CHAPTER ONE INTRODUCTION

1.1 General Background

A language is a systematic means of communication by the use of sounds or conventional symbols. It is the code we all use to express ourselves and communicate to others. It is the most highly developed and most frequently used means of communication. In other words, it is a way by which human beings communicate. It is extremely complex and highly versatile system of signs through which we express our ideas, emotions, thoughts, feelings, etc. So, it is highly developed system for communication which is the written and spoken methods of combining words to create meaning used by a particular group of people.

Language, so far we know, is something specific to human beings, that is to say it is the basic capacity that distinguishes human beings from all other living beings. So, it is said that language is 'species specific'. Language, therefore, remains potentially a communicative medium capable of expressing ideas and concepts as well as moods, feelings and attitudes. Moreover, it is regarded as voluntary vocal system of human communication. In this sense, it is special gift only for human beings to communicate. To quote Pei (1966: 141), "language is a system of communication by sounds, operating through the organ of speech and hearing, among members of a given community, and using vocal symbols possessing arbitrary conventional meanings". So, language is expression of human communication through which knowledge, belief and behaviour can be experienced, explained and shared. This sharing is

based on systematic conventionally used signs, sounds, gestures or marks that convey meanings within a group or community.

Language is inevitable for human beings as it plays a vital role in the development of human civilization, humanism and nationalism, and in the expansion of knowledge, experience, education and mass media. Similarly, the growth of culture, science, technology, trade, etc. are also possible only due to language. So, no human civilization is believed to exist without language.

1.1.1 Linguistic Scenario of Nepal

Nepal is a country of linguistic diversity. Here, more than 93 languages have been identified by the report of CBS (2001). According to the American Summer Institute of Linguistics (ASIL) there are about 6,000 living languages in the world. Among them Nepal currently has as many as 126 living languages (Ethnologue, 2005) which is 2.1 percent of the total number of languages. So, Nepal is very rich in terms of number of languages spoken here. But most of these living languages do not have their own written script; they have only spoken forms. Due to this reason, some languages of Nepal are on the verge of extinction. According to Ethnologue (2005: 32), a global record of languages, at least three of Nepal's languages are almost extinct – *Dura*, formerly spoken in Lamjung district, Kusunda (Tanahu district, western hills, Satto Bhatti west of chepetar and possibly jungle south of Ambhu, Kireni, near Kumhali), and Waling (Bhojpur District). In the same way other minority languages such as Raute, Bote, Yholmo, Sangpang, etc., with a population under 5,000 and in some cases, under 100, are already endangered languages. Other such linguistic communities include Ghale, Chilling, Sanskrit, *Kaike*, etc. According to the population census report 2001, more than 36

indigenous languages of Nepal are now endangered because of their extremely small population. *Lhomi* (04), *Lingkhim* (97), *Kagte* (10), *Kuki* (9), *Raute* (518) and *Kaike* (794) can be taken for examples.

According to the population census report 2001, more than ten *indigenous* languages of Nepal are now endangered because of their small population. Most of the indigenous people are bilingual in Nepal. They use their language at home but when they are outside their own linguistic family or communities, they rely on the Nepali language for their socioeconomic and educational transactions.

It is because Nepal's indigenous languages as well as minority languages have suffered discrimination and domination from the state as well as other dominant language communities. But lately, there is a palpable hope that the varied and many linguistic communities will soon enjoy full recognition by the state. That may help to revive dying indigenous and minority languages as well as foster and preserve others. It is because the Interim Draft Constitution (2006) released recently is categorical about the new arrangement. IDC's part 1, section 5, clause 1-3 asserts that all languages spoken in Nepal are national languages; Nepali language written in Devanagari script – until recently as the only national language in practice will serve as the official language; locally government offices can use any mother tongue as a means of communication. Now, we may hope that the Constituent Assembly will adopt and strengthen all the above positive provisions.

There is rich amalgamation of different languages in Nepal which have their genetic affiliations to different language families. According to Rai (2003:132), the languages spoken in Nepal are divided into four

language families. They are Indo-Aryan family, Tibeto-Burman family, Austro-Asiatic family and Dravidian family.

Some of the languages of Nepal with their language families and number of speakers are presented in the table below:

Various Languages and the Number of Speakers

Table No. 1

I. Indo Aryan Family

S.N.	Languages	Population
1.	Nepali	11053255
2.	Maithali	2797582
3.	Bhojpuri	1712536
4.	Tharu (Dagaura/Rana)	1331546
5.	Awadhi	560744
6.	Urdu	174840
7.	Rajbansi	129829
8.	Hindi	105765
9.	Danuwar	31849
10.	Bangla	23602
11.	Marwari (Rajsthani)	22637
12.	Manjhi	21841
13.	Darai	10210
14.	Kumal	6533
15.	Bote	2823
16.	Punjabi	1165
17.	English	1037
18.	Churauti	408
19.	Magahi	30

Table No. 2

II. Tibeto- Burman Family

S.N.	Language	Population
1.	Tamang	1179145
2.	Newar	825458
3.	Magar	770116
4.	Bantawa	371056
5.	Gurung	338925
6.	Limbu	333633
7.	Sherpa	129771
8.	Chamling	44093
9.	Chepang	36807
10.	Sunuwar	26611
11.	Thami	18991
12.	Kulung	18686
13.	Dhimal	17308
14.	Yakka	14648
15.	Thulung	14034
16.	Sangpang	10810
17.	Khaling	9288
18.	Thakali	6441
19.	Chhantyal/Chhantel	5912
20.	Tibbetan	5277
21.	Dumi	5271
22.	Jirel	4919
23.	Puma	4310
24.	Dura	3397
25.	Meche	3301

26.	Pahari	2995
27.	Lepcha/Lapcha	2826
28.	Bahing	2765
29.	Raji	2413
30.	Hayu	1743
31.	Ghale	1649
32.	Kaike	794
33.	Raute	518
34.	Koche	54
35.	Chhintang	8
36.	Mizo	8

Table No. 3
III. Austro-Asiatic Family

S.N.	Language	Population
1.	Sattar	40260

Table No. 4

IV. Dravidia Family

S.N.	Language	Population
1.	Jhangadh	28615

(Statistical Pocket of Nepal, 2006:21-25)

There are still some languages in Nepal which do not belong to any of the above mentioned language families. For example, *Kusunda* is one of them. Recently, the linguist of Holand, George Venndrim, is involved in finding out its language family through DNA test. But an American linguist, White House, has said that it may belong to Indo-Pacific language family (An Article from Annapurna Post, Falgun 6, 2064:1).

1.1.2 An Introduction to the Maithili Language

Maithili is a language of the family of Indo-Aryan languages, which is the part of the Indo-Iranian of the Indo-European languages. The Maithili, one of the sweetest languages, is spoken by the people of North-Eastern Bihar in India and the eastern Terai region of Nepal. The language has been named Maithili because it is spoken in the ancient land of Mithila. It is also called Tirhutia, because Tirhut is another name of the same region, which is derived from Tirabhukti, which means the bank of the river purified thrice by the sacrifices. An Italian scholar named Amaduzzi in his book Alphabetum Brahmmnicum (1771 A.D.) has mentioned this language as Maitili. Linguists consider Maithili to be an Eastern Indic language, and thus a different language from Hindi, which is Central Indic. It forms a subgroup with Bhojpuri and Magahi and is linguistically closer to Assamese, Bengali and Oriya than to its more contiguous languages, namely, Nepali and Hindi. In the past, it was regarded either as a dialect of Bengali, or of Eastern Hindi, or as one of the three dialects of a spurious language called Bihari (Bhojpuri, Maithili and Magadhi) (Yadav, 1999:3-5).

