Original Research Article

EFFECTIVENESS OF SCHOOL TEACHERS: A CRITICAL DIMENSIONAL ANALYSIS IN GENDER, LOCALITY AND ACADEMIC STREAM VARIATION

Abstract

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| --- |
| **Aims:** The present study was conducted with the main objectives to compare the teacher effectiveness of secondary school teachers in gender, locality and academic stream variations.  **Study design:** This is a quantitative survey type research with comparative analysis.  **Place and Duration of Study:** The data was collected by random selection of 171 secondary school teachers from different schools in Balurghat city in Dakshin Dinajpur district. The sample consisted of 171 teachers out of which 97 (57%) male teachers and 74 (43%) female teachers; 82 (48%) rural teachers and 89 (52%) urban teachers; 69 (40%) teachers from science stream and 102 (60%) teachers from arts stream.  **Methodology:** Descriptive survey method was employed to carry out this quantitative research work. Tool adopted to collect the data was Teacher Effectiveness Scale by P. Kumar and D. N. Mutha. The data were analyzed by calculating mean, SD, SE. The nature of data has been checked by NPC with Histogram. The inference has been drawn by using t-test value comparing with critical value at 0.05 level of significance.  **Results:** Result revealed that significance difference exists in the academic dimension (t=2.00, p=0.04); professional dimension (t=2.65, p=0.008); social dimension (t=3.19, p=0.001); and emotional dimension (t=2.38, p=0.01) of teacher effectiveness between male and female teachers. It was also found from the study that significant difference exists in the professional dimension (t=2.78, p=0.005); emotional dimension (t=2.43, p=0.015); and personality dimension (t=2.60, p=0.009) of teacher effectiveness between rural and urban teachers. Similarly, significant difference exists in the academic dimension (t=2.68, p=0.008); and moral dimension (t=3.21, p=0.001) of teacher effectiveness between science and arts teachers.  **Conclusion:** These finding will be helpful to improve the quality of teaching-learning process and this result will also aware the teachers irrespective of gender, locality and academic stream to prepare themselves as an effective teachers. So, to build up a healthy society and nation we have required more effective teachers in the education system to preserve the quality. |

*Keywords: Teacher Effectiveness (TE), Dimension, Gender, Locale, Academic Stream, Secondary School Teacher.*

1. INTRODUCTION

Education is fundamental right of Indian citizen that promotes all round development of human beings through exploring knowledge, understanding and various skills that helps them to maintain good quality of life which is not only beneficial for individual but also play a necessary role to development of nation (Koshy & Tiwari, 2021). Teachers are a very necessary component of education because they take part in every activity which is strongly related to students’ achievement through quality education (Burgess, 2019). Effective teachers are able to create an effective environment for learning and enhance academic competency as well as other qualities by their deeper subject knowledge and professional skills like quality of rational thinking, situation analysis, motivate students, create interest on learning and introduce moral values among learners (Yadav, 2023). The effectiveness of teacher educators is very important because teachers of secondary level are responsible for development of learners though the various activities within educational organization but teachers’ educators are solely responsible for proper planning for making effective teachers (Dodmani, 2024). Teacher effectiveness is calculated by the performance of students and enhancing competency which are component of the product dimension, as per other dimension students must enhance their various internal qualities (Babu & Sundari, 2023). These qualities are developed though the using flexible learning-teaching method, suitable learning, classroom management, efficient delivery of instruction, good communication and keep empathy on students by the teachers which is impossible without major effectiveness of teachers (Nisa, 2025). In present education system teachers should meet the requirement of students with the changing needs of society that is not fulfil without effective teacher so self-realization, good behavioural trait and proper training is needed (Seth & Pandey, 2024). Teachers should continue their professional development to maintain the quality of teaching through effectiveness (Kola, 2015).

