

Opportunities and Challenges of Implementing Cooperative Language Learning with Emerging Technologies for Iranian EFL Teachers

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Abstract

Cooperative Language Learning (CLL), supported by technology, has become an essential student-centered approach to overcoming communication barriers faced by English as a Foreign Language (EFL) learners. Despite its potential, little is known about teachers' views on its practical application with digital tools. This study addressed that gap by investigating EFL teachers' perceptions of the opportunities, challenges, and cultural factors involved in implementing technology-enhanced CLL in classrooms. Using a mixed-methods approach, the research involved 74 Iranian EFL teachers (26 males, 48 females) from four institutions, including Islamic Azad University (IAU), Isfahan (Khorasgan) Branch. A 35-item questionnaire was designed to evaluate teachers' perceptions and use of CLL, complemented by in-depth interviews with 10 teachers and 3 Teaching-English-as-a-Foreign-Language (TEFL) experts. Data collection included questionnaires and interviews conducted via WhatsApp, video calls, or text messages. The analysis was performed in Microsoft Excel and SPSS version 27, using a One-Sample T-Test to determine whether the teachers' perceptions significantly differed from the test mean. The responses from interviews and expert reviews were coded inductively to identify common themes. The results indicated that the teachers generally maintained positive attitudes toward CLL, though its application was sometimes inconsistent and faced specific obstacles. This research can support educators unfamiliar with methods like CLL and serve as a useful reference for future related studies.

1. INTRODUCTION

English as a Foreign Language (EFL) seeks to equip students for global engagement and research, yet many graduates lack strong real-world communication abilities (Chalak & Tahmasebi, 2022). This skill gap has led researchers to favor student-centered approaches like CLL, which encourages collaboration, group work, and positive interdependence (Larsen-Freeman &

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Anderson, 2013). Evidence suggests that CLL enhances academic, interpersonal, critical thinking, and motivational skills (Emperador-Garnace, 2025). It also creates information gaps, provides comprehensible input/output, offers peer feedback, supports negotiated meaning, and facilitates key communication choices (Dalipi, 2025; Dilduza, 2025). Numerous studies link CLL to improved language skills (e.g., reading comprehension, idiomatic competence, social and communication abilities) and to educational technology (Chalak & Tahmasebi, 2022; Dilduza, 2025; León-del-Barco et al., 2020; Manshur et al., 2025; Nguyen et al., 2021; Rezaeefar et al., 2023; Thanh, 2011). However, there is limited research on this connection in Iranian EFL settings, particularly regarding sociocultural and institutional influences. Iranian studies mainly concentrate on student results (Beigzadeh et al., 2024; Rezaeefar et al., 2023), leaving few insights into teachers' views or pedagogical approaches. This highlights a gap in Iranian EFL: abundant student-focused research exists, but there is little understanding of teachers' perceptions of CLL, especially how sociocultural and institutional factors influence them.

Technological advances, especially artificial intelligence (AI), have transformed language teaching (Hossain & Al Younus, 2025), and incorporating AI-driven peer feedback in schools is vital (Werdiningsih et al., 2024; Yang et al., 2025). Teachers adapt principles locally for CLL's success, but more research is needed to integrate it with digital and AI tech. Technology use often focuses on specific tools (Chalak et al., 2010; Sadeghi & Chalak, 2023), but further studies on EFL teachers' perceptions of emerging tools, such as AI tools, are essential to support cooperative learning. This study explored teachers' understanding and implementation of CLL, emphasizing technology integration and challenges (e.g., infrastructure, curricula, assessment, digital literacy), linking pedagogy with practice through insights from teachers and experts in Isfahan, Iran, to support professional development and policy. It examined Iranian EFL teachers' perceptions of technology-supported CLL, including AI opportunities, challenges, and cultural influences.

2. LITERATURE REVIEW

This review examined studies on the theories, applications, challenges, and the role of technology in CLL, aiming to synthesize knowledge and identify research gaps.

Theoretical Background

CLL is part of Collaborative Learning (CL), which promotes classroom interaction and student autonomy through a student-centered, communicative approach that encourages responsibility (Richards & Rodgers, 2014). Its main goal is to foster peer learning and tutoring among students and teachers (Larsen-Freeman & Anderson, 2013). Johnson et al. (1994) claim that cooperative learning boosts student success by promoting positive relationships and social, psychological, and cognitive development, emphasizing teamwork over competition.

CLL involves students working in small groups to achieve shared goals and contribute insights and skills (Dilduza, 2025), transforming the classroom into an “interactive, responsive, cooperative, thinking environment” (Nguyen et al., 2021, p. 90) that boosts engagement, provides diverse input, and fosters a relaxed atmosphere (Nguyen et al., 2021; Sikandar et al., 2022). Its theory emphasizes social interaction, motivation, and peer observation, with Bandura's social learning theory especially relevant for language learning (Emperador-Garnace, 2025). Shifting responsibility from teachers to students working together can encourage competition and passivity, as well as promote collective knowledge-building (Sikandar et al., 2022).

