



Teacher Effectiveness of Secondary School Teachers in Relation with Their Techno-Stress

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Abstract:

Teaching is considered to be the most sacred and distinctive profession. Teaching has always remained a dynamic activity. It imparts knowledge, information, experience and education. As stated in the report of the International Commission on Education (1996) in any event, no reform can succeed without the co-operation and active participation of teachers. Glass (2011) opined that effective teachers have high expectations for all students and help them to learn and to bring positive academic, attitudinal and social outcomes for the betterment of society. In the 21st century, people equipped with technology at the workplace are most especially those experiencing techno-stress. People are sitting and facing computer monitors for a longer time which results in physical strain. In the 21st century work environment, people spend hours a day at work because it is critical to their security and job satisfaction. Consequences of techno-stress include decreased job satisfaction, organizational commitment and productivity. A periodic assessment is necessary to check the level of techno-stress affecting professionals, especially the physical and emotional aspects. The objectives of the study are to find out significant difference if any in the teacher effectiveness and techno stress of teachers in relation to gender, locale and educational qualification. The descriptive method of survey was adopted. The sample of this study consisted of secondary school teachers of Murshidabad. The findings of the study were that there was significant difference in teacher effectiveness of teachers in relation to gender and locale and non-significant in educational qualification variations. There was significant difference in techno stress of teachers in relation to locale and educational qualification and non-significant in gender variations. In each case the relationship between teacher effectiveness and techno stress was significant.

Keywords: *Teacher Effectiveness, Techno Stress, Learning Behaviour, Attitude.*

Introduction:

Effective teachers are not thinking about what to do; they are responding in a predictable manner to the student behavior. In establishing a productive learning environment, effective teachers are recapturing instructional time that is often lost in administrative activities, discipline and transitions. Kulsum (2006) stated that teacher effectiveness includes characteristics of a teacher, his personality, attitudes etc., and process like teacher-pupil interaction and production variables like outcomes of teacher-learning process, namely pupil achievement whereas Anderson (1991) stated that an effective teacher is one who achieves the goals set by him or have set for him by others. An effective teacher must possess the knowledge and skills needed to attain the goals and must be able to use that knowledge and those skills appropriately if the goals are to be achieved.

Parihar (2011) viewed that an effective teacher is one who consistently achieves his goals that are related either directly or indirectly to student learning. Teacher educators are, such, the avenues of effective teaching and the strategies adopted for that purpose needs orientation and reorientation with changing needs and priorities in teacher education. The quality of a nation depends upon the quality of its citizens and the quality of its citizens depends indirectly upon the quality of teacher education. The quality of teacher education depends more than any other factor, upon the quality of their teachers, so the education of teachers should be given more importance.

Brodie (1998) described teaching effectiveness as the degree to which a teacher facilitates students' aspirations. Some common descriptors of effective teachers include enthusiastic, charismatic, and expressiveness whereas Taylor et al. (1999) emphasized that teachers who have higher rates of communication with parents are viewed as more effective. Effective teachers have more students in their classes on task, engaged in learning and spend more time working with small groups throughout the day. Kher et al. (1999) stated that effective teaching revolves around the connection between teachers and students. Whereas Richardson and Arundell (1989) noted that an effective teacher gives a variety of examples, properly plans lessons, has mastery over subject matter, and increases learning of students

Concept of Techno- Stress:

People experience techno stress when they cannot adapt to or cope with information technologies in a healthy manner. They feel compulsive about being connected and sharing constant updates, feel forced to respond to work-related information in real time, and engage in almost habitual multitasking. They feel compelled to work faster because information flows faster, and have little time to spend on sustained thinking and creative analysis.

As early as 1984, Brod defined techno stress as a “modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner”. Technostress is later considered as the name for mental stress related to technology use, nevertheless also including excessive physiological and emotional arousal.

More recent definitions could refer to physical, behavioral, and psychological strain in response to ICT dependence, to increasing computer complexity, and accelerated ICT- driven work changes. Psychological stress can manifest itself physically. Similarly, there are a number of symptoms of techno-stress. The anxiety expressed by those experiencing techno-stress: insomnia, loss of temper, irritability, frustration and can increase errors in judgment and poor job performance if not dealt with.

