CHAPTER II

REVIEW OF RELATED LITERATURE
The chapter review of related literature is very important as far as a researcher is concerned. "The review of literature involves locating, reading and evaluating reports of research as well as reports of casual observation and opinions that are related to individuals' planned research fact."¹ A review of related literature makes the researcher feel the relevance of the problem he has selected for study. He also acquires up-to-date information about what has been thought of and done in a particular area and what remains to be analysed, through the related literature. In addition to this, related literature helps the individual to delimit his problem and to avoid sterile approaches. In

the words of Mouly, "identification of a problem, development of research design and determination of size and scope of a problem, all depend to a great extent on the care and intensity with which a researcher has examined the literature or the research studies and authoritative writings related to the problem under investigation". ²

Infact, "a familiarity with the literature in any problem area helps the student to discover what is already known, what others have attempted to find out, what method of attack have been promising and disappointing and what problem remains to be solved". ³ Hence an attempt has been made in this chapter to collect the literature and studies which have some relevance for the topic under study.

**Educa**tion in India - An Overview

India is a country with a rich tradition of educational progress dating back to eras. Development of education in India is unique and unparallel in the history of world. Different people invaded India at different times and different


dynasties ruled India and left back their traditional practices. These traditions are reflected in the educational practices of that particular time.

Education in India is reviewed here under three heads viz:

1. Education in India during the Early period
2. Education in India during the British rule
3. Education in India after Independence

Education in India during the Early period

During the early period before the British rule, there were three significant impacts on ancient Indian education more particularly in North India. The earliest of this was the invasion of 'Aryans', many centuries before the Christian era. Their influence spread to the whole of North India and also to the South. The second was 'Buddich' influence which also gradually spread to many parts of India down to the South. Lastly there was the influence of 'Moslem' culture.

During the period of Aryans, education imparted was generally confined to the priestly class and later it spread to the other two classes viz. Kshatriyas (nobles and warriors) and Vysyas (agriculturists and traders). During the above period instruction was given only to 'Brahmins' and the system'
of education was called 'Gurukula'. In the gurukula system pupil had to reside with the Guru (the teacher) and has to perform Guru's domestic work and during the leisure times only, Guru used to give information about 'Veda' or literature. The education of Kshatriyas and Vysyas appear to have started some time before 500 B.C. The duration of the course was in accordance with the particular Veda to be studied. Normally for studying one veda one would require 12 years and a maximum of 48 years for studying four Vedas (ie. Wrig, Yajussue, Sama and Adharva).

In the Buddich system of education 'Monastery' was the centre of learning. The main difference between the 'Buddich' system of education and the Aryans' system is that the former was not based on Vedic study and the teachers were not of priestly class. All the castes were equally admitted to the Buddich system of education.

During the Mohammedean rule several changes took place in the educational atmosphere. Moslem rule started in the 10th century A.D. and moslem educational centres were recognized as 'Madrasas' where boys and girls were instructed 'Khoran'. Attempts were also made to teach separately the Hindu youth.
Education during the British rule

The British rule laid the foundation for the systematic development of Education in India. In 1835 during the period of Lord William Bentik, Macaulay presented his famous 'minute' which pointed out that "The great object of British government ought to be the promotion of European literature and Science amongst the natives in India, and that all the funds appropriated for the purpose of education would be best employed in English education alone." 4

Towards the implementation of this 'minute' the then government passed a number of resolutions which led to the establishment of schools which produced a class of people, Indians in blood and English in culture. These schools became increasingly popular because of the great interest shown in English education by some of the educated Indians and particularly by leaders like Rajaram Mohan Roy and others. The education imparted in these schools became a passport for entrance into government services due to the proclamation issued by Lord Hardinge in 1844, that for service in public office preference should be given to English educated individuals.

The Wood's despatch was issued in 1854 for reviewing the development of education and for proposing new schemes for adoption. As a result the curriculum was shaped according to the European pedagogy and a system of grand-in-aid was introduced in order to facilitate the establishment of private institutions.

