

The Comparative Effectiveness of Achievement in Mother Tongue and National Language in Arts and Science Subjects at Primary School Level

Abstract

The present research focused on the comparative effectiveness of mother tongue and national language. The achievement of the students was compared when taught through mother tongue and through national language. In the study English as an art subject and general science as science subject were taken. The study was significant because it identifies the more easy language through which the primary school students understand the science and arts subjects. The research hypothesis that there was no significant difference between academic achievement in arts subjects of the students taught through mother tongue and through national language, and there was no significant difference between academic achievement in science subjects of the students taught through mother tongue and through national language were tested. The study was experimental. The 40 students of primary level were selected on a random basis as the sample of the study. The 20 students were placed in the experimental group and 20 in the control group. The Pre-test and post-tests were used as research instruments for data collection. The t-test was used for data analysis. The result shows that there was no significant difference in achievements when arts and science subjects are taught through mother tongue and through national language.

Keywords: *Mother tongue, National Language, Academic*

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*Achievement, Science and Arts, experimental study***INTRODUCTION**

Language is the presentation of one's views through words. Language and specially the human language which is expressed in words distinguish human beings from the other animals. It is the principal means of communication used by human beings with one another. The language that a child learns during its infancy stage from the family members especially the parents is called the mother tongue. Every physiologically and mentally normal person has learned the main structure and basic vocabulary of his mother tongue by the end of childhood.

The people who speak only one language are called monolinguals, while those who speak two languages are called bilinguals. However multilingualism has become a common phenomenon in the world today. According to Valerie Kinsella (1988) "history says that in learning a second language for teaching learning learners regularly produce utterances in speech and writing which are erroneous- or ill formed". Different speakers speak the different languages in a country. Some are national and some local languages. In our country Pakistan, Urdu is our national language and besides this we also have regional /provincial languages, like Punjabi, Pashto, Sindhi, and Balochi. But as Pakistan is a multilingual state, where people speak more than one language keeping in view their the requirements of life and the customs of the area

It is a fact the National language is recognized throughout the world but we can't ignore the value of mother tongue as everyone is strong in his mother tongue and feels easy in its uttering. It is said that the use of mother tongue at primary level can be more effective for learning process than national language, because one can understand and express the ideas in a better way in mother tongue. In our country we use national language Urdu at primary level for medium of instructions. The people throughout the world are conducting the language researches and there are language learning laboratories. This research study is in continuation with the researches of the world that investigates the effects of mother tongue and national language in the enhancement of the academic achievement. This study floats the finding that may mold the system of teaching at the primary school level.

Statement of the Problem

One of the problems in our education system is the concept formation and underachievement of the students at the primary school level. Students could not understand the course concepts in the languages taught to them. One of the important problems in the educational discipline is the low achievement especially in public examinations (Kolawole 1998, Kolawole and Dele 2002). This problem of underachievement is observed in many school subjects such as English, mathematics and Science subjects (Ivowi, Okebukola, and Oladotun, 1992; Falayajo, 1997). Underachievement causes problem not only to the underachieving students, but also to their parents and teachers (Vamadevappa, 2006). Therefore the researchers are thinking for some other languages which are easy for students and could enhance the academic achievement. Therefore the present study was undertaken to test the comparative effectiveness of achievement in Mother tongue and National language, in Arts and Science subjects at Primary school level.

Objectives of the Study

The main objectives of the study are:

1. To compare the academic achievement of the students taught through mother tongue and national language
2. To identify the more easy language through which the primary school students easily understand the subjects of English and General Science.

Significance of the Study

The present study is significant because it tells clearly that which language (National or mother tongue) should be used at the primary school level to teach the arts and science subjects. Through the results of the current study different primary schools can mold their teaching and learning process. As this study is specially conducted in the area of language therefore the primary school children could be able to learn in their interesting and easy picking language. In this way their interest and achievement could be enhanced which is a step towards the successful teaching and learning.

Hypothesis

H01: There is no significant difference between academic achievement in arts subjects of the students taught through mother tongue and through national language.

H02: There is no significant difference between academic achievement in science

subjects of the students taught through mother tongue and through national language.

Limitations

As the study was conducted in the subjects of English and general science, therefore its results cannot be generalized in all other subjects. Also there were no standardized tests in the subjects of general science and English at the primary school level, therefore the researcher made and validated test was used for the data collection.

