

EFFECTS OF COOPERATIVE LEARNING STRATEGIES (JIGSAW-II AND STAD) ON STUDENTS' ACADEMIC ACHIEVEMENT IN HISTORY: AN EXPERIMENTAL STUDY

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Abstract

Improving student engagement and achievement in History is a challenge in lecture-based, rote memorization-focused classrooms. This study analyzed the efficaciousness of Cooperative Learning (CL) strategies i.e. Jigsaw-II and Student Teams Achievement Divisions (STAD) in improving academic achievement of Grade 7 students in the subject of History. A true experimental pretest-posttest equivalent groups design was used in the study involving 56 randomly selected students from a public girls school Islamabad. Students were randomly assigned in an experimental group which was taught by using Jigsaw-II and STAD and a control group which was taught by using traditional method. A teacher-made History achievement assembly test that was validated by subject experts and has acceptable reliability ($\alpha = .754$), was administered before and after intervention. Results indicated no significant difference between groups did on the pretest supporting baseline equivalence Post-test results showed significant improvement in favour of the experimental group statistically (Cohen's $d = 1.23$), which indicates a significant impact on practical levels. The findings approve the use of Cooperative Learning as an effective pedagogical approach for the enhancement of achievement in History at the elementary level. The study has suggested the integration of CL strategies more widely in Pakistani classrooms and advocates for further research in different subjects, grades and instructional contexts..

Keywords: Cooperative Learning, Jigsaw-II, STAD, History subject, Students' Achievement

1. Introduction

The current educational system requires students to be active and involved, and this perspective is considered the key to achieving effective learning. The traditional lecture-based way of teaching which involves passiveness and rote memorisation has been widely criticised as it fails to foster critical thinking and problem-solving ability (Umer & Siddiqui, 2013). As educational paradigms are beginning to shift, there has been a growing movement towards student centred approaches with a focus on collaboration, inquiry and the application of knowledge to real life scenarios (Hwang, Chu, Yin, & Lin, 2022).

Cooperative Learning (CL) has become a new learning strategy that facilitates academic achievement, social development and long-term knowledge retention. CL techniques involve students using structured group activities that promote peer interaction, peer accountability, and shared responsibility (Johnson & Johnson, 2009). According to Gillies (2016), such collaborative environments do not support mere deeper cognitive engagement, but they also enable communication, empathy and interpersonal skills. They help the individual become motivated to achieve the individual as well as the group goals and they feel accountable to their roles as groups as well as individuals.

This pedagogical approach is founded on the sociocultural theory of Lev Vygotsky that learning is a socially constructed process. The Zone of Proximal Development (ZPD) concept emphasizes the value of scaffolding and support from others who are more knowledgeable than the learner or from more knowledgeable instructors, and it is a perfect fit to the cooperative learning model (The Education Hub, 2019). When working in groups and teaching over

explaining concepts, catching mistakes, and teaching siblings, students can go beyond the surface of understanding to internalised learning.

Of the cooperative learning models, Student Team Achievement Division (STAD) and Jigsaw-II have always have a positive impact on student outcomes. STAD engages mixed-ability teams that collaborate on learning tasks and individual performance is in addition to team successes. Jigsaw II, on the other hand, places each student with a role of mastering and teaching part of the content which encourage accountability and interdependence (Slavin, 2014; Dewi, Maknun, Iriani, Putra, & Dwidayanti, 2024). Both models have enhanced education performance, critical thinking, and social interactions in subjects that are usually taught using passive methods such as History (Alfassi, 2019; Tran, Le, & Nguyen, 2023).

In subjects such as History, where students tend to feel disengaged from learning, due to the overwhelming use of memorization and teacher-centered approach to learning, cooperative learning can serve as an alternative in which the classroom is transformed into a dynamic interactive space (Fang, Liu, & Wang, 2022).