This despatch was also responsible for the evolvement of a pattern of secondary and higher education and also that of teacher training. Moreover emphasis was given to primary education and colleges and Universities were modelled after London University. Mothertongue was neglected and English was accepted as the medium of instruction.

Thereafter a number of Commissions were appointed to review the educational system and to make recommendations for the improvement of education.

The Calcutta University Commission of 1917 emphasized the importance of starting intermediate colleges and the use of mothertongue as the medium of instruction.

By the year 1937, Mahatma Gandhi the greatest freedom fighter of India, put forward his basic education, which strongly recommended the following points. 5

1. Actual participation of the child in the learning processes.

2. The choice of craft as a powerful creative and socially productive activity.

3. Correlation of subjects and crafts selected.


5. Mothertongue as the medium of instruction.

The Abbot-Wood report of 1937 also suggested the importance of educational reorganization. This report stressed the importance of mother tongue as the medium of instruction, but at the same time it insisted on the continuation of English as the official language.

In 1944 Sergent Commission made the following useful recommendations for secondary education.

1. High school education should, on no account, be considered simply as preliminary to University education but as a stage complete in itself.

2. The mothertongue be the medium of instruction and English be the compulsory second language.

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3. Entry to the high school should be on selective basis.
4. Middle or senior basic stage should be the final stage of education for most pupils.

By this time, the struggle for independence attained its climax and the British found no other way but to quit India. India gained her independence in 1947 and the recommendations of the committee remained unimplemented.

Education in India after Independence

During the freedom movement of India there arose a deep rethinking among the national leaders to replace English by some Indian language as the medium of instruction. This was due to the political awakening and national consciousness and an aversion towards the English and the English system of education. In the year 1947 when India got her independence after undergoing a long period of colonial rule, the idea of having an indigenous system of education in the Indian soil also got strong.

Languages in India

"One of the most dividing features of Indian national life today is the situations of differences caused by the languages". 7

Indian languages of today have evolved from different language families corresponding more or less to different ethnic elements that have come to India from the dawn of history. They may be grouped into:

1. Negroid
2. Austro-Asiatic
3. Sino-Tibetans
4. Dravidian
5. Indo-Aryan
6. Other speeches

These languages have interacted on one another through the centuries and have produced the major linguistic division of modern India.

The earliest inhabitants of India are supposed to be Negroids. They lost their language in the main land of India, but have retained it in the Andaman islands. Andamanese is the Negroid language surviving in the Andamans.

The Austro-Asiatic family is a numerically minor language group which commands around 6 million speakers.

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or 1.5 percent of the total Indian population. This family is represented by two branches: (1) Munda, (ii) Monkhmen. Munda languages are spoken by hill tribes in Bihar, Chola, Nagpur, Orissa and Central India and Monkhmer speeches include 'Khasi' group of languages in North Eastern India and Nicobarese of Nicobar islands.

Sino-Tibetan family spreads to the North-East which is mountainous and sparsely populated. The Sino-Tibetan speakers come to little over 3 million or 0.73 percent of the Indian population.

Dravidian languages have their home mostly in peninsular India and have no relations outside the Indian sub-continent. It is the second largest group in India covering 25 percent of the Indian population. The outstanding languages of Dravidian family are Tamil, Telugu, Kannada, Malayalam, Tulu, Kadagu, Toda and Kota.

Indo-Aryan language is supposed to have descended from the speech of Indo-Europeans. It is the biggest language group in India, accounting about 74 percent of the entire population. The important languages of the group are Hindi, Bengali, Kashmiri, Oriya, Assamese, Punjabi, Sindhi, Bihari, Rajasthani, Gujarathi, Marathi, Pahari and Sanskrit.
In spite of the majority of Indian speeches there are a number of spoken languages in India which shows no affinity with any of the major linguistic groups. 'Nahali' is an example which is spoken in Central India. Besides this, there are 63 non-Indian languages spoken by Indians. Chief of them are English, Persian, Chinese, Arabic, Burmese, Portugese, French, German, Russian and so on.