2. LITERATURE REVIEW

The study of Dodmani (2024) on teacher educator’s teaching effectiveness with 30 teacher educators as samples by using random sampling technique through the analysis of the personal data of teacher educators and their effectiveness revealed that effectiveness among teacher educators is very high and effectiveness was almost same for male and female teacher educators but it was differ in the context of rural and urban areas. Seth & Pandey (2024) focused on Teacher Effectiveness of Secondary School Teachers with the objective to study the different dimensions (Preparation, Presentation, Application and Management) of Teacher Effectiveness of Female and Male Secondary School Teachers. It was a descriptive study using a survey method to collect data from 100 secondary school teachers. Teachers effectiveness scale (2020) was adopted which was developed by Dr. Subhash Sarkar and Abhijit Deb. It was found that teacher effectiveness is an essential parameter for developing the learners as well as the whole nation. The survey research work of Babu & Sundari (2023) on teacher effectiveness of 200 high school teachers in Kurnool district selected by stratified random sample technique. The tool of this study is Teacher effectiveness scale by Umme Kulsum (2014) and reliability coefficient is 0.68 which is measured through split half reliability method. The study concludes that maximum teachers in high school have average teacher effectiveness, highly effective teachers are 26% and only 13.5% teachers are low effective in teaching. Tiwari (2021) conducted a quantitative study on teacher’s effectiveness among school educators in relation to use of technology over the years. The objectives of the study was to know the role of teachers’ effectiveness by using digital tools on influence, benefits, challenges and coping strategies. The paper conclude that after facing many challenges of using technology, it is very beneficial for maintaining quality of education by enhancing teachers’ effectiveness. Digital technology helps to achieve the goals of globalization in education system which is helpful to increase the effectiveness of teachers and students both.

3. OBJECTIVES OF THE STUDY

Obj-1: To study the different dimension of teacher effectiveness of secondary school teachers in gender variations

Obj-2: To study the different dimension of teacher effectiveness of secondary school teachers in locale variations

Obj-3: To study the different dimension of teacher effectiveness of secondary school teachers in academic stream variations

4. HYPOTHESES

HO1: There is no significant difference of teacher effectiveness between male and female secondary school teachers.

HO2: There is no significant difference of teacher effectiveness between rural and urban secondary school teachers.

HO3: There is no significant difference of teacher effectiveness between arts and science teachers.

5. methodology

The present research is a quantitative survey type comparative study. The data were collected from secondary school teachers by using teacher effectiveness scale (English version). The data were fitted in the normal probability curve. Data were analysed by parametric test t-test. The inference has been drawn at 0.05 level of significance at df= 169.

5.1 Population & Sample:

This study was conducted in the Dakhsin Dinajpur District of state West Bengal. The population of this study includes teachers of all the secondary and higher secondary schools under WBBSE & WBCHSE in Balurgaht block of Dakhsin Dinajpur district

Samples were selected randomly from the Dakhsin Dinajpur district. The sample was comprised the male teachers as well as female teachers. Sample was collected from Rural as well as Urban area comprised teachers of science and arts stream.

Total numbers of 14 schools were selected randomly. From these schools total 177 teachers were selected. It was found that 171 teachers including Rural= 82 & Urban=89; Male=97 & Female=74; Science=69, Arts=102 comprised the actual sample.

5.2 Sample frame:

Sample frame includes the total no of sample distributed according to categorical variables in the table-1 given below.

***Table-1: Gender, Locale and Academic Discipline wise distribution of sample***

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Category | Frequency(sample) | Percentage (%) |
| Gender | Male | 97 | 57% |
| Female | 74 | 43% |
| TOTAL | | 171 | 100% |
| Locale | Rural | 82 | 48% |
| Urban | 89 | 52% |
| TOTAL | | 171 | 100% |
| Academic Stream | Science | 69 | 40% |
| Arts | 102 | 60% |
| TOTAL | | 171 | 100% |

5.3 Variables of the study:

In this study the researcher has been taken major variable as dependent variables and categorical variables as independent variables.

* Major Variables-
* Teacher Effectiveness
* Categorical Variables-
* Gender (Male and Female)
* Locality (Rural and Urban)
* Academic Stream (Science and Arts)

5.4 Toots Used:

Standardized tool was used for the investigation and data collection by the researchers for this quantitative study. The tool which has been adopted for data collection in this research is mentioned below-

* “Teacher Effectiveness Scale”

This scale was developed by P. Kumar and D. N. Mutha.

Teacher Effectiveness Scale is consisted of 69 items divided into six areas e.g. Academic, Professional, Social, Emotional, Moral and Personality.

6. results and discussion

All the hypotheses were tested at 0.05 significance level.

6.1 Testing of Hypothesis HO1:

HO1: There is no significant difference of teacher effectiveness between male and female secondary school teachers.

