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Cooperative Learning in Higher Education ESL Classrooms: A Narrative Review of Techniques, Effectiveness, and Challenges

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A B S T R A C T

This narrative review examines the effectiveness of cooperative learning methods in ESL classrooms and the challenges teachers face when implementing them through analyzing and integrating diverse sources such as empirical studies, review papers, scholarly publications, instructional materials, and research reports. It focuses on Jigsaw, Think-Pair-Share (TPS), Student Teams–Achievement Divisions (STAD), Group Investigation (GI), and Round Robin (RB), all of which promote active, student-centered learning through collaboration and engagement. Jigsaw and GI enhance critical thinking and comprehension through inquiry and peer teaching, with Jigsaw being more structured and GI allowing greater student autonomy. TPS and RB develop speaking skills and confidence, with TPS building ability gradually and RB encouraging fluency and quick responses. STAD combines teamwork with individual accountability via quizzes. Common challenges include unequal participation, classroom management issues, time constraints, language barriers, and limited resources. Effective implementation requires careful planning, clear instructions, active guidance, and a supportive environment. When applied thoughtfully, these strategies foster both cognitive and communicative skills, helping ESL learners improve language proficiency, collaboration, and critical thinking.

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INTRODUCTION

Education plays a vital role in national development, as it influences both economic growth and long-term progress. The quality and availability of educational opportunities strongly affect a country's advancement (Lan et al., 2024a). In addition to individual and whole-class instruction, the use of small-group approaches—especially cooperative learning—supports deeper learning by promoting collaboration and teamwork. These practices help learners develop a sense of shared success and responsibility (Zaur & Lakhmir, 2024; Bunrosy & Vireak, 2024; Lan et al., 2024b).

In the context of English as a Second Language (ESL), there has been an increasing shift toward teaching approaches that develop not only language skills but also social, cognitive, and interpersonal abilities. Traditional teacher-centered methods, which often emphasize memorization and individual tasks, limit students' opportunities to actively use language and engage in meaningful communication (Sattarova, 2024; Shkurti, 2024; Lan et al., 2024; Keo & Lan, 2025). In contrast, cooperative learning adopts a student-centered approach, placing learners in small groups where they work together to achieve shared goals through discussion, interaction, and peer support (Laguador, 2014; Chowdhury, 2021). Widodo (2013) describes cooperative learning as an instructional approach in which teachers organize and guide small groups to collaboratively complete common tasks.

Cooperative learning emphasizes the value of learners with different abilities working together to improve overall group performance. Through this process, students develop academic knowledge as well as collaboration skills, which are essential for their future careers. Due to its effectiveness, cooperative learning has become an important strategy in English language teaching, particularly in countries where English is used as the medium of instruction (Al-Yaseen, 2014). In a cooperative learning classroom, the teacher's role differs from that in traditional settings. Teachers plan and structure activities and provide guidance, but once group interaction begins, students take greater responsibility for their learning. Teachers mainly monitor group processes to ensure that rules and structures are followed so all learners can participate and progress. These structures promote interaction among students, between students and teachers, and with learning content in meaningful ways, leading to positive learning outcomes. Moreover, cooperative learning increases learner motivation when teachers create supportive and well-organized learning environments (Kagan & Stenlev, 2017; Hultberg & Söderberg, 2020; Keo & Lan, 2025).

ESL learners often face various challenges, which highlights the need for effective instructional strategies to support their learning (Keo et al., 2025a; Keo et al., 2025b). Learning new language rules and unfamiliar writing systems can be particularly difficult. Yusof et al. (2019) note that many researchers support the use of cooperative learning in ESL classrooms because it improves not only language proficiency but also interpersonal and professional skills. This approach helps students develop skills such as decision-making and leadership, as group success depends on the active involvement of all members. By working

toward common goals, learners benefit from each other's knowledge and experiences (Fujiwara & Sato, 2015; Vireak et al., 2025).

As cooperative learning gains recognition as an effective teaching approach in ESL contexts, it is important to examine both its advantages and the challenges that may affect its implementation. Although previous studies emphasize its positive impact on language development, social interaction, and learner autonomy, issues such as classroom management, unequal participation, and teachers' readiness remain common. Therefore, this literature review aims to investigate effective cooperative learning techniques and the challenges of applying them in ESL classrooms, as well as to offer practical recommendations to help teachers improve language learning outcomes in sustainable and meaningful ways.

Synthesis of Previous Studies

Cooperative learning is defined as an instructional approach in which students work together in small groups and receive recognition for their collective achievements (Slavin, 1996). It is also described as a teaching strategy where learners support one another in achieving shared academic goals through collaboration (Belward et al., 2012; Laal & Laal, 2012). This method allows individual students to benefit from group interaction while increasing engagement and motivation. As a student-centered approach, cooperative learning encourages learners to interact, explore ideas, gain knowledge, and assist one another's learning (Karimi & Bagheri, 2017). Research shows that this teaching and learning method enhances comprehension, knowledge acquisition, critical thinking, problem-solving skills, self-confidence, and communication abilities, including listening skills (Karimi & Bagheri, 2017; Phillips & Fusco, 2015). Slavin (1983, 2015) further argues that cooperative learning can positively shape youth culture by making academic success socially valued.

