



Assessing the Factors of Effectiveness of Migrated Teachers in an Unfamiliar Cultural Context

Hafijul Shaikh, PhD
Former Ph.D. Research Scholar
Department of Education
The University of Burdwan
West Bengal, India.
Email: hafijul.shaikh@gmail.com

Prof. K. N. Chattopadhyay, PhD
Professor
Department of Education
The University of Burdwan
West Bengal, India.
Email: knchatto@gmail.com

Abstract

Teachers are recruited and transferred nationally, which is one of the unique features of the Navodaya Vidyalaya system. Educational practice outside the native state affects the sustainability and effectiveness of migrant teachers, given the heterogeneity of cultural contexts. In India, every state and union territory has its own unique language, cultural ethos, and ways of living. Teachers' migration is influenced by factors related to teacher effectiveness. The present study aims to explore the most priority factors in the effectiveness of migrated teachers in an unfamiliar cultural context. The study is characterized by descriptive survey research. A total of 121 migrated teachers have been randomly selected as participants from 18 Jawahar Navodaya Vidyalayas across West Bengal, India. The data have been gathered by administering the Kulsum (2011) teacher effectiveness measuring scale. A pilot survey was conducted on 23 samples to confirm the scale's reliability, just before the final data collection. Applying the Cronbach's Alpha test yielded an excellent alpha value ($\alpha = .997$). The investigators have formulated several null hypotheses to examine the impact of demographic and teacher effectiveness factors on teacher effectiveness. The Cronbach's Alpha test, independent-samples t-test, ANOVA, and Pearson's correlation coefficient have been run in IBM SPSS Statistics 23 to analyze the data and interpret the results. In the study, the investigators have explored that 9.09% of the migrated teachers are highly effective. Except for marital status, the demographic variables do not affect teacher effectiveness. The five factors are perfectly correlated ($r=1.00$) and together account for 100% of the variance in teacher effectiveness ($R^2=1.00$). Knowledge of subject matters is the best predictor of effectiveness.



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Keywords: Teacher effectiveness, Migrated teachers, Unfamiliar cultural background, Jawahar Navodaya Vidyalaya.

Introduction

Education is fundamental for shaping and moulding the next generation of citizens to manifest their full human potential (NEP, 2020). It demands equally distributed effectiveness of the teachers. Despite personal, family, and other factors influencing pupils' academic achievement, many researchers concluded that teachers are among the most influential school-based factors (RAND Corporation, 2022). Effective teachers make their instructional sessions safer and easier so that pupils can express themselves in a healthier and prosperous environment. The teacher mostly contributes to students' success (Toropova et al., 2021). India is a culturally diverse country, and for its renowned diversity, the government has gifted many global-standard and well-equipped schools (e.g., Navodaya Vidyalaya) to preserve the culture and grow respect among students for each other. This type of schooling system compulsorily practises the scheme of national integration. Students are invited from their native district to this school. This schooling system reinforces national integration through migration policy that moves people from Hindi-speaking to non-Hindi-speaking areas and vice versa (Navodaya Vidyalaya Samiti, 2020). Providing high-quality education to children requires committed teachers, who are the heart of the educational system. The school is a residential system characterised by cultural diversity because teachers are appointed from all over India (Navodaya Vidyalaya Samiti, 2020), irrespective of caste, creed, mother tongue, state of domicile, or religion, and students are from their native areas. Due to the global integration of knowledge and the worldwide shortage of qualified teachers (Azoulay, 2022; European Commission, 2018; Ingersoll, 2017; Sutch et al., 2016), many countries have hired expatriate teachers. Research evidence demonstrated that teachers' effectiveness varied significantly between expatriate and native teachers due to differences in cultural backgrounds. As explored by Sodhi (2010), teaching with a similar cultural background inspires teachers to a higher level of effectiveness; in contrast, a relatedly unfamiliar and close school environment makes teachers less effective. The effectiveness of local resident teachers was higher than that of expatriate teachers, and students benefited more from local teachers than from expatriate teachers (Mbuthi & Orodho, 2014). Despite all JNVs being unique in their features, districts within a state differ with respect to the geographical and socioeconomic factors in which the JNVs are situated. Some local communities (e.g., tribal or nomadic populations) have a specific agenda and little interest in education. They belong to an educationally disadvantaged section, and students from the area cannot satisfactorily meet the requirements for achievement level (Goswami, 2015). Coban et al. (2020) argued that teachers' effectiveness decreases when students' achievement is low, and in the same school, another classroom shows a higher level of effectiveness. Similarly, Ronfeldt et al. (2013) suggested that teacher effectiveness varies due to teacher migration from higher-performing to lower-performing schools and that this migration significantly affects teacher turnover. Creating healthy and effective contact with different ethnic groups requires the ability to adapt to others' cultures in unfamiliar settings, which is a primary quality of effective practitioners (Bal & Kokalan, 2022). Efficacious outcome of pedagogical practice depends on an effective teacher (Sadeghi et al., 2021). The impact of effective teachers is prime for enhancing pupils' scholastic attainment and achieving the excellent quality of education towards meeting the institutional objectives; thus, it is urgent to guarantee the responsible factors of teachers' effectiveness and performance (Sadeghi et al., 2021). The Navodaya Vidyalaya Samity provides incentives, e.g., rent-

