

COLLABORATIVE TEACHING AS A TOOL FOR ENHANCING SOCIAL INTERACTION SKILLS AMONG HIGHER SECONDARY STUDENTS

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ABSTRACT

This experimental study investigated how collaborative teaching affected the social interaction skills of Pakistani higher secondary students in Lahore. The study assessed the efficacy of a six-week intervention that included team teaching, cooperative learning strategies, and interactive classroom activities in line with the English curriculum using a pre-test post-test control group design. Peer interaction, communication, teamwork, empathy and respect, classroom management, and general socialization were all evaluated using the Students' Socialization Level Scale (SSLS). All domains except peer interaction showed statistically significant improvements, according to paired samples t-tests. Notably, there were highly significant improvements in classroom management, teamwork, and empathy and respect ($p < .001$). These results highlight how collaborative teaching can help students develop critical social-emotional skills. The study supports integrating collaborative methods into mainstream secondary education to enhance students' interpersonal competencies and create inclusive, student-centered classrooms. Implications for curriculum reform and instructional practices are also discussed.

Keywords: Collaborative Teaching, Social Interaction Skills, Higher Secondary Students

INTRODUCTION

A change from traditional teacher-centered instruction to more learner-centered and interactive approaches has been demanded by the evolution of teaching practices in the twenty-first century. Among these, collaborative teaching has drawn a lot of interest as a potentially effective way to improve students' social interaction abilities in addition to their academic comprehension. Effective peer interaction is crucial for students' academic and personal growth in today's more multicultural and interconnected world. When two or more teachers work together to plan, deliver, and evaluate lessons, it creates a dynamic classroom environment that encourages active engagement, communication, teamwork, and mutual respect (Friend, Cook, & Hurley-Chamberlain, 2022). Students go through significant changes in the social, emotional, and cognitive domains at the upper secondary level. This stage necessitates

educational interventions that foster the development of social and interpersonal competencies in addition to rote learning. According to research, students who have strong social interaction skills are more likely to exhibit higher levels of self-efficacy, form healthier relationships, and perform better academically (Wentzel & Maneks, 2021). By encouraging cooperative learning, constructive discourse, and shared problem-solving among diverse peer groups, collaborative teaching gives students real-world chances to hone these skills (Gillies, 2022; Johnson & Johnson, 2021). Vygotsky's (1978) Social Development Theory, which highlights the significance of social interaction in cognitive development, serves as a major theoretical basis for collaborative teaching. Vygotsky believed that knowledge is created via interaction with others in a culturally significant setting and that learning is fundamentally a social

process. By fostering classroom environments where students co-construct knowledge through facilitated interaction, collaborative teaching supports this viewpoint. Additionally, the idea that students acquire interpersonal and communication skills via observation and cooperation is supported by Bandura's Social Learning Theory (1986), which emphasizes the influence of social context and modeling on behavior and learning.

Numerous empirical studies support the idea that collaborative teaching helps students become more socially competent. For example, Slavin (2023) found that students in cooperative learning environments demonstrated markedly better empathy, conflict resolution skills, and peer relationships. According to a study by Fisher, Frey, and Hattie (2021), co-teaching techniques improved student engagement, confidence, and communication in addition to academic achievement. These results imply that, when used properly, collaborative teaching can be a potent instrument for helping students acquire critical soft skills that equip them for obstacles they may face in the real world.

Even with its proven advantages, collaborative teaching is difficult to adopt, particularly in traditional or test-based educational systems like those in South Asia. Teachers frequently lack the institutional support, time, or training necessary to organize and lead collaborative sessions. Furthermore, innovative approaches may be discouraged in favor of more traditional lecture-based instruction due to societal expectations and strict curricula (Rehman, Ashraf, & Mahmood, 2022). In order to support both curriculum delivery and social development, it becomes imperative to investigate how collaborative teaching can be successfully incorporated into the higher secondary school environment.