Additionally, cooperative learning encourages students to share responsibility for ensuring that all group members understand the content. Groups are typically formed to be heterogeneous in terms of gender, academic ability, ethnicity, and other characteristics (Cruickshank, 1990; Baer, 2003). There are several reasons for this approach. First, cooperative learning is grounded in humanistic principles that aim to build self-esteem and promote acceptance among learners. Second, mixed-ability groups provide equal learning opportunities by distributing skills and strengths across members. Finally, research shows that students with lower academic ability often perform better in heterogeneous groups than in homogeneous ones (Bernal Castañeda, 2017; Cruickshank, 1990).

Cooperative learning activities create an interactive, supportive, and collaborative learning environment that also challenges students intellectually (Lin et al., 2025). These activities offer a clear structure for classroom teaching, which increases student involvement and promotes active participation in learning (Goulart, 2022). Students who take part in cooperative learning gain both academic and social benefits, such as improved self-confidence, stronger interest in the subject, and more time spent on learning tasks (Fernandez-Rio et

al., 2022). In addition, cooperative learning allows students to practice teamwork, apply critical thinking to real-life situations, and turn theoretical knowledge into practical skills. Informal group interaction further supports learning by enabling students to learn from each other (Fung & Liang, 2019).

Despite these advantages, cooperative learning is still not widely used in ESL classrooms. Some teachers lack sufficient knowledge of this approach, while others may misunderstand its value in second language learning. Forth (2025) highlighted the benefits of well-guided cooperative learning, and Johnson and Johnson (2018) noted its positive effects on students' planning and self-reflection skills. Future studies should expand research to include different subjects, educational levels, and learning contexts, as well as larger and more diverse groups of learners.

Cooperative learning focuses on small-group work, which strengthens student engagement, critical thinking, and communication skills (Nozimafarhodkizi, 2024). Research shows that this approach leads to better learning outcomes and higher achievement than competitive learning, while also supporting social development, motivation, and personal growth. Working in pairs or small groups helps English language learners build understanding and confidence before speaking in front of the whole class. However, effective cooperative learning involves more than simply placing students in groups. Certain key conditions must be met to ensure successful collaboration (Gillies, 2020). First, all group members should understand the importance of helping one another to complete tasks, creating positive interdependence. Second, each student must be accountable for their own contribution, such as sharing results with the class. Third, group members should listen actively and respect everyone's right to express opinions. Fourth, students need to encourage and support each other throughout the activity. Finally, groups should reflect on their performance and consider how they can improve in future tasks.

Cooperative learning plays an important role in ESL classrooms by supporting language development, social interaction, and learner independence. To better understand how it works, three major theoretical perspectives are especially influential: Vygotsky's social constructivism, Johnson and Johnson's cooperative learning theory, and Slavin's student team learning model. Although each perspective has a different focus, together they explain how collaboration strengthens language learning.

These three theories share a common emphasis on interaction, cooperation, and peer support, but they approach cooperative learning in different ways. Vygotsky's social constructivism highlights the social nature of learning, particularly through the concepts of the Zone of Proximal Development (ZPD) and scaffolding, where learners develop skills with the help of more capable peers (Moll, 1990). Rather than concentrating on specific group techniques, this theory offers a broad view of how knowledge is constructed through dialogue and joint problem-solving. In ESL settings, it explains why meaningful peer interaction is essential for language development.

Johnson and Johnson (2018), on the other hand, transform these theoretical ideas into clear instructional principles. They identify five essential elements of

effective cooperative learning: positive interdependence, individual accountability, face-to-face interaction, social skills, and group processing. While Vygotsky focuses on learning as a developmental process, Johnson and Johnson provide a structured framework that helps teachers organize group work in a way that promotes equal participation and productive collaboration. In ESL classrooms, this approach ensures that peer interaction is purposeful and that learners remain responsible for their own learning.

Building on this structured framework, Slavin (2015) and Faricha and Huda (2020) introduce practical and well-tested classroom strategies such as Student Teams–Achievement Divisions (STAD) and Teams-Games-Tournaments (TGT). Unlike the broader perspectives of Vygotsky or the general principles of Johnson and Johnson, Slavin's model focuses on concrete classroom practices that link teamwork to clear learning outcomes. By combining group rewards with individual responsibility, this approach encourages ESL learners to cooperate effectively while also improving language proficiency and academic achievement.

Overall, these theories present complementary views of cooperative learning in ESL contexts. Vygotsky explains the social and developmental foundations of peer collaboration; Johnson and Johnson offer a clear pedagogical structure for organizing group interaction; and Slavin provides practical strategies that lead to measurable academic and language gains. Although their emphases differ—developmental, structural, and practical—they collectively highlight cooperative learning as a powerful approach for enhancing language skills, cognitive development, and social interaction in ESL classrooms.

METHODOLOGY

This study employs a narrative literature review approach to explore existing research on cooperative learning. The review draws on and interprets a broad range of relevant sources, including empirical studies, review articles, scholarly publications, teaching materials, and research reports to seek both the benefits and challenges of cooperative learning. By integrating findings and perspectives from the existing literature, this narrative review aims to offer practical implications and pedagogical guidance for language teachers in designing effective instructional strategies that respond to learners' needs in contemporary educational contexts (Keo et al., 2025; Vireak & Bunrosy, 2024; Keo et al., 2024).

Reviewing and Analyzing Previous Research on Cooperative Learning Techniques

1. *Jigsaw technique*

The Jigsaw method is a cooperative learning approach that promotes active participation, teamwork, and peer instruction in ESL classrooms (Sabbah, 2016). Students are initially assigned to small home groups and then reorganized into expert groups, where each member studies a specific subtopic using designated learning materials (Nusrath et al., 2019). Afterward, learners return to their home groups to explain their assigned content, engage in discussion, and

respond to questions, thereby reinforcing understanding. Learning outcomes are commonly assessed through post-tests and reflection questionnaires. This structured process supports the development of knowledge sharing, critical thinking, problem-solving, and communication skills (Souvignier & Kronenberger, 2007; Karimi & Bagheri, 2017; Brown & Smith, 2022).