In the 21st century, people equipped with technology at the workplace are most especially those experiencing techno-stress. People are sitting and facing computer monitors for a longer time which results in physical strain. In the 21st century work environment, people spend hours a day at work because it is critical to their security and job satisfaction. However, these demands are becoming increasingly hazardous to their health. In a technological world, providing people with an appropriate and safe physical environment is a necessity. Too much exposure to computer monitors is associated with emotional stress, and people are emotionally affected by techno-stress in their workplaces.

Consequences of techno-stress include decreased job satisfaction, organizational commitment and productivity. A periodic assessment is necessary to check the level of techno-stress affecting professionals, especially the physical and emotional aspects.

Review of Related Literature:

Hong and Koh (2002) observed that female “teachers” are more anxious than the male “teachers” towards hardware. They also observed that overall levels of computer anxiety of the male “teachers” were

not “significantly” different compared to the levels of anxiety of female “teachers”. Only for the hardware anxiety domain, there was a “significant” difference detected between male and female “teachers”.

Arokiadoss (2005) designed a study to examine teacher effectiveness of 275 college teachers from Madurai Kamaraj University in Tamil Nadu. Teacher effectiveness scale and personal information schedule were used for the study. The study demonstrated that 18% teachers had a high level of teacher effectiveness and 15% had a low level of teacher effectiveness whereas 67% were at the average or moderate level of teacher effectiveness. Women teachers were effective in advising and guiding and possessed better skills of teaching and evaluation. Male teachers were effective motivators. Arts teachers had higher mastery in their subjects and involvement in college activities. Private college teachers showed more involvement in college activities. Autonomous college teachers were equipped with higher teaching skills and were more involved in college activities. Teachers with research degrees had mastery over their subjects, motivating skill and developed rapport with the students effectively.

Pandey & Maikhuri (2005) conducted a study on the difference between effective and ineffective teachers towards teaching profession. The sample of study was 100 teachers of 10 selected secondary schools of Pauri and Tehri districts. Out of those 100 teachers 40 were identified as effective teachers and 31 were identified as ineffective teachers. The remaining 29 teachers were left out. Thus, the final sample of the study was 71 teachers. Effective and ineffective teachers were compared in respect of their attitude towards the teaching profession. The result presented no difference between effective and ineffective teachers. No significant difference between effective and ineffective male teachers regarding their attitudes towards the teaching profession. Insignificant difference between effective and ineffective female teachers so far as their attitudes towards teaching profession was concerned. Male and female ineffective teachers were almost similar in their attitudes towards the teaching profession.

Bansibihari & Surwade (2006) compared teacher effectiveness of emotionally mature groups with that of emotionally immature groups. The sample consisted of 180 male and 175 females belonging to secondary schools for Navapur and Dhule cities of North Maharashtra. Emotional Maturity Scale by Bhargava and Sigh and Teachers Effectiveness Scale by Kumar and Mutha used for data collection. Results of the study indicated that emotionally more mature teachers were more effective than their counterparts. There was no sex difference in emotionally mature group with respect to teacher effectiveness.

Roul (2007) investigated the teacher effectiveness and organizational climate of autonomous and non-autonomous college teachers. The sample consisted of three general autonomous colleges and three non-autonomous colleges of Orissa. As many as 7 departments and 7 teachers from each department were selected, on a random basis. Tools included Teacher Effectiveness Scale by Kumar and Mutha, Organizational Climate Description Questionnaire (OCDQ) by Sharma and Teachers Rating scale. There was a significant difference between autonomous college teachers and non-autonomous college teachers on teacher effectiveness. Autonomous college teachers were found more effective than non-autonomous college teachers. Male teachers of autonomous colleges were found more effective than the male teachers of non-autonomous colleges. Female teachers of autonomous colleges were more effective than the female teachers of non-autonomous colleges. Autonomous college teachers were found to have a more effective organizational climate than the non-autonomous college teachers. Combined effect of the type of college and organizational climate did not produce a significant effect on teacher effectiveness.