Though the people of India belong to distinct linguistic groups, they can be categorized into five based on the language they speak. They are:

1. Mothertongue
2. Regional language when it is not mothertongue
3. Official language of the centre
5. English which is the international language.

There are areas where the regional language and mothertongue are the same and there are other areas where regional language, mothertongue and national language are the same.

The constitution of India has recognized fifteen languages. They are specified in the VIII Schedule to the constitution. They are:
1. Assamese
2. Bengali
3. Gujarathi
4. Hindi
5. Kannada
6. Kashmiri
7. Malayalam
8. Marathi
9. Oriya
10. Punjabi
11. Sanskrit
12. Tamil
13. Telugu
14. Urdu
15. Sindhi

Of the 15 languages listed in the schedule, all except three – Sanskrit, Kashmiri and Sindhi are official languages of various States.

In the federal set up of India, with various states using their regional languages, there arose the need for a common language or inter-state language. The constitution of India has ordained Hindi in the Devanagiri script as the common language for all India and Arabic numerals as the

common numerals. **English** was retained as the Official language until 1967 when an amendment was made in the Parliament (Officials language amendment bill) whereby Hindi along with English was made the Official language of the Centre.

In a multilingual country like India, it is not possible to accept a common language of communication. The selection of an appropriate medium of instruction is also very difficult. But in order to make pupil conversant with some of the major languages of India and also for the easy mobility and communication between states, the General Advisory Board of Education evolved the three-language formula.

**Three-Language Formula**

The following are the languages to be studied according to the three-language formula.

1. Mother tongue or regional language
2. Official language of the Union or associate official language (English or Hindi)
3. A modern Indian or Foreign language not covered under (1) and (2) and other than that used as the medium of instruction.10

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Implication of the three-language formula

At the lower primary stage only one language should be studied compulsory - the mothertongue or the regional language. In the case of vast majority of pupils the language of study at this stage is regional language or mothertongue. For children of linguistic minority, constitution has made provision to impart primary education through their mothertongue.

At the upper primary stage two languages should be studied on a compulsory basis:

a) mothertongue or regional language
b) associate official language or official language of the union.

For almost all pupils in the Hindi area, English will probably be the second language but a large proportion of pupils in the non-Hindi areas opt Hindi as the second language.

At the secondary stage a study of three languages is obligatory. Here pupils in the Hindi areas will study Hindi, English and a modern Indian language while a vast majority of pupils in the non-Hindi areas opt their regional language, Hindi and English.
Medium of Instruction

The diversities of languages in India have created a serious problem as to what should be the medium of instruction at the various levels of education. In the words of Confucious, "if the language is not correct, then what is said is not what is meant, if what is said is not what is meant, then what ought to be done remains undone". So the identification and selection of a language as the proper medium of education has always posed as a serious problem before the educationalists for the last three decades or so.

The problem of the medium of instruction started when foreigners came to India, captured some portions of its territory and settled with tendencies of expansion. The languages prevalent at that time were classical languages i.e., Arabic and Sanskrit. Vernacular languages were also reaching their adolescence at that time. The East India Company assumed the responsibility of educating the subjects under their control. In the early 19th century schools were started for promoting Sanskrit and Arabic, but the government policy was to encourage English. English teachers were paid more than Sanskrit or Arabic teachers.

In 1835 Lord Macaulay argued that learning of English is also necessary with that of Arabic or Sanskrit as Science could not be taught in Arabic or Sanskrit. His arguments got support from Rajaram Mohan Roy and William Bentik. William Bentik proclaimed that all funds available for education will be spent only for English education although classical language learning also might continue, Lord Harding (1844) further declared that for entry into Government services knowledge of English was essential. This gave a fillip to English education. As a result of that English language became the medium of instruction throughout the country. Thus the Indian languages were thrown apart and people became crazy after English.

Due to the constant efforts of enlightened English men like James Thomson and Lord Elphinston, Indian vernaculars were kept alive. By the year 1935 with the expansion of primary education in India, Indian vernaculars were allowed to be the medium of instruction. But this has got no use at all because children, when they reach secondary schools and colleges, have to use English as the medium of instruction.

