Creative Education, 2025, 16(6), 726-747
https://www.scirp.org/journal/ce
ISSN Online: 2151-4771
ISSN Print: 2151-4755

Perceptions of Student-Teachers towards Their Teaching Learning Environment (TLE)

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How to cite this paper: Juttukonda, L., Prusty, R., Avvaru, R., & Narayana, R. (2025). Perceptions of Student-Teachers towards Their Teaching Learning Environment (TLE). *Creative Education, 16,* 726-747.
https://doi.org/10.4236/ce.2025.166044

Received: April 20, 2025
Accepted: June 10, 2025
Published: June 13, 2025

Abstract

This study aims to explore the experiences of students enrolled in Education Studies (Bachelor of Education and Master of Education) at the University College of Education, Osmania University, Hyderabad, during the 2022-2023 academic year. The perceived course experiences of the 48 student teachers at Osmania University's University College of Education in Hyderabad, India, are examined using a survey. A 25-item SETLQ designed to describe features of how students view their teaching learning environment (TLE) in a particular course unit is utilised. The findings demonstrate that students' opinions of different TLE components and overall TLE are beneficial to the course modules that have been taught to them. The way both male and female students saw their TLE did not show change. The graduation level had no bearing on the students' assessment of TLE, and their perception of TLE was influenced by their achievement. The courses that students studied had little bearing on how they felt about TLE, and neither did their age group. The suggestions were made for better training results, raising the calibre of participation experiences, and fostering greater understanding among participants.

Keywords

Perceived Course Experiences, Teaching and Learning Environment, Active Learning, QAIT Model, Student Support, Pedagogical Content Knowledge

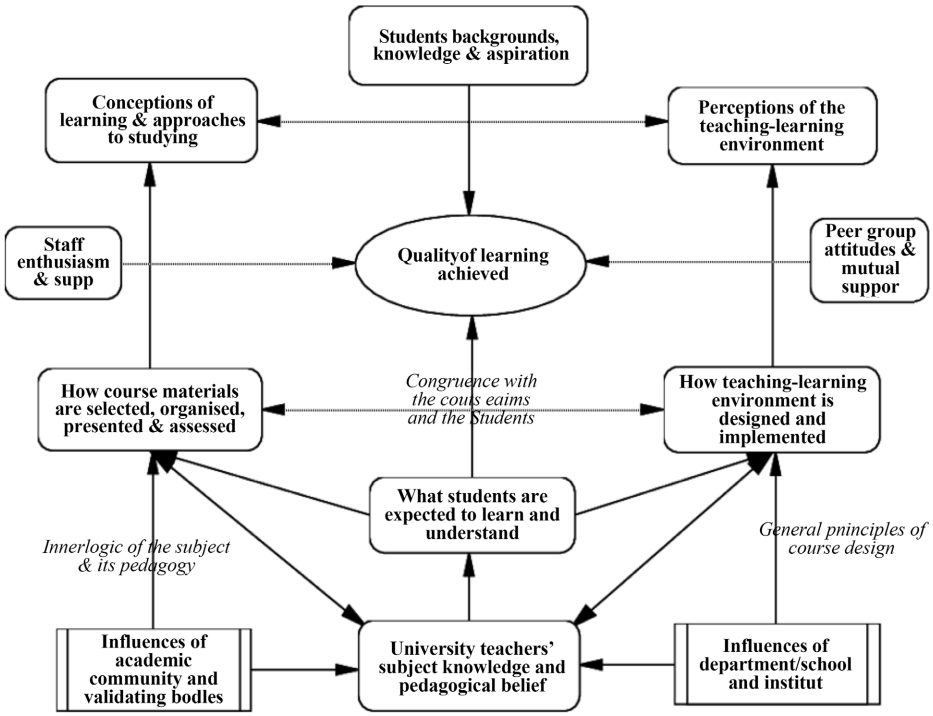
1. Introduction

In recent decades, a constructivist view of learning has triggered a change in teaching-learning environments (TLEs). Teacher-centred TLEs have been replaced by

student-centred ones where the teachers' approaches to teaching are more learning—than content-focused (Uiboleht, Karm, & Postareff, 2019). So, inclusion of student-activating teaching-learning activities is important when designing TLEs, but that it is also crucial to design elements which guide and structure students' learning. Learning environment as a variable that contributes either positively or negatively to the academic achievement of student has attracted only little attention in the struggle of finding a lasting solution to the persistent lack lustre result by students from the education system. The findings revealed that learning environment plays a significant role in student academic performance (Usman & Madudili, 2019).

According to Rosebrough and Leverett (2011: p. 115) if evidence suggests that learning is not occurring, we need to slow down and inspect the total learning environment, including the goal structures, the curriculum, the teachers, the students, and our pedagogies (**Figure 1**).

Students' Characteristics



(From Entwistle, 2008, p. 25: Source: Tochon, Karaman, & Okten (2014). Online Instructional Personal Environment for Deep Language Learning. International Online Journal of Education and Teaching. Vol. 1, no. 2, 2014).

Figure 1. Characteristics of teachers and teaching-learning environment.