Vibha (2008) in her study on relationship between nonverbal classroom communication and teaching effectiveness on a sample of 75 pupil teachers representing various faculties of Dayalbagh Education Institute, Agra reported that the nonverbal classroom communication ability is not homogeneous in pupil teachers. Overall, the nonverbal classroom communication of the pupil teachers was found to be above

average. Most of the pupil teachers' pay more attention to keeping proper eye contact and using proper paralanguage in classroom teaching. Pupil teachers do not pay proper attention towards creating artifacts and use of haptics in their classroom teaching. A large number of B.Ed. trainees were moderately effective. The study revealed that nonverbal classroom communication behavior of pupil teachers was highly positively correlated with teaching effectiveness. There was a significant difference between the mean scores of gestures, eye contact, posture, kinesics and paralanguage of highly effective pupil teachers and less effective pupil teachers. But there was no significant difference between the haptics and artifacts types of nonverbal classroom communication behavior of highly and less effective pupil teachers.

Anantharaj (2011) found Techno-stress, in many ways the resistance to technology or over adoption with technology. The teaching service is one of the human service professions which can be quite stressful, if not properly managed the "techno-stress" which adversely affects the "teachers" mentally or physically. In the process of integrating technology into education they encountered many difficulties leading them to, ever stress as Techno-stress. Lack of confidence, competence and accessibility to resources were the major difficulties which induced stress among "teachers" while integrating technology in pedagogy.

Damicone (2021) conducted this study to measure, describe, and identify causes of teachers' technostress during the COVID19 global pandemic. A sample of 60 U.S. public K-12 educators participated in the anonymous survey, and 6 of these participants also participated in a one-time, virtual follow-up interview. This mixed-methods study combined the quantitative data collected for the survey and the qualitative data collected from the follow-up interviews to answer the following research questions: (a) To what degree are teachers experiencing technostress during the COVID19 pandemic? (b) What are the root causes of teachers' technostress during the COVID19 pandemic? (c) How do teachers describe their experiences with technostress during the COVID19 pandemic? The results of this study conclude that teachers are experiencing a low to moderate level of technostress during the COVID19 global pandemic and that their main identified source of technostress results from a lack of trialability, or time and ability to experiment with technologies prior to implementation. Lastly, teachers described their experiences of technostress during the COVID19 global pandemic as being associated with mental and physical exhaustion, lack of structure or accountability, and feelings of lacking self-efficacy, loneliness, and lack of appreciation.

Significance of the Study:

Teacher effectiveness resembles the combination of characteristics, competencies and teacher behavior at all levels of education which is directed to reach the desired outcomes that are determined in terms of various broader goals. It plays a vital role in the overall development of the student. Teacher effectiveness is the measure of success of a teacher in carrying out institutional and other specified duties demanded by the nature of his /her position. Teachers are the natural role models to the younger generation. Today's teachers are required to be more effective and truer to their profession. In order to be able to articulate teaching with a new paradigm of learning, be adoptive and supportive in dealing with new sets of students belonging to different age groups, diverse ethnicities and with a broad range of background and prior knowledge, teachers need to be lifelong learners themselves. Teacher effectiveness is important because effective teaching helps student learning. It has become even more important as the emphasis on quality in higher education has increased. From the above discussion it becomes clear that teacher effectiveness is directly related to student achievement. Moreover, the qualities of an effective teacher have an impact on students' performance. Effective teachers strive to motivate and engage all their students in learning rather than simply accepting that some students cannot be engaged and destined to do poorly. They believe every student is capable of achieving success at school and they do all they can to find ways of making each student successful. (Habib 2017)

Statement of the Problem:

In view of the gap identified through review of related literature the study entitled as follows-

“TEACHER EFFECTIVENESS OF SECONDARY SCHOOL TEACHERS IN RELATION WITH THEIR TECHNO-STRESS”

Objectives of the Study:

1. To find out teacher effectiveness among the Secondary Schools teachers in relation with Gender variation.
2. To find out teacher effectiveness among the Secondary Schools teachers in relation with Locale variation.
3. To find out teacher effectiveness among the Secondary Schools teachers in relation with educational qualification variation.
4. To find out techno- stress among the Secondary Schools teachers in relation with Gender variation.
5. To find out techno- stress among the Secondary Schools teachers in relation with Locale variation.
6. To find out techno- stress among the Secondary Schools teachers in relation with educational qualification.
7. To investigate the correlation between teacher effectiveness and techno-stress among the Secondary Schools teachers.

Hypotheses of the Study:

Ho1. There is no significant difference in teacher effectiveness among the Secondary Schools teachers in relation with Gender variation.