***Table-2: Group statistics of Teacher Effectiveness between Male and Female teachers***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Major Variable | Categorical variable | | N | Mean | t-test for equality of means | | | |
| t-stat | df | t-critical | Sig. (2-tailed) |
| Teacher Effectiveness | Gender | Male | 97 | 278.16 | 4.01\* | 169 | 1.97 | 0.00 |
| Female | 74 | 294.54 |

\*At 0.05 level

The table-2 showed that mean score of female teacher (294.54) is more than the mean score of male teacher (278.16). The result revealed that calculated t-value is 4.01 and p value is 0.00 (p lesser than 0.05). Hence, t was significant at 0.05 level of significance. So, the null hypothesis (HO1) was rejected. Hence, it was concluded that the Teacher Effectiveness of male teacher were significantly different from the female teacher. Furthermore, analysis was done to identify those dimensions of Teacher Effectiveness between male and female teacher in which significant differences exist and the results given below.

6.1.1 Dimension wise analysis of TE\_ Gender variations:

***Table-3: Group statistics in different dimensions of Teacher Effectiveness between Male and Female teachers***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Major Variable | Dimension | Categorical  variable | N | Mean | t-test for equality of means | | | |
| t-stat | df | t-critical | Sig. (2-tailed) |
| Teacher Effectiveness | Academic | Male | 97 | 60.47 | 2.00\* | 169 | 1.97 | 0.04 |
| Female | 74 | 63.64 |
| Professional | Male | 97 | 53.32 | 2.65\* | 169 | 1.97 | 0.008 |
| Female | 74 | 56.69 |
| Social | Male | 97 | 42.97 | 3.19\* | 169 | 1.97 | 0.001 |
| Female | 74 | 46.68 |
| Emotional | Male | 97 | 31.35 | 2.38\* | 169 | 1.97 | 0.01 |
| Female | 74 | 33.72 |
| Moral | Male | 97 | 40.27 | 1.94 | 169 | 1.97 | 0.053 |
| Female | 74 | 42.17 |
| Personality | Male | 97 | 49.78 | 1.89 | 169 | 1.97 | 0.059 |
| Female | 74 | 51.64 |

\*At 0.05 level

**Interpretation:**

The table-3 showed that mean scores of female teachers is slightly more than the mean score of male teacher in all the dimensions of teacher effectiveness. Table-3 also revealed that in case of comparing the mean score of teacher effectiveness in different dimensions between male and female teacher, the calculated t-values are t=2.00 (p=0.04) in Academic dimension, t=2.65 (p=0.008) in Professional dimension, t=3.19 (p=0.001) in Social dimension, and t=2.38 (p=0.01) in Emotional dimension, t=1.94 (p=0.053) in Moral dimension and t=1.89 (p=0.059) in Personality dimension. Hence, t was not significant at 0.05 level of significance in Moral, and Personality dimensions but significant difference exists in Academic, Professional, Social, and Emotional dimensions. So it was concluded that a significant difference in the academic, professional, social and emotional dimensions of teacher effectiveness exists between male and female teachers.

6.2 Testing of hypothesis HO2:

**HO2:** There is no significant difference of teacher effectiveness between rural and urban secondary school teachers.

***Table-4: Group statistics of Teacher Effectiveness between Rural and Urban teachers***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Major Variable | Categorical variable | | N | Mean | t-test for equality of means | | | |
| t-stat | df | t-critical | Sig. (2-tailed) |
| Teacher Effectiveness | Locale | Rural | 82 | 293.09 | 3.57\* | 169 | 1.97 | 0.00 |
| Urban | 89 | 279.61 |

\*At 0.05 level

The table-4 showed that mean score of rural teacher (293.09) is slightly greater than the mean score of urban teacher (279.61). The result revealed that calculated t-value is 3.57 and p value is 0.00 (p greater than 0.05). Hence, t was significant at 0.05 level of significance. So, the null hypothesis (HO2) was rejected. Hence, it was concluded that the Teacher Effectiveness of rural teacher were significantly differ from urban teacher. Furthermore, analysis was done to identify those dimensions of Teacher Effectiveness between rural and urban teacher in which significant differences exist and the results given below.