Furthermore, social interaction skills development at this point has long-term effects that affect students' future academic, professional, and personal lives (OECD, 2023). Examining and validating pedagogical models that can promote holistic development during these formative years is therefore imperative. The skill demands of the twenty-first century also make this research more pertinent. Educational systems must change to reflect the global workforce's shift toward jobs that emphasize critical thinking, communication, flexibility, and

teamwork. According to the World Economic Forum (2020), social and emotional learning is a critical component of education that prepares students for the future. By integrating social learning into regular classroom interactions and making sure that students are active members of a learning community rather than just passive consumers of knowledge, collaborative teaching supports this goal.

The educational environment in Pakistan, where traditional teacher-centered approaches predominate, is the setting for this study. Nonetheless, a move toward more student-centered pedagogies is indicated by recent educational reforms like the Single National Curriculum and the incorporation of life skills-based education. Collaborative teaching can be a significant response to national educational goals that prioritize democratic engagement, communication, and tolerance in this changing environment (Government of Pakistan, 2021). Thus, examining how collaborative teaching affects social interaction abilities can help develop evidence-based strategies that help achieve these national goals.

This study discusses the theoretical underpinnings of collaborative teaching in secondary education as well as its practical implementation. It looks into the best ways to organize and present collaborative models, how teachers can help students engage in meaningful interactions, and how students react to these kinds of settings in terms of social engagement. By connecting theory and practice and placing collaborative teaching in the context of developing nations, it also adds to the body of scholarly literature. Collaborative teaching offers a revolutionary strategy for developing higher secondary students' social interaction abilities. It provides a comprehensive educational model that addresses students' academic and socioemotional needs, grounded in well-established learning theories and bolstered by recent research. This study intends to add to the expanding corpus of research on collaborative pedagogy by focusing on how it affects the development of social skills at a critical juncture in students' development.

Literature Review

The transformative educational approach of collaborative teaching, which fosters both

academic excellence and the holistic development of students, is becoming more widely acknowledged. Its capacity to promote social interaction skills—which are critical for efficient communication, collaboration, empathy, and conflict resolution—is one of its main advantages. These abilities are crucial in today's educational environment and are not optional, particularly at the upper secondary level where students are getting ready for adulthood and the workforce. Key research findings and theoretical viewpoints on collaborative teaching and its potential to improve social interaction skills, especially in adolescents, are summarized in this review of the literature.

Collaborative Teaching

Co-teaching, another name for collaborative teaching, is when two or more teachers plan, teach, and evaluate a class of students together. Team teaching, parallel teaching, station teaching, and alternative teaching are some of the models it includes (Friend, Cook, & Hurley-Chamberlain, 2022). In order to optimize student engagement and learning outcomes, the underlying philosophy advocates for inclusive practices, diversified instruction, and shared responsibility.

Beyond its initial use to promote inclusive practices in special education, collaborative teaching has spread to general education, where it fosters peer engagement, differentiated instruction, and the growth of interpersonal skills (Sileo, 2019). Students are more likely to internalize cooperative behaviors when teachers set an example of teamwork.

Initiating and sustaining conversations, expressing emotions appropriately, cooperating in group situations, actively listening, and constructively resolving conflicts are all examples of social interaction skills (Gresham, 2021). These abilities are essential for emotional health, adult employability, and academic achievement. Social and emotional learning (SEL), which includes social interaction skills, is one of the most crucial future-ready competencies, according to the World Economic Forum (2020). By developing these abilities in the classroom, students are better prepared to succeed in multicultural, collaborative, and international settings.

Vygotsky's (1978) Sociocultural Theory, which holds that social interaction is essential to cognitive development, provides a solid foundation for this subject. In the Zone of Proximal Development (ZPD), where teachers and peers act as more knowledgeable individuals, learning happens through interaction. Opportunities for this kind of interaction are facilitated by collaborative teaching. In a similar vein, Bandura's Social Learning Theory (1986) highlights that people pick up new skills by watching and copying others in social settings. Students learn these skills indirectly from teachers who set an example of polite conversation, active listening, and conflict resolution. Collaboration is also encouraged by constructivist learning theories. According to Piaget (1954), peer social interaction fosters cognitive conflict and disequilibrium, which improves reasoning. Therefore, group-based activities and collaborative instruction form the basis of social learning.