The Jigsaw technique also enhances learner motivation and engagement by requiring students to actively contribute rather than passively receive information. Teaching peers strengthens comprehension through explanation and collaboration, while research, discussion, and presentation activities develop listening, speaking, and presentation skills. Furthermore, adaptable grouping based on discipline, expertise, or stakeholder roles can broaden perspectives and deepen comprehension by exposing learners to diverse viewpoints (Shume et al., 2016).

1.1. Challenges of jigsaw

Despite its advantages, the Jigsaw technique presents several limitations. Unequal participation may reduce effectiveness, as some learners rely on peers to complete tasks (Montazeri Khadem et al., 2022). Managing large or crowded classes can be challenging, leading to limited supervision, off-task behavior, noise, and imbalanced group contributions. Poorly aligned materials or the absence of a concluding summary may result in distraction and gaps in understanding, while inadequate assessment methods make it difficult to evaluate individual learning outcomes. In addition, students may focus narrowly on their assigned sections, causing fragmented learning and a weak grasp of the overall topic.

Supporting this concern, Moin et al. (2024) found that some learners prioritized preparing their own sections for peer teaching rather than actively listening to others, which slowed overall learning. Differences in proficiency levels and learning pace further challenged participation, particularly for slower learners. Moreover, effective implementation of the Jigsaw method requires considerable teacher time and effort for careful planning and classroom organization.

2. *Think-pair-share (TPS)*

Introduced by Frank Lyman in 1981, the Think-Pair-Share (TPS) technique is a cooperative learning strategy that promotes higher-order thinking through three stages: individual thinking, paired discussion, and whole-class sharing (Sokpe & Yarkwah, 2015; Macpherson, 2007). In the thinking stage, learners independently reflect on a teacher's question or task. During the pairing stage, students exchange ideas with a partner, evaluate different viewpoints, and agree on a suitable or creative response. In the sharing stage, pairs present their ideas to the class, with the teacher recording responses or inviting students to explain their reasoning (Sokpe & Yarkwah, 2015; Kagan & Kagan, 2009). This structured process encourages active engagement, provides time for cognitive processing, and builds confidence by allowing learners to rehearse ideas before public speaking. Partner interaction further supports focus, critical thinking, and learner involvement (Apriyanti & Ayu, 2020).

Participation in TPS supports the development of multiple skills. Independent reflection strengthens critical thinking, paired discussion enhances communication, collaboration, problem-solving, and decision-making skills, and whole-class sharing develops speaking and presentation abilities. Overall, TPS fosters confidence, active participation, and deeper understanding through a balance of individual reflection and peer interaction.

2.1. Challenges of think-pair-share

Despite its advantages, the Think-Pair-Share (TPS) strategy faces several challenges. Learners' limited language proficiency, including restricted vocabulary and weak sentence construction, can hinder effective participation, while anxiety and fear of making mistakes reduce willingness to speak. Social factors also pose difficulties, as some students prefer working only with close peers or dominate discussions, and differences in proficiency levels lead to unequal participation. Classroom management is particularly challenging in large classes with limited space and time, making it difficult for teachers to monitor all pairs or conduct the sharing stage effectively (Ariyanto, 2025). In addition, unclear instructions, poor time management, low learner motivation, and imbalanced participation further limit the effectiveness of TPS activities (Jannah, 2024).

3. Student teams–achievement divisions (STAD)

Student Teams–Achievement Divisions (STAD) is a cooperative learning approach that fosters motivation, collaboration, and accountability by encouraging students to share information, support each other, and complete tasks as a team. It promotes self-directed learning, positive attitudes toward the subject, confidence, and interpersonal skills, while higher-performing learners often serve as peer tutors to improve overall group achievement. Research indicates that STAD can be more effective than traditional teacher-centered instruction (Gross, 1991; Rai, 2007; Balfakih, 2003).

According to Slavin (1995), STAD consists of five key elements: whole-class instruction, team study, individual quizzes, individual improvement scores, and team rewards. The teacher first presents the lesson to the entire class. Students then review the content in small, mixed-ability groups, practicing skills and ensuring all members understand the material. Team members provide support to one another before seeking teacher assistance, reinforcing cooperation and shared responsibility. Quizzes are completed individually, and scores are compared with previous results to calculate improvement points, motivating learners to enhance performance. Teams with the highest improvement scores receive recognition, such as certificates or rewards, reinforcing both teamwork and academic success.

Participation in STAD strengthens understanding of the subject matter while developing teamwork, communication, responsibility, and learner independence, as students collaborate during study but complete assessments individually.

3.1. Challenges of student teams–achievement divisions

Although STAD has proven effective, integrating it with authentic assessments and Islamic instructional materials remains challenging (Motwani et

al., 2022). An average student score of 75.63 suggests that learners need additional support to develop higher-order thinking skills, particularly through strategies such as cognitive scaffolding. At MTs Rejang Lebong, instruction is still predominantly lecture-based, comprising about 67% of teaching time, highlighting the need for more student-centered activities that foster creativity, initiative through role-play in Islamic history, value-based incentives, and connections to real-life, social, and contemporary issues.