Ho2. There is no significant difference in teacher effectiveness among the Secondary Schools teachers in relation with Locale variation.

Ho3. There is no significant difference in teacher effectiveness among the Secondary Schools teachers in relation with educational qualification variation.

Ho4. There is no significant difference in techno stress among the Secondary Schools teachers in relation with Gender variation.

Ho5. There is no significant difference in techno-stress among the Secondary Schools teachers in relation with Locale variation.

Ho6. There is no significant difference in techno-stress among the Secondary Schools teachers in relation with educational qualification variation.

Ho7. There is no significant relation between teacher effectiveness and techno-stress among the Secondary Schools teachers.

Operational Definitions of the terms used:

Teacher Effectiveness. In the present study teacher effectiveness means that those teachers have attained the needed competence in their roles and functions, such as the preparation and planning for teaching,

classroom management, knowledge of subject matter, teacher characteristics and their interpersonal relations. Also, these teachers excel in their other personality characteristics. They are said to be effective teachers. Teacher effectiveness includes characteristics of a teacher, his personality, attitudes etc., and processes like teacher-pupil interaction and production variables like outcomes of teaching- learning process, namely pupil achievement.

Techno Stress. It refers to negative attitudes towards computers and newly introduced technologies used for educational purposes.

Secondary School Teachers. The term secondary school teachers used in this present study are referred to the secondary teachers working in schools in Tripura.

Scope and Delimitation of the study:

The present study focused on studying the effectiveness of secondary school teachers in relation to their levels of techno stress. The scope of the study is delimited to assess the teacher effectiveness of secondary school teachers of Murshidabad only.

Methodology:

Research Design: The study was descriptive survey research undertaking quantitative data.

Population: The target population of the study was all the teachers teaching in all the secondary schools of Murshidabad.

Sampling: One hundred secondary school teachers from secondary schools were selected from sampling random procedure.

Research Tools:

The success of any research endeavor is largely dependent upon the tools which are used for the data collection. The following tools were used by the investigator in the study.

- Teacher Effectiveness Scale (KTES) by Umme Kulsum (2000)
- Techno-stress scale by Thiyagu, K (2021)

Analysis and interpretation of data:

In order to find out the results of the study mean, median, mode, standard deviation and test of significance of difference between means were calculated for all three variables of teacher effectiveness and techno stress.

Differential analysis on Teacher Effectiveness:

The data were analysed through descriptive as well as inferential statistics. The normality of distribution was studied through calculation of mean (24.32), median (24.64), mode (25.28), standard deviation (6.08), Q3 (28.57), Q1 (19.93), Q (4.32), P90 (33.63) and P10 (15.82). The skewness was found to be - 0.148 and the value of kurtosis was found out to be 0.242 as against the normal values of zero and 0.263 respectively in case of a normal curve which indicated the curve to be slightly negatively skewed and leptokurtic. Basing upon the mean and standard deviation on the scores on teacher effectiveness categorization of the sample was made. It was observed that almost 14 percent had high teacher effectiveness, 16 percent above average, 52 percent of average level, 10 percent below average and 8 percent of teachers had poor teacher effectiveness. To find out significant differences between two contrasting sub-samples, 't' ratios were

calculated. Mean, standard deviation, standard error difference and 't' values of all the sub-samples wise calculated and the result has been presented in a table 1.

Table 1: Summary of 't' ratios between the two sub-samples on Teacher Effectiveness

Variation	Sub samples	N	M	SD	SED	't' Ratio	Remarks
Gender	Male	55	25.35	6.8	1.49	5.6	p< 0.01
	Female	45	18.68	6.5			
Locale	Rural	54	25.98	5.9	1.78	5.12	p< 0.01
	Urban	46	20.27	5.3			
Educational Qualification	Graduate	44	25.21	6.2	1.29	0.85	NS
	Post-graduate	56	24.40	6.9			

$t_{0.05 \text{ for } df 109} = 1.98; t_{0.01 \text{ for } df 98} = 2.61$

On perusal of the above table, it was evident that the 't' ratio in case of gender variation was highly significant, the male showing supremacy in the degree of teacher effectiveness compared to the female. The 't' ratios in case of the sub-samples of locale variation group was also significant. Hence the null hypothesis that there does not exist significant difference in teacher effectiveness was rejected. But the null hypothesis in relation to educational qualification could not be rejected due to the fact that the 't' ratio was not significant. The results obtained in the study is in conformity with the earlier studies conducted by Anantharaj (2011) and Vibha (2008). Hence the investigator desires to conclude that the result obtained was appropriate.