Collaborative Teaching and Peer Interaction

Peer interaction in collaborative learning environments improves students' communication skills, according to a number of studies. Cooperative learning groups, a crucial part of collaborative teaching, have been shown by Johnson and Johnson (2021) to improve peer acceptance, social support, and interpersonal trust. According to Gillies (2022), students who work in mixed-ability groups gain patience, empathy, and negotiation skills—all of which are essential components of social competence. Students can participate in social tasks that promote cooperation and respect for one another by taking on group roles, such as presenter, leader, or note-taker. Slavin (2023) adds that cooperative learning methods like jigsaw, think-pair-share, and reciprocal teaching enhance students' cognitive performance while also boosting their confidence in voicing their thoughts, hearing opposing viewpoints, and reaching consensus.

When it comes to exhibiting collaborative behavior, teachers themselves are crucial. Students get a firsthand look at how adults handle social interaction, assign tasks, and support one another when they watch teachers co-plan, co-instruct, and co-assess (Scruggs, Mastropieri, & McDuffie, 2020). Teacher

collaboration exemplifies inclusive decision-making, cooperative discourse, and shared goal-setting (Fisher, Frey, & Hattie, 2021). When students observe these behaviors in action, they become educational resources. Through direct and indirect means, students absorb academic material and social behavior in the classroom, which turns into a living laboratory of social interaction.

Enhancing Socialization

Structured and intentional interaction increases the effectiveness of collaborative teaching in enhancing social interaction skills. Structured group projects guarantee that all students participate, which is essential in avoiding social loafing and marginalization, claim Cohen and Lotan (2014). Round-robin, team-building exercises, and peer tutoring are examples of cooperative structures that improve communication, lower anxiety, and boost peer support, according to Kagan (2022). Students who follow structured routines are better able to develop interpersonal norms that are essential to social functioning, such as taking turns, listening, and giving feedback. Additionally, formative feedback from peers and teachers is frequently incorporated into collaborative teaching. When provided constructively, this feedback aids students in developing self-awareness and enhancing emotional control, both of which are essential for social competence (OECD, 2023).

Students with a range of needs can engage in meaningful peer interaction on an inclusive platform that collaborative teaching offers. In conventional classrooms, social integration is frequently difficult for students from marginalized groups, linguistic minorities, or those with learning disabilities (Rehman, Ashraf, & Mahmood, 2022). Peer mentoring and buddy systems are examples of collaborative tactics that foster safe spaces where students can participate without worrying about being judged. When used sensitively, collaborative teaching improves students' social self-concept and interpersonal relationships by making students from different backgrounds feel included and accepted (UNESCO, 2022).

Challenges and Limitations

Collaborative teaching has its drawbacks despite its potential. The absence of co-teaching methods

training for teachers is a significant problem. A lot of teachers don't know how to create balanced interactions in groups or how to share roles effectively (Sileo, 2019). Implementing collaborative practices in higher secondary settings is further hampered by time constraints, strict curricula, and assessment pressures. The focus is still on rote memorization in many developing nations, such as Pakistan, which restricts the potential of collaborative models (Mahmood & Saeed, 2021). Additionally, shyness, domineering personalities, or unpleasant past experiences may cause some students to avoid group projects. To guarantee fruitful interaction, teachers need to be proficient in managing group dynamics and mediating conflicts.

Cultural expectations and gender norms also have an impact on social interaction. Boys and girls may be dissuaded from freely working together in conservative environments. Teachers must establish collaborative opportunities that are culturally relevant and gender-sensitive in these situations (Jamil, 2020). Socioeconomic status, language barriers, and urban-rural divides can affect how students participate in social tasks. Effective implementation requires differentiated instructional planning and context-specific adaptations.