Review of the Related Literature

In Dhaka Quaid-e-Azam said “Let me make it very clear to you that the state language of Pakistan is going to be Urdu and no other language. A misleading person is the real enemy of our country Pakistan. Language should be one without which no nation could make progress. You may see the history of other nations. Therefore, so far as the state language is concerned, Pakistan’s shall be Urdu (Jinnah 1948:89)”. Therefore it has become clear that no other language is the national language of Pakistan’s apart from Urdu. Most of the teaching and learning in the secondary schools of Pakistan take place in Urdu language. It is not only the language of teaching and learning but it is also the language of communication in the offices and communication especially through letters and written. Urdu is also the language of the course books which are taught at the different levels of education starting from primary to University level. Teacher and student easily understand it. The Urdu language removes cultural diversity and plays a vital role in creating mutual understanding. Therefore the importance of Urdu could not be denied in any way in the country like Pakistan.

On the other hand Mother tongue is defined as the language which a child acquires from his/her home during his infancy period. This language becomes the instrument for communication in the later stages (Awoniyi, 1978 as cited in Oluwole, 2008). The mother tongue is normally the language which a person learns the first in the home. Later on he may learn the different languages as L2 and L3. Mostly the mother tongue is learned from the family (Wikipedia, 2007). As far as the education is concerned the mother-tongue has its own importance. Though other tongue learning becomes easier, students take more interest and pay more attention in learning; they become happy and do not hesitate to participate.

Education plays a vital role in the development of nations and society. Education

promotes the social and economic life of the nation. Education is the backbone of any nation who wants to be a modern country in the today's world. For this purpose good education is necessary and for good education a society and nation need a good medium of instructions which could help a teacher to achieve his goal and nourish the minds of children and prepare them for the society and transform them into a better citizen.

A World Bank funded study by Dutcher and Tucker (1994) conclude that individuals easily develop cognitive skills and master content material when they are taught in a familiar language. Developing the child cognitive skills through the first language is more effective than exposure to the second language.

The role of language is important from the theoretical point of view. The Vygotsky (1978) says that language is an easy medium for learning. This means that social context and social interaction have greater importance in learning (Kocakulah, & Utstunluoglu, 2005). As the social interaction takes place in the mother tongue of the locality so its importance could not be denied. Psychologists also recommend mother tongue as medium of instruction because they say language and cognitive development are interrelated and child learning is best hopped in mother tongue because it is a very direct approach towards learning.

Methodology

Population and Sample

All students studying at the primary level form the population of this study. Two schools, University Wensam School and college and St.Helen School were selected for the study as a convenient sample. These schools were selected for the sample because the principals of these two schools allowed the researcher for the purpose of research. Total 40 students of primary level were selected on a random basis as the sample of the study. The whole sample was divided into two equated groups on the basis of pre-test. Each group consists of 20 students. One group was called the control and the other as the experimental group.

Instrumentation

Pre-test and post-test were used for the purpose of data collection. Pre-test was used to check the achievements of the students before performing the experiment. The students were divided on the basis of pre-test using matched sampling procedure. Post-test on the other hand was used to check the performance of students in the arts and science subjects after the experiment. Both the tests were multiple choice tests

and were developed in the subjects of English and General Science. The students were asked to tick the appropriate choice. Both the tests were developed by the researcher himself and were validated and made reliable. The reliability of the pre-test was 0.88 and that of post-test was 0.92.

Design

Pre-test posttest design was used for the study.

Pre-test	experiment	Post-test
O	X	O

Procedure

Two equated groups were made on the basis of pre-test. Each group consists of 20 students. One group was called the control group and the other was called the experimental group. The control group was taught with the national language and the experimental group with the mother tongue for a period of 20 days. After the treatment of teaching English and General Science to one group in mother tongue and other by national language a post-test was administered. This test was administered personally among the sample. The questions in the test were multiple choice and the students were asked to tick mark the response which was most appropriate for them. The responses thus obtained through the tests were arranged in the form of data matrix on SPSS (version 16.0). Data was analyzed with the help of t-distribution as a statistical analysis technique.

Presentation and Analysis of Data

Table-1: Showing the Pre-test score in English

Group	N	Mean	S.D	d.f	t-cal	p
Control	20	0.85	0.17	38	-0.33	0.13
Experimental	20	0.87	0.20			

The above table shows that Mean and S.D of the obtained marks of the students of the control group in the subject of English are 0.85 and 0.17 respectively while Mean and S.D of the students in the experimental group in the subject of English are 0.87 and 0.20 respectively. The $p=0.13 > 0.05$ which means that both the groups

were equivalent in English before starting the experiment.

Table-2: Showing the Pre-test score in General Science

Group	N	Mean	S.D	d.f	t-cal	p
Control	20	0.81	0.24	38	-0.15	0.43
Experimental	20	0.82	0.19			

The above table shows that Mean and S.D of the obtained marks of the students of the control group in the subject of General Science is 0.81 and 0.24 respectively while Mean and S.D of the students of the experimental group in the subject of General Science is 0.82 and 0.19 respectively. The $p= 0.43 > 0.05$ which means that both the groups were equivalent in General Science before starting the experiment.