Students sometimes do not appreciate a current learning experience because they do not see its value relative to their course of study (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010). It is because, learning motivates action through three channels: participation, choice, and voice; as well as many of the top strategies (such as organizing and transforming, summarizing, and paraphrasing) pro-

mote a more active approach to learning tasks and high levels of engagement with the content. The less active are much lower in the rankings (such as record-keeping, imagery, time management, and restructuring the learning environment). Hence, Gardiner (1994: p.4) suggests that our current instructional procedures are not working very well. Students are not learning even basic general knowledge, they are not developing higher-level cognitive skills, and they are not retaining their knowledge very well. In fact, there is no significant difference between students who take courses and students who do not. However, Parpala, Lindblom-Ylanne, Komulainen, Litmanen and Hirsto (2010) concluded that approaches to learning and the study discipline effect on students' experiences of the teaching-learning environment.

Furthermore, the results of a study by Beth, Robert, Courtney, Sarah and Brett (2002) suggest that the ClassMaps Survey (a measure of student perceptions of classroom learning environments) is a promising measure that captures students' perspectives of classroom environments so they can be used to plan and implement class wide interventions.

Then, Stes, Maeyer, Gijbels and Petegem (2012) found that evidence regarding the impact of teachers' instructional development on students' perceptions of the TLE is scarce.

So, an investigation is taken up to find out the experiences about teaching and learning of students pursuing Bachelor of Education (BEd) and Master of Education (MEd) at University College of Education, Osmania University, Hyderabad during 2022-2023 academic year.

2. Objectives of the Study

1) To study students' experiences of teaching and learning in BEd (2-semester—Sociological Perspectives of Education/4-semester—Contemporary Education in India) and MEd (2-semester—Pre-service and Inservice Teacher Education/4-semester—ICT in Education at Elementary/Secondary Level)

2) To explore students' experiences in eight contrasting areas of TLE.

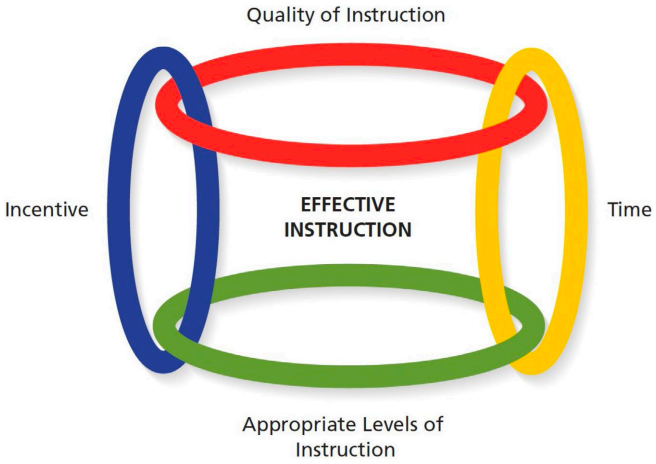
3) To help teachers to enhance TLE.

3. Theoretical Framework

Learning is a process that leads to change, which occurs as a result of *experience* and increases the potential for improved performance and future learning (Mayer, 2002). It takes place in many ways. Sometimes it is intentional, and at other times it is unintentional. All sorts of learning are going on all the time (Slavin, 2018: p. 98). Furthermore, Slavin (2018) suggests that the problem we face as a teacher is not how to get students to learn; rather, it is how to help students learn particular information, skills, and concepts that will be useful in their lives.

Learning is a function of time actually spent on learning and time needed to learn. Time needed is a product of aptitude, prior knowledge, and ability to learn; time spent depends on clock time available for learning, quality of instruction, and

student perseverance (Carroll, 1989). Slavin (1995) slightly altered Carroll's model which is called as QAIT model (**Figure 2**), for quality of instruction (set of activities), appropriate levels of instruction (student diversity), incentive (the interest value of the material being learned, or recognition), and time (allocated time and engaged time).



(Source: Slavin, 2018: p. 215).

Figure 2. The QAIT model.

Strategies for providing effective learning environments include not only preventing and responding to *misbehaviour* but also, and even more important, using class time well, creating an atmosphere that is conducive to interest and inquiry, and permitting activities that engage students' minds and imaginations (Levin, Nolan, Kerr, Elliott, and Bajovic, 2016). So, creating an effective learning environment involves organizing classroom activities, instruction, and materials to provide for effective use of time; to create a happy, productive classroom; and to minimize disruptions (Jones & Jones, 2016).

What makes a good teacher is the ability to carry out all the tasks involved in effective instruction. Warmth, enthusiasm, and caring are essential (Marzano, 2011), as are subject matter knowledge and understanding of how children learn (Carlisle, Kelcey, Rowman., & Phelpa, 2011). Furthermore, these teachers are constantly asking themselves what goals they and their students are trying to accomplish. Students of 21st century need extensive experience working in groups, solving problems, and learning to read critically and think creatively (Marzano & Heflebower, 2012). Today, project-based learning may be the most popular form of cooperative learning (Senn & Marzano, 2015) and it is likely to be used from time to time for experiments, investigations, and reports. The idea of a project is to go beyond learning facts and skills and learn something in depth, working closely with groupmates (Larmer, 2014).

Most research comparing cooperative learning to traditional teaching methods has evaluated group study methods such as Student Teams—Achievement Divisions (STAD), Jigsaw II, Cooperative Integrated Reading, and Composition (CIRC),

and Learning Together. Studies of cooperative learning methods that incorporate group goals and individual accountability show substantial positive effects on the achievement of students (Slavin, 2013). There is much evidence that children are more highly motivated to engage in activities that they choose, even if the choice is between two alternatives (Patall et al., 2008). Furthermore, students are likely to work harder if they see a connection between course content and desirable careers, or other important life achievements (Fisher & Frey, 2014).

