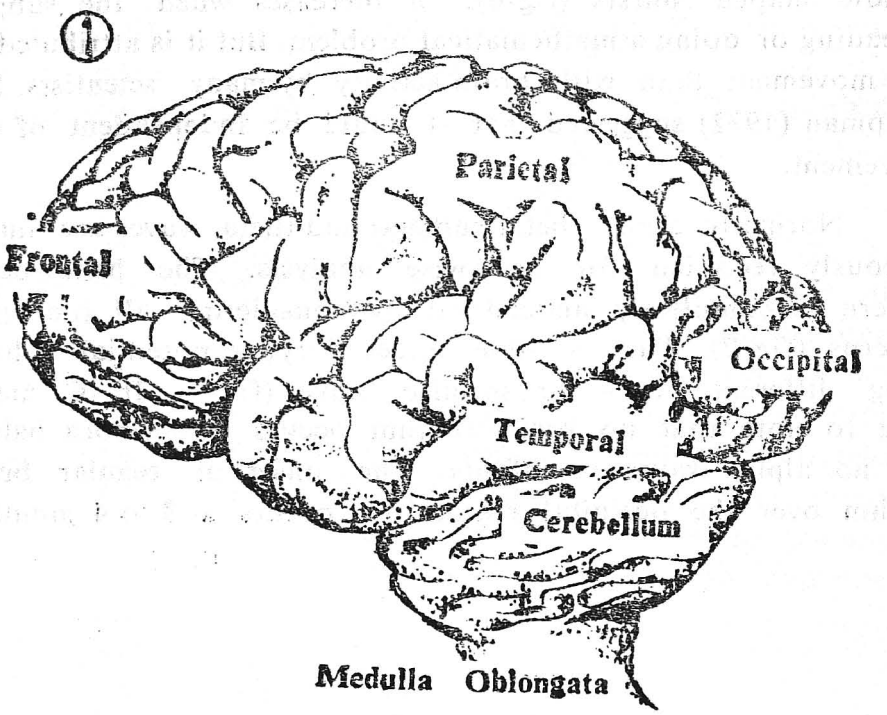
The electrical signals vary in their amplitude which could be classified into alpha, beta, gamma and delta and theta waves (fig - 4). Alpha waves can be recorded for people over 12 years. When the subject is at ease and relaxed, clear alpha waves are shown. But sudden arousal or shining light causes the alpha waves to stop. This is called "alpha blocking". Beta waves and gamma waves are not studied as elaborately as alpha wave. They occur at arousal. Delta waves are very slow and of larger amplitude. It normally occurs in unconsciousness, at head injury or by anaesthetic influence. Theta waves are slightly slower than alpha waves. It is prominant in adolesecents and children. These waves are very characteristic of brain structure and functions of cortical areas. Alpha and theta waves have reciprocal relationship; ie, when alpha stops, theta

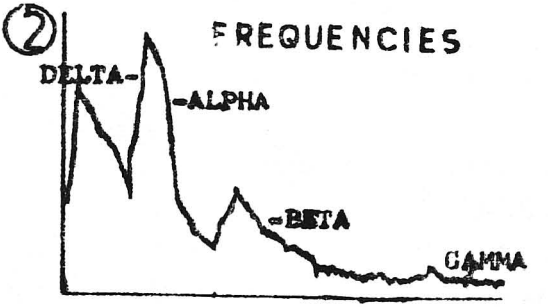
becomes larger and vice versa. It is found to be much more common in children with behavioural disorders.

Kappa wave has more of controversies than acceptance. It is associated with intellectual processes at the temporal lobe. The frequency overlaps with alpha waves and occurs in spindle shaped bursts (fig-6). It increases when the subject is reading or doing a mathematical problem. But it is attributed to eye movement than with brain activity by many scientists. But Chapman (1972) suggested that it could be independent of eye movement.

Normally alpha, beta, gamma and theta waves are simultaneously recorded for crosswise analysis. The behavioural pattern is completely understood by considering all the wave patterns (fig–7). This is done under varying potential voltage using different filters for specific waves (fig–9). It is interesting to note that no brain rhythm occurs in newborn babies and no alpha waves in infants. The onset of regular brain rhythm over the occipital region first occurs at 3 to 4 months.

REGIONS OF THE BRAIN





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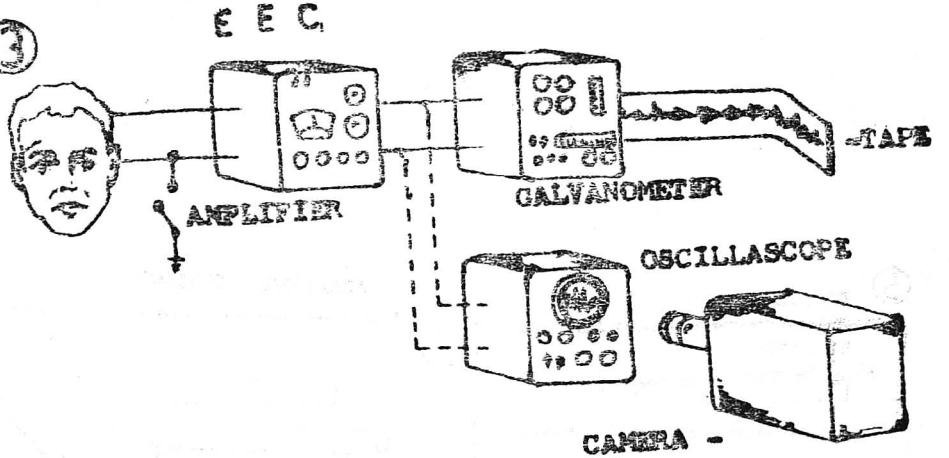

TYPES OF WAVES

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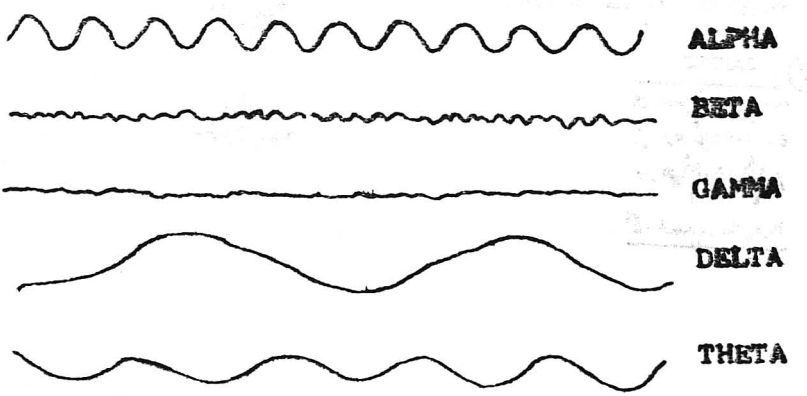

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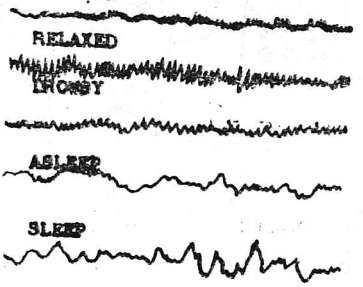

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AMBIGUOUS TRIDENT

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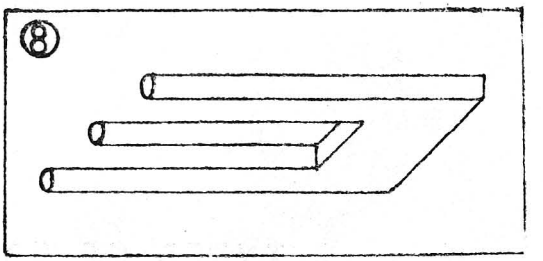

FILTERED SIGNALS

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Table — I

Psychological states, their EEG correlates :

Behavioural continuam	Electroencephalogram	State of awareness
Strong, excited emotion (fear, rage, anxiety)	Desynchronized: low to moderate amplitude fast, mixed frequencies	Restricted awareness divided attention; diffuse hazy confusion
Alert attentiveness	Partially synchronized; Mainly fast; low amplitude waves	Selective attention. but may vary or shift 'Concentration' anticipatiion "set".
Relaxed wakefulness	Synchronized: Optimal alpha rhythm	Attention wanders-not forced. Favours free association.
Drowsiness	Reduced alpha and occasional low amplitude slow waves	Borderline, partial awareness. Imagery and reverie "Dream-like states"
Light sleep	Spindle bursts and slow waves (larger) loss of alphas	Markedly reduced consciousness (loss of consciousness)i Dream state
Deep sleep	Large and very slow waves (synchrony but on slow time base random, irregular pattern.	Complete loss of awareness (no memory for stimulation or for dream)
Coma	Isoelectric to irregular, large slow waves	Complete loss of consciousness, little or no response to stimulation amenesia.
Death	Isoelectric, Gradual and permanent disappearance of all electrical activities	Complete loss of awareness as death ensures.

Ref : Electroencephalog. Clin. Neurophysiol(4) 1952. (fig-5).

Case Studies of EEG :

Much refinements in technology and accumulated informations are now available in EEG studies. To cite a few, Brown (1971) has correlated EEG signals and colour lights with feeling. Subjects were informed that blue, red and green lights were being operated by their brain electrical activity and that each light could represent one or more feeling status. The three colours of lights were paired with EEG frequencies. The subject can selectively operate the light mentally and keep the lights on as long as possible. They were asked to write a description of any thought or emotion or feeling that they experienced with each colour immediately. The sum of the results obtained are as follows :

Table — II

Waves	Colour of light	Feeling	Description
beta	Red or Green	worry, anger fear frustration	tension, alertness, excitement,
Alpha	Blue or Red	pleasant feeling, well being, pleasure relaxation	awareness of thoughts and feelings
Theta	Green or Blue	memory, planning day dreaming, problem solving	restful, alertness

The effect of polarizing current passed through electrodes over eyebrows was studied by Lippold *et al* (1974). The positive and negative stimulations were able to bring about different effects such as positive polarization which seemed to produce an excitatory effect and negative, inhibitory and withdrawal effect.

Mapping of the Brain :

Studies of neurologists and psychologists over the past century have helped to pinpoint the centres responsible for complex mental functions (fig-1). Sensory and motor centres are mostly located using tumor or haemorrhage or neurotic patients. The higher order functions of thinking, organizing, storing information are still posing problems in complete understanding. Certain regions of the cerebral cortex are specialized for complex abilities and conciousness. Ability to understand or speak intelligently is found to be in the left hemisphere of the cerebral cortex. The right side is for spatial tasks and understanding the complex diagrams and pictures. Verbal abilities and speech are controlled by the left posterior region or parietal cortex. Musical ability seems to depend on the right hemisphere.

Table—III

FUNCTIONS CONTROLLED BY CEREBRAL CORTEX

Left Hemisphere	Right hemisphere	Suggested by
Expression	Perception	Jackson (1864)
Audio-articular	Retino-ocular	,, (1874)
Propositionizing	Visual imagery	,, (1876)
Linguistic	Visual or kinesthetic	Weisenburg *et al* (1935)
Storage	Executive	Anderson (1951)
Symbolic or propoditional	Visual or imaginative	Humphrey *et al* (1951)
Education of relations	Education of correlates	McFie *et al* (1952)
Verbal	Perceptual or nonverbal	Milner (1958)
Discrete	Diffuse	Semmes *et al* (1960)
Symbolic	Visuospatial	Sangwill (1961)
Linguistic	Proverbal	Hecaen *et al* (1963)
Verbal	Visuospatial	Bogen *et al* (1965)
Logical or analytic	Synthetic perceptual	Levy *et al* (1968)
Propositional	Appositional	Bogen (1969)

Ref: Bltn. of the Los Angels Neurol Soc. 1969.

Language ability, learning and memory are more developed in the human brain. Drawing a spatial relation of function with brain morphology is the common weakness among the scientists. The conclusions drawn from various works seems to overlap one another. Processess such as learning memory, attention, language and thought do not seem to occur in isolation. Different areas in the brain named after the various eminent scientists are related to certain functions. Diseases or damages in certain areas of the brain are always used as materials for studies. Studies on lower animals and on monkeys provided evidences for speculations and are often questioned as to the strength of correlation.

Recently Harward Business Review of Human Relations (1979) categorises the functional relations with the hemispheres. Logical thinking, sequential planning and arguments are the linear operational functions of the Left Hemisphere. The processing of these faculties are more orderly and sequential. Lawyers, Planners, Mathematicians and Accountants are found to have a relatively more developed left side. Likewise the stimulus processing which operates on rational way is found on the right side. Artists, Poets, Managers and Politicians have well developed Right Hemisphere. Intuitive insight and three dimentional perception are more on the right. The Ambiquant Trident can help to test the Holistic Visual Image Perception (fig·8), One could be more dominant of the left or of the right side. So the author concludes with the phrase "Planning is on the left and managing on the right".

Chemistry of the Brain :

Nerve cells communicate through the chemical substance called peptides. Twenty different aminoacids form the long chain of polymers of numerous types. Brain cells are intoxicated or fooled by morphine which is a pain killer or an intoxicator depending on its dosage. In 1975 at Scotland and in USA, from human brain cells, a small five amino acid polypeptide called Enkephalin was extracted from pituitary and spinal fluid in Sweden. These are found to be more concentrated in the 'Blue spot' (Locus coeruleus) in the brain.

The material or its analogs of synthetic compounds when injected into various areas of the brain induced behaviours of different nature such as freight, flight or colition.? So brain controls its own areas through these compounds for pleasure or pain. As Floyd Blooms puts it 'A mother's smile may push a reward button inside her baby's brain'. The neuron fibres spreads all over the brain, connecting various areas with the blue spot. So the brain hormones may play a role in most elusive mental functions such as memory and thought.

Conclusion :

Holistic understanding of the complex functions of the human brain will reveal the new frontiers for further explorations by various disciplines. Learning and research on learning processes are the outcomes of the brain. So complete understanding of this complex unit is a basic requirement in any research. Different types of waves generated by the various regions of the brain are associated with the various human behaviours. Future researches can help us to elicit desired behaviour by administering a particular wave. Likewise, medical science is trying this tchnique as a tool on mentally retarded subjects. The possibilities for selective development of the brain hemisphere is under pursuit. Biochemists are trying to bring about the beharvioural changes through natural or artificially synthesised hormones as well. Yet it may require a long way to go.

ACKNOWLEDGEMENT :

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References :

1. David N. Leff (1980) "Chemistry of brain" **SPAN** June.
2. Harward Business Review on Human Relations (1979) Harper & Row.
3. Morgan, C.T. (1965) "Physiological Psychology" McGraw-Hill
4. Schewitzgebels (1973) "Psychotechnology" Holt, Rin.
5 Thompson, R.F. (1975) "Introduction to Physiological Psychology" Harperint.

4. SOCIOLOGY AND EDUCATIONAL RESEARCH

OVERVIEW

Interdisciplinary approach to research in education needs a sociological basis. As education is concerned with society and its people, a thorough understanding of educational problems in sociological view point is needed, as it gives explanations regarding the impact of social institutions like the family and social class on educational issues. Society and its implications on educational practice have to be studied in detail for effective implementation of educational programmes.

Two papers are presented under this discipline. The objective of the paper on 'Towards a new method of research in social sciences with particular reference to educational research' is to stress the need for the invention of a new methodology owing to certain limitations found in the existing social science research methodology. 'Participatory research' - is explained as an action-oriented method with the approach for change. It is emphasized that to treat research participants fairly and to show them consideration and respect, this kind of research should be used. Limitations of questionnaire and interview methods are noted.

The 'paper on 'sociological approach for research in higher education' includes categories such as need for a sociological approach to education, its importance, contributions of sociology and so on. Relationship between sociology and education is outlined. 'Sociological approach' is defined and explained. Areas for research and investigation are listed.

Special emphasis is focussed on research on higher education. It also provides an overview of individualized instruction and it is discussed that, students of higher education should be directed towards research and instruction must be research oriented.

4.1. TOWARDS A NEW METHOD OF RESEARCH IN SOCIAL SCIENCES WITH PARTICULAR REFERENCE TO EDUCATIONAL RESEARCH ★

The objective of this paper is to stress the need for the invention of a new methodology owing to certain limitations found in the existing social science research methodology. The term methodology in a broad sense refers to the process, principles and procedures by which one approaches the problems and seek answers. In social sciences the term applies to how one conducts research.

In the conventional research projects based on survey methods,the researchers follow step-by-step guidelines as in the cook book receipes: The ideological assumptions and abstract theories either over simplify or distort social reality and may lead us to inaccurate findings. The research projects based on survey methods also, fail to deliver the goods because mere questionnaires and interviews, make the approach highly rigorous, technical and academic, giving the impression to the suppliers of information for the project, that research is possible only by the university trained people. The researchers give more importance to the application of the method than actually the felt need of the society. In a research project there must be a sense of commitment on the part of the researcher, a sense of involvement on the part of the respondents and a fruitful collaboration between the two towards the betterment of the community at large. Budd. L. Hall, a Research

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officer in the international council for Adult Education, in has article entitled "*Participatory research-An approach for change*" published by the Convergence Journal, says that a research process should be of some immediate and direct benefit to a community and not merely the basis for an academic paper.

Claire Selltiz, Lawrence S. Wrightsman, and Stuart W. Cook in their book entitled "Research Methods in Social Relations" point out that sometimes questionable practices are encountered in social science research and such practices may be grouped into ten categories as follows. Involving people in research without their knowledge or consent. coercing people to participate; withholding from the participant the true nature of the research; deceiving the research participant, leading the research participants to commit acts which diminish their self respect; violating the right to self determination; research on behaviour control and character change; exposing the research participant to physical or mental stress; invading the privacy of the research participant; withholding benefits from participants in control groups; failing to treat research participants fairly and to show them consideration and respect.

The existing methods in social science research, at times enable the researchers to undertake such types of researches which are otherwise be called the covert research. The authors of the book entitled "Introduction to Qualitative Research Methods-A Phenomenological Approach to the Social Sciences". state that the participant observer can conduct field work as a covert researcher with his or her research interests hidden, or as an overt researcher. There are advantages and disadvantages in covert research. Apart from the pragmatic considerations, the covert research involves serious ethical questions. Some social scientists, such as Kai Erikson, argue that under covert research or unobtrusive research would jeopardize the good-will of potential research subjects and the general public upon whom other researchers ultimately depend. They further argue that research of this sort would close off promising areas of research for future investigators.

The questionnaire and interview methods also have some limitations. The questionnaires are poorly filled by the respondents and some questions are left out. Some of the responses may not have clarity. Illegible handwriting, difficulty in detecting errors, lack of personal contact are some of the problems, a researcher has to encounter, in administering a questionnarie. Of all the devices used by the Social Scientists for the collection of primary data, Interview is considered as a tool par excellence. Though interview is considered the most important and all pervasive tool, it has its limitations. In the interviewing situations it is indeed a difficult task to make a person agreeable for interview. Conducting an interview requires a calibre of high order. A good interviewer is required to be a good psychologist also. He must prevent the respondent from uttering lies, showing inconsistency or variations, etc. The interview situation leaves the researcher at the mercy of the respondent.