The proposal to accept Indian languages as the media of instruction was raised several times before the British rulers, but it was denied on the ground that proper and
enough literature was not available in the Indian languages. This evolved strong protest from among Indian personalities like Rabindranatha Tagore and Mahatma Gandhi.

Tagore pointed out that "no country of the world except India had the language of education divorced from the language of students and that the use of English as the medium of education in Universities confined higher knowledge and culture to a select section of the citizens instead of them making Universally available to people". 12

Gandhi also stressed the importance of imparting instruction in the vernacular languages. According to him "I am certain that the children of nation that receive instruction in a tongue other than their own commit suicide. It robs them of their originality. It stunts their growth and isolates them from their home". 13

The mother tongue is an integral part of a man's life. The personality of the child is built through the mother-tongue and it is the most natural medium of reception and expression of knowledge.

13. Ibid.
As far as education is concerned, its major attention is fixed on the common man. His requirements can be satisfied by passing him with the elementary knowledge of the three R's and the awareness of subjects such as Civics, Economics, History, Science and so on. These can be well imparted only through the familiar language of the people. Any language which satisfies the following criteria can be considered as the language of education.

1. It should be a well developed flexible language having a rich literature and vocabulary suitable to express general and technical ideas in easily comprehensive form.

2. It should have original text books and reference books.

3. It should be able to translate articles, books etc. published in foreign countries to keep students in touch with the latest developments in their own subject all over the world.

4. It should be a language generally understood, spoken and written throughout the country to enable the students to have a free exchange of ideas.

5. It should be a language providing an entrance not only to the field of knowledge in the country but a window to the entire world. 14

Mothertongue as the Medium of Instruction

Mother tongue has been defined as the language spoken in childhood by a person's mother to the person or mainly spoken in the household. In other words it may be called as the home language. "Psychologically it is the system of meaningful signs that works in the mind of the child automatically for expression and understanding. Sociologically, it is a means of identification among members of the country in which he belongs. Educationally he learns more quickly through it than through an unfamiliar linguistic medium".  

"The mothertongue is the vehicle of communication with the immediate surrounding of the child and his means of socialization. It is a vehicle which helps the growing child to think instead of repeat".  

It is a well known fact that a child masters the basic sound system and grammatical rules pertaining to his first language when he is six or seven years of age. This is achieved without any formal classroom learning, but under the loving care of parents and elders establishes a healthy relationship with others. Since the child has already


mastered the basic system of language, he does not have to worry about what to say and how to say among audience. More over the child is born into a cultural environment where the language is a part and expression of the environment. Thus by acquiring this language (mothertongue) the child picks up the cultural environment which shapes the child's early concepts.

It is widely accepted that mothertongue plays a very important role as the medium of education. Pupil's grasp on mothertongue will determine to some extent his mastery over other subjects. "In addition to providing pupils with a medium of expression and an indispensable tool for his other studies, the mothertongue course involves training in thinking verbally and fosters the skills which can be applied to other disciplines and other situations in life". 17

Different commissions, appointed at different times for the review of education, stressed the importance of mothertongue as the medium of instruction.

The University Education Commission (1948-49) under the chairmanship of Dr. S. Radhakrishnan recommended that

"higher education should be imparted through the instrumentality of the regional languages with the option to use the federal language as the medium of instruction either for some subjects or for all subjects". 18

Mudaliar Commission also stressed the importance of using mothertongue or the regional language throughout the secondary stage. 19

In the words of Official Language Commission "it can only be through the medium of Indian languages that we would be able to bring about that massive resurgence of our national life in the service of ordinary citizen which is implied in the adoption of adult franchise, free and compulsory education". 20 Kothari Commission emphasised that "mothertongue has a pre-eminent claim as the medium of education at the school and college stages. More over the medium of education in schools and higher education should generally be the same. Regional languages should therefore be adopted as the media of education for higher education". 21

The UNESCO meeting of specialists (1951) recommended the use of mothertongue to be extended to as late a stage possible in education. Along the other things the experts recommended the following aspects.22

1. The mothertongue is a person's natural means of self expression and his first need is to develop his power of self expression to full.