Moreover, Kagan (1995) notes that improvement scores mainly reflect post-instruction outcomes and do not capture the step-by-step learning process, limiting assessment of STAD's full instructional impact. Students' reflections and emotional responses are also not consistently collected, restricting understanding of how learners perceive and experience STAD in classroom practice (Yusuf et al., 2015).

4. Group investigation

Group Investigation (GI) is a cooperative learning approach that engages students in exploring a topic and producing a group presentation. Learners select or are assigned subtopics, conduct individual research, and share findings within their groups. Collaboration allows members to refine their focus, integrate information, and prepare a final product for class presentation. This flexible, student-centered process promotes higher-order thinking, teamwork, and active engagement (Sharan & Hertz-Lazarowitz, 1980; Aksoy & Gurbuz, 2013; Sharan & Sharan, 1989).

The GI model comprises six stages: selecting topics and forming heterogeneous groups, planning tasks, conducting investigations, organizing reports, presenting results, and evaluating outcomes (Thelen, 1960). In one study on the topic of Light, Sharan and Sharan (1989) assigned students to six groups, with each member focusing on subtopics such as absorption, refraction, lenses, or prisms. Students shared ideas, collected information, and received guidance before compiling reports and presenting their findings, followed by questions. Both academic achievement and social participation were assessed.

Participation in GI enhances research and inquiry skills through information gathering and analysis, strengthens critical thinking through planning and refining investigations, and develops collaboration and communication skills via group work and presentations. Additionally, it fosters creativity, problem-solving, and learner confidence through report preparation, peer teaching, and responding to questions during presentations.

4.1. Challenges of group investigation

Although the Group Investigation (GI) method promotes active learning, it poses several classroom challenges. Teachers may struggle to shift from traditional lecturing to a facilitator role (Chairunnisa, 2016), and limited class time can make organizing groups, conducting investigations, and completing presentations difficult (Parkay et al., 2000). Unequal participation, group conflicts, and dominance by certain members may also affect outcomes (Abordo & Gaikwad, 2005). Effective implementation requires adequate resources and fair assessment of both individual and group contributions (Parkay et al., 2000;

Abordo & Gaikwad, 2005). Success with GI depends on careful teacher preparation and a supportive learning environment.

5. Round robin (RB)

Round Robin (RB) is a structured cooperative learning strategy in which students take turns answering questions and generating ideas (Barkley et al., 2005; Ferrer, n.d.). This method ensures that all learners participate, promoting active engagement and improving both speaking fluency and accuracy (Desnita et al., 2022). RB is easy to implement, helps students articulate thoughts clearly, practice English, and respond efficiently, making it effective for developing oral communication skills.

In practice, small groups of 4–6 students are formed, with one member acting as a recorder. Students are given a question with multiple possible answers and a few minutes to think individually. They then share responses in turn, typically moving clockwise or counterclockwise, with each contribution lasting 1–3 minutes. The recorder notes all responses, and the process continues until everyone participates or the time limit is reached. RB can serve as a warm-up, assessment, or a way to share knowledge, with collective responses reviewed by the class afterward to reinforce learning (Dahlina & Wahyuni, 2021).

Participation in RB develops multiple language and communication skills. Turn-taking improves fluency and confidence, while responding to prompts enhances grammar, vocabulary, and pronunciation accuracy. The strategy also fosters critical thinking, quick idea organization, listening comprehension, and collaboration, as students respect peers' opinions and work cooperatively. Regular practice with RB helps learners communicate more clearly and coherently, ultimately strengthening overall speaking performance.

5.1. Challenges of round robin

Although the Round Robin (RB) technique is an effective cooperative learning method, it faces several challenges. Time management can be difficult, as allowing every student to speak may be time-consuming, especially in larger groups (Gillies, 2016). Participation may be uneven, with some students dominating while others remain quiet, undermining equal engagement (Slavin, 2022). Learners with lower confidence or weaker language skills may feel anxious speaking in front of peers, affecting performance (Phrueksa, 2019). Teachers also face challenges in managing turn-taking and maintaining attention in large or active classrooms (Johnson & Johnson, 1991), and assessing individual contributions can be difficult due to the group-based format (Page, 2017). Careful planning, clear instructions, and constructive feedback are essential to ensure RB fosters meaningful participation for all students.

Comparative Analysis of Cooperative Learning Techniques in ESL Classrooms

Technique	Primary Language Skills	Suitable Proficiency Level	Optimal Class Size	Key Instructional Goals	Theoretical Orientation
Jigsaw	Speaking, Reading, Writing	Intermediate–Advanced (Suresh &	Small–Medium	Deep comprehension, peer	Social constructivis

	(Nurbianta & Dahlia, 2018)	Reddy, 2017)		teaching, critical thinking	m; peer scaffolding
Think-Pair-Share (TPS)	Speaking (fluency, confidence) (Apriyanti & Ayu, 2020)	Beginner–Intermediate	Small–Large (Sharma & Saarsar, 2018)	Participation, confidence building, idea development	Interactionist; affective support
STAD	Integrated skills	Intermediate	Medium–Large	Content mastery, accountability, motivation (Rahman, 2025)	Behavioral–cognitive; reward-based learning
Group Investigation (GI)	Reading, Writing, Speaking (Yuliarsih, 2022)	Advanced	Small–Medium	Inquiry, research skills, autonomy (Silva et al., 2023)	Inquiry-based learning; constructivism
Round Robin (RB)	Speaking, Listening (Manik et al., 2024)	Beginner–Intermediate	Small–Medium	Fluency, equal participation, idea generation (Asari et al., 2018)	Communicative language teaching

DISCUSSION

An analysis of cooperative learning techniques and their associated challenges indicates that Jigsaw, Think-Pair-Share (TPS), Student Teams–Achievement Divisions (STAD), Group Investigation (GI), and Round Robin (RB) are all designed to promote active, student-centered learning, albeit through distinct mechanisms. Each approach fosters collaboration and communication, requiring learners to engage with peers to share ideas, clarify understanding, and construct knowledge collectively. These strategies also encourage deeper engagement with content, shifting students from passive reception to active participation. Nevertheless, the focus and outcomes of each method vary, and their effectiveness can be understood through the lens of second language acquisition and social learning theories.