Common challenges in CLL include unequal participation, off-task behavior, managing diverse proficiency levels, and classroom issues like noise and focus (Dilduza, 2025). Structural and cultural barriers, notably the cultural gap between Western-rooted CLL and Asian practices,

hinder progress. [Thanh \(2011\)](#) notes stereotypes of Asian students as passive, rote learners, despite their success abroad. Western learners analyze critically, while Asian learners focus on understanding, which limits CLL's goal of negotiating critical meaning. Broader challenges include students lacking teamwork training and social loafing, where some contribute less, expecting others to make up for it. University environments characterized by intense competition and a focus on theory rather than social skills further hinder effectiveness ([León-del-Barco et al., 2020](#); [Sikandar et al., 2022](#)).

Implementing CLL is challenging due to large class sizes and limited time, which hinder understanding and management. Preparing activities was time-consuming, and teachers struggled to support and monitor students ([Nguyen et al., 2021](#); [Thanh, 2011](#)). Concerns include students' neglect of assignments due to distractions on Telegram, limited digital correction vocabulary, and potential social learning addiction. [Beiki et al. \(2020a\)](#) found that Iranian EFL students' limited proficiency made CLL difficult for some teachers, with short activity times and poor organization causing students to revert to their native language.

CLL benefits learners by fostering positive interdependence, promoting accountability and shared responsibility, and boosting emotional and social development, motivation, self-esteem, and inter-ethnic relations ([León-del-Barco et al., 2020](#); [Nguyen et al., 2021](#)). CLL enhances language skills and confidence through real-world speaking activities. Team settings promote critical thinking in discussions and negotiations ([Dilfuza, 2025](#)). Peer feedback is vital for improving evaluative and teamwork skills ([Nguyen et al., 2021](#)).

In CLL, encouraging learners to support each other fosters responsibility for their own and peers' success ([Alalimi, 2020](#)). [George \(2017\)](#) highlighted cooperative learning's strengths, including group management, diversity acceptance, independence support, fair tasks, contribution promotion, interdependence, idea valuing, experiential learning, collaboration, and teamwork beyond class. [Aghajani and Adloo \(2018\)](#) found that student-generated content in Iranian English-for-Specific-Purposes (ESP) classes enhances collaboration, community, creativity, competitiveness, and critical thinking through feedback and observation. [Beiki et al. \(2020b\)](#) showed that cooperative activities enhance interaction, understanding, reflection, and conflict management while group processing increases efficiency and achievement.

Empirical Studies in CLL

[Sikandar et al. \(2022\)](#) found that CLL enhances motivation and reading comprehension over traditional EFL classes. [Manshur et al. \(2025\)](#) reported better reading and self-regulation. [Thanh \(2011\)](#) noted that traditional views in Vietnam hinder the proper application of CLL, thereby reducing its potential. [León-del-Barco et al. \(2020\)](#) developed a tool to assess team responsibility and cooperation, emphasizing group dynamics like coordination and conflict resolution as crucial for success, often overlooked when only final results are examined. [Thanh \(2011\)](#) observed that CLL sometimes underperforms traditional methods, depending on context, instructor readiness, and implementation.

Smart systems and technologies are increasingly integrated into education, creating new possibilities for creative teaching ([Yang et al., 2025](#)). AI tools can offer more accurate, objective feedback by analyzing large datasets with improved algorithms ([Crompton & Burke, 2023](#)) and handle extensive student work efficiently, saving teachers time and boosting productivity ([Mizumoto & Eguchi, 2023](#)). Human interaction remains vital for relationships, empathy, and collaborative learning despite AI limitations ([Haleem et al., 2022](#)). A key challenge is how to use AI feedback effectively to improve teacher feedback, meet diverse student needs, and enhance writing support ([Yang et al., 2025](#)).

Research indicates that generative AI tools are effective for providing automated writing feedback, aiding educators in offering detailed guidance and supporting student projects (Mizumoto & Eguchi, 2023). However, excessive dependence on AI can hinder students' skill development, and they often accept AI-generated feedback without verification (Koltovskaia, 2020). Tools like AWE, ChatGPT, and ERNIE Bot offer quick assessments, easing teachers' workload and prompting revisions. However, AI cannot interpret multimodal or sociocultural cues or motivate students, risking overdependence and hindering skill development. It also cannot replace human interactions crucial for empathy, motivation, and social-emotional growth. Effective teaching of classroom-based language learning combines AI's efficiency with teachers' expertise and cultural awareness to foster engaging and supportive learning environments (Koltovskaia, 2020; Yang et al., 2025). Using social media and AI can boost engagement through comment features, making education more accessible and interactive. However, students often neglect responsibilities, which complicates accountability. Excessive reliance on these tools can impair critical thinking and creativity and may lead to addiction (Aghajani & Adloo, 2018; Hossain & Al Younus, 2025).

Based on the study aims and the reviewed literature, the following research questions were posed.

1. How do EFL teachers implement cooperative learning in various Iranian English classrooms?
2. How do Iranian EFL teachers view integrating cooperative learning with emerging technologies in their classrooms?
3. What opportunities do teachers identify with technology-mediated or isolated cooperative learning?
4. What challenges do teachers face when integrating cooperative learning with new technologies or traditionally?

3. METHODOLOGY

This section describes the methodology, including design, setting, participants, instruments, and data collection and analysis.

