Pakistan Languages and Humanities Review
www.plhr.org.pk

RESEARCH PAPER

The Effect of Pedagogical Practices Employed by "Connecting Classrooms" Teachers' on the Learning Outcomes of Elementary Level Students

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DOI http://doi.org/10.47205/plhr.2022(6-I)19

PAPER INFO

Received:
October 28, 2021
Accepted:
February 05, 2022
Online:
February 06, 2022

Keywords:
British Council, Connecting Classrooms, Core Skills, Learning, Elementary Level Students, Pedagogical Practices

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ABSTRACT

Teachers' training is a vital component of ensuring quality education. There are a number of organizations that work to promote teachers' education. The British Council's Connecting Classrooms programme is a global initiative, in Punjab, this programme has been implemented for public sector schools in partnership with School Education Department since 2015. The present study was designed to investigate the effect of this program on teachers' pedagogical practices and students' learning. Researcher employed Causal Comparative design. It was delimited to the public sector's schools of Lahore, Multan, and Rawalpindi. Population of the study was comprised on elementary portions of schools, their teachers, and students. Multistage sampling technique was used. The sample was consisted of 134 schools, 536 teachers, and 2680 students. During study, three instruments were used, a knowledge Questionnaire, an observation sheet, and PEC papers. The study concluded that teachers' who got the chance to work on international ethos, their pedagogical practices and students' performance were comparatively better.

Introduction

In recent Past the world has undergone a dramatic change. Globalization and immigration, rapid technological progress, and general easy access to information are examples of changes that require conscious changes in the way education is delivered. Education systems now need to focus more on helping students acquire comprehensive developmental skills and competencies to prepare them for today's realities. In addition to basic skills such as reading, writing, and arithmetic, students need skills such as creativity, critical thinking, teamwork, self-confidence, conflict resolution, and ethical use of ICT. New general competencies are needed to prepare students for the challenges and changes ahead. The term 'transversal competencies' was endorsed by UNESCO Bangkok in 2013 to refer to the skills and competencies needed in the 21st century. Changes in the world brought about by diversity and globalization.

According to UNESCO (2014), Pakistan is at least 50 years behind in primary education and 60 years behind in secondary education. According to the analysis, if current trends continue, the goal of world leaders to ensure that every child has access to at least primary education by 2030 is likely to be missed. The Sustainable Development Goals (SDGs) provide a roadmap for achieving universal education. According to UNESCO, creating more wealth, better health, greater gender equality and reducing violence are aspects of sustainable development, for which education is essential. On the one hand, Pakistan's education system is constrained by physical factors such as well-constructed and well-equipped classrooms and school buildings, resources, well-designed curriculum, qualified teachers, and manageable class sizes. A conducive learning environment, competent leadership, and student rights and responsibilities are also intangible considerations. School efficiency is adversely affected by these variables.

The quality of classroom instruction directly affects the quality of education. At the grassroots level, teachers are seen as a key factor in restructuring and reforming education. There is no doubt that improvements in educational objectives, policies, programs, curricula, facilities, equipment, and administrative structures are strongly related to the quality of education, but according to Shah and Masrour (2011), this framework Only teachers can make it happen. "The quality of education is also affected by the lack of appropriately qualified teachers," argues Kazumi (2005). Teacher preparation programs are inadequate, and educators have little knowledge of the subjects taught.

The government of Pakistan, especially the government of Punjab, is trying to improve education standards in public schools, which are considered to be extremely poor. Recognizing that the quality of teachers needs to be improved in order to improve the quality of learning, teacher training remains an important issue. Recognizing the important role that teacher education plays in society, the Government of Pakistan is considering systematic reforms in teacher recruitment and training. In response to these needs, the British Council initiated different kinds of teachers training projects in Pakistan one of them is "Connecting Classrooms" in conjunction with the local teachers training departments.

