

**DETERMINING THE EFFICACY OF MOTHER TONGUE AS MEDIUM OF INSTRUCTION AT ELEMENTARY LEVEL**

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**ABSTRACT**

*The exercise of English as a medium of instruction, in schools in Pakistan, has given opening to an elongated debate whether English verifies to be better than any of the native languages especially to build up the learner's cognitive and comprehension level at Secondary School. This research article argues that students comprehend more and perform better in Grade VIII General Science Subject when they are taught in their mother tongue. The n = 68 public secondary/higher secondary school of Hyderabad District were taken as the sample. The two groups of the Class VIII students comprised 630 from which 360 from mother tongue and 270 from non-mother tongue respectively were taken as a sample. An appropriate achievement test was developed to inspect the discrepancy and reasons of confusion due to medium of instruction. Achievement test of 25 items from "General Science" was developed in English, Sindhi / Urdu languages, measuring the knowledge as well as comprehension of the learners. The investigator used simple statistics percentage to analyze the data. The results of the study demonstrate that students' comprehension is better when taught in their mother tongue. This understanding enhances their cognition level as well. At the end it has been recommended that the teachers must use at least bilingual approach in the class to make the students' concept clear. Training courses must be held from time to time to equip teachers with the latest material and methods of teaching especially the science subjects.*

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**Keywords:** Mother Tongue/Local Languages, Medium of Instruction, Clarity of Concepts.

**INTRODUCTION**

Language plays a pivotal role in linking the past and present and transmitting culture, traditions, knowledge and acquiring/imparting skills to other people. It develops the feelings of people enabling them to think, feel and act as a unified group. It also develops the patriotic feelings among the man. Simultaneously it plays an important role as a medium of

instruction in educational institutes and the controversy of medium of instruction is known to the general public in the country (Zubeda, 2007).

Pakistan is a country having four provinces. Also FATA, Gilgat-Baltistan, and Azad Kashmir are directly or indirectly administered by Federal Government. It is also a well known fact that Pakistan is a country where approximately thirty different languages are vocal, except a quantity of dialects, but unfortunately no single language is usually spoken or understood in the entire corners of the country. Many of the languages are spoken by fairly miniature amount of the population among them a variety of languages and dialects spoken are: Balouchi, Brahavi and Jugdal (also Makrani) in Baluchistan; Pushto and Hindko in the Khaiber Pakhtoonkhuwa with local dialects of Chitral, Gilgit and Hunza; Punjabi, Potwari and Saraiki in the Punjab; Sindhi, Saraiki and Urdu in Sindh; Gujri and Kashmiri in Azad Kashmir (Sarwar, 2004). The 1973 constitution of Pakistan declares the Urdu as the official language also known as the national language (Khokhar, 2004).

Following table is presenting the total scenario of spoken languages, provincial wise, in percentage in the country.

**TABLE-1**  
**SHOWING PERCENTAGE DISTRIBUTION OF HOUSEHOLDS BY**  
**LANGUAGE USUALLY SPOKEN IN REGION/PROVINCE OF**  
**PAKISTAN-1998 CENSUS**

Region	Total %	L A N G U A G E S						
		Urdu	Punjabi	Pushto	Sindhi	Balochi	Saraiki	Others
Pakistan	100.0	7.6	44.1	15.4	14.1	3.6	10.5	4.7
Punjab	100.0	4.5	75.2	1.2	0.1	0.7	17.4	0.9
Sindh	100.0	21.1	7.0	4.2	59.7	2.1	1.0	4.9
NWFP	100.0	0.8	1.0	73.9	----	----	3.9	20.4
Baluchistan	100.0	1.0	2.5	29.6	5.6	54.8	2.4	4.1
Islamabad	100.0	10.1	71.7	9.5	0.6	0.0	1.1	7.0
FATA	100.0	0.2	0.2	99.1	----	----	----	0.5

**Source:** Population Census Organization 2004

No doubt Medium of instruction has remained a very strong subject for debate in the sub-continent since the arrival of English people. In the sub-continent English was introduced under the shadow of Missionary activities that were spread all over the continent and English education was communicated. Later it was introduced in schools as medium of instruction. But realizing the majority of the natives, it was decided “to

impart the knowledge in native languages and English may be carried on as a second as well as compulsory language for local pupils in the secondary schools of India” (Nurullh and Naik, 1951). Pre-partition period is also crucial in connection to the MoI, but the above statement clarifies that both the languages are significant so they may be applied one or another way to stay in the ground.