Today, however, it is recognized as a distinct language. Demographically, it is the fortieth most spoken languages of the world, sixteenth most spoken languages in India and second most spoken languages in Nepal. It has its own script called the 'Maithili Lipi' or 'Mithilakshar' or Tirhuta, originated from Brahmi, a script of 3 B.C., also found in Asokan Inscriptions. In the past Maithili writers used to write in this script and we still have thousands of valuable manuscripts written in this script. Even these days on sacred occasions several Maithili speaking families especially Maithili Brahmin families use this script. But present

day Maithali writers and public at large have adopted Devanagari script because of its widespread use, popularity and convenience.

At present, it is spoken by a total of about 30 million people in the eastern and northern regions of the Bihar state of north India and the south eastern plains, known as the Terai of Nepal. It has now been listed in the VIIth schedule of the Indian constitution and thus it is one of the 22 National Languages of India. Similarly, it is one of the National Languages of Nepal. It has also been recognized by P.E.N. (an international organization of letters for poets, essayists, novelists) and the Sahitya Akademy of India.

Maithili has a very rich literature, the growth and development of which follows quite closely to the political and cultural history of Mithila. Vidyapati Thakur (1360 – 1448) is the greatest and most celebrated poet of Mithila. He is the immortal singer of beauty, youth and vigour. He is a poet of mirth and merriment. His poems (songs) are the soul of Mithila and no celebration is complete without his songs. It will be an exaggeration to say that his songs have survived in the throats of Maithil women folk. Maithili has a very long tradition of oral story telling. Oral literature reigned in almost all genres of Maithili before the printing facility came into existence. Shri Krishna Thakur, Baidyanath Mishra (Yatri), Kali Kumar Das, Lalit, Raj Kumar Chaudhary, Dhum Ketu, Harimohan Jha, Dr. Direshwor Jha (Dhirendra), Dr. R.P. Bimal are some renowned literary personalities in Maithili. At present, there have been literary writings in all genres like poetry, prose, essays, plays, dramas, fiction, critical reviews, epics, etc. from both Nepali and Indian writers depicting the culture, history, journalism and linguistics. Moreover, Maithili has an enormous stock of oral literature in the form of folk tales

in prose, verse, ballads and song such as Lorik, Nayaka Banjara, Salhes, Deenabhadri etc. (www.mithilaonline.com).

1.1.3 The Maithili Language in Nepal

Nepal is a multilingual country. It is very rich in terms of the number of languages spoken here. In Nepal, Maithali is the mother tongue of 12.3 percent of the total population and figures second in terms of the number of speakers next only to Nepali, the language of the nation. According to CBS (2001:21), Maithali has been the second widely spoken language of Nepal, as it is used by 27,97,582 people living in south eastern Terai. There are about nine Terai districts, namely, Morang, Sunsari, Udaypur, Saptari, Siraha, Dhanusha, Mahottari, Sarlahi and Rauthat where Maithili is in vogue.

Maithili has been taught as a subject of study in Nepal from school level of university level. The Constitution of Nepal 1990 asserted the fundamental right of each community to operate schools upto the primary level in its own mother tongue for imparting education to its children. Similarly, the Interim Draft Constitution 2006 (Part 3, section 18, clause 3) declares that each community residing within the kingdom of Nepal shall have the right to preserve and promote its language, script and culture. However, the most striking improvement on the last constitution is the assertion that each community will have a right to education in their own mother tongue. This provision was absent in the constitution of 1990. Nowadays, Maithili is used as a medium of instruction at primary level in some schools of few districts namely Dhanusha, Mahottari, Saptari, Sunsari and Siraha. It is being taught as a subject at primary level (1-5) and as an optional first paper at the secondary level (9-10). Similarly, it is also being taught as a major subject in the Faculty of

Humanities and Social Sciences, Tribhuvan University from intermediate to master levels. The importance of Maithili in the context of Nepal need not be over emphasized as it flourished as a court language in Kathmandu valley during Malla period. Several dramas, anthologies of lyrical poems, songs, and inscriptions in Maithili are still preserved at the national achieves in Kathmandu.

1.1.4 English Language and its Significance

English is classified as an Indo-European language. It is part of the Germanic sub-family and is grouped with its most closely related language, Frisian, as part of the Anglo-Frisian group. To quote Pei (1957:290), "English is the language that has enjoyed by far the fastest growth within recent times, four centuries ago, it was outstripped by French, German, Spanish and Italian. Today, it has almost as many speakers as the speakers of these four languages put together. After Chinese, English has the world's largest speaking population. It is the native or official language of countries covering one fifth of the earth's land surface". So, English is the most widely used language in the history of our planet. At present, it is spoken by more than 300 million native speakers, and between 400 and 800 million foreign users. In this sense, it has now inarguably achieved the status of global language.

Indeed, if one looks at some of the facts about the amazing reach of the English language, many would be surprised. It is the means of international communication and it is also the world's major language. It is used in over 90 countries as an official or semi-official language. It is the working language of the Asian trade group ASEAN and one of the languages recognized by the UNO. It is the de facto working language of 98 percent of international research physicists and research chemists. It is

the official language of the European Central Bank, even though the bank is in Frankfurt and neither Britain nor any other predominantly English speaking country is a member of the European Monetary Union. It is believed that over one billion people worldwide are currently learning English.

English is at present the most widely studied language in countries where it is not native, being a compulsory part of the higher educational curriculum of such widely scattered nations as Russia, Japan and Turkey. It is conspicuously the language of trade and business transactions, and bids fair to become a tongue of common intercourse in many parts of the world. More than three-fourths of the world's mail is written in English. Over half of the world's newspapers are printed in English. It is the language of over three-fifths of the world's radio stations. It has a literature as flourishing as any, and has recently become one of the leading tongue of international scholarship and scientific research. More than half of the world's scientific and technical periodicals are printed entirely or partly in English.

All the above mentioned facts show that it is the leading language of science, technology, computers, and commerce; and a major medium of education, publishing, and international negotiation. In short, it is a principal language for international communication and a geteway to the world body of knowledge. We can make use of English to promote our worldview. We can check the theories of foreigners against our experience. We can reject the untenable and accept the tenable. We can also propagate our theories among the international audience and readers. It is possible only with the proper knowledge of English. Similarly, we can pick up the fruits of the rapid advancement and innovations made in various fields of the modern era. So, it is the appropriate international

language and a vital tool for any one to become successful in local, national and international communication. So, the importance of English in the present day world need not be overemphasized. Considering all these facts a great importance is given to the English language in education system of Nepal.

1.1.5 A Brief Account of ELT in Nepal

The history of the English language teaching in Nepal goes back to Rana regime. Rana Prime Minister Janga Bahadur Rana set up a school in a room of his own palace at Dakha Chowk in 1844 A.D. This school was named as Durbar High School in 1854 A.D. It aimed at imparting the knowledge of the English language to the children of aristocrats. Since then it has been taught and learned as a foreign language in Nepal. Then in 1919 A.D., it was included in the higher education with the establishment of Tri-Chandra College. In course of time SLC Examination Board (1933) and T.U. (1959) were established. Since then it has occupied a vital position in the educational field of Nepal.

Having realized the importance of the English language, the government of Nepal has included English in school and higher education curricula as a compulsory subject. Specially the implementation of National Education System Plan (NESP, 1971-76) has brought revolutionary changes by planning curricula and textbooks with provision of compulsory English of 100 marks for each grade from grade four to bachelor's level including optional English at secondary level as well as higher education. The NESP also brought changes in the concept. The courses became language oriented rather than literature oriented. Now with the proliferation of English medium schools and growing demand

for more English from the general mass, the government reintroduced English from grade one to bachelor's level from 2060 B.S.

With the change in the concept and the curricula, the methods of teaching English also changed. In the beginning grammar translation method was in vogue. Among various changes in teaching methods, communicative method is the recent one. It is the latest method of teaching language indeed. This method lays emphasis on developing communicative competence in students i.e. enabling them to use not only grammatically correct but also situationally appropriate language. Along with the changes in teaching methods, the medium of instruction changed from Nepali into English while teaching English as a foreign language. However, not only Nepali but Maithili is also found to be used as the medium of instruction in some public schools of Terai region. In contrast, English is used in private boarding school in Nepal.

