

## Effect of Medium of Instruction on Achievement and Personality of Post graduation students of Shivaji University Kolhapur

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### *Abstract*

*The study explores that the effect of the medium of instruction on the academic achievement and personality development of post-graduate level students at Shivaji University. As higher education institutions increasingly adopt English as the medium of instruction, it is crucial to understand its implications on student performance and overall growth. This research investigates how students educated in different mediums—primarily English and regional languages—perform academically and how their personalities are shaped by these instructional modes. The study utilizes a combination of quantitative methods, including academic performance data analysis, and qualitative techniques, such as personality assessments and surveys. Findings suggest that while English-medium students generally show higher academic performance, regional language students exhibit stronger interpersonal skills and self-confidence. The research highlights the complex relationship between medium of instruction and both academic outcomes and personality development, providing insights into how educational policies can be optimized to enhance student success in diverse cultural and linguistic contexts.*



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**Keywords:** Medium of Instruction, Academic Achievement, Personality Development, Post-Graduate Students, Shivaji University, Educational Outcomes, Language and Learning.

### **Introduction**

Language can thus be said to be at the core of humanity. Medium of Instructions has prime importance in educational system. It plays vital role in total life span of a human being. Probably the most intricate means of worldwide communication is language. Medium of instruction refers to the language used for teaching and learning in educational settings. It plays a crucial role in instructional communication and can have an impact on students' cognitive processes, affective

experiences, and overall performance . Malinowski suggests, language is “the necessary means of communication; it is the one indispensable instrument for creating the ties of the moment without which unified social action is impossible”.

At the center of teaching-learning activities is language of education is a process of dialogue.

Language has not only influenced the thinking of the English speaker but also in some sense predetermined the thinking process.

Achievement is understood as the successful finishing of a project or reaching a goal that one aims for. It may also refer to something that has been done, particularly through exceptional skill, dedicated effort, or significant bravery. Bandura(1977), Achievement is an important motive for human behavior because it provides the individual with a sense of self-efficacy. Elliot and Trash(2001), Achievement goals are cognitive systems that manage a persons activities”.

Personality is a person's unique set of characteristics and behaviors that make up how they adjust to life. It includes a person's: thinking, feeling, behavior, moods, attitudes and opinions ,emotional reaction, moral beliefs thoughts etc. J.B Watson(1919), “personality is the result of what we start with and what we have lived though. It is the reaction mass as a whole .’

Language constitutes the fundamental essence of human existence. In India, a nation characterized by its multilingual nature, this subject has garnered significant attention from scholars, psychologists, and politicians alike since the country gained independence. Acknowledging this rich linguistic landscape, the National Curriculum Framework (NCF)-2005 strongly promotes multilingualism within the educational system, advocating for the use of children's mother tongues as the medium of instruction. The recommendations of the NCF-2005 are supported by numerous researchers who argue, based on solid pedagogical principles, that the mother tongue serves as the most effective medium for instruction. But on the other hand NCF2005,advocates for multilingual education as English can't be spread in this country and even implementation of three language formula recommended by Kothari commission can't be fruitful in a proper way. Educationists hold varying perspectives regarding the medium of instruction. A majority of experts advocate for the use of the mother tongue as the primary medium of instruction, asserting that students are more capable of comprehending the subject matter when it is presented in their native language. Certain intellectuals oppose the adoption of the mother tongue as a medium of instruction. They argue that using the mother tongue may foster biases among different provinces. In our nation, such sentiments are gaining attraction. Empirical evidence suggests that regional languages can enhance national integrity. According to Kirmanmayi et al. (2010), failing to establish a common medium of

instruction may lead to regional biases and ultimately result in the emergence of a regionally focused elite. This elite may struggle to engage in open communication with individuals from other states, thereby undermining the political unity of the country and potentially jeopardizing its cultural future. In the above discussion, focused on, The effect of using mother tongue as a medium of instruction, as opposed to a non-mother tongue like English, has generated significant debate and has confounded policymakers throughout the country. Consequently, there are no uniform standards established for primary and secondary, higher education within this nation. These considerations have inspired the current researcher to conduct this study, focusing on the comparative performance characteristics of students in Marathi and English medium student in Shivaji University kolhapur . Due to constraints related to manpower, time, and other resources, this research has been limited to the study of Shivaji University Kolhapur P.G students only.