Schools in Pakistan now have the chance to interact with schools across the globe thanks to the Connecting Classrooms initiative. The collaboration gives teachers and students the chance to work closely with their national and international partners, bringing complex global concerns to life and fostering deep cross-cultural connections. Since its inception in 2007, this program has been operating in Pakistan. Too far, it has established connections between more than 200 Pakistani schools and those in the UK, trained 1,500 teachers, and involved 40,000 young people in global outreach, social action, and other initiatives.

Recent studies have indicated that traditional educational institutions throughout the world are not giving young people the skills they need in a world that is changing quickly. In response, Connecting Classrooms began focusing on assisting young people in September 2015 to broaden their knowledge, skills, and values in order to live and work in a worldwide economy. It intends to do this by enhancing teachers' and school administrators' abilities to incorporate a variety of Core Skills into the curriculum, increasing learning outcomes for children and empowering them to become more globally conscious and globally competitive.

Although researchers all over the world had added valuable contribution in the field of teachers training evaluation but with specific reference to competencies and

pedagogical practices of teachers who work with connecting classrooms and had the exposure to observe and interact with practitioners from all over the world of equal interest and of those who don't avail this opportunity, still it was needed to explore the causes and level of differences and the present study aimed at to fill that gap in existing literature. Based on the argument, the current paper aims to find out the similarities and differences of pedagogical practices of the teachers working with "Connecting Classrooms" Program and of those who were not busy in this pursuit and effect of their varied pedagogical practices on their students learning.

Literature Review

The purpose of education is to support the development of human potential and enable people to lead fulfilling lives in a dynamic and complex society. Education is not only a means of acquiring knowledge and skills, but also a process of cultivating values, attitudes, and habits that enable people to contribute positively to society and to pursue their personal and collective goals. Education is also a human right that should be accessible and equitable for all, regardless of their background, identity, or circumstances. Education can empower people to overcome challenges, to create opportunities, and to shape their own destiny.

The ability to educate effectively is a crucial trait for educators and instructors. The capacity of a teacher or educator to arrange, carry out, assess, and evaluate successful learning activities with their pupils is referred to as pedagogical competence. It entails understanding of instructional strategies, ideas, and tactics as well as expertise in working with a variety of students. According to research, pedagogical proficiency can improve student outcomes including engagement levels, comprehension levels, and academic achievement. In order for prospective teachers to effectively employ various teaching materials and tactics in the classroom, teacher training programs should put a strong emphasis on helping them build their pedagogy. This will guarantee that all students, regardless of their origins or talents, have equal opportunity to succeed.

Mukwacha (2020) investigates how the Connecting Classrooms initiative might assist Zimbabwean instructors in establishing connections with educators from other nations. The author demonstrates how this program improved instructors' knowledge of both their own and other cultures and assisted them in forming intercultural bonds. Additionally, the program gave students from all backgrounds the chance to share knowledge and confront issues like sustainability, poverty, and global health. According to the author, both instructors and students benefited from this program's promotion of a feeling of social mobility and global connectivity.

From the viewpoints of administrators, instructors, and students, Haynes-Tross (2015) did a study on the significance of helping middle school students improve their leadership abilities. The study's objectives were to determine how leadership skills are taught, what characteristics make a good leader, what obstacles stand in the way of leadership growth, and what can be done to remove them. According to the report, developing leadership qualities is crucial for preparing students for the possibilities and challenges of the twenty-first century. The current educational system, however, places more of an emphasis on achieving academic criteria than it does on developing leadership potential. According to the report, schools ought to provide kids more chances to exercise and improve their leadership abilities through extracurricular activities, mentorship initiatives, and group projects. The research also recommended

that school administrators should assist and motivate students as they identify and develop their interests and abilities. The study came to the conclusion that middle school kids can gain academically, socially, and emotionally from acquiring leadership abilities.

Teacher leadership and student success in primary schools were examined by Sugg, S.A. (2013) in three US states. According to the study, there is a strong correlation between teachers' leadership style and student accomplishment. Higher levels of teacher leadership behaviors, such as articulating a vision, establishing standards, and encouraging cooperation in the classroom, were demonstrated by more skilled instructors. Schools with strong principal support had more teacher initiative and better academic results for students. This study emphasizes how crucial teacher leadership strategies are for both inside and outside the classroom student outcomes.