Hence it is high time, the social scientists, particularly the educationists devoted their attention for a new action oriented method. The scholars in the field of education are interested in the following : They want to 1) identify educational needs in society. 2) identify potential users 3) Assess what is available to potential users 4) educate the young and the old and evaluate the use. 5) update the curriculum content and study the impediments in spreading literacy. Therefore the researchers in the field of education, whose projects should be of immediate and direct benefit to the community, must turn to a novel method.

The key issue of the new method is whether the results of enquiry and data make sense to the ordinary man in the community or enables the researcher to understand the respondent whom the social scientist calls an ACTOR in the social system. In resolving the problem, the projects must aim to integrate the researcher and the respondent ie. the researched in the research process itself where the methods

of social investigations will have to be different from the traditional survey research.

References :

1. Bogdon, Rubert and Taylor, Steven J. "Introduction to Qualitative Research Methods John Wiley, & sons, Newyork 1975.
2. Hall, Budd L. Convergence An International Journal of Adult Education, Vol VIII, No.2 1975.
3. Kannan, R. The Impact of Farmers' Television programme in Athupakkam Village. A Sociological study on Mass Communication process M. phil Thesis (unpublished) university of Madras 1978.
4. Merton' Robert K. Social, Theory and Social Structure, The Free press, Newyork, 1968.
5. Selltizclaire, Wrightsman, Lawrence S. and Cook, Stuart W. Research Methods in Social Relations Holt, Rinehart and winston, Newyork 1976.

42. SOCIOLOGICAL APPROACH TO RESEARCH IN HIGHER EDUCATION ★

Introduction :

Sociology and Education :

Sociology is the general science of society, rather the science of social groups. Sociologists make an attempt to develop a theory, or theories, concerning any particular society or concerning social groups in general from the data collected by them. Sociology is concerned with social institutions such as class structure, the family, kinship, law, religion and so on and it is in particular, a science that constructs a grammar or language with terms which provide shorthand statement of descriptive accounts of social institutions, relationships and events.

Education a must for the society, can be understood only when we know, for what society, and for what social position the pupils are being educated. Durkhein saw education as a 'social thing' and he argued : "It is society as a whole and each particular social milieu that determine the ideal that education realises. Society can survive if there exists among its members, a sufficient degree of homogenuity education perpetuates and reinforces this homogenuity by fixing in the child, from the beginning, the essential similarities that collective life demands". Education should make people fit to live and fit to live with. No individual is an entity in himself;

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he needs society to make it for him. Education is a social process, which may eliminate defects in a society and may perpetuate desirable institutions and group activities An educated person should be personally well adjusted, technically efficient and socially responsible. Modern education accepts that all educational programmes must be related to the needs, abilities and interests of the educand and in consonance with the national ideal and aspirations.

Why a Sociological Approach to Education ?

As John Dewey rightly points out, education is a process of living and not a preparation for future living. A college or university is a place where people are joined in common pursuits and it is designed for the personal development of people of all ages, for the preservation and advancement of learning and the arts, and directly and indirectly for the advancement of society. Production in higher education is concerned with bringing about desired characteristics in people and facilitating scholarly endeavour. A college or university does its work through creating the right environment. The visible attributes of that environment are an aggregation of land, buildings, equipment and supplies, and a group of people including students, faculty, staff and governing groups. The invisible environment is the campus culture consisting of the prevailing ways of doing things, the common values expectations, standards, assumptions, traditions, behavioural patterns and an ineffable quality called *atmosphere.*

On the otherhand, the society is formed of collaborative enterprise in which the civilizing force of all modes of learning and teaching is understood, and the distinction of all manner of distinguished performance is perceived and celebrated. What is the relationship between college and society? To quote Howard R. Bowen's words "College is a place of stirring; it is a catalyst to help people find their unique ways, not a rigidly patterned system with preprogrammed outcomes for everyone; it gives each person the chance to

work out his or her unique destiny in a setting that raises aspirations, permits exploration and experimentation, provides encouragement and support, and offers the chance to learn in both the cognitive and affective spheres".

We are now living in the midst of an evolving multi-cultural society, in which consensus becomes increasingly problamatic and integration a question of organised planning. Education must surely have something to offer to the rapidly flourishing society. It is no doubt that sociological approach to educational problems could ultimately provide some positive aims to education itself as well as helping to establish both content and method. In Mannheim's words, "The principal contribution of the sociological approach to the history and the theory of education is to draw attention to the fact neither educational aims nor educational techniques can be conceived without a context, but rather, that they are to a very large extent socially directed, who teaches, whom, for what society, when and how, as the sociological questions were once framed.

What is meant by 'Sociological Approach'?

Increasingly in the academic world, we are faced with interdisciplinary forms of inquiry and this concept is also an interdisciplinary one. Sociological approach to education would take education as a social fact and try, for example, to give some explanations of its purposes and functions, or to show how the impact of other social institutions, like the family and social class affects educational issues. It would be more like the general theories we have dealt with already giving some sort of prescriptive message, from a sociological point of view.

Education, it is true, is mainly a social business but it is not static, it is a dynamic process concerned with both social and personal experiences, which require analysis, selection, reflection and evaluation. Thus, it is that Philosophic reflection Psychology and Sociology have become, with history and comparative analysis, the fundamental studies which collectively provide a corpus of knowledge for a deeper understanding

of education as a whole. Both sociologists and educationists are involved in contributing something valuable to the common goal. In brief, the essence of this approach is to look into educational practices, institutions, teaching-learning process and above all, students, the important constituents of a society, from a sociological point of view.

Importance of Sociological Approach to Research in Higher Education

The university is not isolated from society. Its deliberations and activities are not only in the public domain, but it depends so largely on public monals, that, it could not be insensitive to popular moods and pressures. The university itself is in the public domain and its support is subjected to shifts in social values and public demand. A good college or university like a good family is largely concerned with mutual benefits and improvements.

It is no doubt that certain factors block the growth of educational institutions. The main factor is lack of research in important areas. Our planning and decision-making are mainly on the basis of our presumptions only. In the case of higher education, we do not even have a clear notion of what constitutes poverty or minimal adequacy of resources for achieving any particular mission. We don't know, whether our presumptions are valid. In the absence of precise knowledege. about facts, it is a waste to going on with our decision-making process. And it is a must that, we should give sociological importance to research as all the educational processes are only for society and its people.

Research is very much needed in the following areas :

Why do most of the degree holders face unemployment problem—If their degree is not worthy enough to get an occupation and if their main obiective of getting a degree is to get employment, Why is there still an obvious rush to colleges—Why is there heavy rush to certain disciplines and less students in some disciplines at P G level? Is it because

students select disciplines according to employment opportunities, or do they want to undergo a 'prestigious' course of study- Why is poor attendance in some classes— Where does the fault be—with the educator, the educand or education— Why are there so many failures in certain disciplines? Why do students rush to city colleges, inspite of hostel expenses and other burdens, even when they have colleges in their home town? why do people rush to disciplines such as medicine, engineering, agriculture and management courses? Do all the elected candidates have the right aptitude for these pro—sessions?— Or do they just look at them in terms of employ-fment opportunity? What can be done by the educationist and educator,—to attract potential students to certain disciplines which are commonly neglected?— Do instructors need pre—training before they begin to handle P.G. Classes?—If so, what kind of training can be given?—How can the educational set up be remade so that instructors give importance to affective behaviour also alongwith cognitive behaviour inside the class room?— What kind of examination should be conducted at the P.G. level and so on and so forth. There is no doubt that attack and remedial measures for the above mentioned problems need sociological analysis of the situation.

Contributions of Sociology to Educational Research :

A quite recent development in the sociology of education has been an increased interest in the sociology of knowledge. in the function of knowledge as an element of control in society and the implications this has for educational practice. Sociology does have its applied wing with social welfare and in the last decade, it has grown tremendously in the education field by action-oriented social workers. In the past, we did not know what sociological knowledge had been used in decision making or if it had, what the consequences were. Recently, the need for research directed toward the evaluation of social action programmes has been well recognised

The contributions sociology could make to studying and teaching about educational research include answers to

such questions as the following. What is the meaning of getting an academic degree in a rapidly changing world? What are the benefits and disadvantages of diversity in education? How can it be promoted or minimized? If every society must get the kind of technologists, it deserves, what kind of technologies do we want? How can the unemployment problem be controlled or how can people find jobs or vocations according to their acquired knowledge? How can a good relationship be maintained between educational institutions and the society? what are the contradictions in existing society that provide pressure or leverage for improvement of education? How do society, its institutions, and its organizations come to influence the educational system, educators and educants? How and why do structuring, restructuring, and destructuring occur in educational institutions? what choices do students have and how do they go about in selecting suitable and useful vocations? etc.

Some more important areas for research are identified below :

1. Impact of institutional size on student development.
2. Impact of size on development of a congruent coherent personality.
3. Influence of size on student activities and their responsible positions
4. Effect of size on individual participation, involvement and satisfaction.
5. Impact of learning environment on goals like personal growth, increased knowledge, quality etc
6. Academic hypocrisy in connection with equal opportunity.
7. Functional relations between resource inputs.
8. Correlation between technologies and outcomes in human terms.
9. Improving the educational achievement of students from low income families, rural areas.
10. Research on college population trends
11. Research on the teaching profession.
12. Research methods used by the sociologists.

13. Research on social mobility in relation to education.
14. Research on caste segregation and integration in the schools/colleges.
15. Sociology and cultural pluralism.

Individualized Instruction-An Instructionol Revolution :

If more and more of fruitful research be done in the educational field, students of higher education should be guided towards developing a research mind. The spirit of intellectual curiosity followed by intellectual inquiry must be fostered among them. Individualized form of instruction is one of the best ways to motivate students of higher education towards research fields. Research potential can be stimulated by individualized instruction. In its broadest sense, it means a variety of new learning methodologies,personalized systems of instruction competeney based education, computer assisted instruction, experiential learning and independent study. The essence of it is education for each rather than on education for all. Through this, higher education becomes a mission of helping each student to become a better, more complete human being. Although individualized instruction is different from traditional approach by its process and approach it seeks to systematize learning to the individual student's abilities, skills and goals The process is carried out in two ways; either students design. their own course of study in conjunction with a faculty member (or sometimes two or three advisors) or the faculty member designs a course of study that can be mastered by students individually. In both processes, students are not constrained by time, previous preparation, or their fellow classmates.

These programmes offer solutions to a number of problems associated with returning adult students. Without an individualized programme, the higher education experience of many adults might be remembered only as an endless registration line followed by an endless series of lectures inside a class room. Besides fostering free and independent thinking among students, individualized instruction paves the way to research

in important areas as it gives guidelines for the student to identify problem areas and gives him the hope to carry on his procedures with self confidence. So, colleges and definitely universities should remake higher education research-oriented by making use of new instructional technologies like individualized instruction, symposiums, colloquium etc.

Conclusion :

Education is a life long pursuit. Education is considered the process of providing each individual with the capacity to develop his potenial to the full. This requires that we enlarge the individual's perceptive ability by providing a sufficiently wide range of diversified societal environments so that the talent? of all can be used for this, a lot of research should be done with a sociological approach. But in all instances, the important thing to note is that research should be carried on with properly controlled, directed and sound methodology.

Society is composed of individuals, (of people); but society is more than the individuals whom it comprises. It is true that men can and do change society, but it is also true that other things like inventions, events, revolutions — all help to change society. So, researchers should seek to open the door to reality and truth rather than indoctrinating their own ideas. Problem areas must be identified and remedial measures should be suggested.

In conclusion it is perhaps worthwhile making a point that research findings should be utilized for further planning and decision making processes.. The truth of sociology are not in themselves warrants for our taking one course of action rather than another. To be a guide to practice they must always be linked with some aim, with some valuable end to be realized, and be shown to be contributory to the realising of that end. The educational theorist must take them into account if his recommendations are to be adequate in practice.

Suggested References :-

1. Anne Parken Parelius and Robert Parelius :' The Sociology of Education' Prentice-Hall, Inc., New Jersey.
2. Cook and Cook : 'A Sociological Approach to Education' Mill Publishing Company Ltd. New Delhi.
3. Dyckman W. Vermilye "Life long Learners-A new clientele for higher education Iossey-B ass Publishers, San Francisco.
4. Emile Durkheim : 'Education and Sociology' collier Macmillan Publishers, London.
5. G.W. Tibble : 'An Introduction to the study of Education' Routledge & Kegan Paul Ltd.
6. Paul L Dressel & Sully B. Pratt : 'The World of Higher Education' Iossey Pass Inc., publishers, San Francisco.
7. Talcott Parsons : 'The Social System'. Amerind Publishing Co. Pvt. Ltd. New Delhi.

5. ECONOMICS AND EDUCATIONAL RESEARCH

OVERVIEW

Even after enjoying nearly 35 years of independence the majority of the people are illiterate inspite of the plan goals of making primary education universal throughout the country. Are these vast millions going to be made literate? If so, when? Problems of this kind have to be treated in an economical point of view. In planning, programming, and administering an educational system or institution, the economic aspects of education have to be given the top priority.

Two papers have been presented under this discipline, and their focus is on economics of education'. After citing the important aspects, where research is needed, the first paper goes on explaining student costs, returns-to-education and correlating index. Sixth plan projections are listed. Education as an industry is explained. In addition to this, the peculiar problems in higher education are brought into discussion. Errors in using research findings are pointed out. How a research finding can be misused is illustrated. Fruitful areas of research are suggested.

The next paper deals with the economic aspects of education. The issues of economics of education are dealt under two heads namely economic value of education and economic aspects of education and the latter has been explained in terms of student cost, institutional cost and opportunity cost four economic aspects of education are described. Major issues concerning the importance of economic aspects of education

are outlined. Economics of education is derived as the economics of quantification as it brings the link between the economic and educational planning.

5.1. ECONOMICS OF EDUCATION

In recent years considerable interest has been evinced on research in education. The issues of economic development and the significance of literacy in less developed countries has brought into prominence the complex problems faced in educational development. It is our intention to slightly digress from the title of this paper for the simple reason that the writer is qualified to talk only about the economic aspect and lo a lesser extent on education.

It would be interesting to note first of all the aspects where research is necessary. Take the example of India. Inspite of nearly 35 years of independence the majority of the people are illiterate inspite of the plan goals of making primary education universal through out the country. Are these vast millions going to be made literate? If so when?. The complex question of adult education is very difficult to tackle and the attempts made so far have not been successful. At the High school level the plus Two experiment has raised many issues which require candid answers. In higher education unemployment is growing with no sign of any alleviation. Even at the professional level of engineering, medicine and technology the graduates are facing a rather uncertain future. These are vital areas where research is necessary at a priority level.

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Studies have been made wih lot of statistics but the studies have only posed more problems and the answers are nowhere in sight. This is stated not to engender a spirit of pessimism but to encourage the desire to undertake empirical studies at every level to enrich knowledge and to give a clear guidance as to the direction needed for the right educational policy.

A lot has been written on investment in human capital. This generally includes education, training of various kinds, health and internal migration Nevertheless, questions have been raised as to whether it is right to treat human resource as capital. The question is whether human capital can be taken as a producer good. Adam Smith included all the acquired and useful abilities of all inhabitants of a country as a part of capital. Nevertheless, the classical notion was that labour had only the capacity to do manual labour and required little knowledge and skill. This will mean failure to treat human resources explicitly as a form of capital as a produced means of production as the product of investment.

This view requires modification if we are to treat human resources as capital. There are investments in human beings that yield a return and there are investments that do not yield any return. It becomes necessary to estimate the magnitude of human investment both at the micro level and macro level. This is a very fruitful area of research where a lot remains to be done in this country.

1. Student Costs ;

This can be illustrated with an example of student costs. Investment on education needs proper quantification and this can be achieved only through an empirical study of student cost at every level. Such a study will enable us to estimate what it costs a student to study at a college or at the university.

Illustrating this further, primary data can be collected from the institutions to be studied This is through a questionnaire to be filled in by individual students undergoing different

course in the institutions studied. Secondary data pertaining to the cost of salaries, equipment, library services, buildings, land, health services, and administrative services for the different courses of study can be collected from the different institutions. For getting this data from the institutions a questionnaire can be prepared covering every possible detail

The stratified random sampling method can be followed to collect the data particulars from the students through the questionnaire. This data will include tuition fees, special fees, cost of books and all other related incidental expenses taking into account the scholarships received and other aids from the Government.

Another very interesting area of research is the returns-to-education approach.

2. Returns-to-education

The investment made on education can be measured in terms of the returns expected. Take for example a high-school "graduate" and one who has the masters degree. The life time earnings of one can be contrasted with the lifetime earnings of the other. It is quite conceivable that a graduate assistant working in a high school may find his total earnings to be less than that of an Assistant Professor in a college.

There are two ways of looking at direct returns.

a. Personal profit orientation.

b. The national productivity orientation.

The personal profit orientation studies the net earnings of people with different levels of education. This is studied to prove that the attainment of a particular level of education leads to a financial gain. This may be quite rational in many instances. The national productivity orientation looks at education related earnings as proof of the effects of education on the output of the country. In a market economy, differences in the earnings will reflect the differences in productivity. Indirectly it will indicate whether the right investments are made in education and what is called for to improve the situation.

The rate of return approach has many interesting aspects. This rate of return will differ from country to country and from profession to profession. The investment made in the U.S.A. for an engineer may not bring the same return as that made for a business executive trained in the Harvard Business School. In India one who is well trained in catering will find his return on the investment much higher than one who works in a Governmental establishment.

Interestingly separate returns can be calculated for men and women. The return on women for similar investment may be less. Studies made in the U.S. have indicated that the rate of return on the cost of college education is 9% for urban white males and 7% for non-whites. This may be due to dis crimination and was some 20 years ago. Conditions have changed now.

In studying earnings one has to look into productivity. Productivity may be due to the machines or due to the special skills. Persons possessing special skills like deep sea diving, putting out oil fires, are paid very highly for their special skills. One has also to take into account non-monetary attractions of certain jobs. Though the salaries may not be attractive, the jobs may be easy to handle with many amenities and the present younger generation will jump avidly for such jobs. This requires very careful research and study.

There is said to be a close relationship between educational activity and economic activity.

3 Correlating Index

Comparisions are made with the overall index of educational activity with the index of the level of economic activity. Comparisions between countries are made and conclusions arrived at When comparisons are made between countries, the educational efforts of a given country can be seen in a proper perspective. Nonetheless, such inter country correlations can be quite misleading too. To give a specific example: India is considered to have the world's third largest technical

man power. One wonders whether this third ranking has any relevance to the Indian educational and economic scene. It may be argued that spending money on education is an effective way to increase the Gross National Product. If so, the type of education must be clearly spelt out.

With the large number of universities churning up graduates at virtually factory speed one wonders whether there can be any relationship between under graduate and postgraduate education and the growth of the G.N.P. If the Plus Two had really resulted in the creation of a professional group well trained in technical work, then it would have been worthwhile. A real and genuine attempt to bring about compulsory primary education can transform our villages, and bring about socio-economic changes of far reaching consequences. This is an area where there is considerable scope for research. Comparative studies can be made between highly literate regions, urban areas and backward regions. Kerala is a good example of a highly literate state while states like Bihar leave much to be desired. There is a tremendous scope for studies in primary, secondary, college, and technical education. Research can be concentrated in these areas and the results can be very meaningful for future planning and executive action.