2. Every child should begin his formal education in his mothertongue.

3. If the mothertongue is adequate in all respects to serve as the vehicle of the University, higher and technical education, it should be so used.

4. Educational authorities should aim at persuading an unwilling public to accept education through the mothertongue and should not force it.

5. If the child's mothertongue is not the official language of his country, or is not a world language, he needs to learn a second language.

The Central Advisory Board of Education also recommended the importance of imparting instruction in mothertongue. It insisted that the medium of instruction must be the

mothertongue of the child and that where the mothertongue is different from the regional language arrangements must be made for instruction in the mothertongue by appointing at least a teacher to teach all the class, provided there are forty pupils in a class.

**Arguments in favour of Regional language (mothertongue) as the Medium of Instruction**

Some of the arguments which stand in favour of regional language or mothertongue as the medium of instruction are:

1. Regional language is the mothertongue of the respective regions and since they make use of that language for the exchange of ideas, the best medium of instruction is the regional language.

2. Due to the use of regional languages as the medium of instruction, it shall get opportunity for development. Thus they will become the vehicles of all branches of thought and knowledge.

3. If the masses are educated in the regional language media, and administration is conducted in the same language, common people can judge political things better and their opinions carry weight.

4. If regional languages are used as the medium of
instruction a lot of wastage involved in learning a foreign medium can be curtailed.

5. If regional language can be used as the medium of instruction, the curse of illiteracy and ignorance may be wiped out.23

**Arguments against Regional Language as the Medium of Instruction**

There are very serious criticisms levelled against the adoption of regional languages as the medium of instruction. Some of the very serious drawbacks which are pointed out are:

1. If the regional languages are made the medium of instruction, it would be a great disadvantage to emigrants and immigrants.

2. Inter University and intra-university mobility of teachers and students will be very much hampered.

3. The use of regional language will precipitate in national disintegration. The spirit of narrow provincialism will develop and will ultimately result in the threat of national unity.24

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English as the Medium of Instruction

Though there is wide consensus among educationalists regarding mothertongue or regional language as the medium of instruction, English also occupies a respective position and enjoys the status as that of a mothertongue. The secondary education is imparted through the medium of mothertongue or regional language, but the higher education is carried out through the medium of English language.

It is universally accepted that the best education is possible only through the combined effort of school, family and community. But there are occasions where education at home suffers due to parent's transfer or their absence at home. In such cases the residential schools are rendering valuable help where parents can accommodate their children. Here the medium of instruction is generally English.

English is the appropriate medium for children of people who migrate very often from one place to another due to occupational needs. These children cannot take up any particular regional language all on a sudden and hence they have to study in the English medium classes.

English medium classes are allowed to be in some places where the students admitted are largely those whose mothertongue is English (mothertongue refers to Chief language of communication).
English medium classes are also favoured in the context that since English occupies a predominant role in the matter of communication throughout the world, studying through that language can enhance the language competency of the child which will be useful to him for his day to day life after education.

Above all, the medium of instruction for higher education is English. A child who completes his secondary education in the medium of mother tongue or regional language may sometimes find difficulty to understand and grasp ideas in a different medium, when he goes for higher education. This difficulty is more with respect to Science subjects. So in order to avoid such a situation parents insist their children to have education in the same medium from pre-primary to college. English is the only language which can claim this privilege. Hence the demand for starting English medium schools and the craze for sending children to English medium classes arose.

Arguments in favour of English as the Medium of Instruction

English as the medium of instruction is favoured in the following grounds.

1. English is a well developed language having vast and rich literature in almost all subjects.
2. English is a popular language. In the case of educated people, employees in governmental and voluntary organizations, business men and several categories of people at large - English is the medium of communication.

3. The flow of new ideas from other countries is possible only through English.

4. Regional language or Hindi, if put into the status of medium of instruction, would hamper the nation's solidarity.

5. Mobility of teachers and students will be facilitated if English is the medium of instruction.

6. Since English is the international language, communication with the rest of the world and also international relations, are established and maintained without difficulty.25

Arguments against English as Medium of Instruction

1. It is a foreign language and relic of British administration.

2. Foreign medium of instruction is unsound and uneconomical. Much of the learning is wasted simply

because learning is through a foreign medium.