The whole writing-across-the curriculum effort made the argument that writing activities can also enhance the process and quality of student learning (Zinsser, 1988; Bean, 1996). So, students will learn more and will retain that learning longer if more active methods of teaching and learning are used (Barkley, 2010). Thus, active learning is "anything that involves students in doing things and thinking about the things they are doing" (Bonwell & Eison, 1991). Thus, four general aspects of teaching are involved in all teaching, regardless of whether that teaching is effective or ineffective, traditional, or innovative (Dee Fink, 2013). All teachers need to have some knowledge of the subject matter and make decisions about the design of their instruction before the course begins while after the beginning of the course teachers interact with students and manage course events.

4. Conceptual Framework

Studies that have attempted to match teaching styles to learning styles have only inconsistently found any benefits for learning based on styles (Kirschner & van Merrienboer, 2013). This is because the students differ in their prior learning and in their cognitive learning styles as well as their preferences in learning environments and conditions also affect student achievement (Slavin, 2018: p. 94). One approach to teaching thinking skills is to incorporate them into daily lessons and classroom experiences—to create a "culture of thinking" (Swartz, 2009). This is a key objective of education, that is, enhancing students' abilities to think critically and make rational decisions about what to do or what to believe (Abrami, Bernard, Borokhovski, Waddington, Wade, & Persson, 2014). Hence, creative problem solving requires incubation time, suspension of judgment, conducive climates, problem analysis, the application of thinking skills, and feedback (Slavin, 2018: p. 210).

Conceptual framework (**Figure 3**) illustrates the variables of the study and the relationships expected to find between them. The independent variables are the students' gender, age, level of graduation and semesters of their study while the dependent variables are experiences about students' teaching and learning. There are eight components of dependent variable, namely, aims and congruence, choice allowed, teaching for understanding, setwork and feedback, assessing understanding, staff enthusiasm and support, student support, and interest and enjoyment. The knowledge of students' perceptions about teaching and learning give insights about enhancing teaching learning environment for teachers.

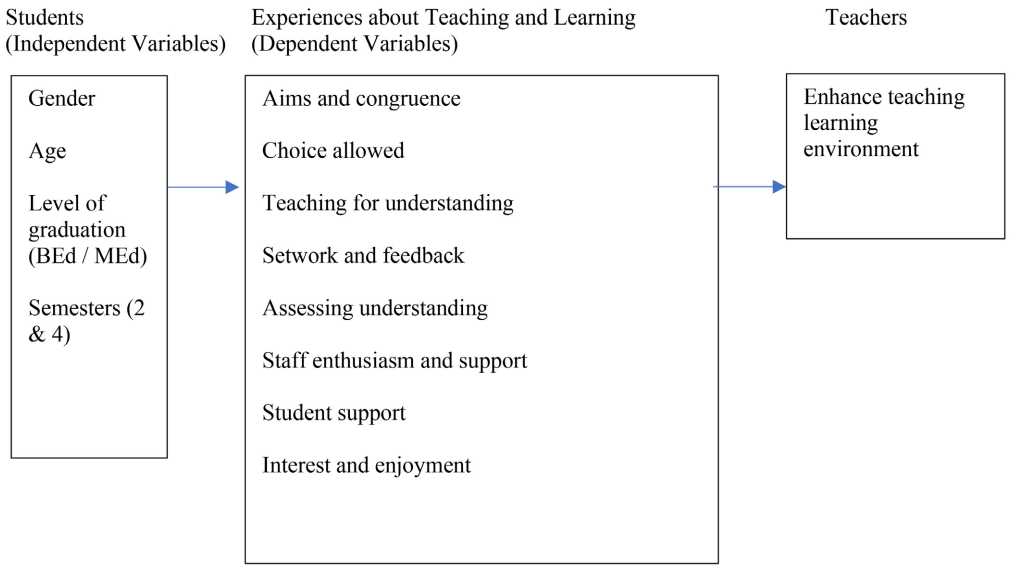


Figure 3. Conceptual framework.

5. Review of Related Literature

Kember and Leung (2009) made a case to show how the questionnaire (of eight generic capabilities) identifies strengths and weaknesses, which can lead to action plans for quality improvement. The reviews of earlier studies are organized holistically covering the TLE in terms of Aims (perspectives), Choice, Teaching, Feedback, Assessment, Teacher support, Student support, and Interest.

1) *Aims and Congruence*: *Knowledge as existing* "*out there*," *and knowledge as how our* "*individual experience shapes it*"

Jerome Bruner's theory states that students learn best when they use what they know as the basis for new learning, as contrasted with merely telling learners what we as teachers believe they need to know (Alexander, 2006). The demands on learners of this century and an emergent understanding of how humans learn move us toward recovery of and reacquaintance with teaching and learning through inquiry. Thus, pedagogy, like guided inquiry teaching that promotes engaged learning is desirable, not as an end in itself but as a means to transformational learning. It can create a learning environment where inspiration and imagination can flourish (Rosebrough & Leverett, 2011: p. 137). Barr and Tagg (1995) differentiate between an instructional paradigm and a learning paradigm. When teachers focus on a learning paradigm, they use connections between content and student experiences to make learning meaningful and personal. Because emotionally engaged learning is more memorable and powerful than cognitive learning alone, the learning paradigm offers a more holistic approach to instructional methodology. Thus, all students can learn if we tailor classroom learning to start where learners are. Tailoring learning goes beyond the academic to the social and spiritual, which Vygotsky would call the sociocultural (Rosebrough & Leverett, 2011: p. 101). On one hand, it is critical that guided discovery learning take place in a risk-free learning environment with a supportive teacher where minds can be en-

gaged; while on the other, the brain seems to learn best when the challenge, novelty, meaning, feedback, repetition, and emotion can be found in TLE (Rosebrough & Leverett, 2011: p. 105).