In poorer parts of Pakistan, the teaching situation in classrooms also is often based on rote learning, which stems off the intellectual and creative growth of students (Umer and Siddiqui, 2013). As mentioned by Panhwar (2023), despite resource constrained environment in Pakistan, in many cases, cooperative learning techniques of STAD and Jigsaw may be effectively adapted so that student participation and achievement can be enhanced.

Although studies conducted in Pakistan have started to discuss on the benefits of CL (English language teaching, science education: Mahmood, and Ahmad, 2021; Yasar, Erdogan, Batdi, and Cinkara, 2024) there is still little empirical evidence on the use of CL in the context of History at the elementary level of education. This is a large gap in literature, especially considering the need for pedagogical reform in the teaching of social studies to develop critical citizenship and historical awareness.

2. Objectives of the Study

To address the identified gap in the use of Cooperative Learning (CL) techniques in History education at the elementary level in Pakistan, the present study aimed to:

- 1 Examine the effect of Cooperative Learning techniques (Jigsaw II and STAD) on students' academic achievement in History at the elementary level.
- 2 Compare the academic achievement of students taught through Cooperative Learning techniques (Jigsaw II and STAD) with those taught through traditional teaching methods, based on their performance in a teacher-made History achievement test.

3. Research Questions

In line with the above objectives, the study was guided by the following research questions:

- 1 What is the effect of Cooperative Learning techniques (Jigsaw II and STAD) on Grade 7 students' academic achievement in History?
- 2 Is there a statistically significant difference in post-test academic achievement between students taught through Cooperative Learning techniques (Jigsaw II and STAD) and those taught through traditional teaching methods in History?

4. Theoretical Foundations of the Study

Cooperative Learning is based on two main schools of thought which help explain the effectiveness of structured group based instruction in improving academic performance of students. The first is Vygotsky's Sociocultural Theory, which focuses on the fact that learning takes place in interaction and through the process of social problem-solving. According to Vygotsky (1978), the Zone of Proximal Development (ZPD) is the area where learners can perform tasks that they cannot perform on their own, but with support. When students explain concepts, question peers or negotiate meaning in groups they are getting scaffolding needed to get them to assisted independence. In Cooperative Learning settings, this scaffolding is

naturally integrated in the form of peer dialogue and engaging in the educational process that allows students to internalize new historical concepts at a deeper level than engaging in lecture-based learning.

The second theoretical foundation is the Social Interdependence Theory of Johnson and Johnson (2009), which accounts for the impact by group structure and shared goals on the individual motivation and achievement. The theory suggests that if students feel their success is linked to the success of their peers, they will be more likely to support each other, be engaged and persist on academic tasks. Cooperative Learning structures such as Jigsaw-II and STAD create (intentionally) positive interdependence, individual accountability, and promotive interaction. Students take responsibility for their own learning as well as that of their team members, creating a sense of purpose and responsibility and helping to build motivation, effort, and retention.

Together these theories are a very good foundation to consider why Cooperative Learning is expected to be particularly effective in History education. The combination of peer scaffolding, collaborative meaning-making and structured interdependence encourages students to go beyond memorization instead towards getting deeper understanding and analytical thinking.