In doing research in education, the question of opportunity cost cannot be ignored. Eventhough it may be classified as purely notional, it has a significane of its own. A teacher working in a high school, can have the alternative of working as a clerk or a store keeper. This cost can be determined but not in all circumstances. In the Indian set up the alternative job may just not be available. A 'Professor' in a college may not have another 'professorship' lined up if he or she chooses to resign in a huff. This must be taken into account in the research programme.

Another very important area of study is forecasting.

4. Forecasting man power needs.

All economies both free market as well as centrally planned, have highly sophisticated methods of forecasting man power needs in education, services and other sectors. The employers themselves work out their programmes for given periods taking into account the rate of growth and capital investment. In developed economies, the present ratios of trained man power to total employment, are projected into the future. One should realise that given the present intake of civil engineers in India, the number needed by the year 1990 would be x. Such planning will be much more useful to the practical policy maker. The present ratios of trained man power to total employment will have to be carefully analysed and for this, the past trends in the utilisation of man power will have to be studied.

In a country like India inspite of all the quantitative methods utilised, forecasting has dismally failed in man power planning. The reasons have to be carefully and diligently sought. There is wide scope for detailed research in nearly every area of man power planning. There are unemployed doctors while there are vast regions where qualified doctors are in short supply. There is a surplus of engineers in certain areas while in certain other areas the demand is very high.

Good and relevant studies will be highly informative and a pointer towards policies needed. This is particularly true of developing economies where facts and data are mostly not available. In India there are vast unexplored areas where man power needs require immediate and careful study.

5. The Plan

The Sixth Plan projections are very significant here. The main objectives are :-

1. To ensure essential minimum education to all children up to the age of 14 years within the next ten years particular attention being paid to school drop outs. Research is

needed even now at an operational level whether during the second year of this plan anything positive has been done in this direction and if so to what extent. This may be at a microlevel to start with.

2. To provide for all citizens literacy, numeracy, basic understanding of the surrounding world and functional skills of relevance to daily life and to local environment. Here research is specially needed to prove whether this objctive is a pious platitude or not.

3. To promote the values of secularism, democracy, national integration and dignity of labour throughout the educational system. Some steps have been taken on all India, level and research studies are needed to cover this area.

4. To provide relevant technical skills through the ageney of Krishiudyog and Van Vigyan Kendras and other centres. An evaluation of this type of technical education should be a priority.

5. To lay stress in the creation of new facilities on technical and vocational institutes and locate them to the maximum extent possible in the rural areas. Many such institutes and colleges are springing every year. Studies are needed regarding their location and their value.

6. To improve secondary and higher education. Considerable research has been done but a lot yet remains to be done.

7. To consolidate existing facilities for higher education and coordinate higher education with opportunities for employment specially self-employment, nothing much has been done in this direction. Research is needed whether the self-employment objective is really meaningful.

8. To promote selective growth in educational fields in the pursuit of scholarship and excellence in all the important areas of education-sciences, humanities, weaker sections, socially handicapped and women This is a very interesting area to proble, study and evaluate during the Sixth Plan period for the researcher.

9. Sensitising the academic community to the problems of illiteracy, poverty and environmental degradation. We wonder what machinery has been set up for this so far. An interesting area would be the degradation and loss of values and elementary ethical standard and quantify this if it would be possible.

10. To facilitate development, mobilisation, organisation and utilisation of youth to involve and participate in national development, research in this area can wait for sometime.

6. *Education as an Industry*

It is frequently forgotten that education is an industry. By any standard formal education is a big industry in the developed countries. This is used in the sense that it consumes huge amounts of public and private expenditure. It is not used in the sense of making a profit. In the developing world, education plays a role that is perhaps different from that of the developed world. Nevertheless, the mushrooming of so alled English schools and public schools makes one wonders whether education is run in certain sectors as an industry for profit also. Objective and detailed research is needed. The capitation fees charged in engineering and medical colleges are frequently justified and explained. However, research is needed in this vast area regarding the quality of education, the methods followed and the standards maintained. This brings us to the complexities in higher education.

7. *The peculiar problems in Higher Education.*

The rapid expansion of higher education has brought about very many problems that are left as they are. Solution have not been attempted or tried.

To mention a few of the problems.

a. The lack of relevance of the content and structure of the system of higher education.

b. Increases in expectations that are not being met.

c. The mismatch in quantitative and qualitative terms between the output of the system and the absorptive capacity of the labour market.

d. There are the questions of the resource potential of the country, the changing technology and labour productivity, the educational needs for different kinds of jobs, the occupational mobility, the expectations of employers and employees and the recruitment and promotion policies of employers.

The need is to study and identify the role played by the educational system. This can be interesting and quite fascinating.

One comes across in higher education the familiar "investment in human capital" approach. The types of skills and techniques needed vary from industry to industry and area to area. No correct number can be envisaged in the kind of conditions prevalent in developing economies. There is a limit to educational expansion through the process of job creation and redistribution.

8. Errors

Perhaps the most significant error to avoid in research is coming to the wrong and absurd conclusion. This may sound strange but is nevertheless true.

A few years ago a study was made of the profile of jobs in Tamilnadu. The learned authors came to very intersting conclusions. A case study has been made of office job, the duties of junior assistants and their qualifications. The eligibility is a Bachelor's degree. After noting the type of work to be done the learned authors state''. "A person who has completed middle school (8th standard) would therefore be adequate in all respects;" except that of writing English. "The productive efficiency of this specification would be brought very much close to 100 per cent if the Tamilnadu Government changed its language of routine correspondence from English to Tamil. If such a change is not effected, the ideal specification to be used in recruiting J A's in this department is a pass in 8th standard and a fair knowledge of English spelling". (V.J. Ravishankar and K.A Zachriah, Educational

profile of Jobs in Tamilnadu" , 1979 Madras, Sangam Publi-shers. P. 98-99).

Regarding steno typists the learned authors have stated in the same study' A bachelor's degree which involves three more years of broad general educational development, is definitely unsuitable since the skill development associated with t is excessive and totally unnecessary for the job in question (P. 107). It is high time the authors studied a similarly qualified individual and explained the findings.

Research in education is not merely an academic exercise. It is the ability and efficiency to get the right data and get behind the responses the realities and fundamental truths. It is easy to believe the responses to the questionnaire. It is relatively simple to work out the answers which may not be basically relevant. The real researcher is one who spends many a sleepless nights reworking and evaluating the data, and finding out the errors. One has to investigate at a really complex level the mysteries that escaped him in the first instance. This kind of a researcher is now in short supply, particularly in this country.

References :

1. Blaug, M (ed). *Economics of Education.* The English Language Book Society and Penguin Books, Middlessex, England, 1968.

2. Booktalk *Higher Education and the Labour Market in the* Philippines, September 1981.P.1

3. Government of India : Planning Commission. Sixth Five Year Plan, 1980-81. A Frame work, New Delhi. 1980.

4. Harbison. F H. *Human Resources as the Wealth of Nations.* Oxford University Press.New York. 1973.

5. Myint H. *The Economics of the Developing Countries.* Hutchinson University Library, London. 1964.

6. Ravishankar V.J. and Zachariah K.A, *Educational Profile of Jobs in Tamilnadu* Sangam Publishers, Madras, 1979.

5.2 ECONOMICS OF EDUCATION

Introduction :

In olden days, the aristocrats, the rich people, and the interested students only went to Gurugulas. This shows that the expenditure on education was mostly consumption expenditure. In the later period, caste system prevailed the basis of their profession. It clearly reveals that every caste was specialized in particular profession. They learned their profession from their parents. They learned even from childhood. Therefore, the expenditure for learning their profession was negligible amount. Later the slavery system prevailed. At that time the economists considered the labour force was homogenous one. The economist, never thought about the importance of education then. Only after industrial Revolution the Economists began to think about the importance of human capital.

The economists, in the 20th century have found out that. the technological transformation plays a vital role in the growth of Economy. Technological transformation of an economy refers, the changes in the input output relation of production activity. This transformation necessitates the accumulation of, not only the material capital but also the requisite type and amount of human capitals. Labour force must posses the skills that are required for the successful operation of the new technological process of production. Labour force acquired skills through education. This makes the economists to turn towards education.

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Economic Aspects Of Education :

Now a days the main function of educational system is to supply qualified man power to meet the demands of national economy there by contributing to its growth. Here the economists are attracted by the four economic aspects of education First educational system supplies qualified man-power to meet the requirements of the economy. Secondly, education contributes significantly to the growth of an economy. Thirdly educational sector provides employment to a significant proportion of a country's labour force. *Fourthly* education requires financial and other resources and therefore it has its own cost structure.

These four Economic aspects of Education clearly reveal that Economics of Education is, not only concerned with costing and financing of Educational Institutions, but also, the economic value of education.

Assumptions :

For a clear understanding of a discipline or a theory, we should have a clear cut idea about the assumptions on which, the theory stands. The following are the assumptions of Economics of Education :-

a. Education serves the force to increase their efficiency
b. The education should be judged only on the basis of its economic returns.

This clearly indicates that, Economics of Education can raise the level of productivity, enhance both the quality and quantity of the occupational skills of the individual, and in general, the quality of labour force. Thus in a way, Economics of Education, concentrates on only a part of the objective of education. It does not consider the spiritual aspects of education.

Issues of Economics of Education

Economic studies of education are basically concerned with the following two issues :

a. Economic value of Education.

b. The Internal efficiency of educational system or the economic aspects of education.

The economic value of education is concerned with the impact of schooling on labour productivity, occupational mobility and the distribution of income. The economic aspects of education deal with the internal efficiency of schools and with the relation between cost of education and methods of financing.

1. Economic value of Education

The Economic value of Education is mainly concerned with the following questions.

a. How much should a country spend on education?

b. How should the expenditure be financed?

c. Is education mainly investment or consumption?

d. If investment—how large is its yield compared to the other forms of investment.

e. If consumption—what are the determinants of private demand for more or better education.

f. What is the optimum structure of the educational pyramid, ie. the number in different levels and channels of the educational system?

g. What is the optimum mix of formal education with schools and colleges and informal education outside them?

h. What contribution does education make to the over all development of human resources and how far we can accelerate economic growth?

2. Economic Aspect of Education

This deals with cost minimization. The objective of this aspect is to maximize the output with minimum cost. In this context the following questions may be raised

a. What is the optimum combination of people's time, teacher, building, and equipments embodied in schooling.

b. How to minimize the cost of education.

Importance of Economic Aspects of Education.

Of the two above mentioned issues, the second one may be given much importance. Because the economic aspect of education tries to minimize the cost of education. Developing countries like India cannot invest huge amount on education. So finding out the intermediate technology may be of much help to developing countries.

Formal education plays an important role in human capital formation. According to *Education Commission Report* (Kothari Commission) (1966) The destiny of India is shaped in the class room. It indicates that we should give more importance to the economic aspects of education, which is studying about the maximum utlization of available resources, namely students, teachers, class rooms, equipments, library, games etc, in order to produce more amount of labour force, for having a well defined and developed skill.

Now a days, the economic aspect of education is studied by finding out the unit cost of Education. The unit cost of education may be for one student or for one discipline. Finding out cost of education may be of much help for the planning authorities in taking decision about establishing a new university or starting a new course etc. The unit cost of education normally has three components, namely:-

a. student cost
b. institutional cost
c. and opportunity cost.

The summation of all these gives unit cost of education. Many experts feel that opportunity cost should also be included in finding out the unit cost of education. It is also opined that, in Indian condition there is no need of taking opportunity cost of education in finding out the unit cost of education. The reason for this may be that in our country, mainly students go for higher education only for getting

employment. To our students, degree is only a passport to get jobs.

Conclusion :

The Economics of Education has contact points with labour economics, public sector economics welfare economics, growth theory, and development economics. Economics of Education is essentially the economics of quantification. It means how much society has invested in a man for his education and training, how much is the return on the assumption that he is a human capital. The economics of education brings the link between the economic and educational planning. It is forged through man power requirements for realizing the targets of economic development. Future patterns of man power requiremeats guide today's educational decisions.

The experience of several countries shows that, in the absence of educational planning either the scarcity of highlevel manpower will act a bottleneck in the creation or full utilization of productive capacities in the varius sectors of economy as the excess supply of personnel will cause un-employment or under employment.

We may conclude that economics of education is one of the fast growing disciplines, which helps the economy to achieve its targets by producing skilled man power and bringing equilibrium between the supply and demand of skill power or in other words making use of all the available human resources.

References :-

1. Shri Prakash "Educational System of India"
2. Gandhi, K "Issues and choices in Higher Education"
3. Joshi-K L. "Problems of Higher Education in India"
4. Blaug (ed) "Economics of Education"
5. Pandit H.N. "Measurement of Cost productivity and Efficiency of Education".
6. John Vaizey "The Cost of Education".

HISTORY AND EDUCATIONAL RESEARCH

OVERVIEW

Education as every other social science was and is also a part of historical study. History is now characterised as the study of the origin, growth and decay of civilizations. Education is the most important index of a civilization and man differs from the beast by education which may be defined as the technique of transmitting civilization. Education and history are intertwined at every stage. They are allied disciplines and mutually helpful to understand man and society.

Four papers are presented under this discipline. The first paper deals with methodology of historical research. In the introductory remarks, research is defined After that an outline-about historical research is given. Broad guidelines are given for historical research method. Four kinds of methods such as heuvistic, criticism, synthesis and exposition are discussed well. Varying points of view are given on these topics. It also provides an overview of the importance of historical research in education.

The two papers entited as 'History and Education' thoroughly analyses the relationship betweenHistory and Education. These two papers cover a broad range of topics such as importance of History, Education, their mutual relationship, importance of an interdisciplinary approach and so on. The difference between history and education, and history of education are brought out clearly. A brief outline about-research in the history of education in India is pictured. Also, topics for research are identified. Besides providing a link between

History and Education, these two papers affirm that any educational reform cannot be introduced without reference to the past and the most successful educationists are those with a historic sense. Also, how history and historical methods are quite useful to an educationist and how the history of education is essential for the cultural history of a nation is explained.

The paper on 'Indigenous system of Education' give an account of the findings of a case study done in Madurai District and it gives the position of indigenous education a century back. How is it possible and beneficial to include some of the notable features in that system to our present educational pattern is discussed. Also, causes for the decay of the indigenous system of education is explored. The characteristic features of this ancient system and its relevance to the present system are described. Also, it is pointed out that further research on this sphere can be done in various areas.

HISTORICAL RESEARCH A STUDY IN METHODOLOGY

Introduction :

Ours is an age of intense research. More than ever before, research and research methodology (techniques of research) have grown in both numbers and sophistication As students involved in historical research or as one who investigates into a problem of historical significance, we ought to know the nature and meaning of historical research and historical research methodology. That is to say, looking at a problem from historical perspective.

By research we know pursuit of knowledge through observation and understanding of the world of men and matters By reserach we mean that it is "a careful or critical enquiry or examnation in seeking facts and principles; diligent investigation in order to ascertain something new or hidden". A true and objective research is done in a scientific method which requires some special skill and training. The essential ingredients of a scientific research method are "the spirit of free enquiry, the reliance on observation and experiment, the systematization of knowledge through generalizations or laws and continuity of enquiry". Having said this much by way of defining what research is and what a scientific research method is, let me now go on to what is meant by historical research.

Historical Research :

By historical research we mean *inquiry into the past critically, and scientifically*. What makes any piece of research

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historical is the fact that it fundamentally deals with a problem whose moorings are in the *past* that matters and that it heavily relies on evidence of the past Historical research is concerned with an accurate account of a particular happening (a specific event or occurrence that could be located in time and space), stressing the location and the date. That is, it works out "an accurate record of how, when, and where the event started, how it progressed, and how and when it ceased. The historian or the researcher explains the event by describing the conditions which led up to it and out of which it grew. In addition, he may indicate some of the important results which have followed as a consequence of the event". An historical research tries to reconstruct the past only in order to learn its influence on present social problems, to determine what conditions are in need of correction, and to find a basis for the intelligent formulation for social planning and social betterment. An historical investigation or probe into a social problem looks for historical clues which might indicate the sources and origin of the problem, the degree of influence it has been exerting on the life conditions of a group, on ways and means of controlling these sources and influence. For this, "one must discover the ways in which events are interrelated beyond their relation of temporal sequence of coincidence. In particular one must discover how they are related as cause and consequence" This *cause* seemed to be deeply embedded in the complex cultural history of a group, although the *consequence* was fairly obvious.

In this way historical research tries to reconstruct the *past as it really was* or to *describe events as they actually* happened. (wie es eigentlich gewesen, as Leopold Von Ranke of Germany would put it). In other words, in historical research, the past matters and indeed it dominates. As you all know the term 'history' comes from a Greek word 'historia' meaning inquiry, investigation, examination. etc. and no inquiry is possible without asking questions. So historical research begins with questioning. Here one should know what to ask, how to

ask and what for to ask. One who does historical research is expected to be trained in the skill and craft of a trained historian even for asking the right kind of questions which would help us elicit the right kind of answers or clues in solving the riddles about the past. A diligent researcher begins his task by collecting and analysing relevant facts about the past, critically studies them, tries to understand the literal and real meaning, and then makes some generalizations which might in turn help us in understanding the present and predicting the future.

Historical research is the activity undertaken to bring out something new, to extend the horizon of knowledge, and to contribute some original data. It is an attempt to make a diligent and systematic inquiry or investigation into a subject, in order to discover facts or revise the known facts or put the facts into theories. Historical research is digging into the past in order to re-enact the past in its entirety, to reconstruct the past events as fully as they must have happened, to explain the meaning and significance of those events, to correct the wrong notions so long as prevalent, if any, and to elaborate, analyse, synthesize and philosophize the ideas in the light of the knowledge we possess. Historical researcher should therefore always do something more than look-observe do more than observe-understand; do more than understand explain; do more than explain–synthesize.

All this suggests one final respect in which the past matters. It matters not just higgledy-piggledy, in the vague, disjointed and amorphous way in which many people 'know about' historical problems. It matters in a rigorous way-it demands a precision and an accuracy of detail no less exacting than mathematics or natural science. Knowledge which is misplaced in time is to be gained, but an encyclopaedic scattered knowledge, fragmentary and disjointed, is certainly not 'historical knowledge'. "Historical knowledge is a connected, coherent, intelligible form of knowledge about the past. It has nothing to do with quiz answers to isolate" do you know? questions.