Both Jigsaw and GI emphasize inquiry, research, and peer teaching, consistent with Vygotsky's sociocultural theory, which posits that learning occurs through social interaction within the Zone of Proximal Development (ZPD). In Jigsaw, the structured arrangement of home and expert groups allows learners to scaffold one another's understanding, ensuring that less proficient students benefit from peer expertise. GI, by offering greater autonomy in topic

selection and investigation design, supports creativity and independent learning, aligning with constructivist principles in which students actively construct knowledge through inquiry and problem-solving. Both approaches enhance critical thinking and comprehension, making them particularly suitable for ESL contexts, where learners must integrate new language knowledge with content understanding.

TPS and RB primarily target oral communication and confidence development, which are critical in ESL classrooms, where output practice facilitates language acquisition. TPS follows a three-step sequence—individual reflection, partner discussion, and whole-class sharing—allowing students to formulate ideas privately before presenting them publicly, thereby supporting incremental risk-taking and scaffolding for lower-proficiency learners. In contrast, RB requires students to respond verbally in turn, fostering fluency, listening comprehension, and rapid idea organization. While RB may pose challenges for less confident or shy learners, it is particularly effective in promoting automaticity in language production.

STAD is distinct in integrating teamwork with individual accountability through quizzes and improvement scores, reflecting behaviorist principles whereby reinforcement motivates learners toward measurable outcomes. By linking individual performance to group rewards, STAD encourages learners to take responsibility for their own progress, which supports content retention and structured reinforcement of language forms. Unlike other approaches, STAD emphasizes both measurable academic outcomes and collaborative engagement.

In summary, Jigsaw and GI are particularly effective for fostering critical thinking and comprehension through inquiry, TPS and RB excel in enhancing oral communication and confidence, and STAD uniquely supports learner independence and accountability. The selection of an appropriate strategy should consider learners' proficiency levels, language anxiety, and specific instructional objectives within ESL contexts. For instance, structured peer-teaching models such as Jigsaw may benefit intermediate learners, TPS is advantageous in classrooms prioritizing oral fluency, RB suits smaller, interactive settings, and STAD is effective when accountability and measurable improvement are central goals.

Despite their benefits, these cooperative learning strategies share common challenges. Unequal participation often occurs, with some students dominating discussions while others remain passive. Managing large classes can be problematic, potentially leading to noise, distractions, and time management issues. Many approaches demand considerable planning and organization, which can strain teachers' resources and available class time. Learners may also concentrate narrowly on assigned tasks, resulting in fragmented understanding. Additional obstacles include language limitations, fear of errors, low motivation, and social dynamics such as preference for working with friends. Furthermore, limited resources, inadequate classroom space, and insufficient assessment tools complicate fair evaluation of individual contributions. These challenges highlight the necessity of careful teacher scaffolding, explicit instructions, and a

supportive learning environment to ensure that all students, particularly ESL learners, benefit from collaborative learning methodologies.

CONCLUSIONS

This narrative review demonstrates that cooperative learning strategies—Jigsaw, Think-Pair-Share (TPS), Student Teams–Achievement Divisions (STAD), Group Investigation (GI), and Round Robin (RB)—effectively foster active, student-centered learning in ESL classrooms. Each approach provides specific advantages: Jigsaw and GI enhance critical thinking and comprehension through inquiry and peer teaching; TPS and RB develop oral communication, fluency, and confidence; and STAD promotes individual accountability while maintaining collaborative engagement. Despite these benefits, common challenges include unequal participation, classroom management difficulties, limited instructional time, and the requirement for careful planning and adequate resources. When applied thoughtfully, however, these strategies create dynamic, supportive learning environments that promote both cognitive development and communicative competence. Integrating these methods in ESL classrooms can improve learning outcomes, foster collaboration, and cultivate essential language skills.

RECOMMENDATIONS

Based on these findings, teachers can enhance the effectiveness of cooperative learning by employing targeted strategies for each method. For Jigsaw, clearly organized groups, assigned subtopics, and end-of-lesson summaries can ensure comprehensive understanding. In TPS, providing explicit instructions, forming balanced pairs, and supporting shy or less confident learners encourages active participation. For STAD, linking tasks to real-world contexts, offering scaffolding, and monitoring both individual and team performance strengthens accountability and learning outcomes. In GI, teachers should act as facilitators, allow learners autonomy in topic selection, manage group interactions effectively, and ensure fair evaluation of individual and group contributions. Finally, in RB, promoting equal participation, providing prompts for hesitant speakers, and offering feedback on fluency and accuracy can enhance confidence and oral communication skills.

Study Limitation

This review is limited to an examination of five cooperative learning techniques and does not attempt to propose specific solutions for challenges related to class size or variations in students' proficiency levels when implementing cooperative learning methods. Consequently, these factors represent gaps in the current review and warrant further investigation.