Design and Context of the Study

A mixed-methods design was used for complementarity (Greene et al., 1989), with the quantitative data providing an overview of teachers' perceptions and the qualitative interviews offering an in-depth context of their experiences with CLL. The study examined teachers' perceptions, practices, attitudes, and activities related to CLL in Isfahan, Iran, during Fall 2025, using IBM SPSS Statistics (Version 27) for analysis, including descriptive and inferential statistics.

Participants

This study involved 74 adult English teachers (26 males, 48 females) from various institutes of Isfahan, including Jahad Daneshgahi - Esfahan (Khajoo Training Center), Nasl- E- Farda IELTS Center, Noorafarin Language Center, Mazda Language Center of Islamic Azad University (IAU), Technical & Vocational Training Organization, and the Islamic Azad University (IAU), Isfahan (Khorasgan) Branch, Department of English. A combination of purposive and convenience sampling was used. The participants were purposively selected for their teaching experience and knowledge of CLL, with the final selection based on their willingness to participate, especially given wartime challenges.

The participants' mean age was 37 years. The 12-month process from the literature review to conclusion, from fall 2025 to 2026, was affected by an unpredictable war that hindered data collection and analysis. The participants were selected from Ph.D. and M.A. holders or students with background knowledge, language-teaching skills, familiarity with the CLL approach and activities, and teaching experience. A panel of three education experts, with an average age of 45 years and more than 15 years of experience in teaching English and conducting research, completed questionnaires and provided written feedback to incorporate diverse perspectives into the design (Chen et al., 2019). All had doctoral degrees in relevant fields. Their insights, valued for clarifying design aspects (Liu et al., 2018), are summarized in Table 1. The participants included teachers and English experts. Ethical standards were maintained, informed consent was obtained, and the participants received relevant details to support informed decisions.

Table 1: Demographic Background of the Participants

Number of Participants	74 (Teachers)	3 (Experts)
Level of Education	PhD/M. A	Doctoral degrees
Age	The average age was 37 years old	The average age was 45 years old
English Level	Advanced	Education expert
Gender	26 males & 48 females	1 male & 2 females
Nationality	Iranian	Iranian
Native Language	Persian	Persian
Target Language	English	English

Instruments

Different qualitative and quantitative approaches were employed to gather data on English teachers’ perceptions, practices, and attitudes toward CLL.

CLL Questionnaire (CLLQ)

The CLL questionnaire aimed to gather teachers' perspectives and practices through an online Google Forms survey informed by the literature review. The initial item pool was drawn from validated instruments in similar contexts. Nguyen et al. (2021) provided the primary structural framework, consisting of 61 questions across eight sections (11 demographic items and 50 items on perceptions and practices). Thanh (2011) informed specific content areas related to the frequency of CLL implementation, formats, and barriers in non-Western contexts. Hinson (2015) provided conceptual grounding for understanding teacher perceptions and student engagement in cooperative learning.

For the present study, the instrument was substantially adapted and reduced to a 35-item CLL Questionnaire (CLLQ) consisting of five dimensions. The adaptation process involved: removing the 11 demographic items (collected separately); consolidating the original 8 sections into 5 coherent dimensions aligned with the study's research questions; removing redundant items and items not relevant to the Iranian EFL context; modifying items to address technology and AI

integration in CLL; and expert review by faculty at Islamic Azad University (Isfahan, Khorasgan Branch) to establish content validity. The final CLLQ used a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) for perception statements and a similar scale for frequency items (1 = never to 5 = always). The dimensions are detailed in Table 2.

To assess the internal consistency of the questionnaire, Cronbach's alpha was calculated for the overall instrument and its subscales. The overall 35-item questionnaire demonstrated excellent internal consistency ($\alpha = .902$), suggesting that the items reliably measured teachers' perceptions and practices of CLL. The average inter-item correlation ($r = .26$) indicated moderate relationships among items, which is suitable for a broad instrument covering multiple theoretical dimensions. The Cronbach's alpha coefficients for the individual subscales ranged from .78 to .91, all exceeding the acceptable threshold of .70 (George & Mallery, 2003; Nunnally, 1978). These results confirm that the questionnaire exhibited satisfactory reliability in the Iranian EFL context.

Table 2: Five Dimensions in CLL Questionnaire

Section	Number of Items	Item Numbers	Focus	Conception
Dimension A	5 items	1-5	Understanding & Perceptions	Teachers' understanding, beliefs, and confidence
Dimension B	10 items	6-15	Benefits for Students	Students' learning, skills, attitudes, and interactions.
Dimension C	10 items	22-31	Practices & Classroom	Describes methods, frequency, and teachers' actions
Dimension D	6 items	16-21	Challenges & Barriers	Challenges and obstacles teachers face
Dimension E	4 items	32-35	Technology	The impact of digital tools and AI
Total	35 items			

The item numbers reflect the original ordering from the adapted instrument. Dimension D items (16-21) appear earlier in the questionnaire than Dimension C items (22-31) due to the original instrument's structure, which grouped challenge-related items before practice-related items.