There is growing international agreement that social-emotional learning and collaborative pedagogies should be incorporated into regular curricula through educational policies. In order to promote cooperative learning and interpersonal growth, the OECD Future of Education and Skills 2030 framework calls for systemic reforms. Citizenship, tolerance, and communication are all cross-cutting themes in Pakistan's Single National Curriculum (SNC). Promoting collaborative teaching at the policy level is crucial to ensuring its broad adoption, as it is a strategic fit for putting these themes into practice.

The link between improved social interaction skills and collaborative teaching has been confirmed by recent studies. For example, Alsubaie (2021) discovered that collaborative instruction enhanced students' capacity for teamwork, active listening, and emotional expression in Saudi secondary schools. Akman and Yazici (2022) found that co-teaching models significantly improved the group communication

and peer acceptance of Turkish high school students. In Pakistan, Ahmad, Bano, and Qureshi (2023) discovered that students who participated in organized group activities under cooperative learning environments demonstrated greater assertiveness, cooperation, and respect for different viewpoints. These results highlight how beneficial collaborative teaching is in a variety of cultural and educational contexts.

There is strong evidence in the literature that collaborative teaching is an effective way to help higher secondary students develop their social interaction skills. This method, which has its roots in sociocultural and social constructivist theories, promotes cooperation, empathy, genuine communication, and respect for one another. Even though there are still implementation issues, particularly in conventional educational systems, there is a huge chance for improvement. Collaborative teaching is becoming a crucial tactic to get students ready for the demands of a socially connected future as the world shifts toward education that values both academic excellence and emotional intelligence.

Objectives of the Study

1. To ascertain how collaborative teaching affects higher secondary students' abilities to interact with their peers.
2. To evaluate how collaborative teaching affects upper secondary school students' communication abilities.
3. To assess how well collaborative instruction improves higher secondary students' capacity for teamwork.
4. To investigate how collaborative teaching affects students' growth in empathy and respect.
5. To examine how collaborative teaching affects upper secondary students' classroom management abilities.
6. To look into how collaborative teaching affects higher secondary students' social interaction abilities overall.

Null Hypotheses

1. **H₀₁:** There is no statistically significant difference in peer interaction skills between students taught through collaborative teaching and those taught through traditional methods.
2. **H₀₂:** There is no statistically significant difference in communication skills of students

before and after the collaborative teaching intervention.

3. **H₀₃:** There is no statistically significant improvement in teamwork skills of students due to the collaborative teaching approach.

4. **H₀₄:** There is no statistically significant effect of collaborative teaching on the development of respect and empathy among students.

5. **H₀₅:** There is no statistically significant difference in classroom management skills among students before and after being exposed to collaborative teaching.

6. **H₀₆:** There is no statistically significant difference in overall social interaction skills among students as a result of collaborative teaching intervention.

Methodology

The pre-test post-test control group design, a quantitative experimental research design, was used in this study to investigate how collaborative teaching affected the development of social interaction skills in higher secondary students. The population for this study comprised higher secondary school students (Grade 11) enrolled in public sector schools in Lahore, Pakistan. An English curriculum-focused collaborative teaching intervention lasting six weeks made up the experimental treatment. The following teaching techniques were incorporated into the intervention:

- **Team Teaching:** Lessons were co-planned and co-taught by two teachers.
- **Cooperative Learning Activities:** Planned group projects utilizing techniques like Round Table, Think-Pair-Share, Jigsaw, and Peer Tutoring.
- **Interactive Activities:** Role plays based on readings from textbooks and writing prompts, group discussions, and cooperative projects.
- **Social Interaction Focus:** Students' respectful debate, active listening, taking turns, and reaching consensus were emphasized.