1.1.6 Language: A Medium of Instruction

Language is, so far we know, the most valuable single possession and a unique gift given to mankind by the god. Every normal human being acquires at least one language which spreads everywhere in his/her thought and dreams, prayers and meditations, relations communication and so on. It is as automatic and natural as we breathe. So we do not have to pay any attention to it. Such language is acquired in early years by human beings which becomes their natural instrument of thought and communication, known as mother tongue. It in our mother tongue through which we first learn to formulate and express our ideas about ourselves and about the world in which we live. In this sense, we may feel difficulties in understanding things and to express our ideas without using our mother tongue. So, to use mother tongue of the students

as the medium of instruction, at least at primary level, is most important. In this regard, UNESCO meeting 1970 urges its members to use mother tongue as a means of education that "the mother tongue is still the principal means by which any human beings fits into his own society and culture, it is the basis of intellectual facilities". So, it can be said that the medium of instruction is the main factor which affects students' achievement at least at primary level. In this context, The Interim Draft Constitution (2006) released recently has made the assertion that each community will have a right to education in their own mother tongue. In this way, the importance of the medium of instruction in education need not to be over emphasized.

1.2 Literature Review

The researches existing in the Department of English as well as in the Department of English Language Education are not directly related to the proposed topic. However, some researches on the effectiveness of medium of instruction as well as the comparative study between English and Maithili are reviewed as follows:

Shrestha (1991) carried out a research entitled "A Comparative Study of the Efficacy of Nepali and English as the Medium of Instruction in Teaching English." She found that teaching English in English medium was more effective for teaching listening, speaking, reading, writing, vocabulary and functional English while teaching English in Nepali medium was more effective in teaching grammar.

Bhandari (2000) carried out a research entitled "Effectiveness of Medium of Instruction in Teaching English Prepositions". He found that teaching English prepositions through Nepali medium was significantly more effective than teaching through English medium.

Sah (2000) carried out a research entitled "A Comparative Study of S-V Agreement in English and Maithili". He found that Maithili verb takes agreement according to the honorific status of the persons.

Mukhiya (2001) carried out a research entitled "Passivization System between English and Maithili: A Comparative Study". He found that the passivization system between English and Maithili are different in almost all grammatical aspects. He also found that there are some areas which are somehow similar in both languages.

Karn (2004), in his research entitled "A Comparative Study of Cases in Maithili and English", found that nominative, instrumental, locative and dative cases are common in both languages.

Sah (2004), in his research entitled "A Comparative Study on the Simple Present and Simple Past Tense of English and Maithili", found that Maithili tense system possesses T/V distinction.

Thakur (2006), in his research entitled "Relativization in English and Maithili: A Comparative Study", found that English relativization differs from Maithili one in various aspects, however, there are some similarities as well.

Thakur (2006), in his research entitled "Aspects of the Present Tense in English and Maithili", found that English tense aspect system differs from Maithili one in various aspects, however, there are some similarities as well.

Till now, no research has been carried out particularly on the effectiveness of English and Maithili as the medium of instruction in teaching English. So the researcher is interested to find out which

medium of instruction, English or Maithili, is more effective in teaching English at primary level.

1.3 Objectives of the Study

The objectives of the study were as follows:

- i. To find out which medium of instruction, English or Maithili, is more effective in teaching English at grade five.
- ii. To point out some pedagogical implications.

1.4 Significance of the Study

The medium of instruction is an important factor in teaching a language. It plays a vital role in achieving the goals and objectives of teaching of any language. Language learning can be more effective if the medium of instruction is appropriate. Therefore, it is necessary to know beforehand which medium will bring the best result in language teaching.

In some districts of the Terai region of Nepal, either Maithili or English is used as the medium of instruction in all aspects of education as well as English language teaching. There is not any solid evidence to show which medium is more effective in teaching English. So, this study was undertaken in order to find out which medium of instruction, English or Maithili, was more effective in teaching English at primary level. The findings of this study will be helpful for the scholars involved in language phenomenon. It will be equally helpful for language teachers, syllabus designers, textbook writers, students and other person who are interested in language teaching and learning. Besides, this recent work will be helpful for those who will undertake researches on the medium of instruction in future.

CHAPTER TWO METHODOLOGY

This chapter deals with the methodology adopted during the study. The study was carried out as follows:

2.1 Sources of Data

Both primary and secondary sources of data were used for data collection. The primary source was used for collecting data and the secondary source was used to facilitate the research. These sources can be described as follows:

2.1.1 Primary Sources of Data

The students of grade five studying in K.A. Secondary School, Rajbiraj of Saptari district were the primary sources of the study. For this, the total population of the study was all the fifth graders of K.A. Secondary School, Rajbiraj of Saptari district.

2.1.2 Secondary Sources of Data

The different books, journals, magazines, articles, theses, reports and other materials that were related and helpful for the proposed study were consulted for the facilitation of the study. Those sources are mentioned in the reference section.

2.2 Population of the Study

The population of the study consisted of 55 students studying at fifth grade of K.A. Secondary School, Rajbiraj of Saptari district.

2.3 Sampling Procedure

All the students of grade five studying at K.A. Secondary School, Rajbiraj of Saptari district were selected as the population of the study by using judgemental sampling procedure. While selecting sample population which consisted of 30 students of grade '5', the researcher used simple random sampling procedure. Then the students were divided into two groups on the basis of their result of the pre-test.

2.4 Tools for Data Collection

The main tools for the collection of data was a set of test items. So a set of test items which consisted of 12 test items was devised from the selected textbook 'My English Book' grade V. The test consisted of subjective questions of 50 marks. The distribution of marks according to test item was as follows:

- i. Eight test items of 24 marks in which each test item carried 3 marks.
- ii. Two test items of 10 marks in which each test item carried 5 marks.
- iii. One test item of 6 marks.
- iv. One test item of 10 marks.

(See Appendix -1)

2.5 Process of Data Collection

The researcher followed the following process for the collection of data:

i. The researcher devised a set a test items from the selected topics of the selected textbook, 'My English Book', grade V to measure the

- proficiency of the students before starting the experimental teaching.
- ii. He visited the concerned school and got permission from the concerned authority of the school to conduct the research.
- iii. He administered the pre-test to the students selected as sample population.
- iv. He ranked the students from first position to the last position on the basis of the result of the pre-test.
- v. Then, the students were split into two equal groups on the basis of odd-even ranking of the individual score as follows:

Group 'A'	Group 'B'
1, 3, 5, 7, 9	2, 4, 6, 8, 10
11, 13, 15, 17, 19	12, 14, 16, 18, 20
21, 23, 25, 27, 29	22, 24, 26, 28, 30

- vi. The students who had equal scores were ranked by first letter of their names.
- vii. The experimental group 'A' and controlled group 'B' were assigned through lucky draw to avoid biasness.
- viii. The students divided into two groups were taught side by side using the same textbook and teaching materials. However, the group 'A' was taught using English as the medium of instruction and group 'B' was taught using Maithili as the medium of instruction. It means the same lesson plan was used for both the groups, but only the medium of instruction was different. (Since the most commonly used medium of instruction in teaching

English at primary level of government schools in local areas of Rajbiraj was Maithili, the group 'A' which was taught using English as the medium of instruction was the experimental group and the group 'B' which was taught using Maithili as the medium of instruction was the controlled group).

- ix. Each group was taught nine topics for one month and one period a day which lasted for 30 minutes.
- x. After one month of teaching, the post-test was given by administering the same test items used for pre-test to both the groups.
- xi. Finally, the results of pre-test and post-test were compared and conclusion was drawn regarding the effective medium of instruction in teaching English at grade five.