CLL Interview (CLLI)

This research used interviews to gather in-depth information. EFL teachers and experts answered semi-structured questions aligned with the research's main goals, considering the context of Iran, challenges in implementing CLL, opportunities and support systems, and technology use in CLL or classrooms, shown in Table 3. Responses and feedback were analyzed for themes using inductive coding (Chen et al., 2019; Sadeghi & Chalak, 2023; Thomas, 2006). The interview questions, adapted from studies (Thanh, 2011; Hinson, 2015; Nguyen et al., 2021), were selected after input from experienced professors in the Department of English at Islamic Azad University (IAU), Isfahan (Khorasgan) Branch. Experts highlight the importance of Iranian culture, its challenges and opportunities, and the rising use of AI tools and educational apps, all of which require careful attention.

Interview themes in the present study included communication skills, problem-solving, teamwork, collaboration, time management, organization, and soft skills in language learning. Cognitive engagement was assessed through self-regulation and strategic thinking (Reschly &

[Christenson, 2022](#)). These behavioral, emotional, and cognitive dimensions are interconnected, providing a comprehensive view of student engagement ([Wang & Fredricks, 2014](#)).

Table 3: Five Dimensions in CLL Interview

Question Category	Focus	Conception
Opening Practice	Practices & Classroom	Teacher's specific steps at the start of a CLL lesson, emphasizing their detailed process
Core Purpose	Understanding & Perceptions	To explain why they use CLL, including its benefits, such as soft skills and understanding.
Iranian Condition & Culture	Challenges & Barriers	Implementation and the barriers or facilitators, societal norms, educational structures, and student predispositions
Challenges	Challenges & Barriers	Obstacles cover traditional issues (class size, curriculum) and a modern one (student use of AI),
Opportunities & Support	the opportunities & support available	This question relates to the opportunities and support for CLL
Technology & Collaboration	Technology roles	Modern technology and AI tools are reshaping or disrupting student group work

Data Collection Procedure

The data collection involved multiple stages. First, a questionnaire was given to 74 educators, who responded to 35 questions regarding their perspectives on CLL in the Iranian English-language education system. The participant selection occurred in three phases: initially, the researcher secured permission from Islamic Azad University (IAU) after visiting each institution to include all English teachers. Then, university lecturers and institutional English teachers, including those at IELTS centers, were invited to complete the online questionnaire through Google Docs. Finally, based on initial results from Stage One, ten teachers and three TEFL experts were selected for Stage Two (in-depth interviews) through convenience sampling, with a focus on their willingness to participate. These participants answered the key questions, with follow-up probes tailored to their responses.

The interviews (lasting 15 to 30 minutes) in English and Persian used adapted questions to explore teachers’ perceptions of CLL, including its benefits, challenges, opportunities, and support, as well as the role of technology in enhancing CLL in English classrooms. Educators shared insights through written, verbal, and occasional video responses, often delayed by schedules. Voice responses were transcribed verbatim, while written replies were analyzed qualitatively, and Persian responses were translated and reviewed by a bilingual TEFL expert. Data collection extended beyond the initial timeframe (due to war-related impacts), and thematic coding was performed inductively ([Thomas, 2006](#)). To ensure reliability, a second researcher independently coded 20% of transcripts with 87% agreement, and peer checks confirmed interpretive accuracy ([Chen et al., 2019](#)). Responses were categorized by themes and frequency. Some participants permitted the use of their screenshots and personal information, as shown in [Figure 1](#), to provide visual context.

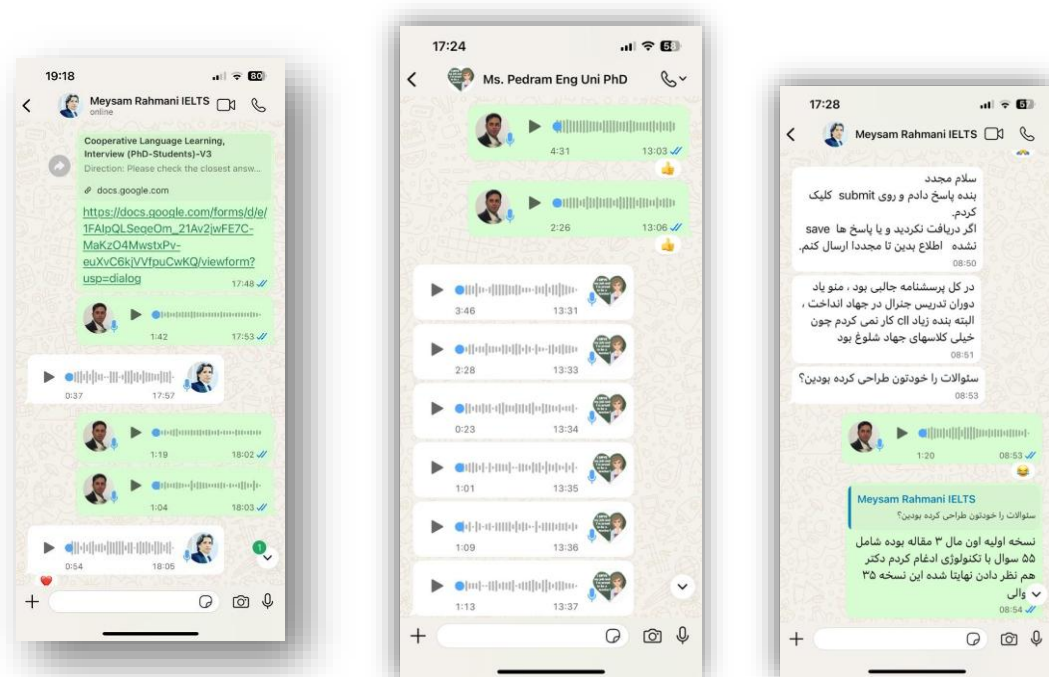


Figure 1: The Process of Interviewing and Data Gathering Through the Usage of WhatsApp