The Students' Socialization Level Scale (SSLS), a structured tool designed to evaluate i. peer interaction, ii. Communication skills, iii. teamwork skills, iv. Respect and empathy, v. classroom management aspects of social interaction among secondary school students, was used to gather data for the current experimental study. Respondents used the following options to rate each item according to

how much they agreed with it: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. There were two stages to the SLS administration. Prior to the collaborative teaching intervention's deployment, a pre-test was administered to gather baseline information on the sociability levels of the pupils. To find out whether the students' social behavior

had changed significantly after the experimental treatment, a post-test was administered using the same scale. The application of suitable statistical procedures, i.e. paired samples t-tests was used to measure the effect of intervention i.e. collaborative learning technique on students' socialization development. The detailed data analysis and results are given below:

Table 1. Pre- and Post-Test Comparison of Peer Interaction Skills as an Indicator of Socialization Among Higher Secondary Students in a Collaborative Teaching Environment

| Socialization results | Mean | Students | Standard Deviation | t-value | Significance level |
|-----------------------|-------|----------|--------------------|---------|--------------------|
| Pre-test | 3.083 | 36 | .420 | -1.41 | .169 |
| Post-test | 3.173 | 36 | .444 | | |

The results of a paired samples t-test that was used to investigate how collaborative teaching affected higher secondary students' peer interaction abilities—a crucial sub-component of socialization—are shown in Table 1. The test assessed students' levels of peer interaction both before and after the intervention, which involved using a collaborative teaching approach. The post-test mean score was marginally higher at $M = 3.17$ ($SD = 0.44$), compared to the pre-test mean score of $M = 3.08$ ($SD = 0.42$). With a p-value of .169, the t-value for the difference

between the pre-test and post-test scores was $t(35) = -1.41$.

The result is not statistically significant because the p-value is higher than .05, meaning that the observed increase in peer interaction scores was insufficient to rule out the null hypothesis. Consequently, the results indicate that although students' peer interaction increased somewhat after the collaborative teaching intervention, this difference cannot be directly linked to the intervention in the current sample and timeframe.

Table 2. Pre- and Post-Test Comparison of Communication Skills as an Indicator of Socialization Among Higher Secondary Students in a Collaborative Teaching Environment

| Socialization results | Mean | Students | Standard Deviation | t-value | Significance level |
|-----------------------|-------|----------|--------------------|---------|--------------------|
| Pre-test | 3.145 | 36 | .418 | -2.06 | .047 |
| Post-test | 3.278 | 36 | .393 | | |

A paired samples t-test was used to assess how collaborative teaching affected higher secondary students' communication skills, which are thought to be a crucial component of social interaction and socialization. Students' communication abilities were evaluated both before and after a collaborative teaching strategy was introduced in the classroom. With a standard deviation of $SD = 0.418$, the pre-test mean communication score was $M = 3.145$. The post-test mean rose to $M = 3.278$ with a standard deviation of $SD = 0.393$ after the intervention.

With a significance level (p-value) of .047, the t-test result was $t(35) = -2.06$.

The outcome is statistically significant since the p-value is below the conventional cutoff point of 0.05. This suggests that collaborative teaching had a quantifiable and beneficial effect on students' communication skills. A key component of social interaction is communication, and the interactive aspect of collaborative teaching may be responsible for the improvement seen. Students' communication skills were strengthened by the structured group activities.

Table 3. Pre- and Post-Test Comparison of Team Work Skills as an Indicator of Socialization Among Higher Secondary Students in a Collaborative Teaching Environment

| Socialization results | Mean | Students | Standard Deviation | t-value | Significance level |
|-----------------------|-------|----------|--------------------|---------|--------------------|
| Pre-test | 3.031 | 36 | .421 | -3.64 | .001 |

| | | | |
|-----------|-------|----|------|
| Post-test | 3.333 | 36 | .401 |
|-----------|-------|----|------|

The findings of a paired samples *t*-test used to evaluate how collaborative teaching affected students' teamwork abilities—a crucial aspect of socialization—are shown in Table 3. Higher secondary students' mean scores are compared before and after collaborative teaching techniques are implemented. With a standard deviation of $SD = 0.421$, the pre-test mean score for teamwork skills was $M = 3.031$. The post-test mean score rose to $M = 3.333$ with a standard deviation of $SD = 0.401$ following the collaborative teaching intervention. With a *p*-value of .001, the computed *t*-value for the

difference between the pre-test and post-test scores was $t(35) = -3.64$.