free housing, special allowance, and admission of wards of teachers with free boarding, to encourage better-quality teachers (Navodaya Vidyalaya Samity, 2020). Teachers' professional commitment leads to the desire and successful outcomes of an educational institution. The teacher is the heart of the education system and is held in the highest respect in society (NEP, 2020). In some contexts, teacher effectiveness depends on students' academic achievement. The transfer of a highly effective teacher to another school can decrease the effectiveness (Goswami, 2015). In Navodaya Vidyalayas, teaching transactions vary due to their transfer policy, which is a special feature of the Navodaya Vidyalaya schooling system. A nationwide study found that some categorical variables make only a small contribution to teacher effectiveness. A gap revealed the need to explore the other factors that contribute most to teacher effectiveness and identify how they differ. The effectiveness of some teachers is sufficiently aligned with a desirable outcome, while that of others is not, and this disequilibrium needs to be thoroughly researched. Classroom transaction, performance, and pupil success are the best indicators of effective teaching, and experience or background were not reliable factors in identifying effectiveness (RAND Corporation, 2022). The researchers explore the effectiveness in a situation in which migrated teachers are appointed from diverse cultural contexts in India. Migration refers to teachers' movement from one school to another (Rinke, 2008; Ingersoll, 2001). Students (78.25%) and teachers (64.43%) in Jawahar Navodaya Vidyalayas stated that they were unwilling to migrate to another JNV due to unfamiliar language and displeased lifestyle (El-Hajji, 2013). Besides teaching, teachers in JNVs work under heavy workloads (Sing & Kumar, 2012). Soanes & Sungoh (2019) found that emotionally balanced teachers were more effective, and that teachers in the science faculty achieved a higher level of teaching effectiveness.

Teacher Effectiveness

Teacher effectiveness is defined as sincerely accepting the challenges of teaching, creating a democratic classroom environment that fosters courage, and motivating pupils towards self-regulated learning, which will be achieved through a truly pedagogical praxis that integrates contemporary skills and competencies.

Teacher effectiveness refers to the practical outcomes of teachers' classroom activities that underlie learners' success (Jupp, 2009). Strong et al. (2011) defined teacher effectiveness as comprising personal factors and the practice of various teacher activities to prepare pupils to achieve learning outcomes.

Migrated teachers

Migrated teachers are those appointed by the Navodaya Vidyalaya Samity to various Jawahar Navodaya Vidyalayas in West Bengal. Their mother tongue is not Bengali, and their domicile state/union territory is not West Bengal. According to Rinke (2008) and Ingersoll (2001), migrated teachers refer to those teachers who move from one school to another without changing scale and profession.

Unfamiliar cultural context

In the study, the researchers defined the term 'unfamiliar cultural context' in the sense of diversity in Indian culture, as there are 28 states and 9 union territories, and which are unique by their own language and cultural practices, where the individuals born and grown in their domicile

state/union territory and engaged as educational practitioner in outside of their native state or union territory. Factors affecting teacher effectiveness in an unfamiliar cultural context-

The study aimed to explore which factors most affect teacher effectiveness outside their home state in India, in a diverse cultural context. The study identified an area where the mother tongue, cultural background, and the state of residence of the school teachers differ from those of the students. Furthermore, all the students in this school take admission from their native district with a similar mother tongue and cultural background. The investigators reviewed prior studies on factors affecting the effectiveness of teachers working in migrant positions in diverse or unfamiliar cultural contexts.

In Goswami's (2015) study, it was reported that transferring to a school in an unfamiliar cultural region decreases teachers' effectiveness. In the context of a working situation, Bascia & Rottmann (2011) stated that the teacher's effectiveness, pleasure, and intrinsic drive should have the highest priority for the achievement of learners.