Data Analysis Procedure

Descriptive statistics, including minimum, maximum, mean, variance, and standard deviation, were calculated in SPSS to test hypotheses and answer the research questions. The quantitative data from the questionnaire were analyzed with Excel and SPSS version 27 to gauge perceptions of CLL in education. The One-Sample T-Test assessed whether teachers' perceptions of CLL differed significantly from a test value in mean scores. Interview data were examined through protocols that involved: (1) listening to and transcribing the recordings, (2) reviewing the transcripts to interpret the data, (3) identifying the common themes among the similar responses, and (4) categorizing the responses under relevant themes related to the research questions. Additionally, interview and expert review responses were analyzed for recurring themes using inductive coding (Chen et al., 2019; Sadeghi & Chalak, 2023; Thomas, 2006). Before conducting the main analysis, the normality of the data distribution was assessed. This was confirmed by skewness (-0.354) and kurtosis (-0.238) values falling within the acceptable ± 2 range (Byrne, 2012).

4. RESULTS

The Kolmogorov-Smirnov and Shapiro-Wilk tests showed no significant deviation from normality ($p = .200$ and $.458$, respectively), supporting the assumption of normality for questionnaire scores. This was further confirmed by skewness (-0.354) and kurtosis (-0.238) values falling within the acceptable ± 2 range. The slight negative skew suggests a mild leftward skew, with higher scores corresponding to more positive responses. Descriptive statistics revealed a mean total score of 137.80 ($SD = 17.50$), with scores ranging from 96 to 170. The average item mean ($M = 3.94$ per item) indicates that the participants held positive perceptions of CLL. The standard deviation of 17.50 suggests moderate variability in responses across the sample.

Results of CLL Questionnaire

As previously indicated in the preceding section, a One-Sample T-Test should be conducted for all dimensions, as illustrated in Table 4. The test value of 3 was selected as it represents the neutral midpoint of the scale, indicating a neutral stance (neither agreement nor disagreement) regarding the questionnaire items.

Table 4: One-Sample T-Test Results for All Dimensions

Dimension	Mean	SD	t-value	df	p-value	Cohen's d	95% CI
A	4.14	0.55	17.85	73	<0.001	2.07	[3.99, 4.29]
B	4.02	0.57	15.38	73	<0.001	1.79	[3.88, 4.16]
C	3.51	0.68	6.48	73	<0.001	0.75	[3.35, 3.67]
D	3.32	0.62	4.48	73	<0.001	0.52	[3.17, 3.47]
E	3.91	0.63	12.48	73	<0.001	1.44	[3.76, 4.06]

Effect sizes (Cohen's d) ranged from 0.52 (Dimension D) to 2.07 (Dimension A), indicating moderate to large practical significance. The 95% confidence intervals confirm that the means are reliably above the neutral midpoint of 3, with all lower bounds exceeding 3.0.

To assess whether teachers' responses significantly differed from the neutral midpoint of the 5-point Likert scale, One-Sample T-Tests were performed with a test value of 3. As shown in Table 4, all five dimensions' mean scores were significantly different from 3 (all $p < .001$), indicating reliable deviation from neutrality. Nonetheless, interpreting these results requires examining the size of the means. Dimensions A and B had mean scores above 4.0, suggesting fairly positive perceptions of CLL and its benefits for students. Dimension E also showed generally favorable views on technology integration in CLL. Conversely, Dimension C and Dimension D were only slightly above the midpoint, indicating that teachers experienced moderate to notable challenges in implementing CLL. These results show teachers generally have positive attitudes toward CLL in theory, but face practical difficulties. The t-test results confirm mean differences from neutral but don't imply strong support in all CLL aspects. The table below illustrates teachers' understanding and perceptions of the CLL across dimension A.

Table 5: Results of Dimension A (Understanding & Perceptions of CLL, Items 1-5)

Qs	Question Text	Strongly Disagree (1) FP (%)	Disagree (2) FP (%)	Neutral (3) FP (%)	Agree (4) FP (%)	Strongly Agree (5) FP (%)
1	I am familiar with the key principles of cooperative learning...	0(0)	0(0)	2(2.7)	34(45.9)	38(51.4)
2	I believe that in effective group work, every member's ...	0(0)	0(0)	2(2.7)	38(51.4)	34(45.9)
3	I understand that cooperative learning requires individual...	0(0)	2(2.7)	4(5.4)	50(67.6)	18(24.3)
4	I am confident I can successfully implement CLL strategies...	2(2.7)	2(2.7)	16(21.6)	46(62.2)	8(10.8)
5	I believe CLL is an effective method for achieving curriculum...	2(2.7)	2(2.7)	20(27)	36(48.6)	14(18.9)

* FP (%) = Frequency (Percentage)

Dimension A mostly received positive responses, with ‘Agree’ being the most common answer. The most positive feedback was for question one, while question five had the most negative or neutral responses, showing some skepticism about CLL's alignment with curriculum goals. The table below presents teachers’ responses on the benefits of CLL for classroom use and students, covering 10 items in dimension B, as shown in [Table 6](#).