English, being lingua franca of the world, has always fascinated the people for its implication all over the world. People are of the estimation that only English can brighten the future of their children. They often assume unjustifiably and reflect that without English there is no future. People put their children in those schools which offer English as a medium of instruction. As a matter of reality, many educationists advocate the initial studies in mother tongue rather than second language; finding that the best cognitive development, of a child, at initial stage is possible in mother tongue not in English.

Different institutes use different medium of instructions. South Asian Linguists (2006) describe that English language in Pakistan is an identity marker, a tool of vertical social mobility, and a mean to access prestigious jobs in the country and abroad. This way people rush towards those schools which impart education in the second language i.e. English. On the contrary, the government is paying very little attention to this issue.

There are many well-known myths in relation to bilingualism in children, and numerous from them are unconstructive in a way. Some educators have concerns against the use of two languages in children declaring that bilingualism causes cognitive, social, and emotional harm to children. While a small number of scholars today would affirm that bilingualism could cognitively damage children, this vision has been advocated in the earlier period, and can still be irregularly witnessed in the popular press and heard or expressed even by some educators. Simultaneously there is another group of educationists that insist on mother tongue or local languages to be used at school level as medium of instruction.

Siddiqui (2003) says “If we are considered so earnest and allied to our local languages, then we should have translated the works of relevant subjects in great number and being policy makers we shouldn’t look hither thither but work upon the language and its promotion”. This statement seems to be well justified because this issue of medium of instruction is not novel in the country, so the measures could be taken

earlier to resolve it forever and this could promote the significance of local languages.

Kamal (2003) concludes “the language policy is a zero sum game, so being a nation of different languages we are to interact in more than one language in the country with the people belonging to different provinces”. Even during British rule English was taken as the official state language at upper class; but at bottom as well as administration level, the corresponding with the people was made in local languages. This was because they could convey themselves and their concerns in their local language; and concerns in teaching and learning could also be resolved as well.

In country like Pakistan, the issue of medium of instruction is grave and stands unresolved. There are so many educationists, belonging to different schools of thought, advocating English as medium of instruction throughout the career of learning whereas other group favors the mother tongue to be used in the educational institutes as medium of instruction. In this regard, many workshops and conferences are held time to time to settle this basic educational issue. In this context, faculty of Education University of Sindh also organized a two-day international conference on education held on August, 28<sup>th</sup> to 29<sup>th</sup> in 2007 in Hyderabad.

Most of the scholars, in the conference, spoke in favor of mother tongue as the medium of instruction at primary level in the province of Sindh. Shah (2007) stresses the importance of language in the context of school children. He was of the opinion that teaching a foreign language is not a bad idea, but at the same time there must be congenial environment for the children to grasp the native and mother language as well. It is the mother tongue that imparts to the students a sense of belonging to a nation. This is the most important identity that children carry with them when they travel to a foreign land.

Siddiqui (2007) emphasizes on the significance of a language “it is a tool for survival for the next century” so it must be kept alive and intact. One of the ways to keep it intact is to make it medium of instruction at the school level so that it may carry on its journey successfully. Further he is insisting in this connection by saying that if the students in the current time did not learn their native language, there would be a chaos in the next generations; their language would not survive and ultimately lose its individuality. Not only this but for development of an economy, it is a language that ultimately grows a deep sense of belonging to a culture and invariably to a nation. A nation willing to drive peace and prosperity must inculcate among the people that they must not forget the importance

of their first language no matter how crucial may be the situation for the survival through other foreign languages. Here the case seems to be not only of medium of instruction at schools but at the same the case of the survival of the languages. If local languages ignored at schools, certainly they will soon disappear from the surface of the earth.

Similarly, Raja (2007) quotes that in 1951 a UNESCO meeting of specialists held in which it was opined that someone obtains the best education not other than his own mother tongue. Khan (2007) explains that medium of instruction and examination are the issues that have always remained under the discussion of the educationists and research scholars but no fruitful result has been attained as yet. He pointed out that the influential class in Pakistan supports the exercise of English as a medium of instruction, as far as lower and middle class people are concerned they strive for Urdu to be stated as the medium of teaching. It was, however, a well-known fact that a student grasps better in his own mother language (Daily Dawn, 2007). From the arguments of these scholars and educationists, it can be deduced that mother tongue is supported as the medium of instruction widely.