2) *Choice allowed*: *Choices in classroom learning are vital but must be tied to student accountability*

The choice of the classroom instruction and learning activities to maximize these outcomes are hallmarks of quality teaching (Kennedy, 2010). So, adjust with extreme flexibility to surrounding environment and furthering one's own cultural and scientific improvement. Both these qualities are based on and dependent upon the ability to learn (Bruyckere, Hulshof, & Missinne, 2022: p. 188).

3) *Teaching for Understanding*: *Understand new concepts when the subject is introduced generally before it is described or taught specifically*

According to Ames (1992) when teachers provide meaningful activities, use variety and novelty, make learning challenging, give learners some choice, focus on individual improvement, make evaluation private, recognize effort and progress, provide opportunities for learning, and encourage collaborative learning—students will be more comfortable in putting grades aside and focusing on learning because they can trust teachers to help accomplish as much as they can.

4) *Setwork and Feedback*: *Learner-centred teaching*, *active learning*, and *inquiry-based learning*

The way students are active or engaged is important and helps determine what they actually learn (Davis & Arend, 2013). Realistic expectations are especially important because teaching is a complex skill. To develop *mastery* in teaching, we need to acquire its component skills, integrate them, and apply them appropriately. Developing mastery in teaching is a learning process, and as such it requires the coupling of *practice and feedback* (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010: p. 221).

5) *Assessing Understanding*: *Teachers to spend more time working through their notions of what success looks like before they teach the lesson*

Sternberg (2008) calls for us to assess what matters: learners without expiration dates. He asserts that we need institutions that teach to the analytical, to the creative, to the practical, and to wisdom, which surely represents a moral dimension of education. His notion is that we should teach students to become active and engaged citizens of the world.

Furthermore, teachers must make surface and deep proportions clear to the students, use a great deal of formative evaluation to understand how the students are learning at both surface and deep levels, and ensure that the assessments and the questions asked by students (and teachers) in the class are appropriate to the desired balance of surface, deep, and conceptual learning (Hattie, 2012: pp. 86-87).

6) *Staff Enthusiasm and Support*: *Organization*, *insightful challenges*, *feedback*, *and motivation*

For teachers to confront both depth and wholeness in their students' learning in an ideal learning environment, Rosebrough and Leverett (2011) propose open-

ness; skepticism; civility; persistence; imagination, and curiosity as the strategic learning qualities. Teachers help to create more independent learners as a result of allowing students to develop these learning qualities. Hence, teacher commits effort and a belief in students' abilities; learners commit effort, openness, and a desire to succeed (Rosebrough & Leverett, 2011: p. 86). It was Rogers (1969) who introduced teachers as facilitators of learning that would match with his concept of a teacher who had no intention of forcing anyone to know anything, a teacher who possessed three qualities vital to great teaching: realness, empathy, and prizing (Rosebrough & Leverett, 2011: pp. 74-75). Furthermore, Postman and Weingartner (1989) suggest that teachers who manage a successful inquiry are reluctant to accept a single statement as an answer to a question; they encourage student-to-student interaction, they rarely summarize conclusions, and they usually let the lesson develop from the students' responses to a problem that has been posed.

Danielson (2007) found that planning classroom environments that allow for positive student learning experiences requires skill in the areas such as *creating an environment of respect and rapport*; *establishing a culture for learning*; *managing the classroom*; *managing student behaviour*; *and organizing physical space.* And much of the time teaching is like this—*being a tour guide*; *being a sailor*; *being a sculptor*; *and climbing a hill*. Teachers provide evidence that all students feel as though they have been invited into their class to learn effectively. This invitation involves feelings of respect, trust, optimism, and intention to learn (Hattie, 2012: p. 156). Teacher-student interactions and the tone of the course may affect how students approach learning and work through difficulties. The demographics of students within the course, and how peers interact, also play a key role in this environment. Finally, equity, inclusivity and accessibility are important parts of creating a learning environment that supports all students. In positive learning environments students experience a high level of trust amongst themselves and their instructor (Society for Research into Higher Education, 2002).

7) *Student Support*: *Students thinking and collaborative learning*

A rich classroom learning environment enables students to interact with teachers, peers, and others as well as explore with all the senses our physical, three-dimensional world of objects (Rosebrough & Leverett, 2011: p. 101). The importance of peer group characteristics in the classroom lies in the extent to which they can be used to promote behaviours that enhance a member's engagement in the learning process (Borich, 2014: p. 63). As we go forward in the third decade of the 21st century, we must consider these compelling truths about the world. First, equity, access, diversity, and inclusion are embedded conditions of excellent teaching and supportive learning. Second, every single student has the ability to learn. Becoming a teacher means accepting the daily responsibility to help all students learn at whatever level and place in their lives they may be. Likewise, 21st century students will work collaboratively with classmates—onsite and around the world—rather than learn at their solitary desks in their classrooms. Further,

Shayer (2003) suggests teachers to be attentive to all aspects of peer-to-peer construction and mediation (particularly in whole class discussion, by encouraging and creating spaces for all views, comments, and critique). Teachers need to listen as well as to talk.