2.6 Limitations of the Study

This study was conducted within the following limitations:

- i. The study was confined to only one government school of Saptari district.
- ii. The study was confined to only fifth graders.
- iii. The study was confined only to teaching English at primary level.
- iv. Only thirty students having Maithili as their mother tongue were the informants.
- v. The conclusion was drawn only on the basis of written test.

CHAPTER THREE

ANALYSIS AND INTERPRETATION

This chapter consists of analysis and interpretation of the data.

To meet the objective of the study, students' performance on both pre-test and post-test was used systematically to find out the effectiveness of the medium of instruction in teaching English at grade five.

The marks obtained by each student in the pre-test was tabulated. The marks of all the 15 students of both the groups were added separately to find out the total marks for the pre-test. Similarly, the total marks of both the groups were calculated separately for the post-test.

The total marks obtained by the students in the pre-test was subtracted from the total marks in the post-test. This total difference of marks was divided by the total number of students in the group to calculate an average increment of marks in the post-test. This average mark is the total average increment of each student in the post-test after experimental teaching.

The same procedure was used to find out the effectiveness of medium of instruction in terms of average marks for both groups.

Effectiveness was calculated separately for both English and Maithili media. After that inter-medium comparison was made to find out which medium of instruction, English or Maithili, is more effective in teaching English at grade five.

Total average increment of marks in the post-test was also calculated using an average increment of marks in the test. This was calculated separately for both the groups and was further compared as well.

In the next perspective of analysis of effectiveness, the marks obtained by each student in both pre-test and post-test were converted into percentage and later percentage of all the students was added to find out total percentage in each-test. Average percentage in both pre-test and post-test was calculated by dividing total percentage by total number of students.

Lastly, the difference of average percentage in the post-test was calculated using the two average percentages. The same procedure was applied to find out the increment in average percentage in the post-test of both English and Maithili medium groups. If it is higher than zero, it shows that the progress of the group is significant. If it is less than zero, the progress is insignificant. The group which got higher marks was considered to be better than the one which got lower marks. Effectiveness was derived by comparing the values of average increment in percentage in the post-test.

At last, the highest and the lowest percentage of effectiveness of medium of instruction was also calculated and compared between the two groups.

Statistical tools, the average, percentage and correlation were used to measure the effectiveness of medium of instruction in teaching English at grade five. The formula used for calculating the percentage was:

$$Percentage = \frac{Marks \ Obtained}{Full \ Marks} \times 100$$

Percentage of marks is equal to the ratio of the marks obtained to the full marks multiplied by hundred. Similarly, another statistical tool, the average, was used to find out the average marks, used to find out the average of effectiveness in terms of percentage in both the pre-test and the post-test for both the group.

The formula used for this purpose was:

Average =
$$\frac{X_1 + X_2 + \dots + X_{15}}{15}$$

Here, 'X' refers to the marks obtained by an individual.

Average is equal to the sum of all the individual marks or percentage divided by the total number of students.

In addition to them, another statistical tool used was correlation. The method used to estimate the correlation was Pearson 'r'. Of the various formuli, Row score or Machine formula was used for this study. The formula used was:

$$r = \frac{N\sum XY - \sum X.\sum Y}{\sqrt{[N\sum X^2 - (\sum X)^2][N.\sum Y^2 - (\sum Y)^2]}}$$

Where,

r = Pearson product-movement correlation coefficient

N = Number of scores

X = Scores in 'X' variable in the pre-test for both the groups

Y = Scores in 'Y' variable in the post-test for both the groups

 Σ = Summation

Clearly, the above statistical tools (average, percentage and correlation) have been used for the analysis and interpretation for the purpose of making the study as objective, real and accurate as possible.

3.1 The Holistic Analysis

The basic data obtained from individual student of both the groups is presented below:

Table No. 5

Total Score, Mean, S.D. and C.V of Group 'A' and Group 'B'

Group 'A'				
	Total	Mean	S.D.	C.V.
Pre-T	276	18.4	6.52	35.4%
Post-T	322	21.4	8.01	37.4%
Group 'B'				
	Total	Mean	S.D.	C.V.
Pre-T	268.5	17.9	6.28	35.08%
Post-T	419	27.93	5.91	21.06%

(See Appendix -5)

The above table shows that group 'A' has the total score of 276 and 322 in pre-test and post-test respectively. Similarly, group 'B' has the total score of 268.5 and 419 in pre-test and post-test respectively. The means of group 'A' and group 'B' in pre-test are 18.4 and 17.9 and the means of group 'A' and group 'B' in post-test are 21.4 and 27.93 respectively. This shows that both groups have made progress in their scores. But group 'B' has made better progress than group 'A'.

The coefficient of variation (C.V.) of group 'A' in pre-test is 35.4 percent and in post-test is 37.4 percent. Similarly, the coefficient of variation of group 'B' in pre-test and post-test are 35.08 percent and 21.06 percent respectively. This shows that there is almost equal consistency in both groups in the pre-test. But in the post-test, the consistency is greater in group 'B' than group 'A'.

3.2 Analysis of Effectiveness

This part of the chapter deals with the effectiveness of medium of instruction in teaching English at grade five. The analysis has been further divided into the following sub-headings:

- i. Effectiveness of English medium in terms of average marks;
- ii. Effectiveness of Maithili medium in terms of average marks;
- iii. Effectiveness of English medium in terms of percentage of marks obtained;
- iv. Effectiveness of Maithili medium in terms of percentage of marks obtained;
- v. Comparison of effectiveness between two media in terms of percentage;
- vi. Comparison of effectiveness between two media in terms of correlation between two tests; and
- vii. Comparison of the highest and the lowest individual percentage of effectiveness between two media.

3.2.1 Effectiveness of English Medium in Terms of Average Marks

It deals with the effectiveness of English medium in terms of average marks obtained by group 'A'. The difference of marks obtained in post-test and pre-test and their average are shown in the following table:

Table No. 6

Difference of Marks Obtained in Post-test and Pre-test and their

Average for Group 'A'

	Post-test	Pre-test
Total Marks	322	276
Average	21.46	18.4
Difference of Marks	46	
Average Difference	3.06	

The table above shows the difference of marks obtained in post-test and pre-test and their average. It also shows the average increment of total marks in group 'A' i.e. English medium group in the post-test.

In pre-test, the total marks obtained by the students was 276 while the total marks obtained in the post-test was 322. Thus, the difference of marks or increment of the marks in the post-test was 46. In average, the marks in pre-test and post-test were 18.4 and 21.46 which shows that the marks in the post test is increased by 3.06 in average of the English medium group i.e. group 'A' (See Appendix 3.3).

3.2.2 Effectiveness of Maithili Medium in Terms of Average Marks

It deals with the effectiveness of Maithili medium in terms of average marks obtained by group 'B'. The difference of marks obtained in the post-test and pre-test and their average are shown in the following table:

Table No. 7

Difference of Marks Obtained in Post-test and Pre-test and their

Average for Group 'B'

	Post-test	Pre-test
Total Marks	419	268.5
Average	27.93	17.9
Difference of Marks	150.5	
Average Difference	10.03	

The table above shows the total marks of all the students of group 'B'. It also shows the difference of marks between the pre-test and post-test and their average. Average increment in marks in the post-test is also shown by this table.

Group 'B' or Maithili medium students secured 268.5 marks in the pre-test in total and 419 in the post-test. The total marks of all the students in the post-test is increased by 150.5, which is 10.03 in average. This means the marks of each individual in increased by 10.03 in post-test after teaching in Maithili medium (See Appendix 3.3).

