



MEDIUM OF INSTRUCTIONS AND ITS IMPACT ON SCIENTIFIC MINDSET OF STUDENTS

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ABSTRACT:

The scientific mindset plays a vital role in the development of mankind. The scientific mindset not only contribute in materialistic development but it also contributes in the social and cultural development. Because of the scientific way of thinking we can inculcate values like equality, truths, cooperation, interdependence and so on. That's why in our Indian constitution development of scientific temper in each citizen is consider as its fundamental duty as per its article 51 A9(h). Teacher and Teacher training institutions can achieve this goal through their teaching and training program. But unfortunately, the picture of our education system is not satisfactory. Hence the students in this 21st century also follow many superstitious things, tradition without verifying and criticizing it. Hence researcher is curious to know what is the status of aspiring primary teachers regarding their scientific mindset, who are going to shape the future of our country.

This research aims to investigate aspiring teachers' scientific mind-set based on their medium of instruction. The D.El.Ed. students from Marathi and English medium were selected for this study. The result of the study concluded that medium of instructions has significant effect on the scientific mind-set of aspiring primary teachers.

Key words: *Medium of instruction, Scientific mindset, Aspiring primary teachers.*

INTRODUCTION:

In India many government initiatives, educational strategies, and educationists have emphasized the necessity to have a scientific mindset in students of primary school. The scientific temperament, humanism, and the spirit of inquiry and reform are enshrined in India's constitution for the first time as a fundamental duty of all citizens in 1976 (Article 51-A(h)).

One of the goals of the Teacher Education programme, according to the National Council of Teacher Education, is to "cultivate rational thinking and a scientific temper." (N.C.T.E., 1996–1997). In 2014 the government of India dedicated "National Science Day" to promote a scientific mindset. The major goal of this programme is to modify people's narrow attitudes by making them aware of scientific temper.

Besides all the efforts made by renowned educationists, socialists and the government of India, we are still not fostering the scientific value in the majority of citizens of India. Though today we are living in a world of computer and technology but yet our mind is still in the age of stone, as a result of this we blindly follow so many traditions and superstitious mindsets which are harmful to humanity and they become obstacles in the development of humankind. It is the duty of all of us to mold students to think logically, scientifically in their day-to-day life. Hence it is important to inculcate such a habit in students from their primary education.

As a part of today's education system, I believe the roots of this low / weak scientific mindset will lie in today's educational practices. It is found in most of the school's students are not allowed to think independently, they are not allowed to think or write out of the box. Our education system becomes marks oriented or competition-based system which kills student's creativity and ability to think independently and scientifically.

Now I think it's the duty of all teacher training institutions to train their prospective teachers to use a participatory approach in the teaching learning process. D.El.Ed. and B.Ed. colleges must train their aspiring teachers to think creatively, independently, logically and scientifically. In most of the teacher training colleges student teachers were trained to use different methods and approaches were used. In such training colleges students are also involved in many projects and extracurricular activities and these students were also exposed to various experts from different fields. All this activity helps these prospective teachers to think out of the box, which will help in developing a scientific mindset in them.

Being as a teacher educator in teacher training colleges researcher observed that most of the students are preferred to take admission in aided colleges due to fees and potential teacher trainers in such colleges. If we observe, we come to know that such aided colleges are Marathi medium. Mostly if we think about Aided D.El.Ed. colleges in the Mumbai region, they are mostly Marathi medium colleges. Hence due to such circumstances some curious questions were aroused in researcher's mind that – Are students from Marathi medium D.El.Ed. colleges having more scientific mindset as compared to students from English medium D.El.Ed. colleges? This question motivated researcher to study scientific mindset of aspiring teachers on the basis of medium of instruction.

STATEMENT OF THE PROBLEM:

The problem selected by researcher is 'Medium of instruction and its impact on scientific mindset of students.'

OPERATIONAL DEFINITION:**1. Medium of instruction –**

Students completed their D.El.Ed. programme in the language of their choice it may be Marathi or English.