Literature review

Sadeghiet al. (2021) opined that most satisfied teachers were highly effective in teaching. Gupta & Verma (2021) recommended that, time-to-time, preserving societal status, the state of the relationship, commitment, and in-service training are compulsory for the most effective teachers. Cravens et al. (2021) concluded that collaborative teaching improves teachers' effectiveness and performance. Investigating the effectiveness of teachers with diverse cultural backgrounds, Gandhi (2020) found that teachers' mental state and specific cultural context-related abilities were urgently required for teaching in unfamiliar cultural settings. Nwani (2020) noted that truly understanding professional knowledge, instructional planning, praxis, variation in instruction, and self-assessment made teachers more effective and efficient in leading pupils towards successful learning. Coban et al. (2020) found that teacher effectiveness decreased when students' achievement was low, and in the same institution, another classroom showed a higher level of effectiveness. To know the effectiveness of teachers in relation to emotional intelligence, Soanes & Sungoh (2019) suggested that demographic variables, e.g., sex, experience, community, qualification, and locale, did not differ in the effectiveness of teachers, but in relation to emotional matters, the effectiveness of science faculty varies between female and male. Kumari & Chahal (2017) found that government school teachers were more effective than private school teachers, and that teachers with more than 10 years of teaching experience demonstrated higher levels of teacher effectiveness. According to Bashir (2017), teachers' commitment mostly depends on the content they teach. In suburban and urban areas, Jones (2017) found that openness and neuroticism were positively correlated with teacher effectiveness. Rani & Devi (2015) found that private school teachers were more effective than government school teachers, and that having more than 10 years of experience was associated with greater teaching effectiveness. Esfandiari & Nikoopour (2015) suggested that teaching experience and age significantly differ in teacher effectiveness. Kauts & Chechi (2014) found that government and private school teachers were equally effective, and that more experienced (more than 10 years) and highly emotionally balanced teachers were more effective. Studying teacher effectiveness, Pachaiyappan & Raj (2014) found that stream, scale of post, locale, and teaching experience significantly vary in teacher effectiveness among teachers. Mbuti & Orodho (2014) indicated that teacher effectiveness varies between expatriate and native teachers, and students preferred

the native teachers for a better understanding of the subject matter according to their needs. They concluded that the recruitment authority can prefer native teachers over expatriates.

To study teacher effectiveness in relation to demographic variables, Onyekuru & Ibegbunam (2013) argued that most teachers were less effective, and having more than 5 years of teaching experience indicates greater effectiveness. El-Hajji (2013) concluded that unwilling and problematic students are forcibly selected for migration. Here, migration policy is successfully practised, and students experience new food habits, a new lifestyle, unfamiliar communication language, and an unknown culture in the migrant school. Singh & Kumar (2012) revealed that, besides teaching, teachers also work with heavy workloads, e.g., caring for and controlling pupils outside the classroom, and assume strict responsibility in Jawahar Navodaya Vidyalayas. Sodhi (2010) found that teaching with a similar cultural background inspires teachers to a higher level of effectiveness; in contrast, an unfamiliar and close-knit school environment leads teachers to be less effective. To explore the factors of teacher effectiveness, Duckworth et al. (2009) found that grit and life satisfaction were substantial predictors of teacher effectiveness. Onderi & Croll (2009) found that personal and professional aspects of teachers and proper pedagogical practice.

Objectives of the study

O₁: To know the level of teacher effectiveness of migrated teachers in an unfamiliar cultural context.

O₂: To determine the difference in teacher effectiveness across different faculties (Language, Science, and Social Science) of migrated teachers in an unfamiliar cultural context.

O₃: To investigate whether demographic variables (e.g., sex, marital status, scale of post, stream, teaching experience in an unfamiliar cultural area) vary in teacher effectiveness in an unfamiliar cultural context.

O₄: To explore the relationship among the five different factors of teacher effectiveness in an unfamiliar cultural context.

O₅: To determine the relationship of the five different factors of teacher effectiveness with the aggregate effectiveness of migrated teachers in an unfamiliar cultural context.

O₆: To understand the prediction of the effectiveness of migrated teachers based on the five factors (e.g., preparation and planning for teaching, classroom management, knowledge of subject matter, etc., teacher characteristics, and interpersonal relations) of teacher effectiveness in an unfamiliar cultural context.

Hypotheses

H₀₁: There is no significant difference in teacher effectiveness across different faculties (language, science, and social science) of migrated teachers in an unfamiliar cultural context.

H₀₂: There is no significant difference in teacher effectiveness between male and female teachers in an unfamiliar cultural context.

H₀₃: There is no significant difference in teacher effectiveness between married and single teachers in an unfamiliar cultural context.

H₀₄: There is no significant difference in teacher effectiveness between trained graduate and postgraduate scale of migrated teachers in an unfamiliar cultural context.

H₀₅: There is no significant difference in teacher effectiveness between the arts and science streams of migrated teachers in an unfamiliar cultural context.

H₀₆: There is no significant difference in teacher effectiveness between less than five and greater than five years of teaching experience of migrated teachers in an unfamiliar cultural context.

H₀₇: There is no significant relationship among the five factors of teacher effectiveness of migrated teachers in an unfamiliar cultural context.

H₀₈: There is no significant relationship between the five factors of teacher effectiveness and the aggregate effectiveness of migrated teachers in an unfamiliar cultural context.

H₀₉: There are no significant predictors of the effectiveness of migrated teachers among the five factors of teacher effectiveness in an unfamiliar cultural context.

Research method

Procedure:

Population and Participants

The researcher utilized a descriptive survey research design for the study. The study population comprised all migrated teachers from 18 Jawahar Navodaya Vidyalayas (JNVs) in West Bengal, whose mother tongue was other than Bengali and who were residents of other states or union territories of India. A total of 127 teachers were recruited as participants for data collection via random sampling. Finally, 121 (37.19% female & 62.81% male) data were accepted out of 127 due to six responses that were not completed. The researcher conducted personal interviews with participants at all JNVs across the state of West Bengal. The researchers have obtained data-collection certificates from the principals/ICs of each JNV.