6.2.1 Dimension wise analysis of TE\_ Locale variations:

***Table-5: Group statistics in different dimensions of Teacher Effectiveness between Rural and Urban teachers***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Major Variable | Dimension | Categorical  variable | N | Mean | t-test for equality of means | | | |
| t-stat | df | t-critical | Sig. (2-tailed) |
| Teacher Effectiveness | Academic | Rural | 82 | 63.43 | 1.88 | 169 | 1.97 | 0.06 |
| Urban | 89 | 61.02 |
| Professional | Rural | 82 | 56.57 | 2.78\* | 169 | 1.97 | 0.005 |
| Urban | 89 | 53.24 |
| Social | Rural | 82 | 45.58 | 1.29 | 169 | 1.97 | 0.19 |
| Urban | 89 | 44.30 |
| Emotional | Rural | 82 | 33.65 | 2.43\* | 169 | 1.97 | 0.015 |
| Urban | 89 | 31.35 |
| Moral | Rural | 82 | 41.96 | 1.66 | 169 | 1.97 | 0.09 |
| Urban | 89 | 40.32 |
| Personality | Rural | 82 | 51.90 | 2.60\* | 169 | 1.97 | 0.009 |
| Urban | 89 | 49.38 |

\*At 0.05 level

**Interpretation:**

The table-5 showed that mean scores of rural teachers is slightly more than the mean score of urban teacher in all the dimensions of teacher effectiveness. Table-5 also revealed that in case of comparing the mean score of teacher effectiveness in different dimensions between rural and urban teacher, the calculated t-values are t=1.88 (p=0.06) in Academic dimension, t=2.78 (p=0.005) in Professional dimension, t=1.29 (p=0.19) in Social dimension, and t=2.43 (p=0.015) in Emotional dimension, t=1.66 (p=0.09) in Moral dimension and t=2.60 (p=0.009) in Personality dimension. Hence, t was not significant at 0.05 level of significance in Academic, Social and moral dimensions but significant difference exists in Professional, Emotional, and Personality dimensions. So it was concluded that a significant difference in the professional, emotional, and personality dimensions of teacher effectiveness exists between rural and urban teachers.

6.3 Testing of hypothesis HO3:

**HO3:** There is no significant difference of teacher effectiveness between arts and science teachers.

***Table-6: Group statistics of Teacher Effectiveness between Science and Arts teachers***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Major Variable | Categorical variable | | N | Mean | t-test for equality of means | | | |
| t-stat | df | t-critical | Sig. (2-tailed) |
| Teacher Effectiveness | Academic Stream | Science | 69 | 283.09 | 2.20\* | 169 | 1.97 | 0.028 |
| Arts | 102 | 289.61 |

\*At 0.05 level

The table-6 showed that mean score of arts teacher (289.61) is greater than the mean score of science teacher (283.09). The result revealed that calculated t-value is 2.20 and p value is 0.028 (p less than 0.05). Hence, t was significant at 0.05 level of significance. So, the null hypothesis (HO3) was rejected. And it was concluded that the Teacher Effectiveness of science teacher were significantly differ from arts teacher. Furthermore, analysis was done to identify those dimensions of Teacher Effectiveness between science and arts teacher in which significant differences exist and the results given below.

6.3.1 Dimension wise analysis of TE\_ Academic Stream variations:

***Table-7: Group statistics in different dimensions of Teacher Effectiveness between Science and Arts teacher***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Major Variable | Dimension | Categorical  variable | N | Mean | t-test for equality of means | | | |
| t-stat | df | t-critical | Sig. (2-tailed) |
| Teacher Effectiveness | Academic | Science | 69 | 60.11 | 2.68\* | 169 | 1.97 | 0.008 |
| Arts | 102 | 63.58 |
| Professional | Science | 69 | 55.38 | 0.07 | 169 | 1.97 | 0.94 |
| Arts | 102 | 55.06 |
| Social | Science | 69 | 45.09 | 0.10 | 169 | 1.97 | 0.91 |
| Arts | 102 | 44.96 |
| Emotional | Science | 69 | 32.73 | 0.49 | 169 | 1.97 | 0.62 |
| Arts | 102 | 32.87 |
| Moral | Science | 69 | 39.24 | 3.21\* | 169 | 1.97 | 0.001 |
| Arts | 102 | 42.35 |
| Personality | Science | 69 | 50.54 | 0.47 | 169 | 1.97 | 0.63 |
| Arts | 102 | 50.79 |

**Interpretation:**

The table-7 showed that mean scores of science teachers is more than the mean score of arts teacher in academic and moral dimensions of teacher effectiveness but mean score of arts teachers is slightly more than science teachers in social, emotional and personality dimensions. Table-7 revealed that in case of comparing the mean score of teacher effectiveness in different dimensions between science and arts teacher, the calculated t-values are t=2.68 (p=0.008) in Academic dimension, t=0.07 (p=0.94) in Professional dimension, t=0.10 (p=0.91) in Social dimension, and t=0.49 (p=0.62) in Emotional dimension, t=3.21 (p=0.001) in Moral dimension and t=0.47 (p=0.63) in Personality dimension. Hence, t was not significant at 0.05 level of significance in Professional, Social, Emotional and Personality dimensions but significant difference exists in Academic and Moral dimensions. So it was concluded that a significant difference in the academic and moral dimensions of teacher effectiveness exists between science and arts teachers.