Future Study

Future research could explore how these strategies can be optimized to address these challenges, investigate their effectiveness across different classroom contexts, and examine how integrating multiple cooperative methods

might further enhance both cognitive development and communicative competence in ESL learners.

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REFERENCES

Abordo, I., & Gaikwad, S. (2005, April). Group investigation: How does it work? *International Forum Journal, 8*(1–2), 79–98.

Aksoy, G., & Gurbuz, F. (2013). Group investigation teaching technique in Turkish primary science courses. *Online Submission, 21*(1), 99–106.

Al-Yaseen, W. S. (2014). Cooperative learning in the EFL classroom. In *International Academic Conference Proceedings* (pp. 92–98).

Apriyanti, D., & Ayu, M. (2020). Think-pair-share: Engaging students in speaking activities in classroom. *Journal of English Language Teaching and Learning, 1*(1), 13–19.

Ariyanto, F. N. K. (2025). *Teachers' practices and challenges in enacting Think-Pair-Share to manage students' participation* (Doctoral dissertation, UIN KH Abdurrahman Wahid Pekalongan).

Asari, S., Ma'rifah, U., & Arifani, Y. (2018). The use of cooperative round robin discussion model to improve students' holistic ability in TEFL class. *International Education Studies*.

Baer, J. (2003). Grouping and achievement in cooperative learning. *College Teaching, 51*(4), 169–175.

Balfakih, M. A. N. (2003). The effectiveness of students-team achievement division (STAD) for teaching high school chemistry in the United Arab Emirates. *International Journal of Science Education, 25*(5), 605–624.

Barkley, E. F., Cross, K. P., & Major, C. H. (2005). *Collaborative learning techniques*. Jossey-Bass.

Belward, S., Balatti, J., & Mathematics Education Research Group of Australasia. (2012). *Doing it differently: The ups and downs of peer group learning*. Mathematics Education Research Group of Australasia.

Bernal Castañeda, S. (2017). Affective limitations in second language acquisition by Spanish adult learners in vocational training programs. *Latin American Journal of Content & Language Integrated Learning, 10*(1), 133–160.

Brown, J., & Smith, R. (2022). Collaborative learning strategies in higher education. *Journal of Pedagogy, 15*(2), 45–53.

Bunrosy, L., & Vireak, K. (2024). Evolution of English language teaching (ELT) methodologies and contemporary trends: A critical analysis of the Cambodia context. *European Journal of English Language Teaching*, *9*(6).

Chairunnisa, C. (2016). The implementation of group investigation model (GIM) to enhance students' critical thinking skill in educational program

evaluation class. *Advanced Education, 6*, 22–27.
Chowdhury, T. A. (2021). Fostering learner autonomy through cooperative and collaborative learning. *Shanlax International Journal of Education, 10*(1), 89–95.
Cruickshank, D. R. (1990). *Research that informs teachers and teacher educators*. ERIC.
Dahlina, U., & Wahyuni, A. I. (2021). Using Round Robin technique to improve reading comprehension.
Desnita, M., Irwandi, I., Eliza, E., & Safitri, L. (2022). The effect of Round Robin technique toward students' speaking performance at MTS Muhammadiyah Pulau Punjung. *Journal of Educational Management and Strategy, 1*(1), 72–83.
Faricha, Z., & Huda, K. (2020). The effectiveness of using Teams Games Tournaments (TGT) in teaching reading of narrative at second grade of MA Mambaus Sholihin. *JEET, Journal of English Education and Technology, 1*(1), 20–34.
Fernandez-Rio, J., Rivera-Perez, S., & Iglesias, D. (2022). Cooperative learning interventions and associated outcomes in future teachers: A systematic review:[[es]] Intervenciones de aprendizaje cooperativo y resultados asociados en futuros docentes: Una revision sistemática. *Revista de Psicodidáctica (English ed.)*, *27*(2), 118-131.
Forth, A. (2025). *Cooperative learning in sixth form supervised study* (Doctoral dissertation, University of Reading).
Fujiwara, Y., & Sato, E. (2015). Effects of cooperative learning on writing activity of English for special purposes in Japanese university students. *Journal of Academic Society for Quality of Life, 1*(1), 32–39.
Fung, D. C. L., & Liang, T. W. (2019). Fostering critical thinking through collaborative group work.
Gillies, R. M. (2016). Cooperative learning: Review of research and practice. *Australian Journal of Teacher Education, 41*(3), 39–54.
Gillies, R. M. (2020). Cooperative group work. In *The encyclopedia of child and adolescent development* (pp. 1–11).
Goulart, D. A. (2022). *The effects of a Kagan cooperative learning structure in engaging struggling elementary and middle school English language arts students* (Doctoral dissertation, Northcentral University).
Gross, P. (1991). *Teaching learning activity for students at senior high school*. Harper Collins.
Hultberg, J., & Söderberg, F. (2020). The advantageous and disadvantageous aspects of utilizing cooperative learning in an ESL classroom.
Jannah, N. R. (2024). *Think-pair-share in teaching reading comprehension: Practices, challenges, and solutions in a junior high school* (Doctoral dissertation, UIN KH Abdurrahman Wahid Pekalongan).
Johnson, D. W., & Johnson, F. P. (1991). *Joining together: Group theory and group skills*. Prentice-Hall.
Johnson, D. W., & Johnson, R. T. (2018). Cooperative learning: The foundation for active learning. In *Active learning – Beyond the future* (pp. 59–71).
Kagan, S. (1995). *We can talk: Cooperative learning in the elementary ESL classroom*. ERIC Digest.
Kagan, S., & Kagan, M. (2009). *Kagan cooperative learning*. Kagan Publishing.