3. English has checked the progress of Indian languages. Its continuance will mean a death-blow to them.

4. The foreign medium is the cause of large percentage of failures in the examinations. Students cannot generally follow lectures in English.

5. Teaching in a foreign language medium can hamper the degree of comprehension of the child. 26

There are a few studies conducted in the area of medium of instruction. They are listed as follows:

Shivani 27 compared the achievement and behaviour of children in English medium and Hindi medium classes. Subjects were girls of Standard IX.

Results showed that children whose medium was English were superior to those whose medium was Hindi.

Ahuja 28 compared the variation in performance on a group test of intelligence that are attributable to

different mothertongue group and found that almost every group was normal in performance.

Bokil 29 made a study on the impact of learning media on the performance of students. The aim of the study was to determine the percentage of pass as well as the average marks and their scatter as per medium of instruction in History, Geography, Science, Mathematics and modern Indian languages offered as a subject under part I.

A random sample of approximately 1000 candidates answering the question papers in each medium was taken for the study. The problem was studied with regard to four linguistic groups and with regard to different centres of examination A, B, C and D as divided by the Board of Examination for administrative convenience.

The results indicated that the use of respective regional languages seemed to help the students appearing from B, C and D to secure higher percentage of marks in all the subjects except in Mathematics. In the case of

Mathematics, English medium gave higher percentage of pass and also a higher average marks than Marathi or Gujarathi medium in all the three groups A, B and C. As regards Kannada medium, the percentage of pass and average marks in Mathematics were higher than that for English, Marathi or Gujarathi medium but for subjects like Geography and Science, the percentage of pass and average marks were much lower.

Bokil's investigation was intended to study the impact of medium of instruction on the performance of pupils in various subjects and to obtain a comparative view of the results of the different types of schools in Poona and Bombay district. Sample was selected from Poona and Bombay districts.

From the Poona district a random sample of 549 pupils in the Marathi medium and all the pupils registered in the State under English, Gujarathi, Sindhi, Hindi and Urdu medium were taken for study whereas from the Bombay district a sample of 330 pupils in the above mentioned six media of instruction were taken for the study.

Important findings from Poona district

1. Gujarathi medium pupils were superior to others in the following aspects.
   a. Percentage of pass
   b. Percentage of successful pupils getting grade I
   c. Average scored by pupils in various subjects.

2. The percentage of pass in the English and the Gujarathi media schools were fairly uniform.

Important findings from Bombay district

1. Hindi medium schools got the highest percentage of pass and also the highest percentage of pupils getting grade I.

2. The average marks obtained by pupils in English, Gujarathi, Hindi and Sindhi media schools were above the level of passing in all subjects.

3. The percentage of pass in English, Gujarathi, Sindhi and Hindi media were uniformly high in all subjects.

The aim of Ganguly's study was to find out whether the

quality of schooling makes difference in intelligence test scores between 'worst' and 'best' schools and also the mental flexibility and capacity to form new concepts affected by adolescent's intellectual and emotional circumstances which deteriorate in adulthood.

The study was conducted on a sample of 180 boys aged around 13 to 15 of class IX and X selected sixty each from the U.P. board high schools having Hindi as the medium of instruction and Urdu as the medium of instruction which stress English as a compulsory subject and public schools retaining English as the medium of instruction.

The study revealed that English as the medium of instruction and stress in English besides the chosen regional language for instruction are more useful for boys.

It is also revealed that public school system offers the best quality of schooling for stimulating growth of intellectual factors.

Shukla and Parikh32 conducted a study on the achievement motivation of secondary school pupils and came to the

conclusion that English medium pupils have high achievement motivation than Gujarathi medium pupils.

Anand's study was designed to investigate the effect of socio-economic status and medium of instruction on mental abilities and academic achievement.