The outcome is regarded as highly statistically significant since the *p*-value is less than .01, suggesting a significant and consistent improvement in teamwork abilities after the intervention. So, collaborative teaching was successful in fostering students' capacity for teamwork, group contributions, tolerance for differing viewpoints, and responsibility sharing. A crucial component of social interaction is teamwork, which is especially promoted in collaborative learning settings where students are urged to participate in group projects.

Table 4. Pre- and Post-Test Comparison of Respect and Empathy Skills as an Indicator of Socialization Among Higher Secondary Students in a Collaborative Teaching Environment

| Socialization results | Mean | Students | Standard Deviation | <i>t</i> -value | Significance level |
|-----------------------|-------|----------|--------------------|-----------------|--------------------|
| Pre-test | 2.941 | 36 | .363 | -4.86 | .000 |
| Post-test | 3.358 | 36 | .356 | | |

The results of a paired samples *t*-test that was designed to assess how collaborative teaching affected students' empathy and respect—essential component of social interaction is shown in Table 4. Students' test results before and after being exposed to a collaborative learning environment are compared. The pre-test mean score for empathy and respect was $M = 2.941$ with a standard deviation of $SD = 0.363$, and the post-test mean increased to $M = 3.358$ with a standard deviation of $SD = 0.356$. The corresponding significance level was $p = .000$, and the computed *t*-value was -4.86.

The difference is highly statistically significant because the *p*-value is less than .001, suggesting that collaborative teaching has a significant positive impact on students' growth in empathy and respect. This notable improvement attested to the fact that students' engagement in cooperative classroom activities led to an increase in their sensitivity, understanding of other people's viewpoints, and polite interactions. Healthy socialization is based on respect and empathy, which help students create inclusive learning environments, lessen conflict, and form meaningful peer relationships.

Table 5. Pre- and Post-Test Comparison of Classroom Management Skills as an Indicator of Socialization Among Higher Secondary Students in a Collaborative Teaching Environment

| Socialization results | Mean | Students | Standard Deviation | <i>t</i> -value | Significance level |
|-----------------------|-------|----------|--------------------|-----------------|--------------------|
| Pre-test | 2.941 | 36 | .363 | -3.86 | .000 |
| Post-test | 3.167 | 36 | .428 | | |

The results of a paired samples *t*-test used to evaluate how well collaborative teaching improves higher secondary students' classroom management abilities are shown in Table 5. These abilities, which include self-control, accountability, and conformity to group norms in a shared learning environment, are thought to be an essential subdomain of socialization.

Students scored on average $M = 2.941$ ($SD = 0.363$) on the pre-test and $M = 3.167$ ($SD = 0.428$) on the post-test. With a significance level of $p = .000$, the statistical comparison produced a *t*-value of -3.86.

This difference is highly statistically significant because the *p*-value is less than .001, indicating that students' classroom management skills were significantly improved by the collaborative

teaching approach. Results show that students' time management, rule-following, turn-taking, and group discipline significantly improved after participating in collaborative learning activities. These components create settings in which students naturally pick up self-awareness,

classroom etiquette, and constructive conflict resolution. This behavioral improvement not only facilitates more efficient classroom operations but also improves the learning environment's general social atmosphere.

Table 6. Pre- and Post-Test Comparison of Overall Socialization Skills Among Higher Secondary Students in a Collaborative Teaching Environment

| Socialization results | Mean | Students | Standard Deviation | t-value | Significance level |
|-----------------------|-------|----------|--------------------|---------|--------------------|
| Pre-test | 3.028 | 36 | .276 | -5.10 | .000 |
| Post-test | 3.262 | 36 | .241 | | |

The results of a paired samples t-test used to assess the overall impact of collaborative teaching on higher secondary students' socialization abilities are shown in Table 6. Peer interaction, communication, teamwork, respect and empathy, and classroom behavior are just a few of the sub-dimensions of social interaction that are covered by the measure. With a standard deviation of $SD = 0.276$, the pre-test mean socialization score was $M = 3.028$. The post-test mean score increased to $M = 3.262$ with a standard deviation of $SD = 0.241$ after the intervention utilizing collaborative teaching strategies. For this change, the calculated t-value was -5.10 , and the corresponding p-value was $.000$.