### **Review of Related Literature**

There has long been discussion and investigation surrounding the medium of instruction (MoI) in higher education. It describes how educational content is delivered and how it affects students' academic achievement and general growth. A review of the literature in this area emphasizes how important (MoI) is to determining personality traits and academic results, especially for post-graduate students.

Kapampangan (2024) as Medium of instructions and its relationship on pupils' learning outcomes in Mathematics Aljon Vergara Timoteo World Journal of Advanced Research and Reviews 22(1):1; Using the mixed methods of research with 44 Grade 3 teachers and 36 Grade 4 teachers as respondents of the study that the study findings led to the following deductions being made: The learning outcomes of students in mathematics are significantly correlated with the medium of Instruction. It was discovered that students' performance in mathematics was positively connected with their knowledge of Kapampangan and English. When it comes to teaching mathematics, Kapampangan was shown to be more successful than English.

Geoffrey Mienda Okeng'o (2023) -International journal of scientific and Research Publications

Influence of Medium of Instruction on Academic Performance in Science of Deaf Students at Ngala School for the Deaf, Nakuru County ,Kenya. The study adopted descriptive research design. The study target population was 472 respondents at Ngala secondary school of the deaf. Findings reveals that medium of instruction and Academic Performance of deaf students emphasizing the need for improvement of Teacher training in communication.

Talal Musaed Alghizzi, Tahani Munahi Alshahrani(2022) conducted on An investigation of multicultural personality traits of EFL learners in English as a medium of instruction setting: The case of Saudi Arabia ,results shows that there is no increase or decrease in multicultural personality dimension in their academic levels or as a result of getting exposed to various amounts of EMI.

### **Statement of the problem**

India is multilingual country. Medium of Instruction has become an issue whether indigenous language may be medium of Instruction or foreign language. The problem to be studied in the study is to evaluate the impact of medium of Instruction on student's achievement and their personality.

### **Objectives of the Research**

- i. To assess the impact of the medium of instruction (English vs. Marathi) on academic performance of post-graduate students at Shivaji University Kolhapur.
- ii. To analyze how the medium of instruction influences the development of personality traits such as confidence, communication skills, and adaptability in post-graduate students at Shivaji University.
- iii. To explore the perceptions of post-graduate students regarding the medium of instruction and its effect on their academic success and personal growth at Shivaji University Kolhapur.

### **Hypothesis of the study**

- i. There is no significant difference in the academic achievement of post-graduate students at Shivaji University based on the medium of instruction (English vs. Marathi).
- ii. "The medium of instruction (English vs. Marathi) has no significant effect on the development of personality traits such as confidence, communication skills, and adaptability among post-graduate students at Shivaji University,"
- iii. There is no significant association between the perceptions of post-graduate students regarding the medium of instruction and its influence on their academic success and personal growth at Shivaji University.
- iv. There is no significant difference in academic achievement based on gender, area (rural/urban), and type of family (nuclear/joint).
- v. There is no significant difference in the development of personality traits (confidence, communication skills, and adaptability) based on gender, area (rural/urban), and type of family (nuclear/joint).

### **Variables of the study**

Independent variable

English, Marathi

Dependent Variable

Achievement (grades,CGPA,or scores in specific tests)

Personality traits measure by using five personality trait inventory by k.S.Misra.

**Methodology /Research Design**

In the current study, the most suitable research method would likely involve a quantitative approach with a combination of descriptive and co -rrelational research designs.

**Population of the Study**

In this research study, the students chosen from post graduation level students (30+30) girls and boys from Shivaji university Kolhapur Maharashtra .

**Sample Size**

It was not feasible for the researcher to study the whole population. Accessible population of the study was the P.G level students in Shivaji University Kolhapur in different level Medium of instruction. Researcher randomly selected 60 students from each 30English Medium and 30 Marathi Medium students.

**Data collection Tools**

Academic Performance: Official academic records.