8) *Interest and Enjoyment*: *Using class time well*, *creating an atmosphere that is conducive to interest and inquiry*, *and permitting activities that engage students' minds and imaginations*

Shulman (2002) described the skilled teacher's ability to balance all the factors of student diversity as "pedagogical content knowledge," the knowledge about how students actually learn the content and how to adapt teaching to support that learning. By matching teaching method to a student's learning style, teacher enhances student's ability to grasp the information and to remember the material (Svinicki & McKeachie, 2011: p. 166). So, creating an effective learning environment involves organizing classroom activities, instruction, and materials to provide for effective use of time; to create a happy, productive classroom; and to minimize disruptions (Jones & Jones, 2016). Thus, teachers' main responsibility is creating and supporting safe, productive learning environments that result in learners achieving at the highest levels. Teachers must have the mind frame to foster intellectual demand, challenge, and learning, because these are the more powerful predictors of interest, engagement, and higher level and conceptual thinking that make students want to reinvest in learning (Hattie, 2012: p. 39). It requires much skill for teachers to demonstrate to all of their students that they can see the students' perspective, communicate it back to them so that they have valuable feedback to self-assess, feel safe, and learn to understand others and the content with the same interest and concern' (Cornelius-White, 2007: p. 23).

6. Research Questions

Based on the related literature, the following research questions are envisaged for the study:

1) What is the teaching and learning experiences of students in BEd (2-semester—Sociological Perspectives of Education/4-semester—Contemporary Education in India) and MEd (2-semester—Pre-service and Inservice Teacher Education/4-semester—ICT in Education at Elementary/Secondary Level)?

2) What are the experiences of students in eight contrasting areas of TLE?

3) What suggestions can we provide to the teachers to enhance their TLE?

7. Hypotheses

The hypotheses of the study are:

1) There is no significant difference between the observed and expected students' perceptions towards TLE.

2) There is no significant difference between male and female students' perceptions towards TLE.

3) There is no significant difference between BEd and MEd students in their overall perceptions towards TLE.

4) There is no significant difference between the perceptions of the students towards TLE and their achievement (SGPA).

5) There is no significant difference between BEd Sem 2 and Sem 4 students towards their overall perceptions towards TLE.

6) There is no significant difference between MEd Sem 2 and Sem 4 students towards their overall perceptions towards TLE.

7) There is no significant difference between students' perceptions towards TLE and their age group.

8. Method

A survey and non-experimental method is adopted to study experiences about teaching and learning of the students at the University College of Education, Osmania University, Hyderabad, India.

8.1. Participants

Students studying in the University College of Education, Osmania University, Hyderabad, Telangana, India during 2022-2023 academic year have participated in the study. The population of the study was 300 (BEd. first and second year –100 +100 and MEd first and second year –50 +50). The students who responded to the questionnaire is 48. So, 16% of the population constituted the sample for the study. The age range of the participants is 21 to 44 years and achievement ranges from 5.58 to 9.4. From the total of 48 students the percentage of female students is slightly more (54.2%) than male students (45.8%). Students from BEd is more (58.3%) than the MEd students (41.7%). In BEd course; 10 students are from Sem-2 (20.8%) and 18 from Sem-4 (37.5%). Similarly, MEd Sem-2 (18.8%) and Sem-4 (22.9%). Furthermore, 26 to 30 years age group (43.8%) is followed by 21 to 25 years of age group (29.2%), then the age group of 31 to 35 years (14.6%) and the least percentage of students are from the age group 35 years and more (12.5%).

8.2. Materials

The Shortened Experiences of Teaching & Learning Questionnaire (SETLQ) developed by Economic and Social Research Council, Teaching and Learning Research Programme—ETL Project (2005) was used. The questionnaire was found to provide valuable information about the quality of teaching and learning (Haarala-Muhonen, Ruohoniemi, Katajavuori, & Lindblom-Ylanne, 2011). It is a set of 25 items designed to describe aspects of students' perceptions of their TLE in a particular course unit, which are expected to influence the ways in which they go about learning and studying. One of the authors engaged the students in BEd 2-semester for the course Sociological Perspectives of Education and BEd 4-semester—Classroom management while MEd 2-semester for the course Sociology of

Education and 4-semester—ICT in Education). Before turning to the items on experiences of teaching and learning the students were asked to recall and describe the courses taught to them (the teaching and assessment methods, the nature of the course, the number of participating students). A five-point Likert scale in which the responses ranged from "agree" to "disagree" was used. Further, they were asked to try not to use unsure, unless they really have to, or if it cannot apply to them or their course unit.

8.3. Consistency of the Shortened Experiences of Teaching & Learning Questionnaire (SETLQ)

The Cronbach alpha coefficient which measures internal consistency of the experiences of teaching and learning was found to be 0.71 (Table 1). The measures under each component reported good reliability coefficients indicating the strong interrelatedness of the test items. Therefore, the study offers a statistically validated framework for analyzing students' perceptions towards TLE.

Table 1. Consistency of the Shortened Experiences of Teaching & Learning Questionnaire (SETLQ).