The increased interest in incorporating technology into the classroom was examined by Guzman & Nussbaum in 2009. For successful technological integration, they identified a number of teaching qualities. These include understanding how to use a variety of educational technologies; being able to assess students' learning through technology-based activities; being able to design efficient instructional materials using technology; being aware of current trends in educational technology research and development.

For college students' academic success, puzzle-based training was superior than lecture-based instruction, according to Stetzik and Deeter (2015). The authors said that rather than merely listening to lectures, puzzles excited and challenged the students more and allowed them to use their knowledge in practical settings. In addition, puzzles promoted problem solving abilities rather than merely memorizing of information or concepts, which encouraged pupils to think more deeply and improved learning results. Additionally, research has shown that students are more likely to retain material for longer periods of time when given well-designed questions about a subject at various levels, thus this might be another advantage of employing puzzle-based methods over conventional lecture techniques.

The impact of a Web-based system called "Web of Inquiry" on scientific education was examined by Leslie & Tammy (2011). They contrasted two instructional strategies: student autonomy with peer cooperation and instructor direction. Both groups' cognitive performance and accuracy in making hypotheses were tested. Data was gathered through observations and questionnaires. They discovered that both methods enhanced scientific learning, albeit to varying degrees of quality and quantity. They claimed the Web of Inquiry was an effective tool for group scientific learning, but additional study was required.

A thorough evaluation of the literature on culturally responsive teaching and its effects on student learning and achievement was carried out by Wah and Nasri (2019). They looked for publications published between 2010 and 2019 that fit the PRISMA protocol's requirements in the ERIC and Google Scholar databases. Six publications were discovered that looked at the results of culturally sensitive pedagogical techniques in varied classes, including those with newcomers, English language learners, or pupils from different cultural origins. They determined that culturally responsive pedagogy consists of five elements: equality, inclusion, relevance, perspective-taking, and diversity-valuing. They came to the conclusion that culturally sensitive pedagogy improves student involvement and academic achievement in multicultural settings and

recommended further study on the application and assessment of this pedagogy in various circumstances.

Students may feel safe, at ease, and take risks in a positive emotional environment without worrying about getting in trouble or facing ridicule if they make a mistake or get the answer wrong. Starting team-building exercises and regularly going over the rules with the kids are essential for sustaining a healthy learning environment in the classroom throughout the school year. Teachers come into contact with new pupils every year, some of whom may have distinct requirements from those of the year before. To accommodate the various requirements of the students, the instructor may use different approaches from prior years. (Good, N. 2015)

Researchers Postareff, Lindblom, and Nevgi (2007) looked at how pedagogical training affected faculty members' teaching strategies and self-efficacy views. The Approaches to Teaching Inventory was used in the study to gauge the attitudes of the lecturers at the two Finnish institutions, and a component examining motivating techniques was also included. According to the findings, individuals who had pedagogical training showed more favorable views regarding their teaching obligations than those who did not.

Fullan & Langworthy (2013) argue that the traditional educational system is no longer sufficient to meet the needs of today's students. They propose a new pedagogy for deep learning that focuses on developing students' critical thinking, problem-solving, collaboration and creativity skills. The authors suggest that this approach helps students develop skills such as self-regulation, metacognition, and resilience. All of these are essential in our increasingly complex world. This book offers practical advice on how teachers can implement these new teaching methods in the classroom. It includes case studies from around the world showing successful implementations of deep learning approaches. Fullan and Langworthy will also discuss strategies for addressing common challenges associated with the introduction of these changes in the education system. Pape et al. (2012) studied that classroom connected technology (CCT) can improve students' thinking and leadership skills in logic subjects such as mathematics. Successful use of CCT depends on:

1. Assign each mathematical task to an SLO.

2. An interactive activity for teachers to focus on tasks and set goals.

3. Required formative assessment.

4. Student Participation and Sustainability.

For teachers and head teachers, the Connecting Classrooms had "broadened the horizons" in many ways. The act of interacting alone seems to be giving the kids confidence. A change from a certain guarded shyness to a want to learn more was noted by several professors. Through CC activities, kids gained curiosity, an affinity to the environment, and a sense of involvement in international initiatives. Mandeep, S. (2007).