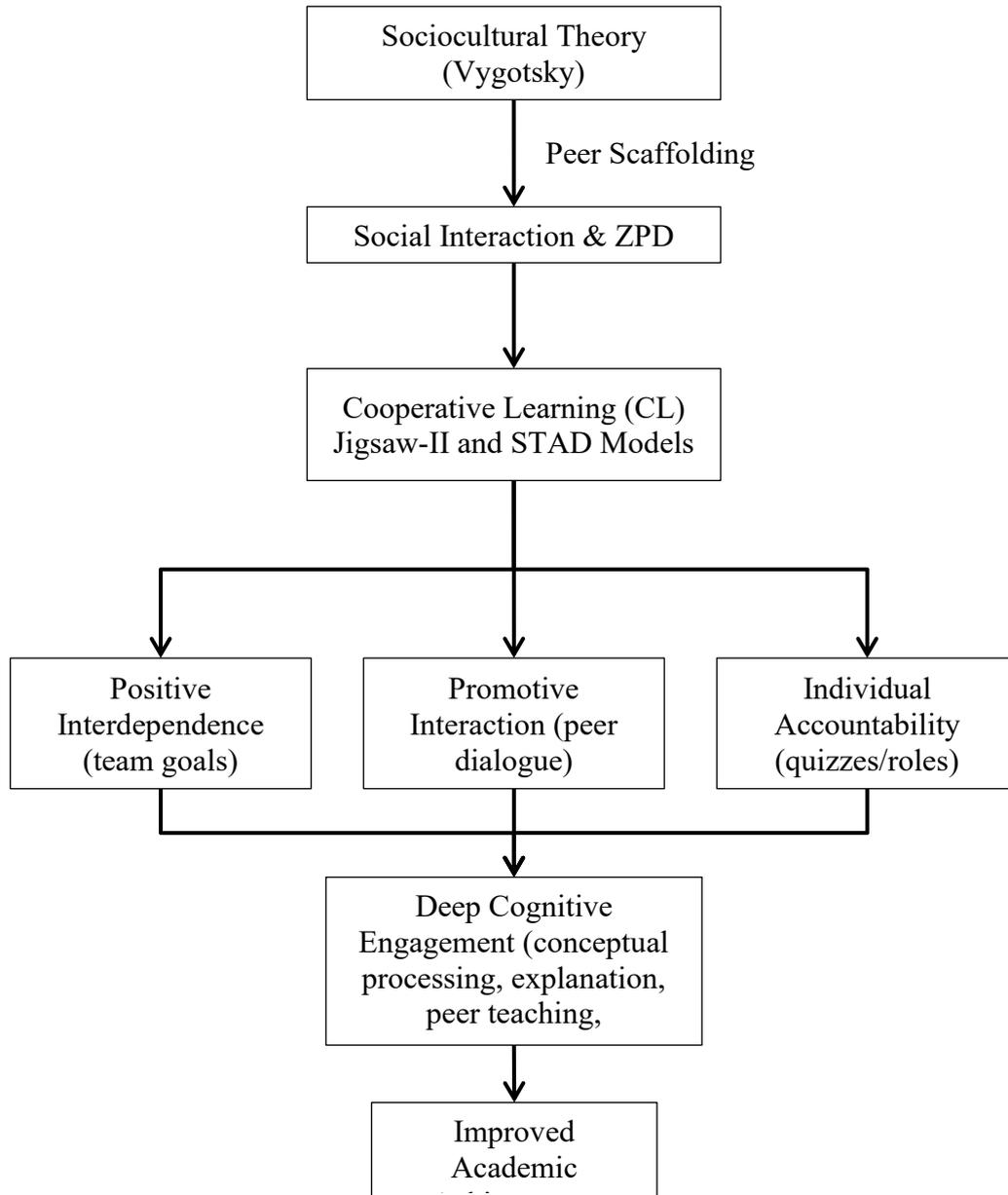
5. Conceptual Framework

The conceptual framework to guide this study incorporates principles from Sociocultural Theory and Social Interdependence Theory in the explanation of the effect of Cooperative Learning strategies on academic achievement in History. In line with Vygotsky's perspective that knowledge is created socially and through interaction and guided support, Cooperative Learning assumes that students construct understanding not individually, but meaningfully through interaction with peers (Vygotsky, 1978). As learners discuss, explain, and teach specific segments of historical content, they engage in the type of cognitive elaboration and scaffolded interaction that supports movement within the Zone of Proximal Development strengthening conceptual understanding (The Education Hub, 2019)

Such peer support is structured at the centre of this process. Techniques such as Jigsaw-II and STAD are purposely designed to foster guided collaboration where students are forced to depend on one another when trying to complete academic tasks. These structures give the scaffolding needed to support the learners in their understanding of complex and difficult historical ideas, especially, if they operate on expert and home groups or work on structured team tasks as is emphasized in Cooperative Learning research (Gillies, 2016; Slavin, 2014).