3.2.3 Effectiveness of English Medium in Terms of Percentage of Marks Obtained

It deals with the effectiveness of English medium in terms of percentage of marks obtained by group 'A'. The total percentage of marks obtained by group 'A' in pre-test and post-test along with their average are shown in following table :

Table No. 8

Marks Obtained in Percentage for Group 'A'

	Post-test (Total	Pre-test (Total	
	percentage)	percentage)	
Total Marks	644	552	
Average	42.93	36.8	
Difference of Marks	92		
Average Difference	6.13		

The table above shows the effectiveness of English medium in terms of percentage of marks obtained. As shown in the table, the total individual percentage of all the 15 students in pre-test in English medium group was 552, which is 36.8 percent in average. Similarly, in post-test, the total of all the individual percentage was 644, which is 42.93 percent in average. Thus, the total difference of the average percent in the post test was 6.13. This means the marks of each student increased by 6.13 percent in the post-test through the teaching of English medium (See Appendix 3.4).

3.2.4 Effectiveness of Maithili Mdium in Terms of Percentage of Marks Obtained

It deals with effectiveness of English medium in terms of percentage of marks obtained by group 'B'. The total percentage of marks obtained by group 'B' in pre-test and post-test along with their average are presented in the following table :

Table No. 9

Marks Obtained in Percentage for Group 'B'

	Post-test (Total	Pre-test (Total
	percentage)	percentage)
Total Marks	838	537
Average	55.8	35.8
Difference of Marks	301	
Average Difference	20.06	

The table above shows the effectiveness of Maithili medium in terms of percentage of marks obtained. As shown in the table, the total individual percentage of all the 15 students in the pre-test was 537, which is 35.8 percent in average. In the same way, in the post-test, the total individual percentage was 838 which is 55.8 percent in average. In this way, the total difference of average percent in the post-test was 20.06. This means that each student increased the mark in post-test by 20.06 percent through the teaching of Maithili medium (See Appendix 3.4).

3.2.5 Comparison of Effectiveness between the Two Media in Terms of Percentage

It deals with the comparison of effectiveness between two media in terms of percentage marks obtained in pre-test and post-test for both the groups. The marks obtained in pre-test and post-test in terms of percentage for both the groups and their difference are presented below:

Table No. 10
Comparison of Two Mediums in Percentage

	Marks in Pre-T	Marks in Post-T	Diff.	Av.
	(Total percentage)	(Total percentage)	DIII.	Diff.
Group 'A'	644	552	92	6.13
Group 'B'	838	537	301	20.06

The table above shows the effectiveness of two media in terms of percentage. As shown in the table, the total increment of marks in post-test in English medium was 92 and the total increment of marks in post-test in Maithili medium was 301. Consequently, it shows that the average increment of marks in post-test in English medium was 6.13 percent whereas the average increment of marks in post-test in Maithili medium was 20.06 percentage (See Appendix 3.4). The figures show that teaching English through Maithili medium was significantly more effective than teaching them through English medium.

3.2.6 Comparison of Effectiveness between the Two Media in Terms of Correlation between Two Tests

It deals with the comparison of effectiveness between two media in terms of correlation between two tests (Pre-T and Post-T) for both group 'A' and group 'B'. The calculation of correlation coefficient for both the groups are shown in the following table:

Table No. 11
Calculation for Correlation Coefficient

	English Medium	Maithili Medium
$\sum X$	276	268.5
ΣΥ	322	419
\sum XY	6553	8018.75
$\sum X^2$	5718	5399.25
$\sum Y^2$	7876	12228.5
N	15	15
r	0.80	0.92

According to the scores obtained by the students in the pre-test and in the post-test, the calculated correlation coefficient is 0.80 for English medium group and 0.92 for the Maithili medium. The relationship represented between two sets of scores in both medium group indicates positive correlation. But the degree of correlation between them is different. Comparatively, the correlation coefficient represented in Maithili medium group indicates stronger than the correlation coefficient represented in English medium group. It means teaching English through English medium and classroom achievement have less effective correlation while teaching them through Maithili medium and classroom achievement have more effective correlation. On the basis of this examination also, the effectiveness of Maithili medium over English has been confirmed (See Appendix 4.2).

3.2.7 Comparison of the Highest and the Lowest Percentage of Effectiveness between the Two Media

It deals with the comparison of the highest and the lowest percentage of both the groups to determine the effectiveness between two media. The highest and the lowest increment of percentage for both the groups are presented below:

Table No. 12

Comparison of the Highest and the Lowest Increment of Percentage in the Two Groups

	Group 'A'	Group 'B'
Highest percentage	18	27
Lowest percentage	-12	8

The table above shows the highest and the lowest percentage of marks increased in post-test in both the groups. As presented in the table, the highest individual increment in percentage in post-test for group 'A' was 18 whereas the lowest percentage for the same group was -12.000. Similarly, the highest percentage of increment for group 'B' was 27 and the lowest was 8 (See Appendix 3.3). These figures also indicate the superiority of Maithili medium over English in teaching English at grade five.

CHAPTER FOUR

FINDINGS AND RECOMMENDATIONS

The researcher carried out this practical study with the determination of finding out the effectiveness of medium of instruction, English or Maithili, in teaching English at grade five, particularly in the context of Terai region of Nepal. In this study, two groups were taught the subject matter with the same objectives and materials. But the only difference was the medium of instruction. Group 'A' was taught using English as the medium of instruction whereas group 'B' was taught using Maithili as the medium of instruction. The pre-test and post-test were administered before and after the experimental teaching. The result of both the groups in the form of scores were computed and tabulated.

On the basis of analysis and interpretation of primary data, the researcher has tried to present findings and recommendations in this section. Group 'A' represents the experimental group which comprised of 15 students while the group 'B' represents the controlled group of the same size. Both groups were taught and examined through 12 test items (See Appendix -1).

4.1 Findings

i. In group 'A', i.e. English medium group, the average increment of marks in the post-test was 3.06 whereas in group 'B' i.e. Maithili medium group, the average increment of marks in the post-test was 10.03.

So, comparing the average increment of marks between both the groups, the conclusion can be drawn that teaching English at grade

five in the Terai region through Maithili medium is significantly more effective than teaching it through English medium.

ii. Average increment of marks in the post-test in terms of percentage for group 'A' was 6.13. Likewise, students of group 'B' increased their marks by an average percentage of 20.06 in the post-test.

While comparing the two mediums of instructions in terms of increment of marks in percentage, it was found that the students taught through Maithili medium performed better than the students taught through English medium. This further confirms the effectiveness of Maithili medium over the English medium in teaching English at grade five.

iii. The calculated correlation coefficient for Maithili medium group was 0.92 while the value for the same for the English medium group was 0.80.

This calculation confirmed the effectiveness of Maithili medium over English in teaching English at grade five.

iv. To look at the highest and the lowest individual percentage of difference of marks in the post-test, the lowest individual percentage in group 'A' was -12 whereas the lowest percentage in group 'B' was '8'. This calculation still proves the aforementioned two findings but this finding may not be so strong as the aforementioned findings. The reason behind it is that those students who went further back in the post-test than in the pre-test was due to their frequent absence while the researcher was teaching.

4.2 Recommendations

On the basis of the findings of the study, the following recommendations have been made:

- i. Teaching English through the Maithili medium is far better than teaching through the English medium at grade five. So, this study strongly recommends and suggests the teachers to teach English through Maithili medium where the local language is Maithili.
- ii. Mother tongue influences in understanding English. So while teaching English, a teacher should see what difficulties the students are facing because of their mother tongue.
- iii. The English teacher should use appropriate local teaching materials as far as possible during the classroom teaching.
- iv. The syllabus designers and textbook writers should be more conscious of while designing the syllabus and writing the textbook for Maithili learners.
- v. As this study is confined within the limitations of various types, similar research works regarding the effectiveness of medium of instructions should be carried out for the other classes of school level for the further confirmation of the findings of this study.