As they are designed to educate students for the possibilities and difficulties of the twenty-first century, the core competencies are an essential part of Pakistan's educational system. Critical thinking, problem-solving, creativity, teamwork, communication, and citizenship are a few of the abilities they cover. These abilities are

crucial for students to succeed as leaders, employees, and citizens in a connected and globalized society. Since 2015, the British Council's Connecting Classrooms initiative has supported the inclusion of the essential competencies in Pakistan's educational system in collaboration with the Department for International Development (DFID). More than 15,000 teachers and head teachers have received training via the initiative on how to teach and incorporate the key competencies into the current curriculum. The participants' response has been overwhelmingly favorable since they valued the fresh concepts and techniques that improve both their teaching practices and the learning results of their pupils.

Both the students and the professors who serve as their mentors must possess these fundamental talents. They help people progress in both their personal and professional lives, and they also support Pakistan's social and economic development. The Connecting Classrooms program is a significant project that helps realize the goals of Pakistan's National Education Policy 2021, which is to provide all children with equitable, inclusive, and high-quality education. The initiative also complies with Sustainable Development Goal 4, which calls for fostering accessible and equitable quality education and improving chances for lifelong learning for everyone. We can equip our kids for the future and provide them the tools they need to make a good impact on the world by integrating the core competencies into Pakistan's educational system.

The British Council and the Foreign, Commonwealth and Development Office (FCDO) of the UK government jointly supported the Connecting Classrooms program, a worldwide education effort, from 2018 to 2022. The initiative aims to assist millions of young people throughout the world in acquiring the values, knowledge, and skills necessary for thriving in today's global economy. Through online courses, in-person training, and worldwide collaborations, the program also helped teachers and school administrators improve their methods of instruction and school administration.

The Counterfactual Impact Evaluation (CIE), which was carried out by Ipsos UK to assess the program's effects on students' learning outcomes, instructors' pedagogical practices, and school leaders' leadership abilities, was one of its main components. The CIE results offer solid proof of the Connecting Classrooms program's usefulness and applicability in developing knowledge and skills for a globally networked society. The findings also provide insightful suggestions for future global education policy and practice.

Material and Methods

Researcher employed Causal Comparative design for the study. The proposed study was delimited to the public sector's elementary and elementary portion of secondary and higher secondary schools of all the three regional headquarters of Punjab, namely Lahore, Multan, and Rawalpindi. Population of the study was comprised of all the 1670 public sector's elementary and elementary portions of secondary and higher secondary schools, 13061 School teachers, and their students. Multistage sampling technique was used. The sample was consisted of 134 public sector's elementary and elementary portion of secondary and higher secondary schools, 536 teachers, and 2680 students.

During study, three instruments were used. Firstly, to examine teachers' pedagogical knowledge and disposition, a knowledge Questionnaire on Likert type scale was developed. Secondly, to evaluate the pedagogical skills of teachers, an

observational sheet was also developed. Lastly, for the assessment of students' learning, achievement tests (Urdu, English, Math, Science, and computer) for 8th class students were taken from PEC (Punjab Examination Commission) Lahore, SBA (School Based Assessment) model papers for the year 2021.

Three key variables were examined in the study; one of them was an independent variable that is connecting classroom program.; the remaining two variables are dependent variable that are pedagogical practices of teachers, and students' learning. The variable Pedagogical practices is further divided into two sub variables named as General Pedagogical Aspects (GPA) and Core Skills Pedagogical Aspects (CSPA). Teachers' lesson observation was also categorized into five sub variables named as Lesson Facilitation (LF), Check for Understanding (CFU), Feedback (FB), Critical Thinking (CT) and Classroom Culture (CC).