Jessica (2010) discusses and states that UNESCO and other international agencies shown apprehension for early schooling, the rights children, and linguist multiplicity disagree powerfully for the educational essential of using a child's first language as the medium of education, at the earlier stages of schooling of a child (UNESCO, 1953, UNESCO, 2003). But according to her: children's first language is vital for their by and large language and cognitive maturity and their educational accomplishment; if children are mounting up with one speech, instructive necessities need to sustain them in becoming extremely skillful in that language before engaging in academic work in second language.

In this connection Zubeda (2007) quotes that the child should be restricted to get the education in mother tongue for the first three years. Further, she states from white paper and saying that the language concern, which has always been a mystery in Pakistan, has been tackled courageously. The federal education ministry's decision regarding Urdu as the medium of instruction in the middle and secondary level for social sciences and English as the medium for mathematics and the natural sciences, an experiment has yet to capture outcome in this correlation. The White paper communicates the anticipation that this way out does not come into view of one-dimensional in perception.

So, it can be deduced from the given opinions and arguments of these number of scholars, not only here, but at so many other places, that

clearly advocates the mother tongue to be the medium of instruction at least at primary level at all the public as well as private sector schools of the country for they think that best learning at early age takes place only in mother tongue rather than in second or third language.

#### OBJECTIVES OF THE STUDY

- To recognize the issue of language as a medium of instruction in Pakistan.
- To found the efficacy of native languages especially in teaching of science subjects.

#### DELIMITATIONS OF THE STUDY

- The present study is delimited up to the schools of district Hyderabad (both rural and urban)
- All Government boys' and girls' secondary/higher secondary schools (where grade VIII level students are taught), having both medium of instructions i.e. mother tongue (MT) Sindhi/Urdu and English as non-mother tongue (NMT).
- Only grade VIII was selected as the sample for the study from 68 schools 34 from each medium of instruction.
- General Science subject was chosen to conduct the present study as this subject is taught at this level in both MT and NMT. English medium schools teach the subjects such as General Science, Sindhi, Urdu, Islamiyat and Pak-study and English. For this study other subjects were not suitable to get the results such as languages and religion except General Science that seemed suitable to see the impact of medium of instruction on the children; hence the subject was opted to check the competency of Medium of Instruction (MoI) among the learners.

#### RESEARCH DESIGN

This research is quantitative study. For the purpose of data collection following population and sample were selected. The investigator used simple statistics percentage to describe the results.

**TABLE-2**  
**SHOWING POPULATION OF THE STUDY**

Medium	Schools	Students
Sindhi / Urdu	59	3540
English	34	2720
<b>Total</b>	<b>n=93</b>	<b>n=6260</b>

The above table is showing the total population of the study where the whole number of schools is 93, teachers 93 of general science subject from all the schools and 6260 students from the schools of both medium of instructions.

**TABLE-3**  
**SHOWING THE SAMPLE OF THE STUDY**

<b>Medium</b>	<b>Schools</b>	<b>Students</b>
Sindhi / Urdu	34	360
English	34	270
<b>Total</b>	<b>n=68</b>	<b>n=630</b>

**Justification:** There were 59 schools of Mother Tongue Sindhi / Urdu medium in Hyderabad District whereas the number of English medium schools was 34; it means 25 less than MT schools. So to give equal weightage to both the languages and to maintain the validity and reliability of the collected data, the researcher took the equal number of schools from both media. Thus 34 schools from each medium were selected. For selecting the sample the researcher used random sampling technique to choose the sample of the students from the target schools. The 10% of sample was selected from each school of Sindhi/Urdu medium with the help of students' school attendance register. From the register, first 10/11 even roll numbers were selected for the achievement test from public sector schools. Same technique was applied for selecting the 10% of the students from English medium schools taking 07/08 students from each school. As far as school sampling is concerned the convenient sampling technique for selecting the schools was used to gather the data.

**Achievement Test:** The test consisted 25 items from 'General Science' subject, which students had already studied in the school, developed in Sindhi/Urdu and English languages for Grade VIII students. In the test there were (a) Twenty Multiple Choice Questions (MCQs) measuring the Knowledge skills of the learners and (b) Two Pictorial Items were dealing with Analytical skills of the learners referring Bloom's taxonomy; along with this (c) Three Descriptive Questions were also taken measuring the Application of Cognitive Skills of the students. The study was particularly aimed to know as to what extent the concept of the learners was clear about the given items in the test. The test was conducted at the end of the academic year for the course was completed and repeated from examination point of view.