Following their exposure to collaborative teaching, students' overall socialization skills significantly improved, as evidenced by the highly statistically significant result ($p\text{-value} < .001$). This statistically significant shift demonstrates that the teaching method had a favorable and quantifiable impact on the students' social and interpersonal behavior development. The collaborative teaching approach places a strong emphasis on peer cooperation, group learning, respect for one another, and shared accountability, all of which improve social interaction. Students who participate in interactive learning processes enhance their capacity for effective communication, teamwork, empathy, and self-discipline—all of which are critical for success in both social and academic settings.

Discussion

The purpose of this study was to investigate how collaborative teaching methods affected the improvement of higher secondary students' social

interaction abilities. Notable trends were found in the results across the six socialization dimensions: communication, teamwork, respect and empathy, classroom management, peer interaction, and overall socialization. The mean score for peer interaction skills before and after the intervention increased slightly, but the difference was not statistically significant. This implies that while collaborative teaching might create peer-engagement-promoting environments, the short-term effects might not be strong enough to produce noticeable improvements in this area. These results are comparable to those of Laal and Ghodsi (2012), who contended that peer interaction takes time to develop and might necessitate extended exposure to cooperative learning techniques.

On the other hand, statistically significant gains in respect and empathy, communication, teamwork, classroom management, and overall socialization. These findings highlight the many ways that collaborative teaching helps students develop their interpersonal and social-emotional skills. Significant improvements in communication skills demonstrated that student-centered teaching strategies foster structured discussion and mutual learning (Gillies, 2016; Slavin, 2011; Johnson & Johnson, 2009). These results are consistent with the social development theory of Vygotsky (1978), which highlights the importance of social interaction in language and cognitive development. Results are also consistent with research on social-emotional learning by Durlak et al. (2011) and Wentzel (2015). Recent research in cooperative learning pedagogy (Cornelius-White, 2007) supports the idea that collaborative environments may foster student autonomy and discipline by promoting

peer regulation and participative learning, as evidenced in this research also.

Conclusion

The following conclusions can be made in light of the data analysis:

- Higher secondary students' general social interaction skills are greatly enhanced by collaborative teaching, particularly in the areas of empathy, teamwork, communication, and classroom behavior.
- The greatest increase was seen in respect and empathy skills, suggesting that mutual respect and emotional intelligence are fostered by collaborative learning.
- Although there was a slight improvement in peer interaction skills, the change was not statistically significant, indicating that more focused or extended intervention may be needed in this area.
- The outcomes validate the importance of collaborative teaching approaches in accomplishing academic goals and cultivating critical social skills for the twenty-first century.

Recommendations

The following suggestions are offered to encourage the use of collaborative teaching:

- ✓ Secondary school curricula should formally incorporate collaborative teaching approaches, according to curriculum designers and educational authorities. This would guarantee that teaching methods shift from conventional lecture-based structures to more engaging, student-centered settings that foster social skill development.
- ✓ To foster empathy, teamwork, and communication in the classroom, educators and school administrators should support frequent, organized cooperative activities like role-playing, group projects, peer discussions, and problem-based learning.
- ✓ Instructors must make sure that cooperative learning exercises are inclusive so that students of all backgrounds, genders, and skill levels can participate. This method promotes fair peer interaction, empathy, and respect for diversity.
- ✓ In order to foster leadership, accountability, and classroom responsibility, students should be given the chance to take the lead in group discussions and projects. Group

leadership positions that rotate may improve confidence-building and socialization.

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