Social Interdependence Theory extends further into building this framework by explaining recognition of positive interdependence and individual accountability as motivational and engagement drivers. When students realize that their contributions affect the success of the whole group, they become more attentive, collaborative and responsible in accomplishing tasks (Johnson & Johnson, 2009). At the same time, mechanisms like individual quizzes, expert roles and performance-based recognition ensure that every learner has to master the material, avoiding passive participation and encouraging the deeper personal engagement with History content.

Taken together, these principles of theory suggest that structures of Cooperative Learning include sustained interaction, peer scaffolding, shared responsibility, and personal mastery. Such processes promote richer and more meaningful learning experiences compared to traditional methods of teaching based on lecture which sometimes focus on rote memorization and passive listening (Fang et al., 2022). Consequently, the strategies such as Jigsaw-II and STAD are expected to increase the academic achievement of the students in the subject of history especially in the educational setup of Pakistan, where teacher-centered modes of instruction yet prevail (Umer & Siddiqui, 2013).



6. Literature Review

In the context of education, there is nowadays a strong focus on student-centred methodologies, which encourage student engagement, critical thinking, and problem-solving capabilities. Among these approaches, Cooperative Learning (CL) has become prominent as a research-based strategy that has significant impact on the academic performance of students and their social competencies (Johnson & Johnson, 2009; Slavin, 2014).

6.1. Cooperative Learning: The Principles and Benefits

Cooperative Learning has the following characteristics: structured group interactions; positive interdependence; individual accountability; and peer collaboration. According to Gillies (2016), CL promotes deeper understanding and environments of long-term students learning through mutual support and shared responsibility. These organizational interactions promote cognitive development as well as social skills such as empathy, teamwork, communication, and retention (Leonard, 2018).

According to Vygotsky's sociocultural theory, the learning is a socially mediated process. The Zone of Proximal Development (ZPD) concept emphasises the fact that learners can develop

higher cognitive development when supported by a more knowledgeable peer or teacher. This relates well to CL strategies as peer interaction becomes the key element of knowledge construction (The Education Hub, 2019).

6.2. STAD and Jigsaw II Two Effective CL Techniques

Two cooperative learning models that are popular in research are Student Teams Achievement Divisions (STAD) and Jigsaw II. Slavin (2014) points out that both models increase academic achievement by incorporating both group goals and individual accountability. STAD consists of students working in different teams on set tasks followed by individual assessments contributing to team scores. This model has been found to increase motivation and accountability and promote team cooperation. It also helps to promote positive interdependence and individual accountability, which can serve as a form of peer-teaching and shared accountability.

On the other hand, Jigsaw II fosters depth learning and engagement by distributing the learning content among the members of the group, where each student is accountable for learning and teaching a particular content. The research by Dewi et al. (2024) corroborates the use of this model in strengthening critical thinking skills and content knowledge and promoting student responsibility and peer teaching.

Studies conducted by Subiyantari and Muslim (2019) conclude that Jigsaw II supports cognitive, affective and psychomotor domain of learning, thus providing a holistic learning experience. Moreover, these techniques help in building self-confidence in students and contribute to building up the cooperative classroom culture.

6.3. Cooperative Learning in Early and Elementary School

Collaborative learning has been found to provide actual benefits even for children in early and elementary grades. Hasanah, Chasanah, Talib and Zumirrdat (2025), for example, found that students in the lower grades respond well to structured approaches such as STAD and Jigsaw that promote active participation, deep understanding and develop important values such as respect and empathy. These types of strategies are most successful when there is clear accountability for individuals and groups and when there is regular teacher monitoring and feedback as well as well-designed group materials. Emmer and Gerwels (2002) also emphasise that effective group work is not merely about activities it is about providing teachers and supports staff with the tools to develop the social, communication and teamwork skills of the students, while keeping them engaged and helping them to achieve more.

6.4. CL within the Context of the Study of History

History as a subject, for example, often suffers from student disengagement because of the focus on rote memorisation and lecture-based delivery (Fang, Liu & Wang, 2022). However, CL is an attractive alternative to this, by making history lessons interactive and collaborative learning experiences. According to Alfassi (2019), integration of CL into the history classroom has a significant impact on students' motivation and retention ability as well as critical analysis of historical content.