Differential analysis on Techno Stress:

In case of techno stress, the mean of the distribution was 78.25, median 78.70 and mode 79.6. The standard deviation of the distribution was 9.55. When the normality in distribution of techno stress scores was studied, it was formed that there are 75 percent of cases within ± 16 and 97 and 100 percent of cases within ± 26 & ± 36 respectively as against 68.26, 95.4 and 99.97 percent of cases in a normal curve. The skewness and kurtosis of the curve was calculated which were found to be 0.141 and 0.236 respectively as against 0 and 0.263 for a normal curve. This revealed that techno stress of the teachers was not normally distributed. The mean, SD and 't' ratios of the sub samples have been calculated and presented in a table 2.

Table 2: Summary of 't' ratios of sub samples due to gender, locale and type of management variations on Techno Stress

Variation	Sub samples	N	M	SD	't' Ratio	Remarks
Gender	Male	55	79.24	9.35	1.27	NS
	Female	45	77.15	9.38		
Locale	Rural	54	79.49	9.69	2.36	p< 0.05
	Urban	46	76.38	9.56		
Educational Qualification	Graduate	44	81.22	9.6	3.92	p< 0.01
	Post-graduate	56	75.87	9.8		

On perusal of the above table, it was observed that the ‘t’ ratio in case of locale and educational qualification variations was significant but in case of gender, it was not significant. Male and female teachers did not differ in their techno stress. The result was in conformity with earlier studies of Anantharaj (2011) and Vibha (2008). On above basis the investigator concluded that the result obtained in the present study was appropriate.

Relationship Study between Teacher Effectiveness and Techno Stress:

In this study also the investigator attempted to find out relationship between teacher effectiveness and techno stress in the context of the view point that teacher effectiveness is the acquired tendency and disposition to strive for success with same standard of excellence. In that context, relationship between teacher effectiveness and techno stress in relation to the gender, locale and educational qualification variables were computed and the result was presented in a table 3.

Table 3: Co-efficient of co-relation between Teacher Effectiveness and Techno Stress

Variation	Sub-sample	N	R	Remarks
Gender	Male	55	0.42	p<.01
	Female	45	0.32	p<.05
Locale	Rural	54	0.43	p<.01
	Urban	46	0.33	p<.05
Educational Qualification	Graduate	44	0.43	p<.01
	Post-Graduate	56	0.30	p<.05
	Total	100	0.44	P<.01

From the table, it was observed that in each case the relationship was significant. The study was in conformity with earlier studies of Anantharaj (2011) and Vibha (2008).

Findings of the Study:

The findings of the study are summarized below:

- There is significant difference in teacher effectiveness of male and female teachers.
- There is significant difference in teacher effectiveness of teachers in relation to locale variation.
- There is non-significant difference in teacher effectiveness of teachers in relation to educational qualification variation.
- There is non-significant difference in techno stress of teachers in relation to gender variation.
- Locale and educational qualification have a role to play in techno stress of teachers.
- In each case the relationship between teacher effectiveness and techno stress is significant.

Conclusion:

National Education Policy 2020 recognizes the importance of leveraging the advantages of technology while acknowledging its potential risks and dangers. It calls for carefully designed and appropriately

scaled pilot studies to determine how the benefits of online/digital education can be reaped while addressing or mitigating the downsides. In the meantime, the existing digital platforms and ongoing ICT-based educational initiatives must be optimized and expanded to meet the current and future challenges in providing quality education for all.' An effective teacher is one who consistently achieves his goals that are related either directly or indirectly to student learning. Teacher educators are, such, the avenues of effective teaching and the strategies adopted for that purpose needs orientation and reorientation with changing needs and priorities in teacher education. The quality of a nation depends upon the quality of its citizens and the quality of its citizens depends indirectly upon the quality of teacher education. The quality of teacher education depends more than any other factor, upon the quality of their teachers, so the education of teachers should be given more importance.

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