Karimi, M. H., & Bagheri, M. (2017). Jigsaw: A good student-centred method in medical education. *Future of Medical Education Journal, 7*(1), 35–40. https://doi.org/10.22038/fmej.2017.8757

Keo, V., & Lan, B. (2025). EXPLORING EDUCATIONAL TECHNOLOGY INTEGRATION IN CAMBODIAN HIGHER EDUCATION: CHALLENGES AND OPPORTUNITIES. The Journal Of English Teaching For Young And Adult Learners, 4(2), 56-75.

Keo, V., & Lan, B. (2025). EXPLORING EDUCATIONAL TECHNOLOGY INTEGRATION IN CAMBODIAN HIGHER EDUCATION: CHALLENGES AND OPPORTUNITIES. *Higher education*, *4*(02).

Keo, V., Hak, C., Lan, B., Khong, R., Neang, S., & Hoeurn, S. (2025). Implementing Outcome-Based Education in Higher Education: Challenges and Benefits. *International Journal of Educational and Psychological Sciences*, *3*(5), 511-530.

Keo, V., Lan, B., Rouet, W., Roeun, S., & Ron, S. (2024). Optimizing English Teaching Strategies: A Comprehensive Review of Task-Based Language Teaching, Content and Language Integrated Learning, and Problem-Based Learning for Modern Classrooms.

Keo, V., Lan, B., Sam, R., & Rouet, W. (2025a). Exploring EFL students' challenges in oral presentations at National University of Battambang. *International Journal of Professional Development, Learners and Learning*, *7*(2), e2513.

Keo, V., Sam, R., & Rouet, W. (2025b). Students' perceptions and effects of technology integration in English learning: A case study at National University of Battambang. *Journal of English and Education (JEE)*, *11*(1).

Khan, A., & Akhtar, M. (2017). Investigating the effectiveness of cooperative learning method on teaching of English grammar. *Bulletin of Education and Research, 39*(1), 1–16.

Laal, M., & Laal, M. (2012). Collaborative learning: What is it? *Procedia – Social and Behavioral Sciences, 31*, 491–495.

Laguador, J. M. (2014). Cooperative learning approach in an outcomes-based environment. *International Journal of Social Sciences, Arts and Humanities, 2*(2), 46–55.

Lan, B., Keo, V., Sam, R., & Roeut, W. (2024b, November). Exploring EFL learners' perception toward the difficulties in oral presentation. In *ELT Forum: Journal of English Language Teaching* (Vol. 13, No. 3, pp. 174-190).

Lan, B., Sam, R., Keo, V., & Roeut, W. (2024). Academic adjustment of freshmen in Cambodian higher education institutions: A systematic literature review. *Journal of General Education and Humanities*, *3*(2), 169-196.

Lan, B., Sam, R., Keo, V., & Roeut, W. (2024a). Academic adjustment of freshmen in Cambodian higher education institutions: A systematic literature review. *Journal of General Education and Humanities*, *3*(2), 169-196.

Lin, T. J., Bacon, D., Choi, M., Eom, G., Jimenez Marchany, N., Kang, J. E., … Wen, Z. (2025). *Cooperative and collaborative learning: Research and practice handbook*.

Manik, S., Malau, K. B., Silitonga, E., & Manurung, L. W. (2024). The Effect of the Round-Robin Technique on Students' Vocabulary Mastery and Speaking Skills. *Didaktika: Jurnal Kependidikan*, *13*(4 Nopember), 5707-5714.

Mitra, S. (2019). Does collaborative use of the internet affect reading comprehension in children? *Journal of Learning for Development, 6*(1), 20–36.

Moin, H., Majeed, S., Zahra, T., Zafar, S., Nadeem, A., & Majeed, S. (2024). Assessing the impact of jigsaw technique for cooperative learning in undergraduate medical education: Merits, challenges, and forward prospects. *BMC Medical Education, 24*(1), 853.

Moll, L. C. (1990). Vygotsky's zone of proximal development: Rethinking its instructional implications. *Journal for the Study of Education and Development, 13*(51–52), 157–168.

Montazeri Khadem, A., Khoshkholgh, R., Vafi Sani, F., & Dolatabadi, Z. (2022). Using the jigsaw (puzzle) method in academic environments: Benefits and challenges. *Medical Education Bulletin, 3*(2), 465–473.

Motwani, R., Kaliappan, A., & Chandrupatla, M. (2022). Student Team Achievement Division as a tool for peer-assisted co-operative learning in neuroanatomy. *Anatomy & Cell Biology, 55*(4), 452–458. https://doi.org/10.5115/acb.22.122

Nozimafarhodkizi, A. (2024). Power of group learning. *Eurasian Journal of Entrepreneurship and Pedagogy, 2*(2), 19–23.

Nurbianta, N., & Dahlia, H. (2018). The effectiveness of Jigsaw method in improving students reading comprehension. *ETERNAL (English Teaching Journal), 9*(1).

Nusrath, A., Dhananjaya, S. Y., Dyavegowda, N., Arasegowda, R., Ningappa, A., & Begum, R. (2019). Jigsaw classroom: Is it an effective method of teaching and learning? Students' opinions and experience. *Journal of Clinical & Diagnostic Research, 13*(2).

Page, A. (2017). Implementing cooperative learning: A consideration of barriers and enablers.