Consideration of research ethics

The research topic is duly authorised by the Board of Research Studies, Department of Education, The University of Burdwan. Then, the investigators have communicated through the proper channel to the concerned authority to conduct a survey of the Jawahar Navodaya Vidyalayas (JNVs). After obtaining permission from the school authority, one investigator met the participants in the JNVs and introduced the research to them. The teachers agreed to be participants. The investigators collected data from them.

Instrument

The researchers selected Kulsum's (2011) teacher effectiveness scale for the study. It is a standardised scale. The researchers conducted a pilot study to assess the scale's reliability just prior to the main study (Sarker et al., 2022). The pilot survey was conducted on 46 sample teachers from 16 Jawahar Navodaya Vidyalayas in the study population to confirm whether the scale is appropriate for the study. A construct measurement scale is administrable in an actual study if the alpha value is equal to or greater than .70 in the Cronbach Alpha test for reliability (Cronbach, 1951; Schmitt, 1996; Cortina, 1993; Bathgate et al., 2015; Taber, 2017). The researchers found that the Cronbach's Alpha was 0.997 for a scale of 60 items.

Table 1: Cronbach's Alpha Reliability of Kulsum (2011) Teacher Effectiveness Scale for Teacher

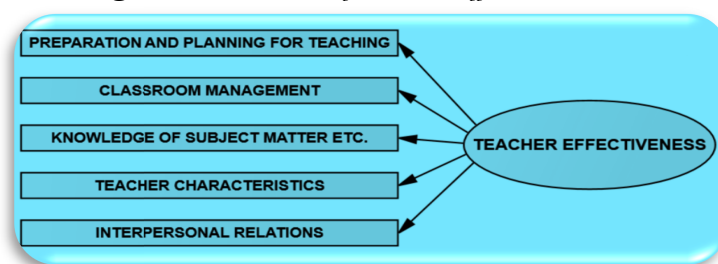
Serial No.	Area of the Scale	No. of items	Alpha Value	Internal Consistency
1	Preparation for teaching and planning	11	.987	Excellent
2	Classroom Management	14	.987	Excellent
3	Knowledge of Subject matters, etc.	7	.973	Excellent

4	Teacher Characteristics	17	.990	Excellent
5	Interpersonal Relations	11	.984	Excellent
6	Total Aggregate of the scale	60	.997	Excellent

Description of the scale

To assess teacher effectiveness, Kulsum (2010) developed and standardised the Teacher Effectiveness Scale for Teachers. This scale consisted of 60 items across five areas: preparation for teaching and planning (11 items), classroom management (14 items), knowledge of subject matter, etc. (7 items), teacher characteristics (17 items), and interpersonal relations (11 items). It is a self-administrable scale. There are the most and least effective, according to teachers' perceptions.

Figure 1: Five Areas of Teacher Effectiveness Scale



Scoring

On this scale, each item requires two types of responses, each with a 0-10 scale: the current step and the step one is aspiring to attain in the next three years. The time attribute for the next three years; the responses frame as a reference to the present effectiveness. The current score is taken as a measure of the teachers' effectiveness. The effectiveness score range is 0-600 (e.g., step 0 corresponds to a score of 0).

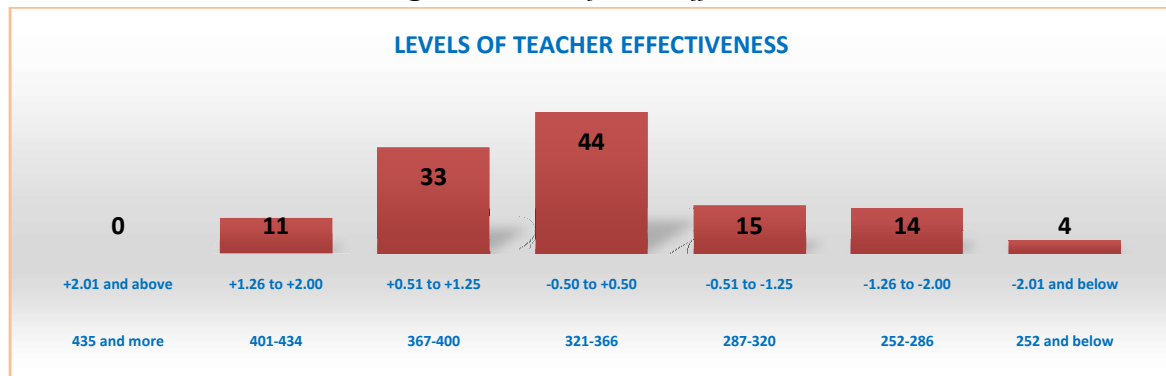
Table 2: Example of scoring of teacher effectiveness

Item	Step number you are now	Step number aspiring to attain in the next three years
I am fairly creative.	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

Results

Table 3: Levels of teacher effectiveness (Kulsum, 2011).