What we can expect to know about the past depends upon *how* we know about the past: and that is a second line of exploration.'' To do this we need at least working knowledge of the technical know-how of historical research which is otherwise called methodology. With its help an attempt can be confidently made to rivive and reconstruct the past events in all their particularity. Instead of concentrating attention only on unique and particular events - as they had actually occured at a distinct time and specified place-these accounts are-examined for a possible explanation of their processes of social becoming. The question, "What happened at such and such time and place" would be supplanted by the questions, "Why did such and such things transpire?" and "What effect did they produce upon the life of the people and the groups most vitally concerned?" Thus historical research sets the probe in operation. In order to do *historical research*, it becomes imperative that the researcher follows the *historical method*, which is the technique specially developed to present past events in their proper perspective. Historical research methodology (totality of the underlying principles and rules of organisation of a philosophical system or inquiry procedure) helps us to know the problem scientifically. As history is both a science and an art, the methods to do historical research or the methods to be employed in historical research are to be different from those of all other disciplines. To some extent skeptical attitude is to be developed to establish the veracity of the facts pulled out from the records of the past. For diligent collection of all relevant sources, great care in sifting the material, very critical examination of the literal and real meaning of the text, a thorough inquiry into the motives and investigation of the author in making his observations, and a penetrating scrutiny to eliminate bias, errors of commission and omission, we require a systematic approach, a sophisticated technique or *modus operandi* which is otherwise called methodology.

Historical Research Method

Historical method comprises four distinct and comprises parts viz

Heuristics (search for and collection of source materials), *criticism* (or critical appraisal of the collected source materials *Synthesis* (arranging and dovetailing the gathered materials into an organic or comprehensive whole, an integrated picture) and *exposition* (or presentation) in a readable and convincing manner. These four parts more or less correspond to the main duties of a historian or a researcher.

Heuristics : It is derived from the German term 'Heuristik' meaning 'to discover.' In historical method, it stands for the art of searching for and the collection of various documents which form the main sources of history. It is concerned mainly with collection of various kinds of documents. History can mean a.) history-as-events, b.) history-as-records of those events and. c) history-as-human reflection upon those records of the past. In other words, historical research rests heavily upon the study and interpretation of the records of the past which is called Heuristics. History-as-records and as human reflection upon records deals with the evidence of the past which are called out from historical source materials. The sources or documents are but the traces of the thoughts and actions of men of former times. Trustworthy and genuine evidences, do help us to establish historical facts which in turn help us in reconstructing the historic past Through evidences, a bridge is built between the past and the present represented by the remains of the past and the historian of the present respectively. In doing so, the evidence which is the collective name for records, serves as a connecting link, a hyphon. History-as-records, thus serves as a point of contact between the historian of the present and the events of the past which he wishes to study.

Evidences are drawn from sources and a knowledge of the past could be constructed only on reliable evidences. The documents, which are the traces of the past, may be either material objects like monuments, sculptures, paintings, pottery, coins and so on or records proper such as state papers, memoirs, letters, inscriptions including copper plates, news

papers, books, reports, photographs, memorandums, recordings, and even tape recorded interviews. A proper understanding of these various materials is absolutely necessary for the understanding of the past. Sources could be, for the sake of convenience, divided into three broad sections : i) Primary sources, ii.) Secondary sources, and iii) Tertiary sources or third-hand evidences.

2. *Criticism* :

The collection of documents in various libraries, archives, museums and other places is not the chief end and aim of the historian's task He must find out whether the collected documents are genuine or bogus, relevant or irrelevant, credible or otherwise. This part of critical examination or scrutiny of the documents is called criticism. The main object of criticism is to test the data furnished by his predecessors and to determine whether the informations received are reliable or there is a measure of probability.

The process of criticism falls into two parts. They are *external criticism* and *internal criticism*. These two modes of historical criticism constitute the central part of research in writing historical accounts External criticism, also known as lower criticism, determines the degree of authenticity of documents It examines whether a particular document or a relic is genuine or not This process is mainly concerned with the externals of the document. External criticism thus deals with the critical investigation of authorship, date, hand-writing and the source of the documents It detects forged documents, finds out anachronisms, interpolations and additions Thus the work of external criticism is mainly preliminary, for it studies only the outside or the external form of the documents. It simply identifies the author of the document and determines its age with the help of the various auxiliary sciences.

Internal criticism or higher criticism is the second part of the second stage With its help, we ascertain the internal, or the content-value of the document. Through internal criticism the trustworthiness of the document is studied.

It helps us to understand the real sense from literal sense, to investigate the motives and the mental state of the author at the time of writing the document and all other extraneous factors which affected both the document and the author. To do this one should read the text thoroughly. Only a thorough study of the original text would reveal to us the motive or the conception of the author. It enables us to understand the intellectual integrity of the author and it examines the circumstances and conditions under which the document was written. It helps us to estimate the competence of the author. It helps us ascertain whether the author was in a position to collect relevant and orignal materials and convey all the acts unsupressed. In short "Criticism is above all else a gift, an institution, a matter of tact and flair. It cannot be faught or demonstrated. It is an art."

3. *Synthesis* :

The third duty of a historian is to group the collected data or facts and to ascertain their causal genesis It is something like making them into an organic compound and weaving them into an integrated picture. This process is technically called Synthetic operation. The main job of the researcher here is to reduce particulars into an organic and inclusive whole. It is a unifying force of all isolated and heterogenous elements into one integrated and meaningful structure. Synthetic operation is mainly concerned with joining, grouping, arranging and explaining the collected data. It is a process by which the tested materials are utilized in order to build a historical mansion. Synthetic operation is thus both an intellectual and physical activity where an attempt is made to combine all the relevant data into a connected whole. This grouping of facts in a scientific manner and organizing them into a complex unique, evolving whole, the parts of which stand in causal relation one to another is called synthesis.

Grouping of facts is not an easy task. First the historian is to study all the available facts, including controversial and conflicting views, and then arrive at some rational

conclusion. In other words he has to first, determine the particular facts which he is going to put them together. Grouping of facts is to be done according to some definite plan of classification. It involves careful selection and arrangement of data which must be grouped under headings and sub-headings, divisions and sub-divisions. Within this general scheme, facts are arranged in chronological and geographical order. Thus we have the history of a period, of a country, of a person or an institution or a movement or a trend. Facts relating them could be arranged thematically or chronologically or topicwise. Facts ought to be arranged according to the nature of data and one is free to do it according to time and place of their occurences. i.e. we have either topical or chronological or geographical methods in grouping. However no single plan could be used rigidly. Even if we follow any one method, sometimes a combination of all these plans may be warranted. On the whole the narration should be intelligible.

Thus historical works have a structure and the basic elements of the structure are a *statement of purpose* and *argument* leading to conclusions The Statement of pupose includes the questions being asked and the rationale behind them; the argument includes the answers which the evidences provide; the conclusion gathers these together and points out their significance. In other words, in the construction of a research paper, the researcher should indicate what he is trying to do, what major points he is covering, what evidence each point has to support and where they come out at the end. To sum up, while grouping the facts, a research paper is so arranged that it is finally cut into three major parts viz. *Introduction*, ***Body per se and Conclusion***.

Under the introductory part, the researcher is expected to give a clear statement of the problem dealt with. He is expected to define the terms and indicate the limits of the study. He should set the problem within a meaningful background. Under body per se, he is expected to make a logical

development of his argument. His argument should be an attempt at a progressive solution to the problem stated in the introduction. Headings and subheadings, divisions and subdivisions should all endeavour to explicate the central thesis only. The concluding section presents the findings of the study, the solution or the approach to the solution to the problem initially stated. The investigation may of course throw up further problems for probe Above all the conclusion should not be a rehash of material already covered.

4 Exposition or Narration

The fourth part of historical method is exposition or narration. It is an art of presenting the facts. It therefore demands skill and imagination, elegance and aesthetic temperament. It is the crowning part of the historian's work, requiring imaginative insight. The main principle that should guide the writing of the historian is the principle of objectivity. He should try to bring under rigorous control the element of subjectivity and personal bias, He should try to free his work from the influence of pet theories, pre-conceived notions, predilections and prejudices. Historical narration should therefore be a balanced account, unbiased and impartial as much as humanly possible.

Besides being unbiased and impartial, the researcher should possess the command of the language in which he is writing. For, writing of a thesis requires the use of scholarly style. A forceful style is a necessary factor. There should be clarity, cogency and spontaneity. Edmand Wilson defines style as a combination of force, lucidity and grace. However, historical narrative need not be the servant of style. On the otherhand style should be subordinated to historical-narrative. It should however be remembered that good research may be marred by bad reporting. Therefore proper presentation is an integral part of a well-written history. Research can become a contribution to a field of knowledge only when its findings are adequately communicated. For this purpose, precise writing is essential. Clear thinking is needed. Forceful and logical argument is required.

Books recommended for further reading

1. Kiston Clark, *The Critical Historian* (1967)
2. C V Ianglois and C. Seinebos, *Introduction to the Study of History* (1890, repr. 1966).
3. Robert V. Daniels, *Studying History : How and Why*, (1972)
4. A K. Dickinson and P.J. Lee, History Teaching and Historical understanding, (1978).
5. H. Carr, What is History? (1961)
6. R.G Hollingwood, The Idea of History (1946).
7. Herbert Butterfield, Man on his past: *The study of the History of Historical Scholarship* (1955).
8. Richard E. Beringer, Historical *Analysis : Contemporay Approaches to Clios' Craft*, (1978).
9. C.T. McIntire (ed.) *God, History and Historians* (1977).
10. Robert Burns, *Literary and Historical Criticism* (1980).
11. Janathan Anderson *etal. Thesis and Assignment Writing* (1977).
12. Margaret R. Iverson, The Research paper simplified (1970)
13. David Thomson, *The Aims of History* (1970).
14. William H Dray, *Philosophy of History* (1964).
15. John C.B. Webster, *Introduction to History* (1977).
16. B. Sheik Ali, History: Its Theory and Method (1978).
17. K. Rajayyan, *History in Theory and Method* (1977)
18. N. Subrahmanian, *Historical Research Methodology* (1980)
19. Wilkinson and Bhandarkar, *Methodology and Techniques of Social Research* (1977).
20. Pauline V. Young, *Scientific Social Surveys and research* (1968).
21. K.S. Sonachalam, *Research Methodology of Social Sciences* (1978).

6.2 HISTORY AND EDUCATION

History has been rightly called the mother of all social sciences. Politics, Economics, Sociology, Anthoropology etc were once part and parcel of history. In course of time they became separate disciplines. But they are not able to get rid of their historical aspect. We have political history is a great History, Social History & Cultural History History is a great catch-all and is all-embracing. Gone are the days when history was confined to the four walls of politics which made Seely to remark "History is past politics and politics presents History" and made Gibbon to quip "History is nothing but a register of crimes, follies and misfortunes of Mankind". The scope of History has widened and is still widening. It now embraces the whole gamut of human activity, political, social, economical and cultural.

Education as every other social science was and is also a part of Historical study It is studied under the heading "cultural History". According to Toynbee the unit of historical study is not a nation-State but societies or civilizations which comprise many states sometimes. History is now characterised as the study of the origin, growth and decay of civilizations. A civilization according to Will Durent the great historian of civilizations must possess four important elements i.e.

1. Economic provision.
2. Political Organisation.

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3. Moral traditions.

4. Pursuit of knowledge and arts i e. education.

Thus education is the most important index of a civilization. Man differs from the beast by education which may be defined as the technique of transmitting civilization. Valluvar also says.

"விலங்கொடு மக்கள் அனையர் இலங்குநூல்
கற்றுரோ டேனை யவர்"

It is by transmission of ideas, Man is progressing. Primitive man who was illiterate, transmitted his ideas by gasticulation and was not properly understood. Therefore he could not progress. Only when he learnt to speak and write he could convey his thoughts to the others. In history we speak of two stages i.e. preliterate stage and literate stage. For preliterate stage we don't have written records but only relics and monuments and there is not much of a history for that stage. It is disposed of in one or two chapters. The bulk of history belongs to the literate period. It is by education. Men were able to bequeath their artistic and intellectual attainments to posterity. It is from such literary relics or records the coming generation progresses For e.g. Renaissance in Modern Europe was based on the classical Greek and Roman civilizations. Civilizations never die but transmit their ideas to another civilization which improves upon them. First of all a group of people simply follow the other group of people who are more civilized and it is called by Toynbee as mimesis. Then they create something original for themselves by responding to new challenges Thus society grows by education and history traces the growth of the progress of Mankind.

Education has of course now become a separate discipline. But education and history are intertwined at every stage. All educational Reports are nothing but historical documents. The Report of the Hunter Commission, Sadler Commission, the report of the Radhakrishnan Committee, or Lakshmanaswamy Mudaliar Commission etc are valid historical documents indis-

pensable for any student of education A survey of the condition of the schools in a state by the Director of School Education or the Annual Report read by the Principal of a college or a Vice Chancellor of a University though purport to describe the present are actually a description of the past. The prevailing state of things can be explaind only with reference to the past. Again when a Vice Chancellor announces in his report that indiscipline is on the increase among students, or the girl students study better than male students or the drug menace has invaded the hostels he is talking of a bit of social history. When he says that University's resources are dwindling and staff members had to be paid by over-drafts he is revealing a bit of economic History. When he talks about the academic achivements of the Professors and students he is contributing something towards cultural history. Thus the educational reports are valid documents which help the historians in writing about the history of education and culture in a society.

Again when an educationist gives out a plan for future education or a Minister submits a white paper on the Medium of instruction, he draws copiously from History. Thus when Mr. Subramanian, former Minister of Education in TamilNadu defended his policy of introducing Tamil Medium in colleges in the floors of the Legislature he was quoting the reports of Lakshmanasamy Mudaliar Committee and Radhakrishnan Committee Any educational reform cannot be introduced without reference to the past. The type of education fit for a society can be determind only with reference to the society's historical background. Otherwise the reform will never succeed. The process of evolution was often stabler and better than revolution in matters of educational Report. The most successful educationists are those with a historic sense.

Further in Research the students of education cannot but follow the historical method. The whole process of collection of materials, grouping them, analysing them by meaningful story with footnotes, references, bibliography and so on are nothing but the attitude and technique of a historian.

The process of investigation and exposition in both the disciplines are similar They draw upon from the same vast reservoir of information. In gathering facts both follow what is called, the scientific method. While organizing principles and drawing hypothesis out of the innumerable facts both the historian and educationist follow the methods of art. Imagination plays an important role in the art of exposition.

Both History and Education are arts in the sense they are useful to society and they want to better the social conditions. Both aim at the progress of Man. "Education is the manifestation of the prefection already in Man" according to Swami Vivekananda An educated man is a cultured Man, a Man of refinement with sweetness of temper, sanity of mind and soundness of heart. Education aims at the all-round development of Man, the development of his head and heart to a complete and consistant whole. History provides the background in which such a development is possible. History provides the field. While education provides the seed, and techniques of cultivation. Both are interdependent and inseparable Education is the radio which transmits the thought waves of intellectuals, deposited in History which is described as the collective memory and conscience of Mankind. Art and science combined both are the vastest interest of humanity.

In the beginning when Herodotus and Thucydides wrote histories, they had a moral purpose before them to place before the future-generation certain morals as culled out from past events. So also education in the beginning aimed only at moral and spiritual progress.

கற்க கசடற கற்பவை கற்றபின்
நிற்க அதற்குத் தக

Ancient Indians and Chinese stressed only the development of morals in man.

In course of time education became secular and began to embrace every walk of life and came to be called as civic education, science education, adult education, vocational education etc., and became more worldly, than other worldly.

So also History in course of time became more secular and spread itself into the various walks of the life of Man-political, social and cultural. In fact the history of education and the history of history are almost the same.

Thus history and historical methods are quite useful to an educationist and the history of education is quite essential, for, the cultural History of any nation "In a certain sense" said Carlyle" "all men are historians—..... Most... men-speak only to narrate" And I think the educational researcher is no exception to dictum of Carlyle.

6.3 HISTORY AND EDUCATION

A Synopsis

Why an inter-disciplinary approach?

This is an age of interdisciplinary research. Since all knowledge is a common pool of information flowing in from different sources, a scholar who pursues research in a subject pertaining to one discipline is obliged also to be familiar with such other disciplines as are closely associated with his own. With the rapid expansion of knowledge, each discipline grows enormously in its scope, and while its peripheral contacts with ancillary disciplines increase, its own autonomy gets reduced.

Social scientists freely borrow tools that have been developed and tested in the mathematical and applied sciences. The invention of the electronic computer has revolutionised many disciplines and research students in humanities have started making use of quantitative methods with the aid of computers. Therefore a multidisciplinary approach is needed if we are to make rapid progress in this era of computers and quantification.

HISTORY AND EDUCATION.

History being a very comprehensive subject has many aspects such as political, social, economic, constitutional, diplomatic, military and so on. Social history deals with institutions and problems dealing with man and society. It emphasises the cultural aspects of the evolution of man from savagery to civilization and it includes the changes

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brought by education. On the other hand preservation and spread of a country's heritage is considered to be one of the most important objects of education. In this way history and education are allied disciplines and mutually helpful to understand man and society.

The concepts and generalisations of the social scientists (like those of educationists) are useful to the historian because they help him ask the questions which are basic to his own concerns (what happened? How did it happen? why did it happen as it did? what is its importance) in a more precise way by providing potentially useful analytical bridges from general to very concrete and specific questions. The historian draws upon the resources of the social sciences not because hey represent a higher form of learning which he must emulate, but in order to carry out his own distinctive task more effectively.

HISTORY OF EDUCATION.

The term 'history' may mean 'history-as-events' or 'history as-record'. Therefore history of education may also mean mere survey of education or an interpretation of education through the ages. Research in the history of education will largely be confined to the latter aspect which alone will help us to have a proper perspective of developments in the field of education. A proper historical perspective is necessary to understand the real significance of the many social changes-including those changes in the domain of education- that are taking place a present. By seeing the present against the background or in the context of the past, we will be able to distinguish between the passing fad or mere ripples on the surface of our present day on the one hand and the deeper, more profound, and hence more significant currents which are affecting the world in which we live. This kind of perspective is particularly important for those including educationists-who wish to make the future different from the present or past.

RESEARCH IN THE HISTORY OF EDUCATION IN INDIA.

Research in the History of Education in India can be classified chronologically into the three well known periods.

ancient, medieval and modern. Source material for each period varies and to handle such varied sources we need special tools. For a reserach student working on a topic relating to the ancient period a knowledge of Sanskrit (if the topic pertains to birth (India) or Tamil (the topic pertains to South India) isindispensable. A knowledge of ancillary disciplines such as archaeology, epigraphy and numismatics will be helpful to have direct access to primary source material. For scholars working on topics relating to medieval history also the above ancillary disciplines will be highly useful. A knowledge of one of the three languages–Persian, Arabic, Urudu will be beneficial to deal with the sources of the Muslim period of Indian History. Similarly, besides English, a knowledge of one another European language-French, Dutch, Portuguese will enable a scholar to make use of the little used archival material in those languages available in India.

IDENTIFICATION OF TOPICS FOR RESEARCH IN THE HISTORY OF EDUCATION IN INDIA

The two volumes entitled *Survey of Reserach in Education* published by the Society for Educational Research and Development. Baroda (1974-1979), provide us valuable information on the output of research in Education till 1978. There are chapters exclusively dealing with the theses written on the History of Education, mostly relating to our country and a few pertaining to other countries The trend reports in both the volumes written by S Shukla (Professor of Education, Jamia Millia Islamia, New Delhi) indicate the neglected areas of research in the History of Education in the Indian context. Shukla suggests that the various aspects of a nation's life should be studied in depth. Some of them are listed below.