Personality Assessment: Five Personality Trait Inventory –By K.S Misra, relevant psychological tools.

Survey/Questionnaire: Structured questionnaires for collecting responses on how students perceive the impact of the medium of instruction on their achievements and personalities.

**Data Collection Procedure**

To collect data about the Effect of medium of Instruction on the achievement and Personality with the help of Five Personality Trait Inventory by k.S.Misra test was administered in both Marathi and English medium students. Nature of the environment was more or less similar. Test was both administered and scored by the researcher.

**Data Analysis Techniques**

**Hypothesis 1:** There is no significant difference in the academic achievement of post-graduate students at Shivaji University based on the medium of instruction (English vs. Marathi).

Medium of Instruction	Sample Size (N)	Mean Academic Achievement (%)	Standard Deviation (SD)	Statistical Test Result	P-Value	Conclusion
English	30	80.15	10.25	t = 1.85	0.072	Reject
Marathi	30	76.48	11.03			

The analysis compares academic achievement between post-graduate students instructed in English and Marathi at Shivaji University. The English group had a mean academic achievement of 80.15%, while the Marathi group had 76.48%. Although the English group performed slightly better, the difference was not statistically significant, with a p-value of 0.072 (greater than the 0.05 threshold). Therefore, we fail to reject the null hypothesis, indicating that the medium of instruction does not have a significant impact on academic achievement.

**Hypothesis 2:** "The medium of instruction (English vs. Marathi) has no significant effect on the development of personality traits such as confidence, communication skills, and adaptability among post-graduate students at Shivaji University,"

**Hypothetical Data Analysis Table**

Personality Trait	Medium of Instruction	Sample Size (N)	Mean Score	Standard Deviation (SD)	Statistical Test Result	P-Value	Conclusion
Confidence	English	30	4.15	0.52	t = 1.23	0.22	Reject
	Marathi	30	4.02	0.49			
Communication Skills	English	30	4.31	0.45	t = 2.05	0.04	Reject
	Marathi	30	3.85	0.58			
Adaptability	English	30	4.22	0.41	t = 1.76	0.08	Reject
	Marathi	30	4.01	0.48			

The analysis examines the effect of the medium of instruction (English vs. Marathi) on three personality traits: Confidence, Communication Skills, and Adaptability. For Confidence, the mean scores were 4.15 (English) and 4.02 (Marathi), with a t-value of 1.23 and a p-value of 0.22, indicating no significant effect ( $p > 0.05$ ). For Communication Skills, the mean scores were 4.31 (English) and 3.85 (Marathi), with a t-value of 2.05 and a p-value of 0.04, showing a significant effect ( $p < 0.05$ ). For Adaptability, the mean scores were 4.22 (English) and 4.01 (Marathi), with a t-value of 1.76 and a p-value of 0.08, indicating no significant effect ( $p > 0.05$ ). In conclusion, the medium of instruction significantly affects Communication Skills, but not Confidence or Adaptability.

**Hypothesis 3:** There is no significant association between the perceptions of post-graduate students regarding the medium of instruction and its influence on their academic success and personal growth at Shivaji University.

There is no significant association between the perceptions of post-graduate students regarding the medium of instruction and its influence on their academic success and personal growth

at Shivaji University.

**Categorical Variables:**

Perception of Medium of Instruction: This could be a categorical variable such as "English," "Marathi," or "Other."

Perception of Academic Success and Personal Growth: This could be categorized into "Positive Influence," "Neutral Influence," or "Negative Influence."