Sl. No.	Range of Raw Scores	Range of z-Scores	Grade	Level of Teacher Effectiveness	Number of teachers	Percentages of teachers
1.	435 and more	+2.01 and above	A	Most Effective Teacher	0	0%
2.	401-434	+1.26 to +2.00	B	Highly Effective Teacher	11	9.090%
3.	367-400	+0.51 to +1.25	C	Above Average Effective Teacher	33	27.272%
4.	321-366	-0.50 to +0.50	D	Moderately Effective Teacher	44	36.363%
5.	287-320	-0.51 to -1.25	E	Below Average Effective Teacher	15	12.396%
6.	252-286	-1.26 to -2.00	F	Teacher	14	11.570%
7.	252 and below	-2.01 and below	G	Highly Ineffective Teacher Most Ineffective Teacher	4	3.305%

Figure 2: Levels of teacher effectiveness

The study aims to determine the level of effectiveness of migrated teachers in an unfamiliar cultural context. To assess teacher effectiveness, the investigator used descriptive statistics, converted the raw score to a z-score, and determined the level of effectiveness using Kulsum's (2011) teacher effectiveness level table. Here, shown in the table and diagram that 11 (9.090%) highly effective, 33 (27.272%) above average effective, 44 (36.363%) moderately effective, 15 (12.396%) below average effective, 14 (11.570%) highly ineffective, 4 (3.305%) most ineffective teachers. Most teachers fall into the moderately effective level.

H_{01} : There is no significant difference in teacher effectiveness across different faculties (language, science, and social science) of migrated teachers in an unfamiliar cultural context.

Table 4: Difference in Teacher Effectiveness across Different Faculties (N=121)

			Test of homogeneity of variance	ANOVA	
Faculties	Mean	Std. Deviation	Levene's Statistic	Sig.	F df Sig. BGWG
Language	531.07	55.34	2.229	.122	1.386
Science	511.02	73.72			2118
Social Science	510.88	56.71			.254
Group difference					
Faculties	Mean	Sig.	95% CI(LL -		
Language-Science	difference	.306	UL)		
Language-Social	20.19	.336	-12.25 - 52.63		
Science	20.05	1.00	-13.57- 53.67		
Social Science- Science	-.14		-32.53- 32.81		

To determine whether there is any difference in teacher effectiveness across different faculties (Language, Science, and Social Science). The researchers formulated a null hypothesis that the language, science, and social science faculties of migrated teachers do not differ significantly in teacher effectiveness. To test the null hypothesis, a one-way ANOVA was used. Table 4 shows that the ANOVA indicated no significant difference in teacher effectiveness scores across the different faculties ($F(2, 118) = 1.386, p > .05$).

Here, Levene's Statistic is not significant, and the equal variance is assumed. To assess individual differences between groups, the Tukey HSD test is used. The 39 participants of the

language faculty obtained the mean value of 531.07, SD=55.34; the 38 participants of the science faculty obtained the average score of 511.02, SD = 73.72; and the 44 participants of the social science faculty obtained the mean value of 510.88, SD = 56.71. The mean difference is not significantly different. Thus, the null hypothesis is not rejected.

H₀₂: There is no significant difference in teacher effectiveness between male and female migrated teachers in an unfamiliar cultural context.

Table 5: Difference in teacher effectiveness between male and female(N=121)

DV	IV		Mean	SD	Levene's Test for Equality of Variances				t-test for Equality of Means				
					F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
		N										LL	UL
Teacher Effectiveness	Male	81	516.16	65.57	1.853	.176	-.320	119	.750	-3.864	12.09	-27.81	20.08
	Female	40	520.02	55.94									

The study aims to know whether teacher effectiveness varies by gender among migrated teachers in an unfamiliar cultural context. The researchers formulated a null hypothesis that teacher effectiveness does not differ significantly between males and females. To test the null hypothesis, an independent-samples t-test is used. Table 3 shown, there is no significant difference($t(119) = -.320$, $p > 0.05$) in score of male ($M = 516.16$, $SD = 65.57$) and Female ($M = 520.02$, $SD = 55.94$). Despite female teachers' mean score being greater than male teachers', the degree of the difference in the mean score (mean difference = -3.86, 95% CI: -26.632 to 18.903) is not statistically significant. Thus, the null hypothesis is not rejected.

H₀₃: There is no significant difference in teacher effectiveness between married and single marital status of migrated teachers in an unfamiliar cultural context.

Table 6: Difference in teacher effectiveness between married and single (N=121)

DV	IV		Mean	SD	Levene's Test for Equality of Variances				t-test for Equality of Means				
					F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
		N										LL	UL
Teacher Effectiveness	Married	91	523.05	65.81	6.34	.013	2.046	84	.044	22.65	11.06	0.576	44.73
	Single	30	500.40	47.39									

To identify whether teacher effectiveness differs by marital status among migrated teachers with unfamiliar cultural backgrounds, a null hypothesis is proposed: teacher effectiveness does not differ between married and single teachers. To test the null hypothesis, an independent-samples

t-test is used. Table 4 shows a significant difference ($t(68.64)=2.04$, $p<0.05$) in teacher effectiveness between married teachers ($M=523.05$, $SD=65.81$) and single teachers ($M=500.40$, $SD=47.39$). The extent of difference in mean score (mean difference = 22.65) and the 95% CI (.576 to 44.73) are statistically significant. So, the null hypothesis is not accepted.