1. Religious aspect a) Hinduism-predominance of Religion in scriptures. Indian culture-learning associated with institutions of learning cum religion b) Islamic approach to education. c) Christian Missionary approach to education d) Hindu social reform movements–educational reformers.

2. Secular aspect–concept of Secularism-peculiar feature of the Indian National Movement-Post Independence developments education without religion.

3. Occupational aspect-caste based occupations-specialisation caste-organisations, schools and colleges in modern times.

4. Political aspect-royal patronage-creation of national identity through education in recent decades.

5. Economic aspect–economic cum social barriers towards Popular education-Independent India-universal primary education-an ideal or a reality?

6. Language aspect–revival of Indian languages-their place in education—medium of instruction.

7. Intellectual aspect-educational thought dominant in each age-creative ideas and development of ideologies impact of society.

8. Fine Arts aspect–teaching of painting, music, dance, architecture, sculpture through the ages.

9. Technical and Professional aspect-agricultural and engineering studies-in relation to the economic and social needs.

10. Women's education–status of woman in Indian society.

11. Legal aspect-legal studies-Law Colleges-development of judiciary.

12. Administrative aspect–training of public servants-institutions imparting training.

6.4 INDIGENOUS SYSTEM OF EDUCATION IN MADURAI DISTRICT A CENTURY BACK- CASE STUDY APPROACH ★

This paper is a report of a case study on the pattern of our Indigenous educational system in general and Madurai District in specific about a century back. It is based on the following source materials Munroe Report of 1824,the biography of V.V Saminatha Iyer, and personal interviews conducted on some people above 75 years who had studied in pyal schools when they were young. The findings of the study are:-

1. In many cases, school was either a part of teacher's house or a public place or a part of the temple campus, there was no grant for the maintenance of schools.

2. Teachers belonged to almost all communities except harijans.

3. In the villages, teachers were revered and respected by one and all.

4. In the village administration, teachers played a useful and a remarkable role.

5. All the provisions needed for the teachers were supplied by the villages. The fee remitted by some students was very nominal.

6. The teachers taught thes students just what they knew, mostly reading, writing and rudiments of arithmetic.

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7. When students were enrolled in the school, initiation ceremony was observed.

8. Severe punishments were given to the students and the parents overlooked the treatment given to their children. Because of strict punishments, even the sight of the teachers sometimes terrified the students.

9. Children woke up before sunrise and took bath. They sang rhymns in praise of Ganapathi. Children themselves cleaned their schools and their surroundings.

10. They used inexpensive materials such as sand, palm leaves and Eluthani (iron styles) for writing purposes.

11. Both oral and written examinations were conducted. Promotion of the students was based on the decisions of the teachers.

12. It is clearly evident that the students spent much of their time with their teachers.

13. Since the single teacher handled a large class, the method of selecting the pupil leader or 'monitor' was in vogue, Pupil leader became proverbial for his heavy-handedness.

14. Poverty and family conditions caused dropouts. It is not true that the students discontinued their education due to severe punishments.

15. In villages, girls did not attend these schools. But in Madurai city alone, it seems girls were admitted in some schools.

16. Kolattam was a popular and favourite game among girls.

17. Harijan students were admitted in some village schools, but it was not allowed in Madurai City.

Causes for the deterioration of indigenous education :

1 The spread of western education and especially teaching of English by the mission and the government was

mostly responsible for wearing the children away from the indigenous schools.

2. The loss of patronage of the rural people of the village led to the closing down of many Pyal schools.

3. Patronage to teachers become less and less. The teachers quietly disappeared from the scene.

4. Villages became more and more unflourished and children had no time to come to schools.

Some Characteristic Features of the indigenous system which may be relevant today.

1. It was customary those days for the students to rise before sunrise, take bath, wash their clothes and come to school. This practice of personal cleanliness was insisted upon by the teachers and now also could be done especially in our village schools.

2. The students were requested to memorize the tables of whole numbers as well as fractions and then apply them in doing mental arithmetic sums Hence their ability to compute was very well developed This can be very useful in making mathematics education more useful.

3. Good writing was practised in those days. The children practised on palm leaves. More time needs to be given in our schools to give practice in good handwriting.

4. Children combined team work, house work etc with studying in school. The schools functioned at convenient hours and convenient months. This principle can be applied today also by having the holidays declared during the busy harvesting season and shifting the writing times in the schools to early morning or late in the evening.

5. Monitorial system of those days can be effective today with a few progressive modifications in our one teacher one class schools.

Scope for further research

This study focussed on finding out about the indigenous system of education in the beginning of this Century by interviewing few senior citizens of Madurai District. It was found that the city of Madurai differed from the villages nearby. More studies may be done to cover the entire Tamilnadu, by conducting all the surviving senior people of over 80 years who studied in Pyal schools while they were young.

7. POLITICAL SCIENCE AND EDUCATIONAL RESEARCH.

OVERVIEW

Politics influences education very much. To achieve a successful democratic situation in colleges, a good understanding about politics is necessary. Many students take part in political activities and many of them, without having a clear idea about politics, are political conscientous. So, it is a must that, educational problems must be approached with political point of view.

Five papers are presented under this discipline. The paper on political science and education gives an account of the interdependence between the two disciplines. Political Science as the science of the State is defined well. A few aspects which are relevant to teachers of education in terms of an understanding about political science are taken into discussion. One of these aspects is education and political development. Political modernisation is emphasized and political socialisation is explained as a means of political modernisation. It is also cited that, education can only give the zest and vigour for political and social activities and so the attitude of interest in activities should be oriented to the growth of community.

The paper on 'Political Socialization' gives a good account of socialization as a means of inculcating politically relevant social attitudes and the acquisition of politically relevant personality characteristics. It is clearly explained how school functions as one of the agents of political socialization. It is also discussed how formal education offers an opportunity for political socialization of the young. Political learning, as a result of deliberate conscious teaching and incidental learning

is explained and the manner in which a child becomes socialized is also discussed.

The paper on "Integration — The Politics of Education" mainly deals with the importance of research in education in political point of view. It is affirmed that, education, to have touch with the realities, requirements of the society, research in that field is a must. The role of classical and modern schools in shaping the individuals is also brought into focus. In addition to this, the qualitative and quantitative aspects of problems concerned with education are discussed. Emphasis is placed on finding out proper tools to impart knowledge and instruction relevant from the point of view of the socio-political needs.

One paper explains 'educational perspectives of politics'. This paper explains the influence of one over the other. The eoncept of 'stability' is examined and the factors viz. legitimacy and effectiveness are also explained. Political culture in terms of cognitive orientalisms, affective orientations and evaluative orientalisms is analysed. The process of socialization is also outlined.

The paper on 'political education' deals with aims of political education and research areas in this field are identified. Aims of political education is summarized. A few possible problems suitable for inter-disciplinary approach are examined. Research areas are pointed out interms of political attitude, perception, emotion, leadership, alienation and climate. Drawbacks in research methodology are also noted out.

7.1 POLITICAL SCIENCE AND EDUCATION INTERDEPENDENCE OF THE TWO DISCIPLINES ★

Political Science as a discipline, so far as we can gather, began to have importance in the modern period only as late as the last quarter of the 19th Century. The first independent School of Political Science in the English speaking world was set up at the Columbia University in the city of New York in 1880. Twelve years later in 1892, the London School of Economics and Political Science was established. In India the Lucknow University was the first to establish an independent Department of Political Science in 1921. Allahabad, Banaras, Punjab (Lahore) and possibly one or two more Universities started the post-graduate Department of Political Science between 1927 and 1937 All other Universities in India started the Department of Political Science only after the Second World War and with the advent of Political freedom in 1947. Thus it will be clear that Political Science as a discipline received attention and recognition only in recent times particularly in India.

Even now in countries like the United Kingdom Political Science is taught under the faculty of Social Studies or History or Economics or Philosophy. In some places in England some of these branches of study are clubbed together and taught as composite subjects. This was almost the case

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in India until a separate Department of Political Science emerged. The country which gives utmost importance to the knowledge and study of Political Science is the United States. Therefore it is no wonder that several development and improvements have been done with regard to the subject and its curriculum. From Political Science the Americans' developed such branches as public Administration, Public Management, Policy Science and Management as is understood in modern times. Nowhere Political Science ever formed a part of or a constituent element of the course in Education. It was so in India is clear from the fact that Teacher Training courses until 3 or 4 years ago did not consist even a particle of knowledge of Political Science. Therefore the writer of this paper was very much surprised when the professor of Education asked him to present a paper on the relationship between Political Science and Education.

However the pattern of Education, that is imparting of knowledge in India is such that anyone can to some extent, do something of anyother. Based on this even Teachers of Science have sometimes the courage to deal with subjects like Political Science, History, Sociology, or Economics in as much as teachers of Languages indulge in this kind of Art. Perhaps it was due to the fact that persons who hold certain offices under government, corporations and educational institutions are called upon to perform certain pleasant functions such as the inauguration or the valedictory. Alternately it has perhaps dawned on Scholars and Researchers that no one unit of the totality of knowledge is or can ever be treated as separate. Each unit is part of the whole and therefore it contributes to the knowledge and understanding of other units as well. This idea is not in anyway modern for it was with the ancient Greeks as well. For instance take the case of Aristotle who is even now regarded as the Father of Political Science but who was at the same time Father of Sciences such as Astronomy and Medicine to mention only a

few areas of his specialisation. Thus there pervades among all scholars in modern times a spirit which prompts them to approach the study and research of their respective subjects could be done in an interdisciplinary manner. It was with this view and on the strength of what has been stated above there could be a link between education and political science as independent units of knowledge.

Political Science is defined as the Science of the State. Therefore it includes the study of the origin, nature and aims of the State It also includes that study of Society, Nation and Institutions, and systems connected with the Society, Nation, and the State. Until the 20th century the State was regarded as an agency which was responsible for the maintenance of Law and order and protection of the lives and properties of its citizens. This concept has undergone radical changes in the 20th century. It is now an accepted fact that the State besides performing the functions mentioned above has also to look after the well being of its citizens in all respects Therefore it can be rightly said that the state is very much concerned with the individual and his welfare from his birth to death that is from the cradle to the graveyard. Thus the functions of the State are many sided and mostly welfare.

It is rather difficult to extend the scope of this paper to all such activities of the State and unfair to compel the participants of this Seminar to learn such ideas. Therefore a few aspects which would be relevant to Teachers of Education and Political Science are taken into account for consideration. The first of the aspects could be on Education and Political Development.

Education is one of the prime factors in the dissemination of culture. Its importance has been realised by political philosophers like Plato, Aristotle, Locke, Rousseau. Gandhi and others. In a religion oriented world, it is regarded as a means for spiritual illumination and emancipation from the ills of Mundane existence. This philosophy is suited to an individualistic situation. It appeals to an intellectual elite which believes in

the cultivation of the intellect for its own sake. But the old Greek thinkers as well as Modern educators have recognised the importance of education in fostering those attitudes and directing those activities which result in increasing political socialisation. In this connection the observation of Gunnar Myrdal in 'Asian Drama' may be worth noting. He emphasises 'motivational preparedness' and purposive selection of knowledge, skill, attitudes and learning methods in Educational fields for National Development. He is of the view that people in South Asia are not merely being insufficiently educated on a huge scale. At the political level the schools and the Universities are important agencies of political socialisation because they promote those attitudes and values which can be oriented towards strengthening the political system Political Development demands that educational institutions are available for the inculcation of values and attitudes which can enhance growth and lessen social stratification. Political socialisation which is essential for political modernisation requires that the Educational Institutions foster those attitudinal experiences for the management of conflicts and tensions which are congruent with the requirements of a participant Democracy.

The Indian Nationalist Movement in the 19th and 20th centuries has been led by people who had received School and University education. Only in the Gandhian era did the Nationalist Movement penetrate into the rural countryside. But the new recruits from the rural areas were generally inducted into the camp of followers rather than leaders. Leadership was overwhelmingly and predominantly in the hands of western educated classes. In the Economic and political development the importance of Education is increasingly recognised and India's five year plans have emphasised the pursuit of Educational policies which led to the development of those areas in Education which have immediate relevance in strengthening the political and economic foundations of the State.

Indices like increase in the number of schools, Technical Institutes, Research Institutes, Universities and other Centres increasingly point to the fact that, there has been a considerable quantitative enlargement in the number of literates as well as of the educated in the country. This expansion implies the increase of information and cognition on the political front. This increased mass of cognition is certainly a factor calculated to promote political development because it leads to a deepening consciousness of the necessity of the realisation of values like equality, liberty, justice etc. Besides promoting individual awareness of political values, education makes it easier for the elite groups in the political system to reach the other components of the system through the utilisation of the channels of communication. Thus by increasing communication and the consciousness of the significance of political values, the expansion of education in India has been a factor for political development.

The increase of educational opportunities and the enlargement in the number of the educated and the literates have thrown special burdens on the agencies of political modernisation like the bureaucracies, political parties, pressure groups etc., because the latter have to make efforts so that the mental orientations of the new educated are directed in channels which will be congruent with the values inculcated by India's Democractic System. The increasing exposure to political information sometimes also create cross pressures which at times become inhibiting factors in the exercise of political participation. An analysis of the consequence of educational expansion with reference to modernisation and political development shows that the dys-functional and mal-integrative trends need to be carefully handled and curbed so that national cohesiveness is promoted by democratic techniques.

2. *Democracy and education* :

Democracy as an ideology, a system and a way of life from whichever angle one looks at it-is part of Political Science. Modern science, technology, equalitarian social

philosophy and education have all helped the rise of democracy. It may be true that the key-political decisions might still be made by a few individuals in all political processes irrespective of the differences in the external form of the governmental mechanism. But this essentially monopolistic nature of top governmental power does not neutralize the broad thesis that compared to the ancient, medieval and early modern epochs of history, the people as a whole are coming to assume a stature of significance. Even the dictatorial regimes resort to all kinds of propaganda and publicity devices to obtain the confidence of the people.

Education is one of the most essential ingredients of personality. Democracy is postulated upon the universal dispersion of education. Education enhances the political personality of the voter. It is not an exaggeration to say that democracy is a farce without the education of the electorate. Hence the grant of education as a human right. The movement of compulsory education is a trend in the same direction. It is recognised that there should be provision for compulsory elementary education and the popularisation of the fewer scientific techniques of pedagogy. In democracies the right to education should be available to all equally. But at the same time it is also realised that merit should be the criterion for entrance to schools and universities and services.

The growth of democracy has made necessary a new sociological approach to education. We can no longer remain content with regarding education as a private training for producing a gentleman or as a mystic process of esoteric enlightenment Education has come to be regarded as a social technique for community adjustment and group accommodation. In the past it was thought that the aim of education was the cultivation and liberation of one's faculties. This aim was sought to be realised in connection with the children of upper classes. But this individualistic approach cannot suit the needs of dynamic, expansive and democratic society. For example if the voters were to exercise their sovereign right of selecting

their representatives properly, education has to be viewed as a social technique of moulding and influencing human behaviour and not as an abstract process of personal salvation. Education has to be related to our social demands and economic supplies and it has to be oriented to the political expectations that the electorate will exercise the right choice at the time of polls. This sociological-functional approach to the problem of education of the Indian electorate has two significant implications.

1. The Indian society and culture have so far been dominated by an attitude of reference for the scriptures and for the people in the socially higher strata. This has to a large extent facilitated the dominant class to exploit the voters in the name of religion. But this is not a welcome aspect. Democracy needs the development of the habit of quest and consciousness. This could be achieved by a system of education which fosters the attitude of rational enquiry and comprehension. This functional approach to education and its acceptance is absolutely essential for the success of our democracy.
2. The emphasis in a democratic society is on the constant and spontaneous growth. That is the attitude of 'pathetic contentment', routine, apathy and inertia has to be replaced by an attitude of interest in activities oriented to the growth of community. For achieving this the voters have to be provided with an education which will give them zest and vigour for political and social activities. This will facilitate the prevention of misuse of the electoral right and make the electors conscious of their duties and responsibilities as electors.

The education of the Indian electorate implies that the population of and above twenty one years of age should be educated. This would ultimately amount to a crusade against illiteracy. A few individuals in public life might rise to supreme eminence without being literate but for the vast masses of

population literacy is indispensable condition of education. Another important condition of the education of the Indian electorate is that political education should be given to the literate population. Education will impart to the electors greater skill in conversation. They can interrogate the party members properly and can impress upon the legislators the supreme necessity of devising programmes for the all round improvement of the society.

Conclusion :

Only a few aspects relating to Political Science and Education are discussed above. They are just indications which would enable the political scientist and Educationist and all those connected with research not only in these fields but also in all other social sciences to understand the importance of interdisciplinary approach. Actually, the need for such approach is greater in recent times cannot be questioned, as problems of development, tackling of behavioural situations etc , have become complicated. Researches in the fields of social sciences could bring to light the deficiencies in the systems and present arrangements with a view to suggesting ways and means of improving them for the good of all. Though specialised research in ones own field has become a must these days, the interdiciplinary approch in research has its usefulness. In fact there can never be a rigid separation of one branch of knowledge (Unit of knowledge) from the rest. Therefore the need for interdisciplinary approach is as valid to-day as it was in the past.

7.2 PROCESSES OF POLITICAL SOCIALIZATION★

Socialization of the young is an important function of every society. It enables the young to carry on willingly the values, traditions, norms, and duties of their society. A child is not born socialized. Socialization is a learning process. This process is not limited to the acquisition of appropriate knowledge about the norms of the society. It requires the individual to internalize these norms. By doing so they appear to him to be right, just, and moral. A politically organized society performs an additional function It is the political socialization of the young. Political socialization is the gradual learning of the norms, attitudes, and behaviour accepted and practised by the on-going political system. "Political socialization would encompass all political learning, formal and informal, deliberate and unplanned, at every stage of the life cycle, including not only explicit, political learning but also morally non-political learning which affects political behaviour, such as the learning of politically relevant social attitudes and the acquisition of politically relevant personality characteristics".[1]

The goal of political socialization is to train or develop individuals so that they could become well-functioning members of the political society. A well-functioning citizen is one who internalizes the political norms of the society and transmits them to future generations.

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Old and new nations today are faced with the problem of rapid political change. This change has brought about disruption of old social patterns, ideological orientations, and economic conditions. Such change is always fraught with tension, discomfort, and disequilibrium. One of the factors which contribute to relatively tension-free change is the successful political socialization of the members of the society and this contributes to systems stability. A major difficulty confronting new nations is how to train or socialize quickly young and old so as to make them internalize the norms of the new nation and assure its survival. This is an important task even in older and stabler nations. They are faced with the problem of insuring the loyalty and engagement of their members in the face of rapid political, technological, and social changes, and in the process of governments becoming complex, geographical distance, and general impersonality. In a complex setting there is the danger of the citizen losing touch with the political system, and his becoming disengaged, apathetic, and even alienated. In times of crisis, or hardship, and political or economic setbacks, an apathetic citizen would be a very shabby foundation for any political system Since he can become its active foe, an alienated citizen is an even greater threat to the system. The stability and survival of a nation depends in large measure on the engagement of its members.