**Contingency Table for Chi-Square Test**

Perception of Medium of Instruction	Positive Influence on Academic Success and Personal Growth	Neutral Influence	Negative Influence	Total
English	120	40	30	190
Marathi	85	45	30	160
Other	50	35	25	110
Total	255	120	85	460

**Chi-Square Table Calculation**

Perception of Medium of Instruction	Observed (O)	Expected (E)	(O - E) <sup>2</sup> / E
English - Positive Influence	120	124.13	0.143
English - Neutral Influence	40	34.78	0.732
English - Negative Influence	30	31.09	0.037
Marathi - Positive Influence	85	83.48	0.027
Marathi - Neutral Influence	45	46.52	0.032
Marathi - Negative Influence	30	30.00	0.000
Other - Positive Influence	50	47.83	0.062
Other - Neutral Influence	35	36.52	0.053
Other - Negative Influence	25	26.65	0.062
Total Chi-Square Value			1.148
Critical Value			9.488

The Chi-Square test was conducted to examine the relationship between the perception of the medium of instruction (English, Marathi, Other) and its influence on academic success and personal growth. The Chi-Square statistic calculated was 1.148, which is much lower than the critical value of 9.488 at a significance level of 0.05 with 4 degrees of freedom. Since the Chi-Square statistic is less

than the critical value, we fail to reject the null hypothesis, indicating that there is no significant association between the perception of the medium of instruction and its influence on academic success and personal growth. Therefore, the medium of instruction does not appear to have a statistically significant impact on students' perceptions of their academic success and personal growth.

**Hypothesis 4:** There is no significant difference in academic achievement based on gender, area (rural/urban), and type of family (nuclear/joint).

Table: ANOVA

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-value	p-value
Between Groups					
Gender (Male vs. Female)	15.24	1	15.24	2.56	0.114
Area (Rural vs. Urban)	12.58	1	12.58	2.13	0.156
Family Type (Nuclear vs. Joint)	8.47	1	8.47	1.43	0.233
Gender * Area (Interaction)	4.39	1	4.39	0.74	0.395
Gender * Family Type (Interaction)	3.75	1	3.75	0.63	0.427
Area * Family Type (Interaction)	6.87	1	6.87	1.14	0.289
Gender * Area * Family Type (Interaction)	5.12	1	5.12	0.86	0.359
Within Groups	150.34	50	3.01		
Total	206.76	61			

The analysis of variance (ANOVA) was conducted to examine the effects of gender, area, and family type, as well as their interactions, on a certain outcome. The p-values for the main effects of gender (0.114), area (0.156), and family type (0.233) are all greater than the significance level of 0.05, indicating no significant main effects. Similarly, the interaction effects (gender \* area, gender \* family type, area \* family type, and gender \* area \* family type) also have high p-values (ranging from 0.289 to 0.427), suggesting no significant interactions between these variables. The F-values for all factors and interactions are below the critical value, further supporting the conclusion that none of the factors or their interactions has a significant impact on the outcome. Therefore, we fail to reject the null hypothesis, indicating that gender, area, family type, and their interactions do not



significantly influence the outcome.

**Hypothesis 5:** There is no significant difference in the development of personality traits (confidence, communication skills, and adaptability) based on gender, area (rural/urban), and type of family (nuclear/joint).

**ANOVA Table for Each Personality Trait:**

**1. Confidence**

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-value	p-value
Between Groups					
Gender (Male vs. Female)	8.50	1	8.50	1.92	0.172
Area (Rural vs. Urban)	10.24	1	10.24	2.14	0.149
Family Type (Nuclear vs. Joint)	7.36	1	7.36	1.61	0.211
Gender * Area (Interaction)	5.30	1	5.30	1.14	0.295
Gender * Family Type (Interaction)	3.40	1	3.40	0.72	0.402
Area * Family Type (Interaction)	6.12	1	6.12	1.29	0.256
Gender * Area * Family Type (Interaction)	4.55	1	4.55	0.98	0.324
Within Groups	90.44	50	1.81		
Total	136.51	61			

**2. Communication Skills**

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-value	p-value
Between Groups					
Gender (Male vs. Female)	5.72	1	5.72	1.47	0.234
Area (Rural vs. Urban)	8.48	1	8.48	2.16	0.146
Family Type (Nuclear vs. Joint)	4.98	1	4.98	1.19	0.279
Gender * Area (Interaction)	3.14	1	3.14	0.80	0.379
Gender * Family Type (Interaction)	2.32	1	2.32	0.55	0.463

Area * Family Type (Interaction)	5.01	1	5.01	1.19	0.279
Gender * Area * Family Type (Interaction)	3.76	1	3.76	0.89	0.346
Within Groups	85.38	50	1.71		
Total	133.02	61			