H_{04} : There is no significant difference in teacher effectiveness between trained graduate and postgraduate scale of migrated teachers in an unfamiliar cultural context.

Table 7: *Difference in teacher effectiveness between trained graduate and postgraduate teachers (N=119).*

DV	IV			Levene's Test for Equality of Variances					t-test for Equality of Means			
			Mean	SD	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI LL UL
Teacher Effectiveness	TGT	N										
		7	514.1	64.23	1.1	.29	.740119		.46	-8.65	11.69	- 14.50
	PGT	5	4		25	1			1			31.82 50
			522.8	59.45								
		4	0									
		6										

The investigators sought to determine whether the scale of post varies in teacher effectiveness among migrant teachers in an unfamiliar cultural context. To understand the difference, the investigators hypothesized, in null form, that teacher effectiveness does not vary significantly between trained graduate and postgraduate teachers. To test the null hypothesis, the investigators run an independent-samples t-test. Table 5 shows that there is no significant difference ($t(119)=.740$, $p>0.05$) in teacher effectiveness between the mean score of trained graduate ($M=514.14$, $SD=64.23$) and postgraduate teachers ($M=522.80$, $SD=59.45$). The mean difference (mean difference = -8.65) and 95% CI (-31.82 to 14.50) are not significant. Hence, the null hypothesis is not rejected.

H_{05} : There is no significant difference in teacher effectiveness between the arts and science streams of migrated teachers in an unfamiliar cultural context.

Table 8: *Difference in teacher effectiveness between arts and science stream teachers(N=119).*

DV	IV			Levene's Test for Equality of Variances					t-test for Equality of Means			
			Mean	SD	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI LL UL
Teacher Effectiveness	Arts	N										
		7	521.1	65.41	1.3	.25	.873119		.384	10.29	11.79	- 33.65
	Science	7	8		15	4						13.05
			510.8	56.71								
		4	8									
		4										

The study aims to determine whether teacher effectiveness varies across streams among migrated teachers in an unfamiliar cultural context. To learn the difference, a null hypothesis has been constituted, that teacher effectiveness does not significantly vary between the arts and science streams. In this case, to test the null hypothesis, an independent sample t-test is performed.

Table 6 shows that there is no significant difference ($t(119) = 119, p > 0.05$) in teacher effectiveness between arts stream teachers ($M = 521.18, SD = 65.41$) and science stream teachers ($M = 510, SD = 56.71$). The degree of difference in mean scores (mean difference = 10.29; 95% CI: -13.05 to 33.65) is not significant. Accordingly, the null hypothesis is not rejected. H_{06} : There is no significant difference in teacher effectiveness between less than or equal to five years of teaching experience and greater than five years of teaching experience of migrated teachers in an unfamiliar cultural context.

Table 9: *Difference in Teacher Effectiveness Between Less Than or Equal and Greater Than Five Years of Teaching Experience (N-119)*

DV	IV	Levene's Test for Equality of Variances				t-test for Equality of Means						
		Mea	SD	F	Sig.	t	df	Sig. (2-tail ed)	Mean Differ	Std. Error Differ	95% CI	
		N									LL	UL
Teacher Effectiveness	5 ≤ Years	79	513.31	60.35	1.763	-.997	119	.321	-11.87	11.90	-35.45	11.70
	5 > Years	42	525.19	65.98								

The study aimed to determine whether teacher effectiveness differs across levels of teaching experience among migrant teachers in an unfamiliar cultural context. To test the difference, a null hypothesis has been formulated: teacher effectiveness does not significantly differ between teachers with less than 5 years of teaching experience and those with more than 5 years of teaching experience. To test the null hypothesis, an independent-samples t-test was used. Table 7 shows that there is no significant difference ($t(119) = -.997, p > 0.05$) in teacher effectiveness between the average score of less than five years ($M = 513.31, SD = 60.35$) and greater than five years ($M = 525.19, SD = 65.98$) of teaching experience. The average score difference (mean difference = -11.87; 95% CI: -35.45 to 11.70) is not significant. Therefore, the null hypothesis is not rejected.

H_{07} : There is no significant relationship among the five factors of teacher effectiveness of migrated teachers in an unfamiliar cultural context.