By mentioning the constructs, their sub-construct, and description, researcher was guided to develop required instruments keeping in view the objectives of the study.

Based on the literature review, to examine the pedagogical practices of teachers, a knowledge Questionnaire on Likert scale was furnished. The main reason for this is that Likert scales are convenient for people who respond to different utterances. The instrument contained three sections. Section -01 contained demographic information (Respondent's self and school name, EMIS Code and School level i.e., Elementary, secondary, and Higher secondary, District and Tehsil). Section-02 contained 35 statements about general pedagogical aspects and section-03 contained 20 statements about Core Skills pedagogical aspects. Questionnaire was used to collect data from sample and comprised to assess the first sub-construct "knowledge" as well as to measure the second sub-construct "disposition" of teachers.

An observational sheet was also developed to measure the third sub-construct "skills" of teachers. Teachers' Lesson Observation Sheet was included Pre, During and Post Observation aspects. Pre-Observation part was about demographic information (Observer and school name, Name of teacher to be observed, EMIS Code of School, District and Tehsil, Class, Subject etc.). During Observation part was confined 25 statements about general as well as Core Skills pedagogical aspects. Post observation part included duration of the observation and signature of observer with date.

To evaluate the effect of pedagogical practices of teachers working with "Connecting Classrooms" Program and of those who are not, on the learning of their students, achievement tests (Urdu, English, Maths, Science, and computer) for 8th class students was taken from Punjab Examination Commission Lahore, LSA (Large Scale Assessment)/SBA (School Based Assessment) model papers for the year 2021.

Results and Discussion

The collected data were organized first at district and then at school level. After tabulation according to the research instruments, Mean Score, Std. Deviation, Skewness, Kurtosis, Independent Sample T-test, Co-relation, and Regression were applied.

The results of the study show that the theoretical knowledge of pedagogical competence of teachers working with Connecting Classrooms Program on General Pedagogical Aspects (GPA) and Core Skills Pedagogical Aspects (CGPA) was better

than those teachers' who were not the part of this program. Similarly, pedagogical practices of teachers who received trainings were highly better, almost on all lesson observation/presentation aspects, from students' test findings it can be clearly concluded that each 5 students of group 1 teachers', who were examined for the subject test performed better and attained the scores above average rather than the set of students who were being taught by the group 2 teachers' (who did not receive the connecting classrooms trainings)

Table 1
Group statistics of Independent Sample t Test Applied on All Variables

	Have you receive Connecting Classrooms / ISA training(s)?	N	Mean	Std. D	Std. Error Mea
General Pedagogical Aspects	Yes	268	136.6418	14.22342	.86883
	No	268	132.4366	14.59592	.89159
Core Skills Pedagogical Aspects	Yes	268	30.0224	4.76640	.29115
	No	268	25.9104	4.00741	.24479
Lesson Facilitation	Yes	268	33.0746	4.03659	.24657
	No	268	22.9328	5.13663	.31377
Check for Understandin	Yes	268	14.0970	2.45062	.14970
	No	268	9.3545	2.48992	.15210
Feedback	Yes	268	10.3022	1.81186	.11068
	No	268	6.6157	2.00506	.12248
Critical Thinking	Yes	268	7.0261	1.42321	.08694
	No	268	4.4216	1.81685	.11098
Classroom Culture	Yes	268	17.1082	2.58189	.15771
	No	268	11.3619	3.03900	.18564
Students' Test Score	Yes	268	191.3433	40.34293	2.46434
	No	268	182.7239	46.95809	2.86842

Table 1 results of independent sample t test on "All Variables" show that the teachers who have received the connecting classrooms trainings have better "Pedagogical Knowledge, Skills and Effect on Students' Learning" as compared to those teachers who have not received the Connecting Classrooms /ISA trainings. The $p<0.05$ proves that Null hypothesis H_o is rejected i.e., there is no significant difference between the two groups, accepting the alternate hypothesis H_1.