REFERENCES

- Annapurna Post (2008). *DNA Test to Determine Language Family*. Kathmandu: News Media.
- Bhandari, N.P. (2001). Effectiveness of Medium of Instruction in Teaching English Prepositions. An Unpublished M.Ed. Thesis. Kathmandu: Tribhuvan University.
- Bhattrai, A. (2001). "Writing a Research Proposal." *Journal of NELTA*. Vol. 6, No. 1, P. 45-51.
- CBS (2004). *Statistical Pocket of Nepal*. Kathmandu: Central Bureau of Statistics.

Constitution of Nepal (1990). Kathmandu: Jan Subidha Prakashan.

Doff, A. (1988). Teach English. Cambridge: CUP.

Edge, J. (1993). Essentials of English Language Teaching. London: Longman.

http://en.wikipedia.org/wiki/english_langauge.

http://en.wikipedia.org/wiki/maithili_langauge.

http://www.ethnologue.com/language_index.asp-8k.

http://www.mithilaonline.com/maithili.htm/-20k.

Intrim Draft Constitution (2006). Kathmandu: Baudhik Prakashan.

kaij:web.nicklshanks.com/linguistics/English/history.htm.

- Karn, S. (2004). *A Comparative Study of Cases in Maithili and English*. An Unpublished M.Ed. Thesis. Kathmandu: Tribhuvan University.
- Kumar, R. (1996). Research Methodology. London: SAGE Publication.
- Malla, K.P. (1977). *English in Nepalese Education*. Kathmandu: Ratna Pustak Bhandar.
- Ministry of Education (1971). *National Education System Plan for 1971-* 76. Kathmandu: MOES.
- Mukhiya, D.N. (2001). *Passivization System between English and Maithili: A Comparative Study*. An Unpublished M.Ed. Thesis, Kathmandu: Tribhuvan University.
- Pei, M. (1957). The Story of Language. London: WCI.
- Rai, V.S. (2003). *Psycholinguistics and Sociolinguistics*. Kathmandu: Bhudipuran Prakashan.
- Sah, B.N. (2000). A Comparative Study of the Subject: Verb Agreement in Maithili and English Language. An Unpublished M.Ed. Thesis, Kathmandu: Tribhuvan University.
- Sah, P.K. (2004). A Comparative Study on the Simple Present and Simple Past Tense of English and Maithili. An Unpublished M.Ed. Thesis, Kathmandu: Tribhuvan University.
- Shrestha, R. (1991). A Comparative Study of the Efficacy of Nepali and English as the Medium of Instruction in Teaching English. An Unpublished M.Ed. Thesis, Kathmandu: Tribhuvan University.
- Sthapit, S.K. et al. (2001). "Teaching Language for Communications." *Journal of NELTA*. Vol. 5, PP. 1-17.

- Thakur, B. (2006). *Aspects of the Present Tense in English and Maithili*. An Unpublished M.Ed. Thesis. Kathmandu: Tribhuvan University.
- Thakur, I. (2006). *Relativization in English and Maithili: A Comparative Study*. An Unpublished M.Ed. Thesis, Kathmandu: Tribhuvan University.
- UNESCO (1986). *The Use of Vernacular Language in Education*. Hamburg: Unesco Institute for Education.
- Yadav, Y.P. (Ed.). (1999). *Readings in Maithili Language, Literature and Culture*. Kathmandu: Royal Nepal Academy.

APPENDICES

APPENDIX – 1

TEST ITEMS

Class	: Five		FM: 50
Subje	ect : En	glish	PM: 16
			Time: 1:30 hour
Atten	npt all	the questions:	
The f	igures	in the margin indicate full marks.	
1.	Wher	e did the Crane live ?	3
2.	Why	was the Crane sad?	3
3.	Wher	e does Jhuma live ?	3
4.	What	is there in the middle of the garden?	3
5.	How	many big fish were there in a lake?	3
6.	How	did the clever fish save itself?	3
7.	What	is dynamite?	3
8.	What	causes food to go bad?	3
9.	Write	a paragraph about Anu.	5
Anu -	- 12 y	ears – do not like fishing – kill fishes –	wrong to kill – save
the fi	sh cam	paign	
10.	Write	a future plan for Saturday.	5
11.	Rewr	ite these sentences in question form.	6
	a)	He is a teacher.	
	b)	You went to a restaurant yesterday.	
	c)	Ram has bought a car.	
	d)	They eat mango.	
	e)	Manju writes a letter.	
	f)	They are playing Cricket.	

12. Read the following passage and do the activities given below. 10

An old man lived alone in a village. He wanted to dig his potato garden but it was very hard work for him. He wanted to plant potatoes. His only son Babbu, who used to help him, was in prison. The old man wrote a letter to his son describing his condition. He wanted his son to be with him.

A few days later, he received a letter from his son at 4 am. Next morning, local police showed up and dug up the entire field without finding any bodies. They apologized to the old man and left. That same day the old man received another letter from his son.

- a) What did the old man want to do?
- b) How many sons did the old man have?
- c) Where was Babbu?
- d) Who wrote a letter first?
- e) What was the name of old man's son?

APPENDIX - 2

LESSON PLANS

Lesson Plan No. 1

School: K.A. Secondary School, Rajbiraj Date: 2064/08/17

Class: Five Period: 4th

Subject : English Topic : A Lazy Crane

Time: 30 minutes

No. of Students: 15

1. Specific Objectives :

On the completion of this topic the students will be able

i) To say the meaning of different difficult words such as Crane, lazy, fisherman.

ii) To answer the questions related to the topic.

2. Teaching Materials:

- i) Usual classroom materials.
- ii) Picture of Crane, fish and crab.

3. Presentation:

First of all, the teacher will ask some interesting questions related to the previous lesson to attract their attention.

Then the teachers will describe the topic clearly so that the students will receive the main theme of the lesson. After that, the teacher will ask the students to go through the lesson and note down the difficult words which will be explained by the teacher. Then the teacher will explain the lesson in detail and at last, he will summarize the lesson.

4. Practices:

The teacher will ask one or two students to present the lesson to the whole class. He will also write some questions on the board and ask students to write the answers of the questions. For example:

- i) Where did the Crane live?
- ii) Was the Crane lazy?
- iii) What did the Crane want?
- iv) What do you mean by fisherman?

5. Evaluation:

Match the words with their meanings.

<u>A</u> <u>B</u>

Crane held firmly

Crab very sad

Fisherman broke

Worried sick a ten footed water animal

Tightened a bird with a long neck

Snapped people who catch fish

6. Homework:

Answer the following questions.

- i) Why was the Crane sad?
- ii) Who wanted to know why the Crane was sad?
- iii) Where did the Crane take the fish?
- iv) Why did the crab have a doubt on the Crane?

Lesson Plan No. 2

School: K.A. Secondary School, Rajbiraj Date: 2064/08/18

Class: Five Period: 4th

Subject: English Topic: Expressing Wants

Time: 30 minutes

No. of Students: 15

1. Specific objectives :

On the completion of this topic the students will be able

i) To ask what some one wants using the structure 'What do you want ?'

ii) To express wants using the structure 'I want to + verb + noun'.

2. Teaching Materials:

- i) Usual classroom materials.
- ii) Flash cards

3. Presentation:

The teacher will introduce the topic in brief and elicite information from the students related to the topic to attract their attention. Then, the teacher will write the structure of asking and expressing wants on the board and at the same time he will show the flash card to the students. After that the teacher will make some sentences using these structures and also asks the students to make sentences.

4. Practices:

The teacher will say a sentence using 'want' in it, e.g. I want a duster. Then, he will ask students to say a similar sentences with an object using the last letter of the teacher's sentence, e.g., I want a robot. This will be continue till students are interested. He will also divide the students in pairs and they ask each other what they want.

_	T 1 40	
5.	Evaluation	•
J.	Lyaiuauvii	•

Complete the following conversation.

A: What want?