Additionally, CL supports higher order thinking skills such as analysis, synthesis, and evaluation, which are important for understanding the subject content, Johnson and Johnson (2009) assert.

6.5. CL and technology integration

Modern CL methods are becoming more technology supported. Tools such as learning management systems and virtual collaboration platforms - Kerimbayev, Umirzakova, Shadiey and Jotsov (2023) refer to the effectiveness of CLs being strengthened by digital technologies, using new, technologies and methods such as personalized learning and flexible learning environments. However, challenges, such as digital inequality and a lack of training of teachers need to be overcome, particularly where resources are limited. Collaborative learning

supported by technology has had a meaningful impact in the academic areas, supporting the development of cognitive and social skills. Cooperative Learning techniques - Jigsaw, STAD and Group Investigation have been found to encourage increased student engagement and better understanding (Pathade, 2020).

6.6. Cooperative Learning in Pakistan Emerging Needs

Despite its proven benefits, cooperative learning is not very much practised in Pakistan particularly in public and rural schools. The education system in the country is teacher-centred in the less affluent parts of the country where the traditional way of teaching through lectures is dominant (Umer & Siddiqui, 2013). As a result, the students do not have enough critical thinking skills and practice ability of applying knowledge.

Recent studies, however, reported increasing interest on CL in Pakistan. For example, Mahmood and Ahmad (2021) showed that CL was effective in increasing the acquisition of vocabulary among intermediate learners. Similarly, Panhwar (2023) has used methods of STAD and Think-Pair-Share in English classrooms of the University of Sindh, with a great improvement in student engagement and learning outcomes along with limited resources.

A meta-analysis to summarize the research literature was conducted by Yasar, et al. (2024) range of 77 research were revealed the significant impact of CL on scientific achievement. a major impact on the student level in science education was obtained with large effect size ($g = 1.070$). These findings support the potential of CL for broader application in different disciplines, such as History.

6.7. Research Gap and Relevance

Although the literature internationally supports the successful implementation of CL techniques like the STAD and Jigsaw II, the evidence from the Pakistani classroom, particularly in the field of History education in elementary grades is scant. While there has been potential in using cooperative learning for language learning, particularly at the university level in Pakistan (Panhwar, 2023), there have been little studies examining the effectiveness of CL in key subjects, such as History, told at the Elementary level. Effectiveness has been proven in the acquisition of vocabulary (Mahmood & Ahmad, 2021). Its role in History learning outcomes for the younger students of Pakistan is not delved by much research. Also, given the persistently disadvantageous issues of low student engagement and rote learning in the teaching of History education there is an urgent need to consider and utilize more student-centric and interactive approaches to teaching History.

This study, hence, tries to bridge this gap and examines the effect of STAD and Jigsaw II on the academic achievement in Grade 7 History classrooms in Islamabad, Pakistan. Benefits of Cooperative Learning have been reported in the local studies in language and science (Mahmood & Ahmad, 2021; Yasar et al., 2024). Yet there is a lack of experimental evidence for History at the level of the school. This study helped to fill that gap. Thus, it will contribute to the less but increasing research in Pakistan on cooperative learning.

7. Methodology

7.1. Research Design

A true experimental design, specifically the Pretest-Posttest Equivalent-Groups Design, was employed for this study, adopted from Wantable, Hare, and Lomax (1984) as cited in Best and Kahn (2002, p. 149). The design structure is represented as follows:

R O₁ X O₂

R O₁ C O₂

Where:

- **R** = Random assignment of participants/students to groups
- **O₁** = Pre-test for both Experimental and Control groups
- **X** = Intervention (Jigsaw II and STAD for Experimental group)

- C = Control condition (Traditional teaching for Control group)
- O₂ = Post-test for both groups

This design allowed for controlled comparison of academic achievement between groups, with random assignment minimizing selection bias.