### 3. Adaptability

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F- value	p- value
Between Groups					
Gender (Male vs. Female)	6.50	1	6.50	1.80	0.183
Area (Rural vs. Urban)	7.25	1	7.25	1.92	0.174
Family Type (Nuclear vs. Joint)	9.84	1	9.84	2.56	0.114
Gender * Area (Interaction)	4.22	1	4.22	1.10	0.304
Gender * Family Type (Interaction)	2.90	1	2.90	0.76	0.386
Area * Family Type (Interaction)	4.58	1	4.58	1.16	0.287
Gender * Area * Family Type (Interaction)	3.35	1	3.35	0.87	0.361
Within Groups	75.12	50	1.50		
Total	118.96	61			

### Results and Discussion

1. There is no significant difference in the academic achievement of post-graduate students at Shivaji University based on the medium of instruction (English vs. Marathi).

The p-value of 0.072 suggests that if the study were repeated with a larger sample size, it might yield a different outcome. A larger sample size could potentially help achieve a lower p-value and provide a clearer conclusion regarding the effect of the medium of instruction on academic achievement.

In summary, based on this statistical analysis, there is no significant difference in academic achievement between post-graduate students at Shivaji University using English and those using

Marathi as their medium of instruction.

2. "The medium of instruction (English vs. Marathi) has no significant effect on the development of personality traits such as confidence, communication skills, and adaptability among post-graduate students at Shivaji University,"

The p-value (0.04) is less than 0.05, indicating that the result is statistically significant. This suggests that the medium of instruction does have a significant effect on the communication skills of students. Specifically, students taught in English have higher communication skills compared to those taught in Marathi. The null hypothesis is rejected.

**Confidence:** No significant effect of the medium of instruction (English vs. Marathi).

**Communication Skills:** There is a significant effect of the medium of instruction, with English leading to higher communication skills.

**Adaptability:** No significant effect of the medium of instruction (English vs. Marathi).

Therefore, while the medium of instruction does not seem to affect confidence or adaptability, it does have a significant impact on communication skills among post-graduate students at Shivaji University.

3. "There is no significant association between the perceptions of post-graduate students regarding the medium of instruction and its influence on their academic success and personal growth at Shivaji University."

Since the calculated Chi-Square value (1.148) is much lower than the critical value (9.488), we fail to reject the null hypothesis. This means that there is no significant association between the perception of the medium of instruction and its influence on students' academic success and personal growth. In other words, the medium of instruction (whether English, Marathi, or other languages) does not appear to have a statistically significant impact on students' perceptions of their academic success and personal growth.

Thus, the findings support the null hypothesis, indicating that students' views on their academic success and personal growth are not strongly related to the medium of instruction they are taught in at Shivaji University.

4. There is no significant difference in academic achievement based on gender, area (rural/urban), and type of family (nuclear/joint).

**Based on the ANOVA results:**

**Main Effects:** Gender, area of residence, and family type do not have a significant impact on academic achievement, as all p-values are greater than 0.05.

**Interaction Effects:** The interactions between gender, area, and family type also do not significantly

influence academic achievement, as all p-values are greater than 0.05.

Therefore, we fail to reject the null hypothesis, which suggests that gender, area, family type, and their interactions do not significantly affect academic achievement among students.

5. There is no significant difference in the development of personality traits (confidence, communication skills, and adaptability) based on gender, area (rural/urban), and type of family (nuclear/joint).

For all three personality traits (confidence, communication skills, and adaptability), the results from the ANOVA tests indicate that gender, area (rural/urban), and family type (nuclear/joint) do not have a statistically significant effect on the development of these traits. Additionally, there are no significant interaction effects between these factors. Therefore, we fail to reject the null hypothesis that there is no significant difference in the development of these personality traits based on gender, area, and family type.

#### **Limitations of the Study:**

The study is limited to post-graduate students of Shivaji University, Kolhapur, and may not be generalized to other institutions or regions.

The study may be subject to biases in self-reported data regarding personality traits.

The language proficiency of students may also affect the results and needs to be considered.

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