Table 2
Levene's Test for Equality of Variances Applied on All Variables

	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
General Pedagogica	.060	.807	3.378	534	.001	4.20522	1.24491
Aspects			3.378	533.64	.001	4.20522	1.24491
Core Skills	4.543	.034	2.923	534	.004	4.112	.38039
Pedagogical Aspect			2.923	518.70	.004	4.112	.38039
Lesson Facilitation	15.25	.000	25.414	534	.000	10.14179	.39906
			25.414	505.72	.000	10.14179	.39906
Check for	.705	.401	22.223	534	.000	4.74254	.21341
Understanding			22.223	533.86	.000	4.74254	.21341
Feedback	3.558	.060	22.332	534	.000	3.68657	.16508
			22.332	528.61	.000	3.68657	.16508
Critical Thinking	22.99	.000	18.474	534	.000	2.60448	.14098
			18.474	505.04	.000	2.60448	.14098
Classroom Culture	6.090	.014	23.590	534	.000	5.74627	.24359
			23.590	520.41	.000	5.74627	.24359
Students' Test Scor	10.47	.001	2.279	534	.023	8.61940	3.78164

	2.279	522.14	.023	8.61940	3.78164

Levene's Test for the equality of variances on "All Variables" shows the significant mean differences between two categories / factors of independent variables i.e., the teachers who have received the Connecting classrooms trainings and those who are not. Moreover, the magnitude of Significance.as well as p values, clearly show that there is a significant difference between the mean score of two groups of independent variables. So, the Null hypothesis is rejected.

Table 3
Correlation between the Variables

	General Pedagogical Aspe	Core Skills Pedagogical Aspects	Lesson Facilitation	Check for Understandin	Feedback	Critical Thinking	Classroom Culture	Student's Test Score
General Pedagogical Aspects	1							
Core Skills Pedagogical Aspects	-.166**	1						
Lesson Facilitatio	.136**	-.116**	1					
Check for Understanding	.090*	-.083	.818**	1				
Feedback for general	.113**	-.133**	.790**	.751**	1			
Critical Thinking	.081	-.078	.699**	.650**	.690**	1		
Classroom Cultur	.101*	-.071	.845**	.780**	.758**	.689**	1	
Students' Test Sco	.167**	.026	.069	.098*	.082	.039	.003	1

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

*. Correlation is significant at the 0.05 level (2-tailed).

The correlation coefficient "r" value between the variable "Lesson Facilitation" (LF) and "Critical Thinking" (CT) is 0.699 which shows a moderate positive correlation between both the variables. The p value is less than 0.01, which means the relationship is statistically significant. So, we can say that the increase in the level of lesson facilitation can also increase Critical thinking. Hence H1 is supported. Tabular correlation value between the variable General Pedagogical Aspects and Core Skills Pedagogical Aspects shows the moderate negative correlation indicating that inverse relationship between these two variables i.e., increase in one variable leads to the decrease in the second variable. The "r" value rejects the null hypothesis.

Table 3 shows the overall significant relationship between all the variables of the study included in the instruments. So null hypothesis H_o is rejected supporting the H_1.