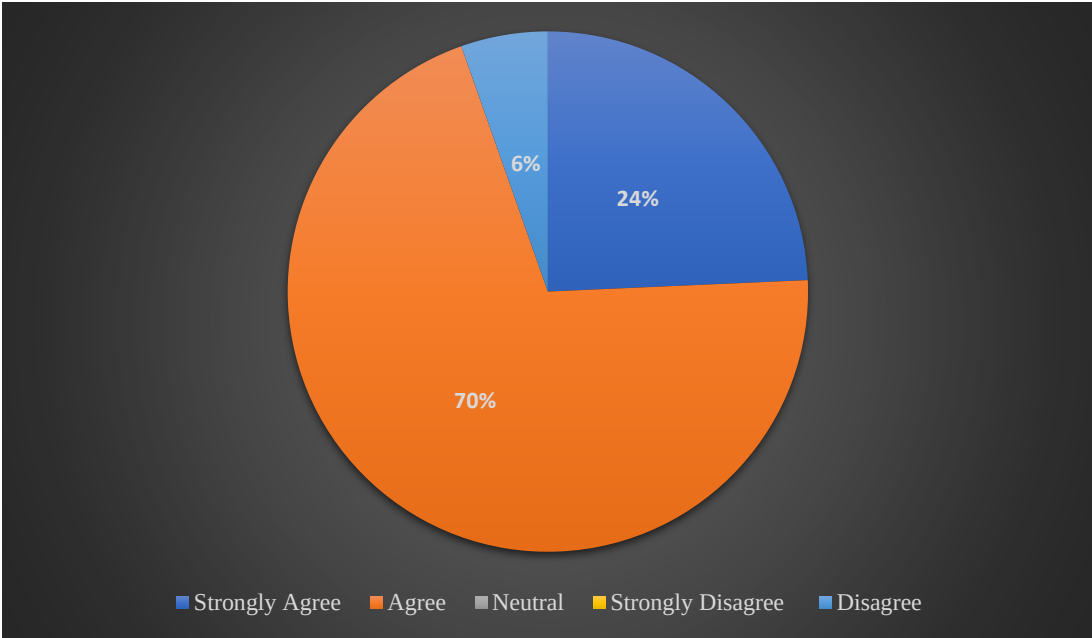
Table 6: Results of Dimension B (Perceived Benefits for Students, Items 6-15)

Qs	Question Text	Strongly Disagree (1) FP (%)	Disagree (2) FP (%)	Neutral (3) FP (%)	Agree (4) FP (%)	Strongly Agree (5) FP (%)
6	I believe that well-organized group work can improve classroom...	0(0)	4(5.4)	4(5.4)	42(56.8)	24(32.4)
7	CLL promotes deeper critical thinking, group discussion, and ...	0(0)	2(2.7)	8(10.8)	46(62.2)	18(24.3)
8	CLL helps improve interpersonal relationships and mutual liking ...	2(2.7)	2(2.7)	14(18.9)	40(54.1)	16(21.6)
9	Students tend to produce more organized, punctual work ...	0(0)	2(2.7)	12(16.2)	46(62.2)	14(18.9)
10	CLL fosters more positive student attitudes towards learning.	0(0)	2(2.7)	8(10.8)	58(78.4)	6(8.1)
11	CLL encourages learners to take greater responsibility for the ...	0(0)	0(0)	10(13.5)	56(75.7)	8(10.8)
12	CLL makes learners more responsible for their own learning.	0(0)	4(5.4)	12(16.2)	50(67.6)	8(10.8)
13	CLL enhances student participation, engagement, and motivation...	0(0)	2(2.7)	4(5.4)	52(70.3)	16(21.6)
14	In cooperative learning, your students actively participate in ...	0(0)	4(5.4)	10(13.5)	46(62.2)	14(18.9)
15	CLL enhances students' social and collaborative skills.	0(0)	4(5.4)	0(0)	52(70.3)	18(24.3)

* FP (%) = Frequency (Percentage)

Dimension B indicates a strong belief in the benefits of CLL, with ‘Agree’ as the most frequent response. The most significant positive responses in dimension B are related to question 15, as illustrated in [Figure 2](#). Therefore, most teachers believe that CLL can boost students' social and collaborative skills.

Figure 2: The Most Positive Responses in Dimension B



The most notable negative responses in dimension B were associated with question 8. While teachers doubt CLL's ability to improve interpersonal relationships and mutual liking, many still agree that it does. The next table shows CLL implementation in classrooms based on the teachers' perceptions and real-life use.