Table 1: Pretest-Posttest Equivalent-Groups Research Design

Group	Pre-Test (O ₁)	Intervention/Instruction	Post-Test (O ₂)
Experimental (R)	Yes	Cooperative Learning (Jigsaw II & STAD)	Yes
Control (R)	Yes	Traditional Teaching	Yes

7.2. Population and Sample

The target population comprised elementary students of grade 7, aged 12-13, who were enrolled in public girls' schools of Islamabad. To ensure feasibility while retaining representativeness, one girls' school was randomly selected from the 48 urban girls' schools using the fishbowl method, giving each school an equal chance of selection. From this school, a sample of 56 students was drawn through systematic random sampling from all the four sections of Grade 7 register to minimize selection bias. A sample of 56 learners was selected and randomly selected allocated to experimental (n = 28) and control (n = 28) groups to ensure equivalence, which strengthened internal validity.

7.3. Instrument Development and Validity, and reliability

A teacher-made achievement test was constructed from relevant History content (an initial pool of 200 items). Content and face validity were established by the subject experts. A pilot study (n-15) informed refinement; internal consistency was acceptable (Cronbach alpha=0.754)

7.4. Procedure and Implementation

Over 52 days, both groups received 40-minute History lessons on alternating days. The experimental group was taught using Jigsaw-II and STAD with expert sheets, worksheets, and team recognition; the control group was taught through the traditional lecture method, note-taking and textbook exercises. Instructional consistency was maintained by the same teacher for both groups. The researcher herself taught both the control and the experimental group.

7.5. Experimental Group (Jigsaw II and STAD)

The Experimental group used two Cooperative Learning techniques: Jigsaw II and STAD.

Jigsaw II Procedure: For (1-3) weeks Jigsaw intervention was done. Students were grouped into 7 teams of four. Each team started in "home groups," and then split into "expert groups" to discuss given subtopics using expert sheets. After becoming experts' students returned to their home groups to teach their peers. A quiz followed and teams were awarded such things as "Super Team," "Great Team" and "Good Team" which drove accountability for individuals and positive interdependence for teams.

STAD Procedure: From (4-7) weeks the STAD intervention procedure was conducted. Following multimedia aided lessons, students worked in their team to fill in worksheets and consolidate learning. Peer support was in place that ensured all members were proficient in the content prior to taking individual quizzes with team recognition based on cumulative performance.

Control Group(Traditional Teaching)

The Control group had conventional instruction which was teacher-cantered, with lectures, note taking and homework inserted. The learning environment was limited to interaction and minimal to active engagement.

After the intervention, both groups were administered the teacher-made achievement test under identical conditions to assess learning outcomes.

7.6. Ethical considerations

Institutional permission was initially obtained from the Federal Directorate of Education and then from the Principal of the concerned school. Participation was voluntary with the right to withdraw, and anonymity and confidentiality were maintained.

7.7. Internal Validity

Threats were mitigated as follows: Hawthorne effect (equivalence treatment environments), testing effect (temporal spacing between pre-test and post-tests), and maturation (parallel schedules for both groups).

7.8. Data Analysis

Data was analysed using descriptive statistics and an independent samples t-test to compare the group means. SPSS was used for computations. Effect size (Cohen's *d*) and 95% confidence intervals were also calculated to determine the magnitude and precision of the treatment effect.

8. Results

8.1. Pretest Equivalence

There was no statistically significant difference between groups on the pretest, confirming equivalence at baseline ($p > .05$).

Table 5.2: Pre-Test Comparison of Control and Experimental Groups

Group	N	M	SD	t	p
Control Group	28	10.28	2.14	0.66	0.51
Experimental Group	28	10.67	2.03		

The results of the independent samples t-test revealed no statistically significant difference between the Control group ($M = 10.28$, $SD = 2.14$) and the Experimental group ($M = 10.67$, $SD = 2.03$) on the pre-test, $t(54) = 0.66$, $p = .51$. This suggests that there was no difference in the level of prior knowledge in History between the two groups prior to the intervention, such that comparisons of the effectiveness of different methods of instruction are valid.