Table-3: Showing the Post-test score in English

Group	N	Mean	S.D	d.f	t-cal	p
Control	20	0.85	0.23	38	0.44	0.441
Experimental	20	0.82	0.20			

The above table shows that Mean and S.D of the obtained marks of the students of the control group in the subject of English are 0.85 and 0.23 respectively while Mean and S.D of the students of the experimental group in the subject of English are 0.82 and 0.20 respectively. The $p= 0.441 > 0.05$ which means that there is no significant difference between academic achievement in arts subjects of the students taught through mother tongue and through national language

Table-4: Showing the Post-test Score in General Science

Group	N	Mean	S.D	d.f	t-cal	p
Control	20	0.94	0.19	38	-0.03	0.17
Experimental	20	0.95	1.56			

The above table shows that Mean and S.D of the obtained marks of the students of the control group in the subject of General Science are 0.94 and 0.19 respectively while Mean and S.D of the students in the experimental group in the subject of General Science is 0.95 and 1.56 respectively. The $p=0.17 > 0.05$ which means that there is no significant difference between academic achievement in science subjects of the students taught through mother tongue and through national language

Results and Discussion

In our country Pakistan there are two types of schooling from the medium point of view. One is the Urdu medium schools which are mostly the government schools where Urdu is the medium of instruction. These schools are in the lower or middle class peoples. In these schools the student's academic achievement is either low or medium and approximately 5% students get high marks in the classes which have different reasons. One of the reasons is the attention of the parents and home coaching. The second stream of education is the English medium schools with English as medium of instructions and high fee structure. The students in these schools come from the upper classes who can easily afford the high fees. The underachievement is again one of the problems of these schools. Only 10-20% students get high marks and the others flow in the sea of underachievement. The mother tongues of the different areas of the society are Saraiki, Pashto, Punjabi, Sindhi which are not exercised as medium of instruction anywhere in the country. Therefore the present study was conducted to see the effects of mother tongue on the academic achievement of the students.

In the light of the data collected and its analysis we come into know the following results of the study:

The first hypothesis that there was no significant difference between academic achievement in arts subjects of the students taught through mother tongue and through national language was tested in Table 3. The Mean and S.D of the obtained marks of the students of the control group in the subject of English is 0.85 and 0.23 respectively while Mean and S.D of the students in the experimental group in the subject of English are 0.82 and 0.20 respectively. The $p= 0.441 > 0.05$ which means that there is no significant difference between academic achievement in arts subjects of the students taught through mother tongue and through national language

The second hypothesis that there was no significant difference between academic achievement in science subjects of the students taught through mother tongue and through national language was tested in Table 4. The Mean and S.D of the obtained marks of the students of the control group in the subject of General Science is 0.94 and 0.19 respectively while Mean and S.D of the students in the experimental group in the subject of General Science are 0.95 and 1.56 respectively. The $p=0.17 > 0.05$ which means that there is no significant difference between academic achievement in science subjects of the students taught through mother tongue and through national language. The result of the present study is in line with the research conducted by Khattak et al. (2005). The reason is that both the studies are conducted in the same context in the Dera Ismail Khan City of KPK. The results of the present study are also in line with the results of Ali et al (2013). This research was to see the effects of different factors on the academic achievement of the students among the other factors only age, father social economic status and daily study hours effects the academic achievement and there is no significant effect of medium of instruction on the academic achievement of the students.

Conclusions

The following conclusions are drawn on the basis of the findings and discussion of the study.

1. There was no significant difference in the Art test in control and experimental group before starting the experiment. This means that both the groups were equated on academic achievement in English before starting the experiment (table 1).
2. There was no significant difference in the Science test in control and experimental group before starting the experiment. This means that both the groups were equated on academic achievement in General Science before starting the experiment (table 2).
3. The result shows that there was no significant difference between academic achievement in arts subjects of the students when they are taught through mother tongue and national language. Therefore it was concluded that there is no difference in the academic achievement when the art subject are taught with the mother tongue or national language (table 3)

4. The result shows that there was no significant difference between academic achievements in Science subject of the students when they are taught through mother tongue and national language. Therefore it was concluded that there is no difference in the academic achievement when the art subject are taught with the mother tongue or national language (table 4)

So in general it was concluded that teaching language does not account more in the academic achievements of the students. But the actual thing is concept formation and clarification of concepts whatsoever the language may be.

Recommendations

- As there is no difference in the academic achievement of the students taught with the mother tongue and National language therefore it is recommended that teachers at primary level may use the both languages equally.
- As there is no dominant effect of any of mother tongue or national language so course concepts could be conveyed according to the needs and demands of the students at primary level and there should be no compulsion on the medium of instruction.
- Most of the talks about the medium of instruction that are based on the political background should be discouraged.

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