2. Scientific mindset- Aspiring primary teachers that have a scientific mindset means they think rationally, take sensible decision, have problem-solving skills, show a distrust of superstition, and have positive views about science and science-related concerns.**3. Students-** The students enroll for two years D.El.Ed. course in teacher training colleges from Mumbai region.**AIM OF THE STUDY:**

The study's main goal is to determine students' scientific mindsets in D.El.Ed. colleges in the Mumbai area based on their chosen medium of instruction.

OBJECTIVES OF THE STUDY:

1. To find out scientific mindset among D.El.Ed. students of Marathi medium
2. To find out scientific mindset among D.El.Ed. students of English medium
3. To find out compare scientific mindset among D.El.Ed. students on the basis of their medium of instruction.

HYPOTHESIS OF THE STUDY:

1. There is no significant difference in scientific mindset of D.El.Ed. students on the basis of their medium of instruction.

(a). *Students from Marathi medium D.El.Ed. Colleges*

(b). *Students from English medium D.El.Ed. College. s*

DESIGN OF THE STUDY:**Methodology of the study:**

In the present study, the researcher proposes to find out the scientific mindset among D.El.Ed. students. Therefore, the method selected here is the descriptive method. Also, the causal-comparative method was used by the researcher to compare scientific mindset on the basis of their medium of instruction.

SAMPLE OF THE STUDY:

The NCTE-affiliated D.El.Ed. colleges in the Mumbai area serve as the sampling frame for the current study. Participants in this study are 235 trainee teachers from 8 D.El.Ed. institutes in the Mumbai area that are associated with NCTE.

TOOL OF THE RESEARCH:

A pre-made instrument called the "scientific temper scale" was used to assess the scientific mindset of aspiring teachers at D.El.Ed. colleges affiliated to NCTE in the Mumbai region. The tool was prepared by L. Pradhan (1996).

SCOPE AND DELIMITATION OF THE STUDY:

- The current study adopted a quantitative research methodology instead of a qualitative one.
- The study's scope is restricted to evaluating teacher trainees' scientific mindset in light of their medium of instruction.
- The study is restricted to measuring aspiring teachers' scientific mindset using a readymade tool.

ANALYSIS AND INTERPRETATION:**Testing of Hypothesis:**

There is no significant difference in scientific mindset of D.El.Ed. students on the basis of medium of instruction.

(a). students from Marathi medium d D.El.Ed. Colleges

(b). students from English medium D.El.Ed. Colleges

The statistical technique to test this hypothesis is the t-test.

Table 1: RELEVANT STATISTICS FOR SCIENTIFIC TEMPER AMONG PROSPECTIVE PRIMARY TEACHERS ON THE BASIS OF MEDIUM OF INSTRUCTION.

Variable	Group	N	Mean	SD	't' Value	L.O.C.		100 ω^2 est.
						0.05	0.01	
Scientific Mindset	Marathi Medium	40	75.68	4.13	6.13	1.97	2.59	13.47
	English Medium	195	71.09	5.10				

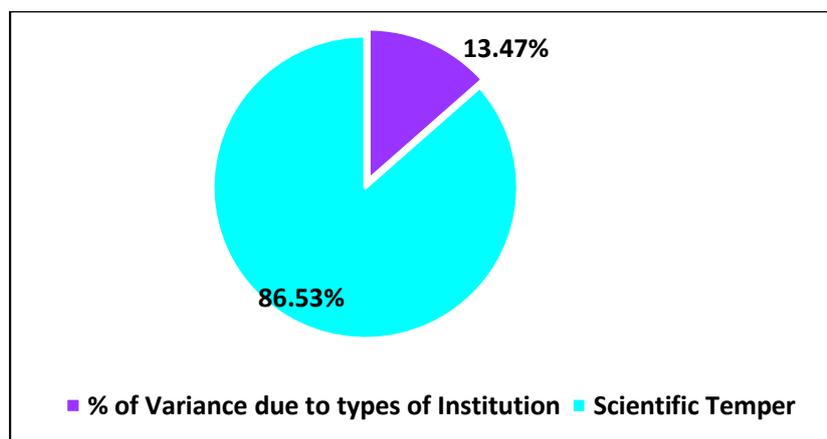
FINDINGS OF THE STUDY:

From the above table the 't' scores for scientific mindset were determined, which is 6.13, and it is greater than the table value 1.97. So, at the 0.05 level, "t" is significant. Hence null hypothesis is therefore disproved. Depending on the medium of instruction, there are noticeable differences in aspiring primary teachers' scientific mindset.

It is evident from the mean value that potential Marathi-medium D.El.Ed. compared to English medium D.El.Ed. teacher students are more scientifically inclined.

The Scientific temper's "t" value is significant. So ω^2 est. was calculated to determine the percentage of the variance that may be attributable to the medium of instruction.

Figure 1: VARIANCE IN THE MEAN SCORE OF ASPIRING PRIMARY TEACHERS' SCIENTIFIC MINDSET ON THE BASIS OF MEDIUM OF INSTRUCTION



The scientific mindset of aspiring primary teachers in the Marathi and English medium D.El.Ed. colleges differs significantly. The medium of instruction accounts for 13.47% of the variance in scientific mindset.

DISCUSSION:

The Marathi and English medium D.El.Ed. students' t test results for scientific mindset vary widely. It is evident from the mean value that aspiring Marathi-medium D.El.Ed. Compared to English-medium D.El.Ed, college students are more scientifically inclined.

The data collection indicates that the majority of the Marathi medium D.El.Ed. in Mumbai, are aided colleges. Hence the majority of merit students favored to take admission in aided colleges due to fees, regularity, and other benefits. Additionally, it has been proved that if a person is taught in his or her mother tongue, they are more likely to understand various concepts. As a result, Marathi-medium students exhibit more rational, logical, scientific and independent thought than English-medium students. Hence, it is discovered that aspiring primary teachers of Marathi medium have a more scientific mindset than aspiring English medium students.

CONCLUSION:

The present study aims to identify impact of medium of instructions on the scientific mind-set of aspiring primary teachers (i.e. D.El.Ed. students). The result of the study revealed that D.El.Ed. students of Marathi medium colleges possess more favorable scientific mindset as compare to students from English medium colleges. The study proves that getting knowledge in English language (which is called global language) does not guarantee to improve your scientific mindset. So to enhance scientific mindset of all students irrespective of their medium of instructions, institutions must plan and conduct different activities based on science and eradication of superstitiousness, lecture series of scientists and Experts should be organized to clear doubts of students regarding science and traditional practices and experiential based teaching learning process should

be adopted by such D.El.Ed. colleges which ultimately enhance scientific mindset of aspiring primary teachers which in result develop future citizens of our country with high scientific mindset. It will help our country to develop in all sector and becomes role model for world.

REFERENCES:

- ✓ Pandya, S.R. (2004). *Administration and Management of Education*. Mumbai: Himalaya Publishing House.
- ✓ Garrett, H.E. and Woodworth, R.S. (1981). *Statistics in Psychology and Education (10thed.)*. Bombay: Vakils, Feffer and Simons Ltd.
- ✓ Kavitha, S. and Venkateswaran, R. (2014). Relationship between scientific attitude and teaching competency of prospective B.Ed. teachers. *Shanlax International Journal of Education*. 3(1), pp 60-65.
- ✓ Bhat, S.A. and Netragaonkar, Y.D.(2014). Scientific temper and academic achievement of first and non-first generation learners in Kashmir. *An international peer reviewed and referred Scholarly Research journal for Humanity Science & English Language*. 1 (5), pp 660-669
- ✓ Gururaja, C.S. (2018). A study on scientific attitude among B.Ed. student teachers. <http://www.jetir.org/papers/JETIR1805790.pdf> retrieved on 19th Nov. 2020.