Parkay, F. W., Oaks, M. M., & Peters, D. C., Jr. (2000). Promoting group investigation in a graduate-level ITV classroom: Reflections and recommendations. *THE Journal, 27*(9).

Phillips, J., & Fusco, J. (2015). Using the jigsaw technique to teach clinical controversy in a clinical skills course. *American Journal of Pharmaceutical Education, 79*(6), 1–7. https://doi.org/10.5688/ajpe79690

Phrueksa, P. (2019). *Effects of instructional process using cooperative language learning (CLL) on fluency development of sixth-grade students' oral communication skills* (Unpublished manuscript).

Rai, N., & Samsuddin, S. (2007). STAD vs. traditional teaching. *Redesigning Pedagogy Conference Proceedings 2007*.

Rahman, A. (2025). The Effect of the Implementation of the Cooperative Learning Model Type Student Teams Achievement Division (STAD) on Creativity, Initiative, Motivation and Student Learning Outcomes. *Jurnal Iqra': Kajian Ilmu Pendidikan*, *10*(1), 54-74.

Sabbah, S. (2016). The effect of jigsaw strategy on ESL students' reading achievement. *Arab World English Journal, 7*(4), 1–14.

Sharma, H. L., & Saarsar, P. (2018). TPS (think-pair–share): An effective cooperative learning strategy for unleashing discussion in classroom

interaction. *International Journal of Research in Social Sciences*, *8*(5), 91-100.

Sattarova, M. (2024). A comparative analysis of traditional and modern approaches in language teaching. *Mental Enlightenment Scientific-Methodological Journal, 5*(9), 214–223.

Sharan, S., & Hertz-Lazarowitz, R. (1980). Effects of an instructional change program on teachers' behaviors, attitudes and perceptions. *Israeli Journal of Psychology and Counseling in Education, 12*, 88–108.

Sharan, Y., & Sharan, S. (1989). Group investigation expands cooperative learning. *Educational Leadership, 47*(4), 17–21.

Shkurti, A. (2024). The importance of second language acquisition: Prioritizing development in educational and social context. *Interdisciplinary Journal of Research and Development, 11*(3), 151–151.

Shume, T., Stander, E., & Sutton-Grier, A. (2016). The jigsaw method and cooperative learning: Best practices for teaching SE synthesis with case studies. SESYNC.

Silva, H., Lopes, J., Morais, E., & Dominguez, C. (2023). Fostering critical and creative thinking through the cooperative learning jigsaw and group investigation. *International Journal of Instruction*, *16*(3), 261-282.

Slavin, R. E. (1983). *Cooperative learning*. Research on Teaching Monograph Series. ERIC.

Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice* (2nd ed.). Allyn and Bacon.

Slavin, R. E. (1996). Research on cooperative learning and achievement: What we know, what we need to know. *Contemporary Educational Psychology, 21*(1), 43–69. https://doi.org/10.1006/ceps.1996.0004

Slavin, R. E. (2015). Cooperative learning in elementary schools. *Education 3–13, 43*(1), 5–14. https://doi.org/10.1080/03004279.2015.1010649

Slavin, R. E. (2022). Cooperative learning in elementary schools. In *Contemporary issues in primary education* (pp. 102–111). Routledge.

Sokpe, B. Y., & Yarkwah, C. (2015). *Psychological basis of teaching and learning mathematics*. University of Cape Coast Press.

Souvignier, E., & Kronenberger, J. (2007). Cooperative learning in third graders' jigsaw groups for mathematics and science with and without questioning training. *British Journal of Educational Psychology, 77*(4), 755–771. https://doi.org/10.1348/000709907X188534

Suresh, C., & Reddy, V. D. (2017). Effect of jigsaw cooperative learning strategy in promoting insightful learning of junior intermediate students in mathematics. *International Journal of Indian Psychology*, *4*(86), 69-75.

Thelen, H. (1960). *Education and the human quest* (2nd ed., pp. 136–151). Harper & Row.

Vireak, K., & Bunrosy, L. (2024). Exploring language teaching methods: An in-depth analysis of grammar translation, direct method, and audiolingual method: A literature review. *International Journal of Advance Social Sciences and Education (IJASSE), 2*(2), 151–168.

Vireak, K., Rany, S., Bunrosy, L., & Wen, R. (2025). Freshmen's perceptions of the effect of technology on learning english: A case study at the National

University of Battambang, Cambodia. *Journal of Social Knowledge Education (JSKE)*, *6*(1), 54-75.

Widodo, H. P. (2013). Implementing collaborative process-based writing in the EFL college classroom. *Research Papers in Language Teaching and Learning, 4*(1), 198–206.

Yuliarsih, D. R. A. (2022). The Use of Group Investigation in Teaching Writing. *Jurnal Prakarsa Paedagogia*, *4*(2).

Yusuf, Q., Jusoh, Z., & Yusuf, Y. Q. (2019). Cooperative learning strategies to enhance writing skills among second language learners. *International Journal of Instruction, 12*(1), 1399–1412. https://doi.org/10.29333/iji.2019.12190a

Yusuf, Y. Q., Natsir, Y., & Hanum, L. (2015). A teacher's experience in teaching with Student Teams-Achievement Division (STAD) technique. *International Journal of Instruction, 8*(2), 99–112. https://doi.org/10.12973/iji.2015.828a

Zaur, M., & Lakhmir, W. A. (2024). Exploring the use and impact of co-operative learning in ESL classroom: A case study. *SBBU Journal of Social Sciences, 2*(1), 50–71.