B:.....borrow a book.

A: Which?

B:.....book.

A:..... it is.

B: Thank you.

6. Homework:

Make ten sentences using the following structure:

I want to + verb + noun.

Lesson Plan No. 3

School: K.A. Secondary School, Rajbiraj Date: 2064/08/20

Class: Five Period: 4th

Subject : English Topic : Read and Answer

Time: 30 minutes

No. of Students: 15

1. Specific Objectives: On the completion of this topic the students will be able

- i) To say the meaning of difficult words of the passage.
- ii) To answer the questions related to the passage.

2. Teaching Materials:

Usual classroom materials.

3. Presentation:

The teacher will ask some questions related to the topic to attract their attention. Then, the teacher will ask the students to go through the passage and note down the difficult words which will be explained by the teacher. After that the teacher will explain the passage line by line.

4. Practices:

The teacher will ask one or two students to present the whole lesson to the whole class. He will also write some questions on the board and ask students to write the answers of the questions. For example :

- i) What did the old man want to do?
- ii) Where was Babu?

5. Evaluation:

Write down the word that have same meanings.

- i) a place where prisoners are kept.
- ii) put under the ground.

iii) go something.

6. Homework:

Answer the following questions:

- i) How many sons did the old man have?
- ii) Why did the son tell his father not to dig up the garden?
- iii) Why did local police dig up the entire area?

Lesson Plan No. 4

School: K.A. Secondary School, Rajbiraj Date: 2064/08/21

Class: Five Period: 4th

Subject : English Topic : Jhuma's House

Time: 30 minutes

No. of Students: 15

1. Specific Objectives: On the completion of this topic the students will be able

- To say the meaning of difficult words of the lesson e.g.,
 hillock, spare time, bust etc.
- ii) To answer the questions related to the lesson.

2. Teaching Materials:

- i) Usual classroom materials.
- ii) Picture of hill, Lord Buddha

3. Presentation:

The teacher will ask some questions related to the topic to attract their attention e.g., what do you see in the picture? Then the teacher will ask the students to go through the passage and note down the difficult words which will be explained by the teacher. After that the teacher will ask one or another student to go through the passage which will be explained by the teacher.

4. Practice:

Here, the teacher will divide the students into three groups. Then he will ask each group to discuss about the passage and present the conclusion in front of the whole class. Here, the teacher will also ask some questions. For example:

- i) Where is Jhuma's house located?
- ii) Where does she spend her spare time?

5.	Eval	luation :
	Fill	on the blanks.
	i)	The school is a river and a
	ii)	Jhuma's house is peaceful but her school is
	iii)	The is next to Jhuma's house.
	iv)	In her free time, she does
6. Homework:		
	i)	Write a short description about your house.

- ii) What do you in your spare time?
- iii) Where is your school located?

Lesson Plan No. 5

School: K.A. Secondary School, Rajbiraj Date: 2064/08/22

Class: Five Period: 4th

Subject : English Topic : Three Big Fish

Time: 30 minutes

No. of Students: 15

1. Specific Objectives : On the completion of this topic the students will be able.

- i) To say the meaning of difficult words.
- ii) To answer the questions related to the topic.

2. Teaching Materials:

- i) Usual classroom materials.
- ii) Picture of different kinds of fish.

3. Presentation:

The teacher will ask some questions related to the previous topic to attract their attention. Then, the teacher will say the summary of the topic first. After that the teacher will ask the students to go through the passage and note down the difficult words which will be explained by the teacher. At last, the teacher will explain the passage line by line in detail.

4. Practices:

Here, the teacher will write some questions on the board, e.g., why did the wise fish rush to his friends? Which fish did the fisherman kill? etc. Then the teacher will divide the students into different groups and ask them to discuss about the questions and come up with solution. After that each group will be asked to present their answers to the whole class.

5. Evaluation:

Match the Words with their meanings.

<u>A</u> <u>B</u>

Canal not alike

Presented intelligent

Cast mind

Unlike jumping

Wise waterway

Brain threw

Leaping acted as if

6. Homework:

Answer these questions:

- i) How many big fish were there in a lake?
- ii) In what way were the fish unlike one another?
- iii) Who proposed that they should leave the lake?
- iv) How did the clever fish save itself?

APPENDIX – 3

3.1 Rank of the Students According to Pre-test

Student Ranking and Group Division

Rank	Name of the students	Marks Obtained
1.	Jitendra Kumar Yadav	31
2.	Mohammad Sabir	30
3.	Pintu Jha	28
4.	Kiran Kumari Mandal	26
5.	Gitangali Sah	25
6.	Mamata Kumari	24.5
7.	Ram Kumar Singh	24
8.	Sanjay Mukhiya	24
9.	Kabita Kuamri Das	22
10.	Chitralekha Tiwari	21.5
11.	Radha Kumari Sah	21
12.	Hina Prabin	20.5
13.	Juli Khatun	20
14.	Madhu Kumari Karn	20
15.	Juganu Khatun	18
16.	Moim Ansari	17
17.	Priti Kumari Yadav	16
18.	Priya Gupta	16
19.	Baiju Saphi	15
20.	Mohammad Ekwal	15
21.	Rinki Kumari Yadav	14
22.	Anita Kumari Dev	13
23.	Rahul Mandal	12
24.	Bikram Dev	12

25.	Amit Kumar Ram	11
26.	Ram Jivan Yadav	10.5
27.	Chandani Kumari Sah	10
28.	Jay Kumar Dev	9.5
29.	Shambhu Sada	9
30.	Nisha Sharma	9

3.2 Group Division According to Odd-even Ranking Process

Group 'A'			
Rank	Rank Name of the students		
1.	Jitendra Kumar Yadav	31	
2.	Pintu Jha	28	
3.	Gitangali Sah	25	
4.	Ram Kumar Singh	24	
5.	Kabita Kuamri Das	22	
6.	Radha Kumari Sah	21	
7.	Juli Khatun	20	
8.	Juganu Khatun	18	
9.	Priti Kumari Yadav	16	
10.	Baiju Saphi	15	
11.	Rinki Kumari Yadav	14	
12.	Rahul Mandal	12	
13.	Amit Kumar Ram	11	
14.	Chandani Kumari Sah	10	
15.	Shambhu Sada	9	

	Group 'B'				
Rank	Rank Name of the students				
1.	Mohammad Sabir	30			
2.	Kiran Kumari Mandal	26			
3.	Mamata Kumari	24.5			
4.	Sanjay Mukhiya	24			
5.	Chitralekha Tiwari	21.5			
6.	Hina Prabin	20.5			
7.	Madhu Kumari Karn	20			
8.	Moim Ansari	17			
9.	Priya Gupta	16			
10.	Mohammad Ekwal	15			
11.	Anita Kumari Dev	13			
12.	Bikram Dev	12			
13.	Ram Jivan Yadav	10.5			
14.	Jay Kumar Dev	9.5			
15.	Nisha Sharma	9			

3.3 Marks Obtained by Individual Students in Both Pre-test and Post-test

Group 'A' (English Medium)

Rank	Name of the students	Pre-T	Post-T	Diff.
1.	Jitendra Kumar Yadav	31	38	7
2.	Pintu Jha	28	32	4
3.	Gitangali Sah	25	28	3
4.	Ram Kumar Singh	24	19	-5
5.	Kabita Kuamri Das	22	27	5
6.	Radha Kumari Sah	21	15	-6
7.	Juli Khatun	20	25	5
8.	Juganu Khatun	18	27	9
9.	Priti Kumari Yadav	16	25	9
10.	Baiju Saphi	15	11	-4
11.	Rinki Kumari Yadav	14	18	4
12.	Rahul Mandal	12	20	8
13.	Amit Kumar Ram	11	15	4
14.	Chandani Kumari Sah	10	8	-2
15.	Shambhu Sada	9	14	5
	Total	276	322	46
	Average	18.4	21.4	3.06