Table 7: Results of Dimension C (Implementation Practices, Items 22-26)

Qs	Question Text	Never (1) FP (%)	Occasionally (2) FP (%)	Sometimes (3) FP (%)	Often (4) FP (%)	Always (5) FP (%)
22	I regularly implement CLL activities in my ...	2(2.7)	10(13.5)	34(45.9)	26(35.1)	2(2.7)
23	I usually work with a range of group durations...	2(2.7)	16(21.6)	30(40.5)	20(27)	6(8.1)
24	Students join long-term, diverse groups with stable...	10(13.5)	19(25)	20(27)	20(27)	2(2.7)
25	I am confident I can successfully implement...	2(2.7)	12(16.2)	26(35.1)	30(40.5)	4(5.4)
26	At each class's end, teachers encourage groups to ...	2(2.7)	12(16.2)	28(37.8)	24(32.4)	8(10.8)

Table 8: Results of Dimension C (Implementation Practices, Items 27-31)

Qs	Question Text	Strongly Disagree (1) FP (%)	Disagree (2) FP (%)	Neutral (3) FP (%)	Agree (4) FP (%)	Strongly Agree (5) FP (%)
27	Teachers provide timely and appropriate support to...	4(5.4)	0(0)	6(8.1)	58(78.4)	6(8.1)
28	Teachers emphasize that each member's ...	0(0)	2(2.7)	6(8.1)	42(56.8)	24(32.4)
29	Teachers create activities that involve meaningful...	0(0)	0(0)	2(2.7)	52(70.3)	20(27)
30	Teachers assign specific, meaningful roles to ...	0(0)	2(2.8)	8(11.1)	50(66.7)	14(19.4)
31	Teachers act as facilitators, monitoring student groups...	0(0)	0(0)	2(2.7)	42(56.8)	30(40.5)

* FP (%) = Frequency (Percentage)

Dimension C mainly showed middle response categories, with 'Sometimes' and 'Agree' most common, indicating inconsistent implementation. The most positive responses were to question 31, in which teachers agreed that they act as facilitators in CLL. Negative responses related to questions 23-26 highlight difficulties in managing diverse groups, maintaining long-term group stability, and applying CLL strategies. Some teachers also struggled to promote reflection and feedback. The following table outlines these challenges educators may face within the CLL framework. It is essential to consider these aspects, as they are critical factors across different institutions.

Table 9: Results of Dimension D (Challenges & Barriers, Items 16-21)

Qs	Question Text	Strongly Disagree (1) FP (%)	Disagree (2) FP (%)	Neutral (3) FP (%)	Agree (4) FP (%)	Strongly Agree (5) FP (%)
16	In my experience, all group members usually contribute, ...	6(8.1)	16(21.6)	14(18.9)	30(40.5)	8(10.8)
17	Ensuring all students take part equally can be a bit challenging...	2(2.7)	2(2.7)	6(8.1)	36(48.6)	28(37.8)
18	Preparing and managing CLL activities requires significant ...	2(2.7)	0(0)	6(8.1)	30(40.5)	36(48.6)
19	Students relying too much on peers can slow down their own ...	2(2.7)	8(10.8)	24(32.4)	28(37.8)	12(16.2)
20	Maintaining classroom control can be challenging during...	2(2.7)	6(8.1)	6(8.1)	42(56.8)	18(24.3)
21	Large class sizes and noise levels create challenges for ...	0(0)	2(2.7)	8(10.8)	38(51.4)	26(35.1)

* FP (%) = Frequency (Percentage)

Dimension D showed the most balanced distribution, with 'Agree' as the most common response, although lower categories also had higher percentages. In this dimension, "positive" indicates agreement that the challenge exists. The strongest positive responses were related to question 18:

"Preparing and managing CLL activities requires significant effort and time," highlighting time and effort as key barriers. Notably, the most negative responses were linked to question 16. Overall, teachers' experiences suggest that not all group members consistently contribute, listen, or rely on one another as much as they could. Lastly, the table includes teachers' opinions on integrating technology into CLL.

Table 10: Results of Dimension E (Role of Technology, Items 32-35)

Qs	Question Text	Strongly Disagree (1) FP (%)	Disagree (2) FP (%)	Neutral (3) FP (%)	Agree (4) FP (%)	Strongly Agree (5) FP (%)
32	New technologies and AI tools are changing how students...	0(0)	2(2.7)	4(5.4)	46(62.2)	22(29.7)
33	Using AI tools and new technologies can sometimes...	0(0)	10(13.5)	14(18.9)	34(45.9)	16(21.6)
34	Technology and AI tools are fundamentally reshaping ...	0(0)	4(5.4)	20(27)	32(43.2)	18(24.3)
35	AI and new technologies can have positive effects on ...	4(5.4)	4(5.4)	14(18.9)	38(51.4)	14(18.9)

* FP (%) = Frequency (Percentage)

Dimension E showed strong agreement with the positive impact of technology, especially on Item 32, which had the highest "Strongly Agree" percentage at 29.7%. In contrast, Item 33 reflected more ambiguous attitudes about possible negative effects. For Dimension E, the most notable positive responses pertained to question 32, which asked how new technologies and AI tools are transforming student collaboration and social skills, especially in the CLL and more broadly in education. The most notable negative responses in Dimension E were associated with question 33. Overall, based on teachers' experiences and opinions, the use of AI tools and new technologies may sometimes reduce student-to-student and teacher-to-student interactions. However, this is not always the case.