S. No.	Components of the scale	Cronbach alpha coefficient
1	Aims and Congruence	0.75
2	Choice allowed	0.60
3	Teaching for understanding	0.74
4	Set work and feedback	0.79
5	Assessing understanding	0.55
6	Staff enthusiasm and support	0.66
7	Student support	0.73
8	Interest and enjoyment	0.83
	Total questionnaire	0.71

8.4. Data Collection

The questionnaire was mailed to the students through Google Form. They were instructed to be honest in their responses. The purpose is made clear, that authors would like to know about their experiences of teaching and learning in this particular course unit. A score of 5 was given for agree, 4 for agree somewhat, 3 for unsure, 2 for disagree somewhat, and 1 for disagree.

8.5. Statistical Analysis

The data is subjected to statistical treatment using frequency, percentage, chi-square goodness of fit test, F-test, and t-test. SPSS version 23 is utilized for computing statistics.

9. Results

9.1. Variations in Students' Perceptions towards TLE

Chi-square goodness of fit test is computed to find the goodness of fit is "good enough" to conclude that the population follows the distribution.

Table 2. Chi-Square Goodness of Fit test for overall perception.

Options	Observed N	Expected N	Residual
Disagree	2	16.0	−14.0
Unsure	3	16.0	−13.0
Agree	43	16.0	27.0
Total	48		

Table 3. Test Statistics of Chi-Square Goodness of Fit test for overall perception.

Chi-Square	68.37
df	2
Asymp. Sig.	0.000

(Note: 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 16.0.)

For the sake of convenience in computation, the response categories agree and agree somewhat are taken together and disagree and disagree somewhat is also taken together, while the responses for unsure are retained as it is.

From Table 2 and Table 3, it can be interpreted that chi-square value of 68.37 with a df of 2 and p-value of 0.000 is less than 0.05 level, that is ($p < \alpha$). Hence, the null hypothesis is rejected and there is a significant difference observed among the overall perceptions of students towards TLE. Thus, it is concluded that SETLQ is a valid measure and indicates goodness of fit for the students' responses.

9.2. Students' Experiences of Their TLE

From Table 4, it can be observed that most of the students (89.6%) have opted for "agree" towards their overall perceptions for TLE. The students who were "unsure" (6.3%) and "disagree" (4.2%) is very minimal. Therefore, it can be interpreted that the students have positive (favourable) perception towards their overall TLE.

Table 4. Students' perceptions of their TLE (Overall).

Perceptions	Frequency	Percent
Disagree	2	4.2
Unsure	3	6.3
Agree	43	89.6
Total	48	100.0

9.3. Component-Wise Responses of the Students (Consolidated)

From Table 5, it can be observed that the responses of the students in all the eight components of TLE are found mostly similar, that is, highest percentages of the students for Agree and very less for Disagree and Unsure options. So, it is concluded that the students' perceptions about various components of TLE is favourable to course units taught to them.

Table 5. Component-wise responses of the students (Consolidated).

S. No.	Components	Categories	Frequencies	Percentages	Total
1	Aims and congruence	Disagree	2	4.2	48 100%
		Unsure	2	4.2	
		Agree	44	91.7	
2	Choice allowed	Disagree	2	4.2	48 100%
		Unsure	2	4.2	
		Agree	44	91.7	
3	Teaching for understanding	Disagree	1	2.1	48 100%
		Unsure	3	6.3	
		Agree	44	91.7	
4	Setwork and feedback	Disagree	2	4.2	48 100%
		Unsure	2	4.2	
		Agree	44	91.7	
5	Assessing understanding	Disagree	2	4.2	48 100%
		Unsure	3	6.3	
		Agree	43	89.6	
6	Staff enthusiasm and support	Disagree	2	4.2	48 100%
		Unsure	4	8.3	
		Agree	42	87.5	
7	Student support	Disagree	3	6.3	48 100%
		Unsure	4	8.3	
		Agree	41	85.4	
8	Interest and enjoyment	Disagree	2	4.2	48 100%
		Unsure	2	4.2	
		Agree	44	91.7	

9.4. Gender-Based Variations on the Opinions towards TLE

From Table 6, it can be interpreted that the t-value of 0.14 with df of 46 and p-value of 0.88 is not statistically significant at 0.05 level. Hence, the null hypothesis is accepted and there is no significant difference found in male and female students' perceptions towards TLE.

Table 6. Gender wise individual sample t-test.

Gender	N	Mean	Std. Deviation	t-value	df	Sig (2-tailed)
Male	22	112.00	17.88	0.14	46	0.88
Female	26	111.19	19.74			

9.5. Level of Graduation Wise Variations on the Opinions towards TLE

From Table 7 and Table 8, it can be concluded that the t score of 0.95 s with df of 46 and p-value of 0.34 is not significant at 0.05 level. Therefore, the null hypothesis is accepted and there is no significant difference between BEd and MEd students in their overall perceptions towards TLE.

Table 7. Level of graduation wise individual sample t-test.

Variable	Level of Graduation	N	Mean	Std. Deviation	Std. Error Mean
Total perception	BEd	28	113.75	11.57	2.18
	MEd	20	108.50	25.67	5.74

Table 8. Level of graduation-wise independent samples test—Levene's test for equality of variances.

F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
2.91	0.09	0.95	46	0.34	5.25	5.48	−5.79	16.29

9.6. Achievement-Wise Variations on the Opinions towards TLE

From Table 9 and Table 10, it can be interpreted that the t-value of 35.06 with df as 47 and the p-value of 0.000 is significant at 0.05 level. Hence, the null hypothesis is rejected. Therefore, there is a significant difference between the total perception of the students towards TLE and their Achievement.