Pilot Study: To judge the validity and reliability of the research tools, a pilot study was conducted. In these correlation 42 students for achievement test, from six schools i.e. three from English Medium and three from Sindhi/Urdu medium schools using convenient sampling technique were selected. Achievement test was conducted from the selected 42 students (seven from each school) for the investigation of item difficulty/understanding in language conceptual point of view. According to the responses the research tools were revised and necessary amendments were made for maintaining the reliability and validity of the test items.

**Data Analysis:** The data were analyzed item wise to find out the results of the gathered data in which description along with interpretation and analysis in percentage in tables are given.

**(a) Analysis of Achievement Test (MCQs)**

**TABLE-4**  
**SHOWING ACADEMIC ACHIEVEMENT (MCQs) WHEN EVALUATED IN M T**

<b>Securing Marks Between</b>	<b>Frequency</b>	<b>Percent</b>
17 to 20	192	53.3
13 to 16	86	23.9
08 to 12	48	13.3
Less than 08	34	9.4
<b>Total</b>	<b>360</b>	<b>100</b>

The table # 04 of results illustrates the achievement scores in MCQs administered in mother tongue. Total number of responding students was 360 taken from Sindhi / Urdu medium schools. It reveals that 53.3% students secured high rank marks ranging from 17-20 and stand high achievers in MCQs test conducted in mother tongue i.e. Sindhi/Urdu. Likewise 23.9% students stand middle rank achiever ranging from 13-16 marks and low rank achievers' number was 13.3% ranging from 08-12 marks whereas 9.4% students gained less than 08 marks stand as poor rank achievers in the test.

**TABLE-5**  
**SHOWING ACADEMIC ACHIEVEMENT (MCQs)**  
**WHEN EVALUATED IN ENGLISH**

Securing Marks Between	Frequency	Percent
17 to 20	42	15.6
13 to 16	59	21.9
08 to 12	91	33.7
Less than 08	78	28.9
<b>Total</b>	<b>270</b>	<b>100</b>

The table # 05 and of results demonstrate the achievement scores in MCQs administered in English language. Total number of responding students was 270 taken from English medium schools. It shows that 15.6 % students secured marks ranging from 17-20 and stand high achievers in MCQs test conducted in non-mother tongue; indicating the less number of the respondents securing high marks in English test. This result might be the indicator indicating the impact of English medium on the learners that is not very impressive as compare to MT. In the same way 21.9% students stand middle achievers ranging from 13-16 marks and low achievers` number was 33.7% ranging from 08-12 marks. While 28% students obtained less than 08 marks stand as poor achievers in the analysis. Comparing the results of both the tables it can easily be deduced that MT leaves the greater impact on the learners rather than NMT.

**(b) Analysis of Achievement Test (Pictorial Test items)**

**TABLE-6**  
**SHOWING COMPREHENSION (PICTORIAL TEST ITEMS) IN M T**

Securing Marks Between	Frequency	Percent
05*07	195	54.2
02*04	116	32.2
>=1	49	13.6
<b>Total</b>	<b>360</b>	<b>100</b>

Above table of results mentions the analysis of the achievement scores in comprehension of Pictorial Test items administered in the MT. The number of responding students was 360 taken from Sindhi/ Urdu medium schools. It displays the comprehension of the students of Sindhi/Urdu medium through diagram evaluation in which 54% stand as high rank achievers ranging from 05-07 marks and 32.2% students stand

middle rank achievers ranging from 02-04 marks whereas 13.6% stand low rank achievers who secured 01 or zero marks in the test.

**TABLE-7**  
**SHOWING COMPREHENSION (PICTORIAL TEST ITEMS) IN ENGLISH**

Securing Marks Between	Frequency	Percent
05*07	58	21.5
02*04	102	37.8
>=1	110	40.7
<b>Total</b>	<b>270</b>	<b>100</b>

The above table of results indicate the achievement scores in comprehension of Pictorial Test items administered in the non- mother tongue. The number of responding students was 270 taken from English medium schools. It discusses the comprehension of non-mother tongue i.e. English through Pictorial Test items evaluation in which 21.5% stand as high rank achievers ranging from 05-07 marks and 37.8% Students stand as middle rank achievers ranging from 02-04 marks whereas 40.7% stand low rank achievers who secure 01 or zero marks. Comparing the results of both the tables here it can easily be concluded that MT leaves the better impact on the learners rather than NMT.