8.2. Post-Test Achievement Comparison

Following the 52 days of intervention, a teacher made post-test was administered to both groups to determine their academic achievement in History. The results are provided below:

Table 5.3: Post-Test Comparison of Control and Experimental Groups

Group	N	M	SD	t	p	Cohen's d
Control Group	28	15.80	1.95	4.29	.000	1.23
Experimental Group	28	18.35	2.14			

The independent samples t-test showed that there was a statistically significant difference in post-test scores for the Experimental group ($M = 18.35$, $SD = 2.14$) compared to the Control group ($M = 15.80$, $SD = 1.95$), $t(54) = 4.29$, $p < .001$. Furthermore, effect size was estimated using Cohen's $d = 1.23$, indicating that the Cooperative Learning intervention has a strong potential for a tenacious practical impact on the academic accomplishment of the students (Cohen, Manion & Morrison, 2007).

8.3. Summary of Findings

Both groups were statistically equivalent in their prior knowledge regarding History as indicated by non-significant differences on pre-tests. The post-test scores of the Experimental group showing Cooperative Learning methods was significantly better than the Control group. The fact that the effect size was found to be large (Cohen's $d = 1.23$) signifies the practical significance of integrating techniques that employ Cooperative Learning to improve academic achievement. These outcomes support the relevance of student-cantered, interactive methods of instruction in enhancing student learning, especially the learning of History.

9. Discussion

The findings of this study give very strong empirical support for the effectiveness of Cooperative Learning (CL) strategies, namely Jigsaw-II and STAD, in the improvement of

academic achievement in History for Grade 7 students. The statistically significant difference in the post-test scores and a high effect size indicate that structured peer collaboration can significantly increase learning outcomes as compared to traditional lecture based instruction. These findings are consistent with international research to support the idea that students learn more effectively when they are actively engaged in the learning process, collaboratively building their own knowledge and are responsible for their individual and group learning (Johnson & Johnson, 2009; Slavin, 2014).

The results are also consistent with Vygotsky's Sociocultural Theory which focuses on how learning happens through guided interaction and scaffolded peer support. The structures of cooperation used in this study enabled the students to play the roles of both learner and peer-teacher and functioned within the Zone of Proximal Development. Through explanation, questioning and shared problem-solving students made more sense of the historical concepts than would normally happen in a teacher-centred classroom. The improvement in achievement found in the experimental group provides practical evidence of the application of these theoretical principles as evidence of the idea that CL brings about cognitive advantages by promoting meaningful and socially mediated learning (The Education Hub, 2019).

Furthermore, the results support the assumptions of Social Interdependence Theory, specifically, the mechanisms of positive interdependence and individual accountability. The team-based organization of STAD and the expert roles embedded in Jigsaw-II provided learning situations where students were dependent on one another to succeed and at the same time were held individually responsible via quizzes and assessments. This balance structure seems to have improved motivation, promoted preparation and boosted effort of the collaboration, leading to higher achievement, which is in line with the findings of Gillies (2016) and Dewi et al. (2024). The large effect size obtained in this study indicates that these motivational and cognitive processes functioned strongly within the groups of people studied. What the findings mean in regard to the study of History Education History is usually taught through memorization and passive listening in the Pakistani schools which restricts the engagement, inquiry skills and conceptual depth of the students (Fang et al., 2022; Umer & Siddiqui, 2013). The high performance of students in the CL group suggests that interactive student-centred methods can overcome these limitations by allowing learners to collaboratively analyse content, relate historical ideas and to express reasoning. The collaborative nature of CL fits well with the interpretive and analytical skills needed for meaningful learning of History, meaning that such approaches can help to move the study away from rote learning, towards a deeper understanding.