7. FINDINGS OF THE STUDY

There exists significant difference of teacher effectiveness between male and female teachers (t= 4.01, p= 0.00); between rural and urban teachers (t= 3.57, p= 0.00); and between science and arts teachers (t= 2.21, p= 0.03).

5.1 Dimension wise findings:

1. There is no significant difference in the moral dimension (t=1.94, p=0.053); and personality dimension (t=1.89, p=0.059) of teacher effectiveness between male and female teachers. But there exists significant difference in the academic dimension (t=2.00, p=0.04); professional dimension (t=2.65, p=0.008); social dimension (t=3.19, p=0.001); and emotional dimension (t=2.38, p=0.01) of teacher effectiveness between male and female teachers.
2. There is no significant difference in the academic dimension (t=1.88, p=0.06); social dimension (t=1.29, p=0.19); and moral dimension (t=1.66, p=0.09) of teacher effectiveness between rural and urban teachers. But there exists significant difference in the professional dimension (t=2.78, p=0.005); emotional dimension (t=2.43, p=0.015); and personality dimension (t=2.60, p=0.009) of teacher effectiveness between rural and urban teachers.
3. There is no significant difference in the professional dimension (t=0.07, p=0.94); social dimension (t=0.10, p=0.91); emotional dimension (t=0.49, p=0.62); and personality dimension (t=0.47, p=0.63) of teacher effectiveness between science and arts teachers. But there exists significant difference in the academic dimension (t=2.68, p=0.008); and moral dimension (t=3.21, p=0.001) of teacher effectiveness between science and arts teachers.

8. Conclusion

Learning is continuous and lifelong process. Till the dawn of the universe all life form learns but most of the learning was informal hence very slow and ineffective. But in era of ultra-modernization we can't easily escape the ideologies like “Commitment" and “Effectiveness". Now is the era of rapid development and progress in every aspect especially in Education. The Teacher is most important pillar upon which our future depends. Effectiveness and commitment of the teacher make them strong as a serving pillar. Learning becomes easier lucid adoptive comprehensive apprehending when it is well equipped. The teacher is the best of all equipment if they have effectiveness and commitment. Hence to get succeed in learning, get favourable outcome a teacher must be effective in use of methods and techniques, means and material. He must also commit to the organizational set up. Teachers must exhaust him in commitment. He must overcome all means of obstacles to pave the path of formal knowledge. Teacher plays pivotal role in learning efficiency and his commitment to the organization serves as a most important pillar which is undoubtedly intact with educational, organizational and professional success. Thus Effectiveness of work and Commitment to the organization result in better outcome to the learning, and good learning always serves to the up liftman of nation and society. The development of positive nation in the hands of the pupils is largely depends on the teachers commitment and learning effectiveness. Teaching thus guides the pupils to ensure proper practice and learning.

In short, due to rapid and fast growing education system in term of language, science, technologies, medicine and national and international affairs our education must be valid, it must be rapid, progressive as well as authentic and so on. But all these qualities lie on teacher efficiency, effectiveness and unconditional commitment to the pupils, society and organization.

The betterment of the education system especially the teaching and learning process mainly depends upon the teacher’s characteristics which make them more effective in the classroom. Effective teachers are highly professional and have strong personalities and commitment. They are highly academic, social, intelligent, full of confidence, positive, enthusiastic, high morale, friendly and genuinely care for their student. Effective teachers must be able to increase conceptual understanding and analytical ability among students through their teaching. Effective teachers create a healthy environment in their classroom providing appropriate learning support materials. Effective teachers always share their deep knowledge and understanding of the subject to others. So, to build up a healthy society and nation we have required more effective teachers in the education system to preserve the quality.

Consent

All authors declare that written informed consent was obtained from the school authority from where the data were collected.

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