Table 10: *Pearson Product-Moment Coefficient of Correlation among Five Factors of Teacher Effectiveness.*

Factors	1	2	3	4	5
1. Preparation for teaching and planning	1				
2. Classroom management	.941**	1			
3. Knowledge of subject matter, etc.	.923**	.925**	1		
4. Teacher characteristics	.937**	.943**	.929**	1	
5. Interpersonal relations	.923**	.942**	.917**	.945**	1

** . Correlation is significant at the 0.01 level (2-tailed).

The investigators want to explore the relationship among the five factors of teacher effectiveness. To identify the relationship among the five factors, the researchers formulated a null hypothesis stating that there is no significant relationship among them. To test the null hypothesis, the Pearson product-moment coefficient and correlation test have been applied. Table 10 shows that there is a very high level of correlation between preparation for teaching and planning with classroom management, $r(121) = .941$, $p < 0.01$, with knowledge of subject matter, etc., $r(121) = .923$, $p < 0.05$, with teacher characteristics, $r(121) = .937$, $p < 0.05$, with interpersonal relation $r(121) = .923$, $p < 0.05$. The correlation coefficients for the five factors are significant at the 0.01 level. Thus, the null hypothesis is not rejected.

H_{08} : There is no significant relationship between the five factors of teacher effectiveness and the aggregate effectiveness of migrated teachers in an unfamiliar cultural context.

Table 11: *Coefficient of Correlation of Five Factors on Teacher Effectiveness*

Variable	1	2	3	4	5	6
1. Teacher effectiveness	1					
2. Preparation for teaching and planning	.970**	1				
3. Classroom management	.979**	.941**	1			
4. Knowledge of subject matter, etc.	.958**	.923**	.925**	1		
5. Teacher characteristics	.982**	.937**	.943**	.929**	1	
6. Interpersonal relations	.972**	.923**	.942**	.917**	.945**	1

Note: ** $p < .001$.

The investigators want to determine whether the five factors (e.g., preparation for teaching and planning, classroom management, knowledge of subject matter, teacher characteristics, and interpersonal relations) of teacher effectiveness are related to the aggregate effectiveness score of migrated teachers in an unfamiliar cultural context. To understand the relationship, a null hypothesis has been formulated, positing that the five factors are not significantly correlated with the aggregate effectiveness of migrated teachers. A multiple linear correlation test has been applied to test the null hypothesis and found a significant positive correlation. The results indicate that aggregate effectiveness of migrated teachers positively and perfectly correlated with each five factors e.g., correlation with preparation for teaching & planning ($r(121) = .970$, $p < .001$), correlation with classroom management ($r(121) = .979$, $p < .001$), correlation with knowledge of subject matters etc ($r(121) = .958$, $p < .001$), correlation with teacher character ($r(121) = .982$, $p < .001$), and correlation with interpersonal relation ($r(121) = .972$, $p < .001$). Thus, the null hypothesis is not accepted.

H_{09} : There are no significant predictors of the effectiveness of migrated teachers among the five factors of teacher effectiveness in an unfamiliar cultural context.

Table 12: *Regression Coefficient of Five Factors on Teacher Effectiveness*

Variable	B	SE	t	p	95% CI
Constant	2.84	.00	.	.	[.00-.00]
Preparation and Planning for Teaching	1.00	.00	.	.	[1.00-1.00]
Classroom Management	1.00	.00	.	.	[1.00-1.00]
Knowledge of Subject Matters, etc.	1.00	.00	.	.	[1.00-1.00]
Teacher Characteristics	1.00	.00	.	.	[1.00-1.00]
Interpersonal Relation	1.00	.00	.	.	[1.00-1.00]

Note. CI = Confidence interval.

Table 13: Model Summary for Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.982a	.963	.963	11.9822	.963	3130.220	1	119	.000
2	.995b	.989	.989	6.4675	.026	290.460	1	118	.000
3	.997c	.995	.995	4.4870	.006	128.157	1	117	.000
4	.999d	.999	.998	2.4321	.004	282.222	1	116	.000
5	1.000e	1.000	1.000	.0000	.001	.	1	115	.

Note. a. Predictors: (Constant), Teacher characteristics, b. Predictors: (Constant), Teacher characteristics, Classroom management, c. Predictors: (Constant), Teacher characteristics, classroom management, Preparation for teaching and planning, d. Predictors: (Constant), Teacher characteristics, Classroom management, Preparation for teaching and planning, Interpersonal relations, e. Predictors: (Constant), Teacher Characteristics, Classroom management, Preparation for teaching and planning, Interpersonal relations, Knowledge of subject matters etc., f. Dependent Variable: Teacher effectiveness.

The goal of the study is to predict the effectiveness of migrated teachers given the five factors of teacher effectiveness in an unfamiliar cultural context. For that, a null hypothesis is framed to understand the prediction of each factor and hypothesized that the five factors of teacher effectiveness do not significantly predict the effectiveness of migrated teachers. To test the null hypothesis, a multiple linear regression analysis is calculated for understanding the prediction of effectiveness by the five factors, e.g., preparation and planning for teaching, classroom management, knowledge of subject matter, etc., teacher characteristics, and interpersonal relations.

Table 11 shows the effect of five factors of teacher effectiveness on the effectiveness of migrated teachers in an unfamiliar cultural context. The multiple linear regression analysis yields a significant regression equation ($R^2 = 1.00$), indicating that 100% of the variation in teacher effectiveness is explained by all five factors, each of which perfectly predicts teacher effectiveness. The regression model is a perfect fit. All the effectiveness falls perfectly on the regression line, and all five predictors account for all the variance in the aggregate effectiveness score.