Table 9. Paired samples statistics and achievement.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Total perception	111.56	48	18.71	2.70
	Achievement	9.00	48	9.75	1.40

Table 10. Paired samples test and achievement.

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Total perception Achievement	102.55	20.26	2.92	96.67	108.43	35.06	47	0.00

9.7. BEd Semester-Wise Variations on the Opinions towards TLE

From Table 11 and Table 12, it can be interpreted that the t-value of 1.38 with df of 26 and the p-value of 0.17 is not significant at 0.05 level. Therefore, the null hypothesis is accepted and there is no significant difference between BEd Sem 2 and Sem 4 students' perceptions towards TLE.

Table 11. BEd semester wise individual sample t-test.

Variable	BEd Semesters	N	Mean	Std. Deviation	Std. Error Mean
Overall perception	Sem 2	10	105.30	25.35	8.01
	Sem 4	18	114.94	11.67	2.75

Table 12. BEd semester-wise independent samples test—Levene's test for equality of variances.

F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
3.77	0.06	1.38	26	0.178	−9.64	6.96	−23.96	4.67

9.8. MEd Semester-Wise Variations on the Opinions towards TLE

From Table 13 and Table 14, it can be interpreted that the t-value of 0.91 with df of 18 and the p-value of 0.37 is not significant at 0.05 level. Therefore, the null hypothesis is accepted and there is no significant difference between MEd Sem 2 and Sem 4 students' perceptions towards TLE.

Table 13. MEd Semester-wise Individual Sample t-test.

Variable	MEd Semesters	N	Mean	Std. Deviation	Std. Error Mean
Overall perception	Sem 2	9	114.22	10.98	3.66
	Sem 4	11	105.72	26.02	7.84

Table 14. MEd semester-wise independent samples test—Levene's test for equality of variances.

F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
2.83	0.11	0.91	18	0.37	8.49	9.31	−11.08	28.07

9.9. Age-Wise Variations on the Opinions towards TLE

From Table 15, it can be observed that the F-value of 0.98 with df of 44 (3) and p-value of 0.41 is not significant at 0.05 level. Hence, the null hypothesis is accepted and there is no significant difference in students' perceptions according to their age group towards TLE.

Table 15. Age-wise ANOVA analysis of Total perception.

Age	N	Mean	Std. Deviation	F value	df	Significance
21 to 25 yrs	14	110.35	15.04			
26 to 30 yrs	21	108.23	24.70			
31 to 35 yrs	7	114.57	6.32	44(3)	0.98	0.41
more than 35 yrs	6	122.50	2.88			
Total	48	111.56	18.71			

10. Discussion

The objective of the present study was to help teachers to enhance TLE. To this end, students' perceptions of TLE in the courses taught was measured through a questionnaire. The results are in line with those of previous research showing that the TLE is favourable in the course units taught to the students. Furthermore, there is empirical evidence to suggest that it is more useful to create effective learning environment for active engagement of the students.

First, "*Students' perception about various components and overall teaching learning environment is favorable to the course units taught to them*". The reason for this perception of students is that the content of the course and the pedagogical practices are similar to the one they are insisted upon in their school internship. This is supported by the finding of Campbell, Smith, Boulton-Lewis, Brownlee, Burnett, Carrington, & Purdie (2001) which concluded that the learning activities are fun and interesting, and therefore motivating active, effective learning and all students also described how the supportive environment developed by their teacher was critical for their learning. When the teacher employed a consistent learning-focused approach to teaching, the students perceived almost all elements of the TLE as enhancing (Uiboleht, Karm, & Postareff, 2019).

Second, "*Students' perception significantly differed towards their teaching learning environment*". This is because the learning experiences provided for understanding concepts differ in their complexity, and naturally the illustrations and teacher's preparation commensurate these aspects. Hence, students' perception differed toward their TLE. This agrees with a study of Nijhuis, Segers, & Gijselaers, (2005) who found that the students perceived the new learning environment to be less positive in terms of the clarity of its goals. Improvement in terms of students' perceptions of the learning environment and their learning strategies could be expected to be fostered by the implementation of a more advanced staff development program, focusing the curricular assessment system on problem-solving skills, supporting the students in the development of the skills necessary to cope with the demands of the redesigned course, and giving them more opportunities to experience this instructional approach.

Third "*Male and female students' perception about their teaching learning environment did not differ significantly*". The reason for this finding is perhaps due to the premise that gender does not affect learning and so also their learning en-

vironment which speaks about the similar mental make-up of boys and girls. This finding concurs with a study of Dart, Burnett, Boulton-Lewis, Campbell, Smith, & McCrindle (1999); Ferguson & Fraser, (1998); Pianta & Nimetz (1993); and Waxman & Huang (1998) which concluded that gender-related differences with respect to other elements of classroom climate or learning environments research is less conclusive.

Fourth, "*the level of graduation did not affect the students' perception of TLE".* This is because BEd students have a lot of practicum with school internship who are exposed to diverse teaching learning strategies while MEd students undertake most of the time theoretical aspects related to teacher education. However, Parpala, Lindblom-Ylanne, Komulainen, Litmanen, and Hirsto (2010) reported that students' approaches to learning were related to their experiences of their TLE.

Fifth, "*Achievement of students influenced their perception towards teaching and learning environment*". This finding reminds us of the proverb—success leads to success. Increments in learning lead to success in learning. So, achievement of students favored TLE. This supports the finding of a study by Lizzio, Wilson and Simons (2002) concludes that the students' perceptions of their current learning environment were a stronger predictor of learning outcomes at university than prior achievement at institution. Further, learning environment plays a significant role in student academic performance in Nigeria (Usman & Madudili, 2019).