Results showed that pupils studying through different media of instruction differed significantly from each other in their non-verbal and verbal intelligence and pupils studying through the Kannada medium achieved significantly higher mean score than those studying through English medium and the relationship of the media of instruction to intelligence was found inconsistent.

Reddy conducted a comparative study of students' reaction towards English and Regional media. The sample was 1054 students of English and regional media. Results showed that students of English medium had a favourable


attitude towards English as the medium of instruction while the students of regional language had an unfavourable attitude towards regional media.

Jha 35 made a study on the attitude of parents towards English medium and non-English medium schools. The sample consisted of 150 parents from different localities in Allahabad city. Caste, culture and socio-economic status were taken into consideration for selecting the sample. Result showed that parents had a positive attitude towards English schools.

Misra and others 36 studied the effect of language medium on school achievement in Kendriyavidyalaya. The study was based on a statistical treatment of data from central schools in and around Delhi.

Findings revealed that there is no difference in achievement in social studies in the Hindi medium classes between Hindi speakers and non-Hindi speakers.

Deve and Anand conducted a study to test the following hypothesis.

1. Students having mother tongue as the medium of instruction for 7, 8, 9, 10 and 11 years will achieve a significantly higher mean and percentage score than their counterparts having English or regional language as the medium of instruction in University examination.

2. The retardation in verbal and non-verbal intelligence and academic achievement will be greater for the regional language group than for the mother tongue group.

Sample consisted of 402 students admitted to the Regional college of Education coming from Andhra, Karnataka, Kerala and Tamilnadu States.

Tools used were Nafde's non-verbal test of intelligence, Babul's test of verbal intelligence, a special content test and a simple questionnaire developed by the investigator.

The study revealed the fact that there is no difference in verbal intelligence, non-verbal intelligence and

academic achievement was found between pupils studying through mothertongue and through the second language (English or regional language) for 7, 8, 9, 10 or 11 years.

Saheb and Reddy\textsuperscript{38} tested the hypothesis that:

1. There is significant influence of intelligence on the achievement of men and women students in Telugu medium.

2. There is no significant influence of intelligence on the achievement of men and women students in English medium.

Sample consisted of 386 (men and women) students of 1st year M.A and M.Sc. classes. Tools used were standard progressive matrices and an opinionnaire on the subject Botany, Zoology, Chemistry, Physics, and Mathematics. Results showed that

1. If the medium of instruction is Telugu, intelligence has got a positive influence over Chemistry for both the sexes.

2. English medium seems to be conducive to the subjects

at their graduate level, though the regional language can enhance the achievement of subjects.

Ehindero's study was

1. To determine whether teaching Science in their mother-tongue (Yoruba) is any more efficacious than teaching it in English language.

2. To assess and compare the levels of cognitive development of Yoruba speaking Nigerian children instructed in Yoruba and those instructed in English language within a Science context.

120 elementary school children were involved in the study. The tool used was an achievement test based on Bloom's taxonomy. The study revealed the fact that teaching in mothertongue (Yoruba language) promoted child's cognitive/academic development.

Parikh made a study on the effect of medium of instruction on achievement. Sample consisted of 100 Gujarathi medium students and 100 English medium students of SSC Class.


Their achievement in Mathematics, Science (Physics-Chemistry), Geography and language (higher level) were compared. The higher level language was English for English medium pupils and Gujarathi for Gujarathi medium pupils.

The study revealed the following facts:

1. English medium pupils showed better performance in Science than Gujarathi medium pupils.

2. The difference in the medium has no significant effect on the achievement of boys of Gujarathi as well as English medium classes in Mathematics, General Science and Geography.

3. The difference in the medium has found to exert no influence at the higher language level.

Pillai⁴¹ made a comparative study of achievement in Mathematics of pupils with English and Malayalam as the medium of instruction.

Sample consisted of secondary school pupils of standard VIII selected by the stratified random sampling

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method and the tools used were an achievement test in Mathematics, an intelligence test (non-verbal) and a socio-economic status scale.

The study revealed that there is significant difference in the performance of pupils in English and Malayalam medium classes and the difference is in favour of pupils in the English medium classes except in the case of girls and private school pupils.