**(c) Analysis of Achievement Test (Short Answers)**

**TABLE-8**  
**COMPREHENSION AND APPLICATION (SHORT ANSWERS) IN MT**

Securing Marks Between	Frequency	Percent
A-Grade	115	31.9
B-Grade	160	44.4
C-Grade	85	23.6
<b>Total</b>	<b>360</b>	<b>100</b>

This table # 08 of results displays the achievement scores of comprehension and application through descriptive items administered in mother tongue Sindhi / Urdu. Total number of responding students was 360 taken from Sindhi/ Urdu medium schools. The table and chart describe the comprehension and application of the learners in grades studying in mother tongue where 31.9% achieved "A" grade marks in

comprehension and application and 44.4% obtained "B" grade marks whereas 23.6% got "C" grade marks in this correlation .

**TABLE-9**  
**COMPREHENSION AND APPLICATION (SHORT ANSWERS) IN ENGLISH**

<b>Securing Marks Between</b>	<b>Frequency</b>	<b>Percent</b>
A-Grade	63	23.3
B-Grade	94	34.8
C-Grade	113	41.9
<b>Total</b>	<b>270</b>	<b>100</b>

Above table of results present the achievement scores of comprehension and application through descriptive items administered in non-mother tongue i.e. English language. Total number of responding students' was 270 taken from English medium schools. The table and charts deal with the comprehension and application of the learners and showing the results in grades studying in non- mother tongue where 23.3% achieved "A" grade marks in comprehension and application and 34.8% got "B" grade marks whereas 41.9% achieved "C" grade marks in the test. Comparing the results of both the tables in section "C", it can moreover be judged that MT leaves the greater impact on the learners rather than NMT.

#### **DISCUSSION**

The results obtained, section wise i.e. a, b and c through data analysis from achievement test, conducted from the grade VIII secondary school children, declare that mother tongue leaves greater impact on the development of the concepts of science and their comprehension on the learners of the said group and level. Despite the fact, still there is a number of the sample that went in favor of English as the medium of instruction, but the heavy bulk of the sample voted for the use of mother tongue as a medium of instruction at this level; this can easily be estimated from the obtained results of achievement test and the case of English is weaker but not as weaker that it can be ignored all the way. Hence, it was recognized that mother tongue is preferred by the learners to be their medium of instruction at secondary school level while learning the subject of General Science in Sindh province (Pakistan) as it clears their concepts when taught in MT.

This kind of finding, however, does not exclude the use of English at this level. The main question to be investigated was the better and effective tool of instruction for those students who have Sindhi/Urdu

mother tongues, which of course has proved to be the use of mother tongue of the students that gives better results and is the effective tool to use for instruction at this grade level students in the schools for it clears their concepts and gives more understanding to them.

Since as teachers, we aim at the clarity of the concept among the students while teaching them, the use of an effective communicative tool for such a fundamental purpose is language. Ignoring such an aim and its corresponding tool i.e. instructional language, may result in a disaster which can easily be seen at present in the form of rote learning that keeps learners away from grasping and comprehending the concepts of the subject matter. In order to prepare our students for future needs, we ought to develop and sharpen their creative cum critical ability; the effective use of mother tongue at this level can prove to be supportive as well as effective tool to achieve this objective befittingly.

### **RECOMMENDATIONS**

In the light of the findings of the study, following recommendations have been made to improve the present situation regarding the issue of the Medium of Instruction:

1. As study shows that strong learning takes place in MT so Teachers should ensure that students have understood the content in second language but they should repeat the same content in MT for in-depth understanding.
2. The significance of English can never be denied so, the English would be taught right from class one as a functional language by the side of other subjects that must be in mother tongue.
3. Refresher courses of languages especially English should be planned and organized for teachers so that they may be aware of the terminology of the subjects they teach in MT.
4. Seminars and Conferences would be arranged at local level for developing the connotation of mother tongue as a medium of instruction in the minds of the stake holders like parents and civil society for the sake of conceptual development of their children as their better learning takes place in MT as this study indicates. In this regard media should play its part to literate all the stakeholders.
5. In teachers training programs teachers should be trained especially to teach science subjects in both mother tongues as well as in English so that the conceptual development gets stronger.
6. The parents may be educated of the significance of mother tongue through printed literature so that they may choose the appropriate medium schools for their children or the committees may be formed

- at local level to go door to door to give awareness to the parents for the significance of the mother tongue.
7. Training courses must be held from time to time to equip teachers with the latest material and methods of teaching especially the science subjects.

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