Sixth, *"the courses of study at different semesters did not affect the BEd students' perception of TLE".* This is perhaps due to the fact that the nature of courses (Sociological Perspectives of Education and Contemporary Education in India) is similar because both of them deal with sociological, political, and educational issues of India. The teaching strategies such as discussion, group work (collaborative learning), brainstorming, and seminar presentations besides lecture might have yielded the perceptions that are reported in the study.

Similarly, the courses of study at different semesters did not affect the MEd students' perception of TLE. The subjects at sem-2 and sem-4 have related issues pertaining to Preservice and Inservice teacher education with a subset of ICT in education. Hence, the learning strategies of students such as small group discussions, assignments, and debates besides observation of teacher education institutions resulted in the similar perceptions of students towards TLE.

Finally, "*the age group did not affect the students' perception of TLE*". This is because the teacher education courses [average age of BEd (26 years) and MEd (32 years)] are offered as a continuum of two years each duration and most of them already hold a master's in sciences, social sciences, or humanities stream. So, the small difference in the age group of BEd and MEd resulted in no significant difference in the perceptions of TLE.

The knowledge of the students' perceptions towards TLE helps teachers to implement active learning strategies in the course units taught to students. The active learning is where students perform the tasks under the guidance of teachers; they take the form of discussion groups, blogs, journaling, cooperative learning, peer

instruction besides discovery learning, problem-based learning, experiential learning, and constructivist learning. Hence, the students learn by questioning, exploring, gathering, and synthesising information under the mentor.

Active learning involves two aspects—experiences and reflection. The first component is experiences which are derived from doing and observing. These three components (doing, observing and reflection) of active learning combine to form an enlarged and more holistic view of the topic—one that includes getting information and ideas as well as experiences and reflection.

There are three strategies for implementing powerful forms of active learning. Firstly, creating rich learning experiences which include in class (debates, role playing, simulations, and dramatizations) and outside of class (service learning, situational observations, and authentic projects). These both are rich because they enable students to achieve multiple kinds of significant learning all at the same time. Secondly, finding new ways to introduce students to information and ideas. Finally, promoting in-depth reflective writing on the learning process.

11. Conclusion

To maximize all students' learning and teacher's own professional fulfillment, s/he should try to use a rich variety of teaching techniques and learning media in courses. In addition, acquaint the students with the broad range of learning and studying strategies (Nilson, 2010: p. 237). Then, strong foundations underpin all learning and skills development. Learning depends on students who are prepared, present, and motivated—but getting students there will often require policy change within and beyond education systems.

Teachers must have visibility of all dimensions of teaching-quick identification of strengths and areas for improvement to bring consistency across teaching; use teaching strategies to fit both the students and the curriculum, respecting that different students learn in different ways; and create more opportunities to engage students in the learning process and support their academic accomplishments.

Furthermore, for students to learn, teachers have to teach effectively—but many education systems pay little attention to what teachers know or what they do in the classroom. Focusing on teachers' skills and motivation can pay off. Thus, good teachers, conducive learning environments, reliable assessment systems, and innovative learning technologies all cost money. Yet more funding leads to better learning only if it is used well, with an intentional focus on learning outcomes.

12. Limitations and Future Directions

There are some limitations to this study. Firstly, this study is a student self-report, and all results should be interpreted as students' perceptions of their understanding teaching and learning environment, rather than an objective picture. But given that studies comparing the undergraduate (BEd) and postgraduate (MEd) students on teaching and learning environment and achievement have reached similar conclusions, the differences we report can be seen as to some extent reflecting

actual differences. Secondly, this study has not conducted a teachers' perception on teaching learning environment to corroborate with the perceptions of their students on teaching and learning. Thirdly, concerning the sample scope being limited to only one institution, who are pursuing BEd and MEd programme, also limits the scope of application and replication. Finally, more research is needed in order to enhance understanding of the complex relationship among experiences to teaching and learning and the various disciplines. Considering these limitations, this study will include students in future surveys, carry out a teacher-student paired study, and further consider the students from colleges of education affiliated to Osmania University, Hyderabad.

Acknowledgements

The authors acknowledge ICSSR, Govt. of India, New Delhi.

The authors acknowledge the pre-service teachers for responding to the questionnaire without which the study wouldn't have been possible. Their data gave us insights into the perceived teaching learning environment and their educational attainment. Further, authors acknowledge Mr. V.P.B. Sarma, Director, Department of Pay & Works, Government of Telangana, Hyderabad for the services rendered in patiently gleaning the document and providing assistance in language editing.

Ethical Approval and Informed Consent Statement

We shared the nature of the research and gave a brief explanation of the study to the principal, and to the preservice teachers. We ensured confidentiality and anonymity by assigning numbers to the participants. The whole class was sent the Google Form asking them to take part in the research and it will help them and the authors improve teaching learning environment. Oral consent was given by the pupils, and those who are willing have responded on the Google Form and have become the part of the research study. Before going on to the TLE items, they were asked to recall and describe the courses given to them (the type of course, the total number of pupils that attended the lesson). They were made aware that they might end the study at any moment.

Data Availability Statement

The dataset supporting the conclusions of this article is included within the article and for more details can also be kindly requested form the corresponding author whenever necessary.

Conflicts of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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