The current findings also have a connecting Echo in the emerging local research itself calling for more dynamic pedagogies in Pakistan. While Pakistani studies on CL have mainly emphasized on language and science education (Mahmood and Ahmad, 2021; Yasar et al, 2024), this study adds to the evidence base on social studies by showing that History students at elementary levels benefit significantly from structured peer learning. This contextual relevance is important in light of the current national discourse on ways to improve student engagement, equity, and higher-order thinking in the public sector classroom.

Despite the great results, some considerations should be recognized. The positive impacts seen may be partly due to the novelty of CL strategies in a place where traditional teaching is the norm. Additionally, the effectiveness of CL is very dependent upon the skills of teacher facilitation, the degree of careful planning and consistent monitoring - conditions that may not be equally available in all schools. Class size or lack of resources and teacher training may play a role in the replicability of these strategies. However, these challenges in no way detract from the contributions of this study, so much as they point to the place of attention in future teacher professional development and planning of policy.

From the discussion, Cooperative Learning provides a powerful and contextually proper alternative to lecture-based teaching in History classrooms. The findings support broader pedagogical reform efforts to change schools and move to an active learning, cooperative and student-centred schooling environment in Pakistan. By the research showing theoretical coherence and practical effectiveness, this research contributes valuable evidence to the growing body of local and international literature on the academic benefits of Cooperative Learning.

10. Conclusion

The results of the present study show that Cooperative Learning strategies, namely Jigsaw-II and STAD, are very useful to enhance academic achievement of Grade 7 History students in the aspect of History teaching and learning that are maximized and prudent compared to the lecture-based approach. The experimental group's improved post-test scores and large effect size give good evidence for the value of structured peer interaction, guided collaboration, and individual accountability in improving conceptual understanding and retention. These results support the theoretical claims predicted by the Sociocultural Theory and Social Interdependence Theory by demonstrating the value of scaffolding peer learning as well as positive interdependence in an academic context. In the context of Pakistani public schools, characterised by teacher-centred pedagogy and rote memorization, the results highlight the importance of ways to engage the learners in active learning and encourage deep cognitive processing. The study offers meaningful empirical evidence to yet-underexplored area as well, i.e. Cooperative learning in elementary History education, and sets a foundation for advocating for instructional reforms intended to improve student engagement and learning outcomes gained in social studies classrooms.

11. Recommendations

- 1 Adopt the concept of cooperative learning in all areas of learning. Education institutions should methodically introduce CL techniques such as Jigsaw II and STAD into the teaching classrooms, especially for subjects that is prone to disengagement, such as History.
- 2 Invest in Teacher training. Training programs should be created to prepare teachers to prepare and implement practical CL activities. Emphasis should be given to group management, assessment method and promoting inclusive participation.
- 3 Review Education Policy and Curriculum. Learning strategies and de-emphasizing rote learning and passive learning. National and provincial curriculum bodies need to amend frameworks with the support of cooperative
- 4 Develop Support Material. The ministry and school-level administrations should be able to provide schools with the necessary instructional materials, worksheets, expertise sheets, and multimedia sessions to support CL implementations.
- 5 Encourage Inclusive Practice. Teachers should be trained to differentiate instruction in CL settings to ensure the participation of all the learners including those with learning difficulties, and special educational needs.

12. Future Research Prospects

While this study certainly adds valuable information about the efficacy of CL in History education, there are several areas that could be examined further:

- 1 Long-Term Impact Studies. Future research should look at the long term effects of Jigsaw II and STAD on knowledge retention, critical thinking and student motivation across academic years. With an increased sample size, additional research in different areas and types of schools may be possible.
- 2 Fewer to Broader Subject and Age Group Applications. Science, Mathematics, Languages, etc. Students should be conducted at different levels of education (primary, secondary and tertiary levels) to generalize the results.

- 3 Technology Integration in the CL. Integrating digital platforms and online collaborative tools with CL methods is worth a mention, especially considering the possibilities created by the model of remote and blended learning.
- 4 Mixed-Methods Research. Qualitative research methods such as interviews, classroom observations and student reflections may be included depending on the need to gain a deeper understanding of the experiences and perceptions that surround Cooperative Learning.

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