Table 12 shows that, individually, knowledge of subject matter and related factors are the best predictors of teacher effectiveness ($R^2 = 1.00$). Thus, the null hypothesis is not accepted.

Discussion and exploration

The researcher studied teacher effectiveness using different demographic variables and five factors. The results indicate that demographic variables, except marital status, have no effect on teacher effectiveness, and the five factors showed equal relationships with effectiveness and perfectly predicted it in the total obtained score. Knowledge of subject matters, etc, is the best predictor of the effectiveness of migrated teachers in an unfamiliar cultural context. Duckworth et al. (2009) argued that demographic variables focused least on differences in teacher effectiveness and other factors, e.g., school-related factors, which vary substantially in their effects on teacher effectiveness (Darling-Hammond & Berry, 2006). The effectiveness of

migrated teachers is unequally distributed, with less than average effectiveness, and it is going down, with their effectiveness decreasing dramatically day by day due to overwhelming workloads. Marital status is a significant factor for healthy living in a residential setup of a school, and loneliness affects the teachers, while it matters for domestic and psychosocial imbalance (Odanga et al., 2015).

The study shows that teachers are becoming moderately effective (36.36%), below average effective, including worst effective (27.26%), and 27.27% of the teachers fall under above average effective. The total, 90.90% of good-quality teachers in JNVs (Claimed by NVS), reported an unfavorable classroom environment for implementing their instructional transactions in a highly effective way due to students' unfamiliar cultural context. Investigators concluded that the unfamiliar cultural background is the leading cause of its less effectiveness. Goswami (2015) suggested that, despite being highly effective, teachers who move to a different geographical area are ineffective in teaching. Similarly, Mbuthi & Orodho, 2014; Ronfeld et al., 2013; & Sodhy, 2010, and different cultural, ethnic background, socioeconomic status of students, urban and suburban setup of school differ in effectiveness of highly qualified teachers (Jones, 2017; Long, 2012; Kane et al., 2011; Jacob, 2007; Akiba et al., 2007; Nye et al., 2004). The result of the study is in tune with the previous study.

The investigators concluded that the primary purpose of the study was to determine whether, in unfamiliar cultural contexts or changes in the school environment, the effectiveness of migrated teachers was equally influenced by changes in the five factors of teacher effectiveness. Changes in the teaching environment affect teacher preparation for teaching and planning, personal character, relationships with others, classroom management in an unfamiliar cultural context, and knowledge of subject matter, among other things. However, these remain unchanged in their contribution to teacher effectiveness. So, among the five factors, knowledge of subject matter, etc., is the best-predicting factor ($R^2 = 1$).

Teachers are engaged in teaching activities; each factor contributed equally to changes in the effectiveness of migrated teachers, and demographic variables also did not affect their effectiveness. Teacher effectiveness can be increased by nurturing the five factors, as they perfectly predict effectiveness in a linear regression model. As previous studies (Duckworth et al., 2009) demonstrated, demographic variables do not affect effectiveness. According to the evidence, the effectiveness of migrated teachers varies in an unfamiliar cultural context. It is demonstrated that the teachers practise all their teaching activities and their related matters in parallel, which underlie the five factors of teacher effectiveness. It means they are concerned about their daily activities and try to put forth their best effort, but the unfamiliarity with the students' cultural background or the unknown cultural background of the students creates an invisible barrier to the full impact of the teachers.

Delimitations, limitations, and future research

The study has been completed with many delimitations and limitations. The study includes only 18 Jawahar Navodaya Vidyalayas (JNVs) in West Bengal, India. The participants are only migrated Indian teachers in JNVs. The study used a standard scale. The study employed teachers only. In the Indian context, limited research has been conducted. Thus, a limited number of literature has been included for review in the study. The study includes the principals only for comparing teacher effectiveness. It can include students to improve the accuracy of the results. In further study, the population can include another schooling system in the entire state

of West Bengal. A comparative study can be conducted with migrated and native teachers. Students' achievement can be included to explore the factors of effectiveness in a broad sense.

Conclusion

The study measures the effectiveness of migrated teachers in exploring the factors affecting teachers in unfamiliar cultural settings. Teachers' knowledge of subject matter does not vary across cultures, but other factors do. The result revealed that heterogeneity in culture, ethnicity, language, and socioeconomic environment between students and teachers varies across JNVs in West Bengal, affecting teacher effectiveness. Furthermore, the life-changing influence of teachers occurs when they enjoy liberty and are engaged solely in teaching activities, with no additional workloads. The study suggests that effectiveness may vary across familiar and unfamiliar cultural settings, and that average effective teachers can be highly effective in their own cultural setting. The literature suggests that the effectiveness of highly effective teachers decreases due to changes in the school environment. Effectiveness can be increased by minimizing the effects of factors related to teacher effectiveness across cultures. The study recommends that training and knowledge of Indian culture are urgent needs for migrated teachers.

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