The question now is how to bring about such engagement The training process for such engagement was called civic-education, lessons in patriotism, training for citizenship, or character-training. To-day we prefer to call this training process as political socialization. It should be noted, however, that political socialization is closely intertwined with the process of general socialization.

The school is one of the agents of political socialization. Formal instruction could and does mould future citizens. From the days of Plato and Aristotle, training for good citizenship has been an important part of educational theory and

practice. The institutions of mass education in the nations of today have been developed to increase the capabilities of all the members of the society.

"As for the Political socialization of the young, formal education offers an extraordinary opportunity for 1. Transmitting knowledge about the political system, 2. inculcating the young with positive feelings toward the country and its governmental system-a factor of great significance wherever geographical, ethnic, or religious cleavage endanger national integration, 3. inducing modern, universalistic attitudes, such as an achievement-orientation, which is particularly important in developing countries, and 4. generating the sense of civic competence and participation desirable in a modern democracy".

In the fully differentiated system of formal education, the process of political socialization varies with the age levels and the intended amount of overt civiceducation. At the lower levels, indirect teaching aimed at inculcating loyalty to symbols may have for more lasting impact than the more advanced civic lessons.

Political learning falls into two broad categories; learning which is the result of deliberate conscious teaching and learning which is acquired incidentally and almost unbehaviour to the learner himself. Deliberate teaching may be further subdivided into formalized and informal teaching. Civic education schools is an example of formal teaching. A father's talk to his son about the merits or demerits of trade unions would be an example of informal deliberate teaching. Incidental learning, because it is incidental, has a more lasting effect on the acquisition of political values and behaviour. This however, does not decrease the importance of deliberate indoctrination.

Another aspect which merits our attention is the manner in which a child becomes socialized. This is as important as the content itself. Children who hail from homes where they

had been treated harshly and with little respect, where they had been given little opportunity to express themselves, to make their own decisions, and the like, tend to develop tasicist tendencies. In this instance the homes merely failed to provide the youth with the atmosphere and opportunity to develop democratic, co-operative skills. Thus the how as well as the what of the familiar, socialization process contributes to political socialization. The child learns from adults the philosophical, social and political values and the social and political skills with which to act upon these values. He acquires most of these without being aware that he is learning.

To probe further into the problems and prospects of socialization and evolve a meaningful approach an ongoing research programme *is called for*.

REFERENCES :

1. FRED I. GREENSTEIN, "Political Socialization," and article in the International Encyclopaedia of the Social Seiences.
2. See James S. Coleman, Ed, Education. and Political Development (Princeton, N.J. Princeton University Press, 1965 p.p. 13–19, and the sources cited there.

7.3 INTEGRATION : THE POLITICS OF EDUCATION ★

Research in Education is a continuous process, it if were not so education would loose all its relevance. For, learning ought always to be associated with living Knowing and being are inseparable and the relation between them is so natural that they converge towards each other, knowing ultimately, becoming being. Education, which shapes the individual in his knowledge, attitude and disposition to a great extent decides the character not only of a body of citizens but also of a state and the age-*Vidya Kalasya Karanam*. In the absence of research in education, education remains merely an academic exercise, losing its touch with the realities, requirements and relevance. Rousseau observes that "There can be no patriotism without liberty, no liberty without virtue, no virtue-without citizens; create citizens, and you have everything you need; without them, you will have nothing but debased slaves, from the rulers of the state downwards. To form citizens is not the work of a day, and in order to have men it is necessary to educate them when they are young". Therefore as a rational or political animal, man, from the first moment of life, ought to learning to deserve to live. Thus the goal of all education is to make men better, more deserving of life. The basis of life, whether it is in ancient greece or modern U.S.A. is political, that is to say, the life of the individual in community. Classical as well as modern schools have emphasised the role

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of education in shaping the individuals,the society,and the relation between the two. Likes and dislikes developed by individuals and societies impart character good or bad and education goes a long way in moulding likes and dislikes. Aristotle observes: 'The pleasure or pain that enforces upon acts is to be taken as a symptom of a man's dispositions. For he who abstains from physical delights and rejoices in doing so is temperate, whereas he who experiences only vexation is self indulgent: and he who stands his ground against terrors and rejoices in doing so is courageous, while he who is pained is a coward. Moral virtue then is concerned with pleasures and pains; it is because of the pleasure involved that we perform bad actions and because of the pain involved that we abstain from noble actions. Hence we should be trained from youth upwards—— in such a way as to take pleasure in and to be pained by what we ought. That is the right education".

If through class room teaching it is possible for assessing an individual's disposition and moulding it towards a desired end, the same must be possible in respect of the society. So long as the civil society is the individual writ large, the organic nature of the community determines the nature of education. But in modern states, where there is all sorts of alienation including the social and political, the task of the educationists becomes very difficult since they have to perform their task independently of the state but it is a task they perform for the state. There are two aspects of problems concerned with education especially relevant to India. The qualitative and the quantitative. The quantitative is easier to solve since it merely raises the question "Should all be educated?" Since education is a social responsibility in the interest of society the answer is always yes; but the qualitative aspect poses serious problems. For it deals with levels of education, the nature of education and the tools of education. Both these aspects raise important economic and financial questions. An average politician or legislator expects at-

least proportional returns, the output matching the input in terms of resources.

But what is usually left out of educational policy is the primary political questions—Does the educational policy go to enhance the citizenship virtues? Does it aim at integrating the educated with the society? Does it take care of the social needs?

All education depends upon sound deliberation leading to understanding, leading to judgement, which is so essential to happiness, if we understand by happiness not mere amusement but good activity. In an educationally backward country like India, the returns from the educated and the educating minority must be assessed by the good activity, they are engaged in. If we define good activity as something that enhances the social good. fulfilling the needs of the neighbourhood and the nation, it cannot be defined by merely economic goals. On the otherhand, if education contributes merely to money—making on the part of the individual imparting to him the knowledge and educational qualifications necessary to secure a job or enter a profession, without instilling in him the need for integrating himself with the society or for performing 'good activities' towards the society, education becomes irrelevant; it becomes an additional factor in man's alienation from society. Since in democracies the people determine the government, the quality of political life would suffer from such deficiencies in educational policies. Therefore education ought to be education for democracy. The alleged braindrain theory which so agitates the minds of many will be a valid one if understood in the proper sphere and perspective. Education in India is becoming irrelevant for the simple reason that the cities drain the educated denying his neighbourhood the benefits of his good activities; or, if the education he has received would make him forsake his neighbourhood the simple reason that the city alone offers him opportunities of making use of his education, our education must be branded as "educa-

tion for citiship" not for citizenship. For, the educated in the city become an elite, living mostly, without touch with reality and contributing to the exploitation of his own neighbourhood. If education offers, apart from general and specialised knowledge, sound instructions regarding the 'good activity' he must engage in, offering him a course which will be useful to his neighbourhood, it would result in making him a better citizen who by virtue of his being integrated with the society is better integrated with himself. Technical education therefore ought to be concerned with appropriate technology and general education with the excellence of citizenship qualities. Research in education must help finding proper tools to impart knowledge and instruction relevant from the point of view of the socio-political needs. This approach directly links armchair educationists with the socio—political problems and urges them towards finding a solution for problems connected with democratic vigilence on the part of the people, the values of rights and liberty and methods of discharging effectively the socio-political obligation. Since the legislators, executives, administrators and magistrates come from the existing stock of citizens, education for democracy links the government closely with the people. Thus education when decentralised towards fulfilling the needs of neighbourhood, functions as an integrating factor.

7.4 EDUCATIONAL PERSPECTIVES OF POLITICS ★

Education and Politics are intimately related to each other. The influence of one over the other is so great that the study of the interaction between the two has become significant. This paper tries to focus on the central role played by education in influencing political behaviour and makes a plea for making Educational Politics or Politics of Education as a subfield of Political Science. However, the study of the influence of politics on education is outside the scope of this paper.

Until recently political scientists have paid little attention to the influence of education on politics. The traditional view of education was that education was apolitical. That is to say that politics should be kept out of education and education should be kept out of politics. But in modern times both the educationists and the political theorists have realised the significant correlation between education and politics. Political thinkers like Plato, Aristotle and John Locke have underlined the rols of education in relation to State and Government. Their thoughtse however, did not provide for empirical understanding of the influence of education on politics. But modern political theorists like Almond, Verba, Charles E. Merriam and Coleman have pointed out how the educational system affects the functioning of the political system and vice versa.

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The modern political theorists in their analysis of the political systems have shown interest in the process of political development and modernization. They have laid much emphasis on the concept of stability. Stability of a political system depends on two factors namely, legitimacy and effectiveness. Legitimacy implies the acknowledgement of authority, laws and policies. Effectiveness means the capacity with which the political system converts the inputs (supports and demands) into outputs (policies and actions) on the basis of proper feedback. Legitimacy and effectiveness are related to each other. A political system will be legitimate if it can be effective and if it is effective it will be legitimate Both legitimacy and effectiveness depend on the type of political culture prevailing in a political system.

Political culture encompasses beliefs, values, behavioural norms, attitudes which have some impact on political traditions, behaviours and institutions. In all political systems the prevailing political culture functions in three interrelated roles. First of all the political culture functions as a framework for perception and evaluation. The political culture defines what is a good or preferred kind of system, what kinds of political goals and values ought to be pursued, what standards of political conduct are appropriate for government officials and citizens, what the rights and responsibilities of citizens are, what roles individuals ought to play in political processes, and what standards ought to be applied in judging political institutions and behaviour as good, just or rational. A political culture produces the following three types of political orientations that affect attitudes and behaviour.

1. *Cognitive orientations* :

Cognitive orientations pertain to knowledge and awareness of political objects and events. A political culture conditions the perception of the political system and its processes and the extent to which people pay attention to and focus on political events.

2. *Affective orientations.*

Affective orientations relate to an individual's feeling of attachment to, involvement in or identification with the political community and system.

3. *Evaluative orientations:*

Evaluative orientations relate to the moral or normative judgements made on the basis of individual or prevailing beliefs and values about the political community and system.

The different cultures functioning as different frameworks for perception and evaluation tend to produce different answers to the permanent issues such as the questions of equality, freedom versus order, authority, and the scope of government.

Secondly, a political culture functions as a set of guidelines and predispositions to certain kinds of directions of action due to their functions as frameworks for perception and evaluation.

Thirdly, a political culture functions as a legitimization instrument. People will tend to perceive a political unit, system, government, or policy, as legitimate, and will tend to voluntarily comply with political decisions, to the extent that their beliefs and values produce favourable affective and evaluative orientations.

The political culture which plays these important roles in affective political behaviour is determined by the process of the political socialization. Political socialization is the process by which an individual learns particularly relevant values and attitudes (including dispositions toward behaviour). It determines the extent to which its political culture changes. When the process of socialisation involves the essentially undistorted transmission of a particular political culture from generation to generation, political socialization becomes a vehicle for social mobility. On the other hand, when young people in a society develop political and social expectations and values different from those of their parents, the socialization

process can be viewed as the basis of political and social change. It is this process of socialization which is subject to the influence of education. Education implies the capacity to learn and to organise learning in symbolic form; the communication of learning and action on the basis of learning and knowledge.

The last two functions have a direct bearing on any political system particularly in the political socialization of the individual.

Socialization takes place through three complementary and perhaps, overlapping, kinds of processes; the learning of particular behaviours, the development of psychological dispositions, and the learning of certain role expectations. Learning is a broad term that applies to all behaviour deriving from training procedures. It may also take place through imitation or identification.

The significance of personality characteristics varies a good deal with the degree to which the situation in which a person finds himself is structured ahead of time. From the perspective of role expectation learning, political socialization is a process by which society's notions of what is appropriate behaviour in particular roles, or situations, is learned. The concept of role is a sort of conceptual bridge relating the individual to his societal environment. Every position, every status, in society is surrounded by a set of expectations of appropriate behaviour, which shared by most members of tha society, are then transmitted through generations. This notion of role expectations is relevant not only for an understanding of how the individual sees his appropriate activity within the polity, but also to the individual's notions of the sorts of behaviour that should be exhibited by persons in positions of power and influence. Thus, political socialization includes the learning of expectations about what government officials should do as well as about how they should do it. To study this process of political socialization through which the prevailing political culture is determined the various educational theories such as theories of learning, perception, cognition, and

pedagogical techniques will be immensely useful for a political researcher. Thus an interdisciplinary research between education and politics will go a long way in fulfilling the objective of a political scientist of understanding and predicting the probable political behaviour on the basis of the nature of socialization process and the type of prevailing political culture. Viewed in a wider perspective, education is the source of all culture and civilization including the political culture and institutions of any society. A dynamic, national and futuristic educational policy of a country in terms of a living interaction between the values of a political system and the needs of development on the one hand and educational system on the other is the sine qua non of a developing political system.

Bibliography.

1. Almond & Powell- "Comparative Politics".
2. Almond&Verba "Civic culture"
3. Coleman "Education andPolitical Development"
4. Kogan "The Politics of Education"
5. Merriam "The making of citizens of A comparative study of methods of Civil Training".
6. Massialas "Education and the Political system.
7. Rudoldph, L and Rudolph, S. "Education and Politics in India.

7.5 POLITICAL EDUCATION★

Introduction.

In a specifically political sense, the inter—disciplinary approach to politics and Education may be described as an academic alliance or coalition of Politics with Education aiming at evolving new educational theories integrating both these fields.

"Insulate education from Politics", and "Ward off politics from education" were the slogans of the educationists belonging to the old school of thought. There was a strong conviction in the society that either talking about or participating directly or indirectly in politices was anti-educational. This attitude finds now no place in modern education, as the earlies situation has rapidly changed. The academics have already started contemplating how to inject and introduce politics into education. The educationists of younger generation wonder how to reap maximum academic benefits by amalgamating politics and education; they also visualize how to infuse politics into education effectively.

In this paper a new attempt is made to indicate the aims of political education and a few possible and feasible

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problems suitable for inter-disciplinary approach to politics and education.

Aims of political education.

Political education is a sub-system within the large system of education. According to Musgrave (1965) political function is one of the social functions of education. To denote the functional link between politics and education modern educationists have coined a new phrase, 'Political Education'. What, then, are the aims of political education? According to Pat White (1977) of the university of London Institue of Education, the aims of political education are :

1. to inform and educate the children about our political arrangements.
2. to 'Politicise' schools and 'raise the political consciousness' of children from their earliest years.
3. to foster 'Commitment to democratic ideals and institutions' in our schools.
4. to bring the school children 'to be disposed to *care* about political matters'.
5. to help the children have a good acquaintance with the whole 'map of knowledge' so that they can 'act in a politically responsible manner'.
6. to develop political 'skills' like assessing 'Political-arguements', judging and engaging in 'appropriate Political action'.

"What should our schools be encouraged to do about political education?". Francis Dunlop (1980) of cambridge Institue of Education raises this specific question and he himself answers, "at some time during a child's schooling, the attempt might well be made to teach him the most important political concepts".

Mrs. White (1977) argues that "Political education should be a constant preoccupation of all teachers; all children should be urged to take an active interest in political matters; all teachers should be at home with political and economic theory and take every opportunity, whatever they are teaching about, to draw the political moral". She also suggests that "all teachers should have, as part of their training, a basic course in political and economic theory set in the context of recent history and comparative studies". Mrs. White's another arguement is that "the refusal to take an interest in politics is 'amoral' ".

Research Areas In Poltical Education

1 00 *Political Attitude*, may be defined as the degree of liking or disliking, or the degree of favourableness or unfavourableness towards politics. Political attitude is also related to political opinion towards a political matter Attitude towards politics may vary from individual to individual. An individual- may be highly political; another may be neutral; still another may be apolitical While a college student is greatly interested in political events and developments, another student may be highly indifferent to them. Inter-disciplinary research in the area of political attitude will throw much light on several questions such as: At what age does the political attitude begin to develop in students? At what age is the development of political attitude fully crystalized? Is the attitude of students towards politics permanent, or does it change? Is a high or low political attitude of students significantly correlated with their academic achievement? Is a favourable attitude of students to politics correlated negatively with their attitude towards education?

Perhaps the educational implications of these researches would be to ascertain whether the educational institutions should play the role of developing desirable political attitude in students even at the primary school stage or later.

2 00 *Political Aptitude*

We can understand the term political aptitude as 'the capacity to learn to perform or participate in a political

activity'. The aptitudes in politics indicate the probablity that certain political behaviours or skills associated with political activities can or will be learned or acquired, if an optimal opportunity is given. Research problems such as students' aptitude for politics, the relationship of students' scholastic aptitude with their aptitude for politics, the political aptitudes of the gifted students, the slow learners, etc, the activists, may be taken up for interdisciplinary research in political education.

It is commonly and firmly believed that a high degree of political aptitude in students is bound to result in poor academic performance. Is it empirically true? Is there any relationship between the students' political aptitude and campus unrest? Does a high political aptitude result in student strikes and college vandalism? Is there any psychological relationship between the political aptitude and students' activism? of course, the interdisciplinary research would indicate the answers for these and similar questions. Perhaps the most significant educational implications of such studies would be to predict the future success of the students in political careers.

3.00 Political Perception.

May be defined operationally as the awareness or consciousness of the present and the past political developments of regional, national or international importance. Is our students' political perception or awareness wide enough to comprehend and interpret the political implications of certain political developments such as revolutions, coups, liquidations, assassinations, wars, treaties, emergencies, floor-crossings in the parliament, etc that often come into the scene of national or international political area? Or, is our students' political perception too limited to perceive and understand the political developments that frequently occur at the regional or even at the local levels? Do our students have an awareness of our own political system and its traditions? Are they aware of the rich political heritage of our country? Research in the area of political perception will help the educationists to

find the ways and means for widening and expanding the political perception of students.

4.00 *Political Emotion* is 'the excitement of an individual over a political matter'. Nothing in the world can so suddenly arouse strong passions but politics can. It is the responsibility of the educational institutions to help the students achieve emotional maturity in political activity. In all the political actions such as marches, banners, rallies, campaigns, processions, dharnas, picketings and fastings, emotional element is predominantly involved. Uncontrollable emotion leads to the outburst of violence Researchers can indentify what types of political changes, affairs lead the individual to experience intense emotion and engage in violence. How far our students are emotionally mature to take up a political action like procession or dharna? To what extent are our students emotionally stable when they engage themselves in political discussions and political actions? Political aspirations of students may be studied in relation to their emotional maturity.

5 00 *Political Leadership* is another relevant area for inter-disciplinary research approach. To become a political leader, certain leadership qualities are essential. Research in identifying the leadership traits and competences of our political leaders is scarce The educational inter-disciplinary researchers can explore the leadership traits such as verbal facility, originality, scholarship, alertness, activity, initiativeness, decision making, judgement, sociability, co-operativeness, self-confidence and emotional adjustment and they can also estimate the degree of evidence of these traits in successful or popular leaders. As the educational institutions are the training grounds for all-round development of personality, it is the prime responsibility of schools, colleges and universities to educate and train our students to inculcate and buildup such leadership traits. Today's students are, infact, tomorrow's decision and policy making political leaders of our country.