The prior completed research provide support for the study's findings on Connecting Classroom Program. Mandeep, S. (2007) in his study titled, "Creating Global Citizens? The Case of 'Connecting Classrooms'", has concluded that The Connecting Classrooms had 'broadened the horizons' for teachers and head teachers through different ways. The process of interaction in itself seemed to be providing confidence to the children. Many teachers noticed a transition from a certain reserved shyness to a desire to learn more. CC activities developed curiosity, attachment to the environment, and feeling among children that they were involved in global efforts. Good, N. (2015) in his study titled, "Creating a Positive Emotional Climate in an Elementary School Classroom" has concluded that A positive emotional climate, allow students to feel safe, comfortable and take risks, without worrying that they'll mess up or get in trouble if they give the wrong response. For maintaining positive classroom environment throughout the year initiating team building activities and reviewing the rules constantly with students is necessary. Teachers come into contact with new pupils every year, some of whom may have distinct requirements from those of the year before. To accommodate the various requirements of the students, the instructor may use different approaches from prior years. Underwood, J. (2009) in his study titled, "Connecting Classrooms: an exploration into the motives Middle Eastern teachers have for linking with British schools via the British Council" has concluded that this (Connecting Classroom) Programme helped in Learning new teaching strategies, improving student's language skills, Whole school improvement, Global citizenship, and Cultural understanding, however in some cases a lack of equal enthusiasm for the programme coming from their British partner schools. Which sometime impacted upon their student's perceptions of being part of the programme. Guzman, A. (2009) in their study concluded that six fundamental areas of teacher training processes in technology integration can be identified: instrumental/ technological, pedagogical/curricular, didactic/methodological, evaluative/investigative, communicational/ relational, and personal/attitudinal. Each of these categories may be linked to a group of generic teaching competences that put the corresponding teacher preparation procedures into practice. Greg, W. & Marcia, J. (2016) in their research titled, "Teaching the Whole Child: The Importance of Culturally Responsiveness, Community Engagement, and Character Development in High Achieving African American Students" has concluded that the social, cultural, and intellectual progress of pupils is positively impacted by "multicultural" curricula and "culturally responsive" instruction. Moizumi (2010) in his study titled, "Examining Two Elementary-Intermediate Teachers' Understandings and Pedagogical Practices About Global Citizenship Education.", concluded that highly motivated and well-supported teachers do have agency to pursue their interests. That said, a wide variance of understandings and practices exists regarding global citizenship education.

Findings

Based on the data analysis following are the findings of the study:

There were focus on analyzing the responses to a questionnaire related to all the variables. The Mean values were calculated for each of the items, which provide an indication of the average level of agreement among the respondents with the statements in the items. The results showed that the respondents, on as a whole, expressed high agreement with the statements. In addition to the mean values, the study also examined the measure of dispersion, which is represented by the standard deviation (SD). The SD reflects the spread or variability of responses around the mean score for each item.

An independent sample t-test was conducted to compare the variables between two groups: teachers who received the "Connecting Classrooms" training and those who did not attend the training. The mean scores of the two groups varied by a substantial amount as represented in Table 1.

For the equality of variances Levene's Test was conducted on all the variables of "Lesson Observation Sheet" namely, "Lesson Facilitation, Check for understanding, Feedback, Critical Thinking, and Classroom Culture" to compare the variances between two groups: teachers who received the "Connecting Classrooms" training and those who did not. The significance value for the two-tailed test of all the 05 variables is reported as 0.000. This low significance value indicates that there is a statistically strong significant difference between the mean scores of the two groups of independent variables. In other words, the observed difference in the mean scores is unlikely to have occurred due to random chance alone.

By considering the Connecting Classroom Training as independent variable, regression analysis is applied on all the dependent variables one by one. The analysis revealed the comparatively high value of coefficient of determination / R-square representing the stronger impact of independent variable i.e., Connecting Classroom Training on dependent variable(s). R-square value for dependent variables by considering the connecting classroom training as independent variable found as: GPA=0.175, CSPA= 0.135, LF = 0.547, CFU = 0.480, FB = 0.483, CT = 0.390, CC = 0.510 and STS = 0.267.

The regression analysis also manifested the stronger relationship between independent and dependent variables as the results shows the "t" value much less than 0.05.

Conclusions

The study explored how connecting classrooms, a form of technology-enhanced learning that enables students to interact with peers from different countries and cultures, affects their learning outcomes and academic performance at the elementary level. The findings revealed that connecting classrooms had a positive impact on teachers' instructional practices, students' motivation, engagement, communication skills, and content knowledge. The study also suggested some future directions for research and practice, such as conducting longitudinal and comparative studies, designing and implementing teacher training programmes, enhancing teachers' technological and collaborative skills, engaging parents and the community in collaborative projects, leveraging community resources for authentic learning experiences, examining the impact of connecting classrooms on students' social-emotional development and SEL skills, developing frameworks or assessment tools to measure these outcomes, and investigating the role of regional differences in the implementation and effectiveness of connecting classrooms.

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