Group 'B' (Maithili Medium)

Rank	Name of the students	Pre-T	Post-T	Diff.
1.	Mohammad Sabir	30	40	10
2.	Kiran Kumari Mandal	26	30	4
3.	Mamata Kumari	24.5	34.5	10
4.	Sanjay Mukhiya	24	33	9
5.	Chitralekha Tiwari	21.5	35	13.5
6.	Hina Prabin	20.5	30	9.5
7.	Madhu Kumari Karn	20	29	9
8.	Moim Ansari	17	30	13
9.	Priya Gupta	16	26	10
10.	Mohammad Ekwal	15	24	9
11.	Anita Kumari Dev	13	25	12
12.	Bikram Dev	12	20.5	8.5
13.	Ram Jivan Yadav	10.5	19	8.5
14.	Jay Kumar Dev	9.5	21	11.5
15.	Nisha Sharma	9	22	13
	Total	268.5	419	150.5
	Average	17.9	27.3	10.03

3.4 Marks Obtained (in Percentage)

Group 'A' (English Medium)

Rank	Pre-T	Post-T	Diff.
1.	62	76	14
2.	56	64	8
3.	50	56	6
4.	48	38	-10
5.	44	54	10
6.	42	30	-12
7.	40	50	10
8.	36	54	18
9.	32	50	18
10.	30	22	-8
11.	28	36	8
12.	24	40	16
13.	22	30	8
14.	20	16	-4
15.	18	28	10
Total	552	644	92
Average	36.8	42.93	6.13

Group 'B' (Maithili Medium)

Rank	Pre-T	Post-T	Diff.
1.	60	80	20
2.	52	60	8
3.	49	69	20
4.	48	66	18
5.	43	70	27
6.	41	60	19
7.	40	58	18
8.	34	60	26
9.	32	52	20
10.	30	48	18
11.	26	50	24
12.	24	41	17
13.	21	38	17
14.	19	42	23
15.	18	44	26
Total	537	838	301
Average	35.8	55.8	20.06

APPENDIX - 4

4.1 Pearson 'r' by Raw Score Method

Group 'A' (English Medium)

Rank	Marks in	Marks in	XY	X^2	Y^2
Kalik	Pre-T(X)	Post-T (Y)			
1.	31	38	1178	961	1444
2.	28	32	896	784	1024
3.	25	28	700	625	784
4.	24	19	456	576	361
5.	22	27	594	484	729
6.	21	15	315	441	225
7.	20	25	500	400	625
8.	18	27	486	324	729
9.	16	25	400	256	625
10.	15	11	165	225	121
11.	14	18	252	196	324
12.	12	20	240	144	400
13.	11	15	165	121	225
14.	10	8	80	100	64
15.	9	14	126	81	196
	$\Sigma X = 276$	$\Sigma Y = 322$	∑XY=6553	$\Sigma X^2 = 5718$	$\Sigma Y^2 = 7876$

Group 'B' (Maithili Medium)

Rank	Marks in Pre-T (X)	Marks in Post-T (Y)	XY	X^2	Y^2
1.	30	40	1200	900	1600
2.	26	30	780	676	900
3.	24.5	34.5	845.25	600.25	1190.25
4.	24	33	792	576	1089
5.	21.5	35	752.5	462.25	1225
6.	20.5	30	615	420.25	900
7.	20	29	580	400	841
8.	17	30	510	289	900
9.	16	26	416	256	676
10.	15	24	360	225	576
11.	13	25	325	169	625
12.	12	20.5	246	144	420.25
13.	10.5	19	199.5	110.25	361
14.	9.5	21	199.5	90.25	441
15.	9	22	198	81	484
	∑X=268.5	ΣY=419	ΣXY=8018.75	$\Sigma X^2 = 5399.25$	$\Sigma Y^2 = 12228.5$

4.2 Calculation of Correlation Coefficient

Group 'A'

$$r = \frac{N\Sigma XY - \Sigma X.\Sigma Y}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2] [N.\Sigma Y^2 - (\Sigma Y)^2]}}$$

$$= \frac{15 \times 6553 - 276 \times 322}{\sqrt{[15 \times 5718 - (276)^2] [15 \times 7876 - (322)^2]}}$$

$$= \frac{98295 - 88872}{\sqrt{[85770 - 76176] [118140 - 103684]}}$$

$$= \frac{9423}{\sqrt{138690864}}$$

$$= \frac{9423}{11776.70}$$

$$= 0.80$$

Group 'B'

$$r = \frac{N\Sigma XY - \Sigma X.\Sigma Y}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N.\Sigma Y^2 - (\Sigma Y)^2]}}$$

$$= \frac{15 \times 8018.75 - 268.5 \times 419}{\sqrt{[15 \times 5399.25 - (268.5)^2][15 \times 12228.5 - (419)^2]}}$$

$$= \frac{120281.25 - 112501.5}{\sqrt{[80988.75 - 72092.25][183427.5 - 175561]}}$$

$$= \frac{7779.75}{\sqrt{8896.5 \times 7866.5}}$$

$$= \frac{7779.75}{\sqrt{69984317.25}}$$

$$= \frac{7779.75}{8365.662}$$

$$= 0.92$$

APPENDIX - 5

- 5.1 Calculation of Standard Deviation (S.D.) and Coefficient of Variation
- 5.1.1 Standard Deviation and Coefficient of Variation of Group 'A' for Pre-test.

S.D.
$$= \sqrt{\frac{1}{N}} \sum X^2 - \left(\frac{\sum X}{N}\right)^2$$
$$= \sqrt{\frac{1}{15}} \times 5718 - \left(\frac{276}{15}\right)^2$$
$$= \sqrt{381.2 - 338.56}$$
$$= \sqrt{42.64}$$
$$= 6.52$$
C.V.
$$= \frac{S.D.}{X\Box} \times 100\%$$
$$= \frac{6.52}{18.4} \times 100\%$$
$$= 35.4\%$$

5.1.2 Standard Deviation and Coefficient of Variation of Group 'A' for Post-test.

S.D.
$$= \sqrt{\frac{1}{N}} \sum X^2 - \left(\frac{\sum X}{N}\right)^2$$

$$= \sqrt{\frac{1}{15}} \times 7876 - \left(\frac{322}{15}\right)^2$$

$$= \sqrt{525.06 - 460.81}$$

$$= \sqrt{64.24} = 8.01$$
C.V.
$$= \frac{S.D.}{X\square} \times 100\%$$

$$= \frac{8.01}{21.4} \times 100\% = 37.4\%$$

5.1.3 Standard Deviation and Coefficient of Variation of Group 'B' for Pre-test.

S.D.
$$= \sqrt{\frac{1}{N}} \sum X^2 - \left(\frac{\sum X}{N}\right)^2$$

$$= \sqrt{\frac{1}{15}} \times 5399.25 - \left(\frac{268.5}{15}\right)^2$$

$$= \sqrt{359.95 - 320.41}$$

$$= \sqrt{39.54}$$

$$= 6.28$$
C.V.
$$= \frac{S.D.}{X.} \times 100\%$$

$$= \frac{6.28}{17.9} \times 100\%$$

$$= 35.08\%$$

5.1.4 Standard Deviation and Coefficient of Variation of Group 'B' for Post-test.

S.D.
$$= \sqrt{\frac{1}{N}} \sum X^2 - \left(\frac{\sum X}{N}\right)^2$$

$$= \sqrt{\frac{1}{15}} \times 12228.5 - \left(\frac{419}{15}\right)^2$$

$$= \sqrt{815.23 - 780.27}$$

$$= \sqrt{34.96}$$

$$= 5.91$$
C.V.
$$= \frac{S.D.}{X.} \times 100\%$$

$$= \frac{5.91}{27.93} \times 100\%$$

$$= 21.06\%$$