6 00 *Political alienation* we can understand the term political alienation as 'a complete self-isolation or no relationship with

or hardly any participation in politics'. In this world where politics is unavoidable or inescapable, political-alienation of students may be psychologically viewed as a maladjusted behaviour. Internalisation of political norms, values and beliefs, or in other words, 'Political socialisation' may be regarded as an important developmental task of the students. The inter-disciplinary researchers of political education may investigate to identify the sociological and psychological factors associated with political alienation of students. The area of political alienation may be widened, through interdisciplinary research, by studying the personality patterns of politically alienated students, their attitude towards education, their academic success, etc, and by comparing these students with *isolated* students in the class-room. One may wonder why priority should be given for political alienation of students; it is because the political socialisation of students, preventing them from alienation, is one of the social responsibilities as well as the political functions education to-day.

7.00 *Political climate*

Every teacher creates a political climate in the class room by way of preaching deliberately or unintertionally, consciously or unconsciously the particular political ideology, that he has accepted. The political climate is also created in the class room when the students engage themselves formally or informally in discussing about the political aspects. Every teacher and student may be certainly following and supporting a particular political ideology like Liberalism, Socialism, Communism, Fascism, Democracy, Radicalism, Rationalism, etc. Researches can be done on "how frequently a particular political climate is brought in the classroom; how far our teachers are political ideology-oriented or how far our teachers 'teaching style' is "politically indoctrinatory?" Or how often our teachers politically interact with students in the classroom? Can we categorize the political climate of the classroom in accordance with the effects of the teaching styles associated

with a particular political ideology of the teachers? Can we investigate to find out what kind of political climate is conducive or inhibitory for effective learning? Can we identify the kind of political ideology that is related to the causes for the student misbehaviour, student vandalism and student activism? 'Let the political educationists research into these problems.

Research methodology

The foregoing analysis of the research problems and areas of political education prompts us to raise the questions: what should be the research tools to investigate the above mentioned and similar problems? A peep into the political science researches done so far in the Indian universities reveals to us that the researches in political science have been neglecting analytical, empirical and scientific research tools and advanced statistical applications. But the research problems in political education indispensably need the tools like questionnaires, Rating scales, attitude scales, aptitude questionnaires, personality and interest inventories, and statistical aspects like sampling, and formulation of hypotheses and statistical analyses like critical ratio, chisquare, correlation prediction and regression and analysis of variance.

Conclusion :

Obviously, 'an interdisciplinary insight' into the interrelatedness of politics and education will bring the researchers of these two independent disciplines near to more interdisciplinary discussion and research. Let me conclude my paper by saying the views of Patwhite on politics that "the refusal to take an interest in politics is 'amoral', becasue it is virtually the same thing as refusing to take an interest in morality".

REFERENCES :

1. PAT WHITE, "Political Education in a Democracy", Journal of Further and Higher Education, 1 (3), Winter 1977.

2. FRANCIS DUNLOP, "ON Separating Moral From Political Education a reply to Pat white," Journal of Further and Higher Education, 4 (2) summer 1980.

3. MUSGRAVE, P.W : The Sociology of Education.

MANAGEMENT CONCEPTS AND EDUCATIONAL RESEARCH

OVERVIEW

Lack of properly trained personnel and lack of community participation in decision making are the main reasons for the deterioration in our educational system. To rectify these errors and to plan effectively, knowledge about management science is necessary. Educational problems, mainly in administrative set-up should be attacked in this point of view.

Four papers come under this section. The first paper explains management concepts relevant to research in education Certain salient features of research in management are explained in the present day context in a systematic manner. Management concepts are viewed in terms of systems and sub-systems- Systems approach to research in education is illustrated.

The paper on 'educational administration' deals with administrative problems in schools and colleges. Some of the problems, which are supposed to be the main causes for the present deterioration of educational standards are pointed out. The paper gives special attention to the need for an effective educational administrative set up. Further, the paper probes into the positive remedial measure of a good administrative pattern and certain steps for development are also listed out.

The next paper, after giving definite for educational planning, list the priorites fixed by the Planning Commission for implementation and development in education. Varying points of view on the mode of fixing priority is discussed, five year plans are studied from the point of view of the priority, fixed. Defects are pointed out and explained. Elementary, education, adult education, Secondary education and higher educa-

tion are thoughtfully discussed in terms of planning, expansion, quality and so on.

The paper on 'Communicative behaviour of educational administrators' attempts to identify an area in management which can be of immense use to the field of educational research. The concept of 'Communication' defined. Causes of deterioration the communication process are not ways of eliminating barriers in communication are given. In addition, Communication process is classified and explained.

8.1. MANAGEMENT CONCEPTS RELEVANT TO RESEARCH IN EDUCATION★

This paper aims at suggesting concepts in management discipline which might be of relevance and use to research in Education. Specifically, this paper attempts at (1) Presenting a bird's eye view of present trends in the research in-management; (2) suggesting concepts which might be relevant to researchers in Education and (3) providing an illustration in using the concepts thus suggested.

I. RESEARCH IN MANAGEMENT TODAY: SALIENT FEATURES.

In this section, I shall try to provide a bird's eye view of some of the major features observable in research in management. This is done along the well accepted phases of research, Viz, the problem; the Hypotesis; the Data including Nature, Sources, Methods of Data Collection, and Limitations, Analysis of Data; Interpretation; and the Relevance of the said Research to the society.

1. The problem :

The recent trend in selecting and formulating the problem for research in management is characterised by precision. The problem chosen is as specific, and as operationally definable, as possible. The generalistic or vague formulations are not in vogue. The very title of the problem as formulated nowadays is indicative of the nature of variables involved, and the type of relationship hypothesized between them.

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2. *The Hypothesis* :

The concept of the Hypothesis has a very rigorous and specific connotation in physical and biological sciences, and also in certain other disciplines like psychology. Such type of rigour and specificity is possible in certain areas of management like Quantitative Methods, Production, Purchase and Materials, Research and Development, Finance, and to a lesser extent in Marketing. Even in other areas like organisational Behaviour, Personnel, and Industrial Relations, which are characterised by qualitative phenomena, Efforts are made to achieve greater and greater degree of rigour and specificity in formulating Hypotheses.

3. *The Data.*

A judicious mixture of quantitative and qualitative data is sought to be achieved in all kinds of Management researches. That is to say, Quantitative fields like production would like to make use of qualitative data in their researches, like the perceptions of the respondents engaged in production, and *Vice Versa*.

Another trend relating to the nature of data is that efforts are now made at generating primary data thereby underscoring the importance of field research, as compared to Library Research based on secondary data.

As there is perceptible shift from reliance on secondary data to primary data, new sources—other than the Libraries, Government Dapartments, and even Research organisations—have become relevant in today's Management Researches. A cross section of respondents is used as a primary source of data these days.

Coming to methods of data collection, one finds that 1. a combination of different methods of data collection is preferred, rather than relying on any one particular method; and, 2. greater sophistication is sought—and generally achieved —in the different methods of data collection. To take an example; observation as a method of data collection is so

much perfected by researchers like Moreno, Bales, and Lifton that observation data are as quantifiable as any data emanating from quantitative areas of research in Management.

In spite of several breakthroughs achieved in the data and their collection, the present day researcher, however, is fully aware of the limitations in the data thus generated. Accordingly, he records these limitations in his research report, and takes them into account while drawing the inferences.

4. *Analysis of Data*: In the analysis of data also, various techniques of statistics from simple percentages and mean values to complicated techniques like analysis of varience employing computers are employed. It is common to find studies dealing basically with qualitative data like perceptions, opinions, and attitudes making meaning ful use of such techniques.

5. *Interpretation* : The inferences drawn in the researches in management today generally are based on the logic, and flow from the data as analysed. In otherwords, inferences which are not emanating from the data generated, processed and analysed as above are not given serious consideration.

6. *Relevance* : The researcher today has realised that management has an important role to play in terms of offering research findings which are meaningful in tackling with the problems facing the society of the day. More and more research studies are therefore conducted these days which can be categarized as applied research.

The current trends in Management Research, as indicated above, I hope will be of interest to the researchers in Education gathered here.

II. MANAGEMENT CONCEPTS RELEVANT TO RESEARCH IN EDUCATION

Management as a discipline is one which has drawn upon the knowledge of several other earlier disciplines. Anthropology, Psychology, and Sociology contributed earliest to the emergence of management as a discipline, followed by

Economics, Political science, History ,Jurisprudence, Education, Psychiatry and Cybernetics, in that order. As a matter of fact, management stands as a very good example of a discipline coming up almost wholly from the contributions of other disciplines. Management, thus, being Inter-disciplinary in its origin and charcter, it is difficult to identify concepts which are not "claimable", so to day, by other disciplines.

I feel that two concepts of management are of particular elevance to research in Education. The first concept is about the relationship hypotheized between the variables involved. The casual relationship hyopthesizing that one variable is the cause and that the other variable is the effect—is now considered inadequate in studying the given phenomenon. Instead it is thought that the relation is both ways and that more than two variables are to be studied in understanding the given phenomenon. This has resulted in an approach called as Functional - Relationship approach Such an approach, I believe, would give us better 'feel' understanding, and therefore sounder diagnosis in studying the problem under consideration.

The other concept has to do with the perspective with which the given phenomenon is analysed. The theories of organisation have undergone over a period of time, several modifications and improvements. One of the most recent, and widely accepted, theories of organisation is known as systems theory, or approach. Originating from natural and physical sciences, this concept has been adopted in analysing the organisational behaviour. The basic elements of systems theory are Input, Transformation, and Output. An organisation is viewed as a system which is a part of broader system. Viz , society, but consisting of smaller, sub-systems, in itself. These sub-systems are : 1. Goals sub-system; 2. Technical Sub-system; 3. Structural sub-system; 4. Psychosocial Sub-system; and 5. Managerial sub-system.*

* Kast, Fremont E., James E. Rosenzweig, *Organisation and Management: A systems approach, Mc Graw Hill, 1979, chapter 5.*

1. *Goals Sub-system* :

Goals and values are integral subsystem, of every organization. Social values reflect a system of shared beliefs about desirable goals and norms for human conduct. The organisation depends on a minimum level of shared values among internal participants and the external society for its very existence.

2. *Technical Sub-system* :

"The knowledge required for the perfection of tasks. including the techniques used in the transformation of inputs into outputs".

3. *Structural Sub-system* :

"Involves the ways in which the tasks of the organisation are divided (differentiation) and coordinated (integration)"

4. *Psychosocial Sub-system* :

"Consists of individual behaviour and motivation, status and role relationships, group dynamics and influence systems".

5. *Managerial Sub-system* :

"Spans the entire organisation by relating the organisation to its environment, setting the goals, developing comprehensive strategic, and operational plans, designing the structure, and establishing control processes".

The systems approach, also involves using longitudinal approach. That means, the past, present. and future of the given system are incorporated in a typical research study.

III. SYSTEMS APPROACH TO RESEARCH IN EDUCATION: AN ILLUSTRATION.

I shall, in this final section. attempt at providing an illustration on how the systems approach can be adopted as a research method in studying on Educational Institution. As I happen to be aware with the functioning of institutions involved in offering Management Education, I shall take a typical Educational Institution/Department offering Management Education as my illustration.

By adopting the systems approach to an institution offering Management Education, one can offer the conceptual framework as depicted in the figure (See Appendix)

The subsequent phases of the research, commencing from the statement of hypotheses - for an Educational Institution offering Management Education in this case-can be patterned accordingly. Such patterning, I hope, will result in a research study which enables us to have more meaningful and dependable findings.

SELECT BIBLIOGRAPHY :

ASCI Journal of Management, March 1972.

Bhattacharya, Sapan Kumar *et al.*, Application of Management concepts in a college : A study in Feasibility, *ECONOMIC AND POLITICAL WEEKLY* X, 36, September 6, 1975, M95-M98

Chowdhry, Kamala, Organisations Innovations in University : Relevance of Indian Expertise, *ECONOMIC AND POLITICAL WEEKLY*, IV, 35, August 30, 1969, M97-m100.

DeshPanle R.D., Scientific and Technical Education to improve quality and extend scope, *ECONOMIC AND POLITICAL WEEKLY*, special Number 1972, 1661-1666.

Hersey, Paul and Kenneth H. Blanchard, MANAGEMENT OF *ORGANISATIONAL BEHAVIOUR : UTILISING HUMAN RESOURCES*. New Delhi; Prentice Hall, 1972.

Hobbs, Walter C. and G Lester Anderson, The Operation of Academic Departments, in James L. Gibson *et al.*

READINGS IN ORGANISATIONS : BEHAVIOUR? STRUCTURE AND PROCESSES 1976.

Kast, Fremont E. and James E. Rosen Zweig, *ORGANISATION AND MANAGEMENT : A SYSTEMS APPROACH*, McGrew, Hill, 1979, Chaps. 5 and 21.

Citter Joseph, *AN INTRODUCTION TO MANAGEMENT*, John wiley, 1978, 476-493.

Mathai, Ravi J. The Organisation and the Institutions. Management Education in India, *Economic and Political weekly*, XV, 22, May 31, 1980, M69-M72.

Sharma, R.A. Goal implementation in University organisations, *INDIAN MANAGEMENT*? 20, 5, May 1981, 27-39.

SOCIAL SCIENCES RESEARCH JOURNAL (Panjab University, Chandigarh), II, 1&2, March–July 1977, Section on Education.

Thatacharm, V.G.K., New Role of Administration in Research, *INDIAN MANAGEMENT*, 14, 1, January 1975, 49-54.

Vijaya Saradhi, Accounting for University Management, *INDIAN MANAGEMENT*, 16, 8, August 1977, 31 ft.

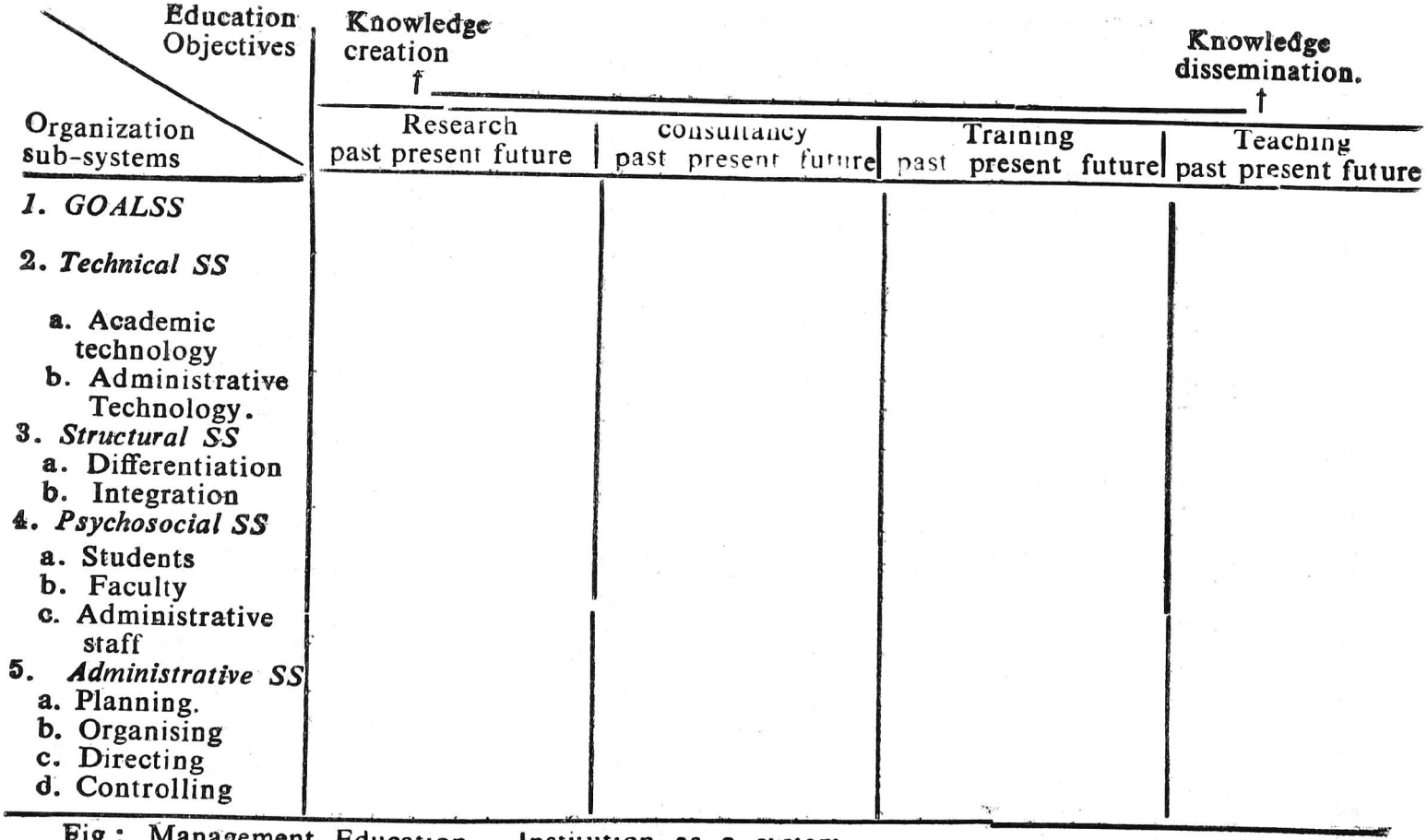

Fig : Management Education — Institution as a system.

(The concept of sub systems is borrowed from Kast & Roses weif opcit)

8.2. EDUCATIONAL ADMINISTRATION ★

"Educational Administration" in India, especially the most important component of it, namely administration of colleges and schools is a fertile area offering varieties of problems for the researchers in Education. The need for the importance of the right type of education to any developing country like India cannot be underestimated. It is education that will determine the level of prosperity, welfare aud security of the people. Our success in the great enterprise of national reconstruction with the principal objective of raising the standards of living of our people will largely depend upon the quality and the number of students produced by our schools and colleges. Hence, as the Education Commission Report (1964-66) rightly points out, "it has become urgent to revaluate the role of education in the total programme of national development to identify the changes needed in the existing system of education' if it is to play its proper role, and to prepare, programme of educational development to implement this programme with determiniation and vigour".

But it is a pity, that, eventhough more than fifteen years have passed since this important document as published, we have not made significant attempts in achieving this goal, of course at the planning level, we have succeeded in many respects. But in execution we have failed and failed miserably. Change, if any, are peripheral and things remain the same at the grass root. That is why our colleges and schools continue to be in the same old pattern and are not oriented to serve as 'charge agents' of our community.

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We all agree and we have been saying it for years together that the country needs a System of school and university education which produces a high proportion of competent professional manpower to increase Productivity and to promote economic growth of the nation. But what we have all these years is a system that produces a large proposition of indifferently educated graduates of arts, science and commerce many of whom remain unemployed for years together and are even unemployable and we have not done anything to rectify this defect.

As one who has been associated with the educational administration for a fairly long period, I would like to identify a few problems which are the main causes for the present deterioration of educational standards in our country.

1. The lack of community participation in deciding the right type of educational needs The community is largely unconcerned with what is going on in schools and colleges I have come across many parents who send their children to schools and colleges because they have no other alternative.

2. The present system is too academic to be of material help in increasing national wealth and productivity. Ours is rather a degree oriented system-we all feel satisfied if a school or college produces very good results in the government or university examination-we are unconcerned whether right type of training is given to our children in the educational institutions and whether results are achieved by fair means and whether the results really indicate the true achievement levels of the students.

3. We have not developed non-political educational organisations consisting of educationists and parents which could interact with schools and colleges and motivate them to offer innovative educational programme and which could evaluate the performance of a school or college in its role of producing useful citizens to the community. If any we could establish and successfuly maintain such organisation we could prevent effectively political interference in our schools and colleges and prevent student unrest.

4. The educational administration both at the central and state levels is very ineffective.

Let us now analyse in detail the need for and effective educational administrative set up, the type of personnal to be recruited to the top posts, the need for training and retraining or the educational administrators and the role that educational research can play in building up a sound educational administrative set up in the country.

Radical reconstruction of education will be possible only when the educational administration is adequately strengthened and only when we develop a team of dynamic, devoted and dedicated team of educational leaders in the country Educational administation is essentially a matter of faith and vision bold and courageous leadership, and proper handling of human relation The importance of securing the right type of peronnel for educational administration cannot be over emphasized.

The existing facilities and arrangements for the training of educational administrators are inadequate Training for an educational administrators is need not only because of the difficult and complex task he has to perform, but mainly because to orient him to the programme of educational expansion and improvement.

The task of the educational administrator is so heavy that he gets no time to read and to keep himself abreast of educational thought. Hence an in-service, programme of about two months to every administrator in every five years of his service must be implemented In addition they should be encouraged to attend conferences, seminars and workshops.

At present educational administration suffers from an overemphasis on uniformity and rigidity All the schools in the state are regulated and governed by the order of a single person, the Director of School education. Almost every detail of the management of the school is regulated by his department. In a similar way hundreds of colleges are affiliated to one university; they have a common board of studies and controller to organise and control the examinations and to declare the

results. The colleges exist only as coaching centres. Thus idea of creating uniformity has killed all freedom and initiative and has reduced experimentation to the minimum.

Hence we must initiate a new process under which the administrators will function with imagination, dynamism and vision. The attitudes of the educational administrator change. He should cultivate an openness of mind and a spirit of enquiry rather than a stickler of rules approach. Here research in educational administration and in the inservice training of educational administrators can play a significant role. Holding periodical reviews of administrative practices is also a must since the same will enable chopping of dead-wood and putting in fresh whenever necessary.

To make the higher education meaningful and relevant, urgent steps have to be taken to develop educational research on the various problems of colleges and schools: To list a few:-

1. Student participation in college Administration.
2. Student unrest-How it affects the educational growth, and the development of man power resources of the nation.
3. the areas in which the colleges and the community can interact for the mutual benefit.
4. Restructuring of the degree courses to make them more relevant and meaningful.
5. To find out ways and means of increasing meaningful educational facilities to the weaker sections of the society to bring them on par with the others.
6. To aim and work incessantly towards making many colleges autonomous and to offer innovative programmes.

If the educational system of our Country is to become really a powerful instrument of national development, we must aim and work for a system,

Which will be open to all children irrespective of caste, religion or economic conditions. Where access to good education will defend not on wealth or class but on talent.

Which will maintain adequate standards in all educational institutions,

Which would meet the needs of the even the present Parents?

Thus developing educational research to the invarious facts of the educational administration will go a long way in making the administration effective and thereby helping the country to develop a meaningful educational system.

8.3 PRIORITIES IN EDUCATIONAL PLANNING IN INDIA ★

Educational Planning, broadly, speaking, is the application of rational, systematic analysis to the process of educational development with the aim of making more effective and efficient in responding to the needs and goals of its students and society. Till 1950, the term was hardly in use in most parts of the world, but of late its popularity has soared. The majority of the world's educational planners and Governments have by now committed themselves to the idea of educational planning. Educational planning as we know today is still too young and growing too rapidly and is far too complex and diversified a subject to be engaged in any hard and fast definition. That is why, there is no generally accepted definition of educational planning.

The Educational field of the country is vast indeed. At the beginning of the first plan, there were hundred and one problems needing solution. But on account of limited resources available the educational planners could not but devote their attention to the major and the pressing problems, and leaving solution of the remaining problems to future. Limitations of resources lead to one pre-requisite of planning i.e., fixing priorities. The Planning commission fixed some priorities. It stressed the following aspects of education for implementation and development.

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1. Inadequate educational facilities.
2. The top-heavy structure of education with only 32.2% of direct expenditure on primary schools.
3. Great disparity among the states in matters of educational opportunities.
4. Uneven distribution of educational facilities between urban and rural areas.
5. Lack of balance between provisions of facilities for different sections of the society.
6. Large scale wastage.
7. Absence of adequate facilities for technical and vocational education and scientific research.
8. A very large percentage of untrained teachers.
9. Unsatisfactory scales of pay and conditions of service of teachers and
10. Economic handicaps to poor but able students at the university level.

There are various points of view regarding the mode of fixing priorities. The first mode is fixing priorities according to the time periods. There are certain tasks that need immediate action and some which can wait. In this way we can easily have three plan periods viz. 4th, 5th, and the 6th plan. The second mode is fixing priorities according to the level, national, state or local. Each of three controlling authorities of education have their own functions and spheres and prerogative will be limited to their own spheres. The third mode is according to the task, namely, scheming, financing and implementing or executing. We have to fix priorities for planning various tasks in education, which may or may not need financing. There are a number of tasks in education which need human resources rather than material resources. It is regrettable that the only planning that has been done with

regard to education has been financing i.e., allocation of funds for various sectors, irrespective of the fact that no preparation was made for the utilisation of the funds, with the results that funds were either wasted during the five year plans, or unutilized. Statistics reveal that roughly 10% of the funds were not utilized at all. The major task, therefore, is implementation of the educational programme rather than spending funds.

Now a pertinent question arises here. Even if we take into consideration the above nine dimensional priority - design what should be the actual basis of fixing priorities.

The first is the FOUNDATIONAL basis. Whatever sector of education is the very foundation the educational programme that must be given the first priority. Unless the foundation is strong no multistoreyed building can be built over it. The second is the structural basis. As a total structure of the building is to be planned soon after the foundation, so the present structure of education must be improved and priority must be given to this aspect. The third is the basis of neglected sphere. There might have remained certain important sectors totally neglected even after improving the total structure. The fourth is the maintenance basis. Whatever has been constructed has to be maintained properly and consolidated. The fifth is the improvement and decorational basis. Timely improvements in all the educational spheres need to be made, and deterioration checked. The last is the expansional basis. The existing construction, well-founded, well-designed, well-maintained and well-improved upon can be expanded.

Now let us study the five year plans from the points of view of the priorities fixed. We find that inspite of the rapid expansion of education and completion of a number of projects, a number of glaring defects are discernible now at the end of the five year plans.

The first defect is the absence of long term planning. Each plan had its immediate targets But the five plans together do not make one comprehensive whole. It would have been better if we had prepared 25 years plan, and subdivided the same in five parts. In this respect we realise the wisdom of Sargent Commission who tried and outlined educational development over a period of 40 years.

The second defect is the tempo of expansion. We become too much enthusiastic in implementing the directive of aricle 45 of the constiution, and tried to hurry down compulsory education everywhere. We could not imagine the consequences of compulsory education drive. The unprecendented expansion at the elementary stage, created pressures from below mounting up in University sectors. First the elmentary education was the minimum, but then the secondary education became the minimum and higher education the optimum. Still larger expansion took place in the sector of vocational technical and professional education, and it became difficult for the state Governments to cope up with the same.

The third defect was quantity at the expense of quality. We paid our attention more to quantity than quality although much of the finances were not involved in some sectors, promoting quality, e g. preparation of text books, revision of syllabi. in-service training and instructional improvement. We tried to convert each school into basic pattern by merely providing a non-recurring grant, and the system failed.

The fourth defect is wide and shallow planning We have taken up almost every item of education and tried to do something of everything, with the result that the meagre resources available to us were diluted, being spreaded over a large area. This comprehensive planning has caused shallowness in the educational achievement. Hence there is the need of selected sectors approach. There are some sectors where total achievement is needed immediately. e g improving pay-scales of teachers, teacher education, text book production etc.

We are now in a position to test our achievements at the end of the five plans, and see whether the priorities that were fixed by the Planning Commission have culminated into fruitful results. We can take up all the three points of view in fixing priorities, as mentioned above viz time periods, levels and tasks. From the point of view of time periods, we find that no comprehensive plan for 25 years was prepared by the Planning Commission. Each plan was detached from the others. There was no scheme of fixing priorities separately for each plan.

Taking the second point of view into consideration, viz. different levels, we find that no planning was made at the local programme including,

1. provision of seven years of effective primary education.
2. adding one year to the school stage, and
3. vocationalisation of secondary education.
4. from 1985 onwards, emphasis should be laid upon the development of higher education and research.

The first priority in the entire educational planning should be providing the teaching staff, trainning the staff, and giving them adequate salaries. It is clearly known that majority of the states are not prepared to share financial responsibility of implementation of the scheme prepared by Indian Education Commission. If postponed, it will be detrimental and suicidal for education. The schedule of priorities may be summarised in the following manner.

1. Improvement in salary scales of teachers and teacher education.
2. Qualitative improvement in elementary education.
3. Vocational education, guidance, text book improvement and evaluation at the secondary stage.
4. The neglected sectors of pre-primary education, girls education, education of the handicapped and the backward should be given priority.

ELEMENTARY EDUCATION

Elementary Education has been given priority in the Sixth plan and that 45% of the total outlay of Rs. 1986 crores provided in the Sixth Plan has been earmarked for this sector. This compares very favourably with the expenditure. In the previous plans, with the exception of the First Plan with this massive investment in elementary education, it is proposed to enrole an additional 320 lakh children in the age group of 6–14 under the system of formal and non-formal education. If these targets are achieved, the coverage of the age group to the relevant population will rise from 67% in 1977-78 to 87% in 1982-83.

ADULT EDUCATION

A colossal effort is proposed to be made to eradicate adult illiteracy among the masses of India. Under the National Adult Education Programme (NAEP), it is proposed to educate 100 million adults in the age-group (15-35) in a period of six years beginning from 1977-78. The target for the sixth plan is to educate 65 million adults belonging to the age group 15-35. It has been rightly suggested that the success of the programmes will depend upon an appropriate social environment sincered motivation of adults, proper selection and training of workers, preparation of good learning materials, adoption of dynamic methods of learning materials, adequate supervision and guidance and constant monitoring and evaluation. The literacy programme is to be of a functional character so that it is helpful in the day to day activities of the learners as also to create awareness among them about the social problems.

While we do not propose to dispute the necessity of having programme of this magnitude for removing illiteracy among the Indian masses, it is necessary that the problems that its implementation would cause should be identified.

The foremost problem facing the success of this programme is that of motivation. Unless the adult education programme helps the learner to be better equipped to solve his

professional and other problems, it would be naive to expect him to attend adult literacy centres and to keep himself engaged in educational activities after he has completed the course It is necessary that a feeling should be generated among the adult illiterates that it would be in their own interest to participate in the adult education programmes.

For the organisation of this programme, it would be necessary to select a body of dedicated workers whose approach is not purely mercenary but who have ideological affiliation with this programme. The success of this programme will depend upon the extent to which this body of dedicated workers can be identified and put on the job.

The question of follow-up is also very crucial to the success of this scheme. Unless there is a regular follow-up and feed-back the adult learners will very likely relapse into illiteracy, defeating the very purpose of this gigantic venture.

SECONDARY EDUCATION :

The main thrust in secondary education has been appropriately laid on the qualitative improvement, vocationalisation and regulated expansion.

The additional enrolement proposed for the Sixth Plan is about 30 lakhs which is of the same order as envisaged in the 5th Plan (1974-79). This target may be somewhat unrealistic because of the increasing pressure from the elementary schools, for which a massive programme of expansion has been envisaged.

The emphasis on vocationalisation in order to make secondary education terminal in character is a step in the right direction. It has also been envisaged that secondary education should be employment oriented and directly useful to the students. For this purpose, vocational education facilities in various institutions like ITI s, Polytechnics, Agricultural Polytechnics, para medical schools and other vocational training institutions are to be utilised and diversified before new training programmes are established.

Higher Education :

The Sixth Plan document rightly states that there has been a rapid but unplanned expansion of general higher education during the earlier plans. It has also been noted that while the enrolment in arts and commerce courses has been expanding rapidly the enrolment in science courses has been falling in proportionate terms In 1970-71, the enrolment in science course in Universities and Colleges excluding intermediate and pre-university courses was 26% of the total enrolment. It was reduced to 21% in 1973-74 and 18% in 1977-78. This phenomenon, which should engage the attention of educational planners. The Plan document, however does not appear to be much concerned about this diminishing trend.

It has been rightly pointed out that the present trend in the UGC funding in favour of central universities and those universities where centres of advanced studies have been created has to change. Besides, creating wide disparities in the quality and standards in different universities the discriminatory financial policies adopted by the UGC have led to lop-sided growth of higher education. The proposals about the restructuring of the UGC in order to make it a more effective instrument of the Central Government for the qualitative improvement of higher education is also a step in the right direction.

The Sixth Plan makes a very bold attempt to give higher priority to elementary and adult education programme, which have been neglected with Previous plans. It emphasises qualitative improvement of secondary and post-secondary education and seeks to place a moratorium on the unplanned proliferation of institutions All these steps are in desirable direction and if implemented, will help in connecting the imbalances that have characterised the development of education in the previous plans.

8.4. A CASE FOR STUDIES IN COMMUNICATION BEHAVIOUR OF EDUCATIONAL ADMINISTRATORS ★

Management has, of late, emerged as an independent (say, interdependent) discipline. It is one field of study that stands enriched by its association with other social sciences especially with Psychology and Sociology. The first discipline to make the best use of Maslowean Need Gratification Theory was, in all probability, Management. It is time that other Social Sciences started drawing the best related concepts and processes from 'Management'. An attempt is made in this paper to identify an area in Management which can be of immense use to the field of educational research.

Communication is a concept (and a process) that is given a vital treatment and discussion in almost all current books on 'Management'. It is also a theme enthusiastically discussed in workshops, conferences, seminars, symposia on 'Management'. Some of the best articles on 'Communication' are found in books on 'Management'. The knowledge base-the conceptual framework on this theme is expanding It is also supplemented by studies.

As early as 1957 Gregg identified 'Communicating' as one of the seven components of Administration. All the seven are interrelated, no doubt, but each is unique and requires a separate treatment. Gregg employed the term 'Communicating' (not Communication) because of his emphasis on the *Process*

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(in contrast to the product) why are we so concerned with communication in educational administration? One reason is that communication is the only method of transmitting directions instructions, suggestions and feelings. Another is that it helps us to achieve some of the needs as individuals. Further communication is a form of catharsis–it enables us to get rid of tensions, to be spiritually renewed, and to eliminate personal problems and complexes by bringing them out into the open. Further there is evidence to indicate a positive relationship between the morale of the faculty of an institution and the adequacy of communication (Arnold, Barry and Lonsdale).

One of the causes of distortion in the communication process arises from the differences in semantic ability. It has been estimated that about 80 percent of words in English Language are non-technical and have more than one meaning: the 500 most commonly used words have 14,000 dictionary definitions. Semantic differences exist between the vocabularies of the old and young people, of people in different areas, jobs, careers and so forth clearly these differences account for a great deal of distortion. One of the reasons, for instance, of the 'Hot Line' between Washington and Moscow is to share meaning and actions that otherwise might be subjected to considerable distortion.

One way to eliminate barriers in communication is to create a situation in which each of the different parties comes to see the others' point of view. This perception of how another understands or feels is called Empathy. Empathy is opposite of projection which means we impose our own thoughts and feelings upon others.

One way of classifying communication process is labelling it vertical or horizontal. Horizontal communication occurs among equals, peers for co-ordination and sharing of experiences and ideas. Vertical communication is further classified into two types–downward (from the superior to the subordinates) and upward (from the subordinates to the superior)

Upward communication helps the administrator to learn to what extent ideas passed down are accepted; encourages the members of the staff to contribute valuable ideas and makes it possible for administrators to avert difficult situations which might otherwise arise. Nothing is more fundamental to democracy than upward communication in which ideas of subordinates are given prompt and sympathetic hearing followed by such action as is desirable, (Plenty). Some of the barriers to upward communication are :

1. isolation of the administrator
2. long lines of communication which delay and distort the message
3. inaccessibility of the administrator.

Davis reported that upward communication tended to be blocked about midway in its travel to the top of the organization.

Another way of classifying communication is labelling it either dialogic or monologic As a matter of fact monologic communication is no communication at all since it is only a one way traffic Monologic communication minimises the amount of communication. When the communication is ineffective, the supervisor is no longer creating the encouraging, helpful and facilitating environment necessary for development. According to Beatty, the dialogic communicator aims at :

(1) unconditional positive regard-valuing the worth of the other person.

(2) courage in communication-letting oneself actually be known

(3) accurate empathic responsibility to perceive the standpoint of the speaker.

(4) realistic communicative equality - each person views the other as a unique and distinct person,

(5) presentness - full involvement of the one with the other. Dialogic communication maximises the amount of the communication.

This is some knowledge based-conceptual frame work on communication. Effective communication behaviour is not an accident; it cannot just happen. It is the culmination of a series of systematic measures taken towards that end. Studies on communication behaviour are rather meagre. Communication behaviour of educational administrators and their staff may be critically analysed through survey studies, vital factors identified through factorial studies, effectiveness of an exposure training studied through experimental studies. Educational researchers interested in studying the communication behaviour of educational administrators and the staff would do well by making the best use of the theoretical background, modus operandi and investigations of Management Studies.

BIBLIOGRAPHY

Books :-

1. Berlo K. David : (1960) *THE PROCESS OF COMMUNICATION-AN INTRODUCTION TO THEORY AND PRACTICE* Newyork : Holt, Rinehart Winston

2. Campbell R.F. and Gregg, R.T. (1957) *ADMINISTRATIVE BEHAVIOUR IN EDUCATION* : Newyork; Harper and Brothers.

3. Dubin, R, (1977) *HUMAN RELATION IN ADMINISTRATION READINGS* Newyork : Prentice Hall of India.

4. Haynes, W.W. Massie, J.L. and Wallace, M.J. (1975) *MANAGEMENT: ANALYSIS, CONCEPT AND CASES* New Jersey: Prentice Hall.

5. Henderson, R.I. and James, W.W.S. (1975) *THE OPERATING MANAGER-AN INTEGRATIVE APPROACH* New Delhi Prentice Hall of India

Journal :-

1. Beatty, P.f. (1977) *"DIALOGIC COMMUNICATION IN THE SUPERVISION PROCESS A HUMANISTIC APPROACH"* *Education* Vol. 97, No. 3 California.