Results of Teachers’ Interviews

Semi-structured interviews were conducted and categorized into themes based on frequency, which shows the number of comments per theme. Percentages are based on the total coded comments (N = 68 for teachers).

Table 11: Results of Teachers' Interview

Themes	Comments	Frequencies
1. Setting Goals, Grouping Strategically, and Assigning Roles	13	19.1
2. Promotes Deep Cognitive Engagement and Soft Skill Growth	14	20.6
3. Culturally Relevant with Practical Considerations, Constraints Due to Institutional Systems	12	17.6
4. Challenges in Implementation: Variations Among Participants and Systemic Pressures	13	19.1
5. Requirements for Success: Institutional Backing and Physical/Technological Resources	11	16.2
6. Artificial Intelligence as a Double-Edged Sword for Collaboration, Supporting Roles, or Replacing Collaboration	5	7.4
Total	68	100%

The central theme centered on goal setting, group formation, and role assignment, laying the foundation for CLL sessions. Participants described a step-by-step process: defining objectives, forming small, mixed-ability groups, sometimes using technology for random pairing, and assigning roles such as Manager and Recorder to ensure accountability. Technology supports grouping, multimedia modeling, and resource sharing, though some teachers avoid it.

Based on feedback and teachers' perceptions, the third theme was cultural considerations, alongside practical and institutional constraints. Isfahani teachers in Iran expressed mixed views on CLL; some considered it suitable, citing the collectivist and warm culture of Iran as supportive of group work. However, significant pragmatic obstacles remain, including large class sizes, fixed seating, exam-focused curricula, and teacher-centered teaching methods. Success depends on careful planning, clear role definitions, and effectively addressing systemic issues from their perspective. The fourth challenge involved participant variation and systemic pressures, such as social loafing (where some students dominate while others are passive) and curriculum constraints. Systemic pressures, such as a busy curriculum and limited time, make CLL methods seem less efficient than lectures, especially in larger, more diverse classes, and AI adds another layer of complexity. Next, institutional support was a key theme, including technology, facilitation tools, and equipment. Teachers stressed the need for support, such as flexible curricula focused on soft skills, professional development, and collaborative assessments. They identified two main needs for CLL: institutional commitment and adaptable curricula, as well as growth, assessments, and tangible resources such as flexible furniture, reliable tech, and activity packs. Success relies on policy support and practical tools.

The final theme was the dual role of AI in collaboration: both supporting and replacing. AI aids brainstorming and research, but may hinder genuine collaboration, foster dependence, reduce critical discussion, and weaken interactions. Teachers suggest a framework that assigns AI tasks beyond its capabilities, promotes individual synthesis, and uses AI as a group facilitator. Strategies should focus on individual synthesis and see AI as support, not a peer. Reading these teachers' comments showed they value group work, as students become more engaged and develop collaboration skills. However, challenges such as participation issues, dense syllabi, fixed desks, and weak internet persist. While teachers see students as social and capable, large classes, strict

curricula, and inadequate training hinder success. AI tools like ChatGPT also raise concerns about bypassing collaboration. Iranian English teachers valued CLL for its engagement, retention, and soft-skills development, despite barriers such as large class sizes, reliance on AI, and an exam-focused environment. They sought institutional support, curriculum flexibility, training, assessment, and resources to enhance CLL. Age influenced AI familiarity: younger teachers were more skilled, while older teachers were less skilled, suggesting the need for further research.

Results of Experts' Interviews

To deepen understanding of CLL, semi-structured interviews were conducted and categorized into themes based on the experts' comments. Frequencies indicate how many comments were coded under each theme. Percentages are based on the total coded comments, with N = 23 for experts.

Table 12: Results of Experts' Interviews

Themes	Comments	Frequencies
1. Systemic and Institutional Constraints	6	26.1
2. Pedagogical Foundations and Implementation Strategies	2	8.7
3. The Dual Role of Technology and AI	6	26.1
4. Cognitive and Social-Affective Benefits	2	8.7
5. Prerequisites for Feasibility and Success	5	21.7
6. Student-Level Challenges	2	8.7
Total	23	100%

Experts' interviews emphasized systemic barriers, with 6 comments (26.1%) indicating that they hinder cooperative learning more than pedagogical choices. Key obstacles include financial priorities, fixed curricula, and time constraints, with examples like administrative reprimands for rearranging chairs. Parental expectations often favor traditional, individual-focused teaching. Overall, system rules, economic factors, and cultural norms limit teachers' ability to adopt cooperative methods despite perceived benefits. Pedagogical Foundations and Implementation Strategies focused on promoting cooperative learning through strategic group formation and quick assessments, emphasizing careful planning over spontaneity.

The third theme, at 26.1%, covered technology and AI's dual role as useful tools for learning and tasks, as well as the risks of over-reliance, which can hinder interaction and teamwork. It stressed the need to balance these tools to either boost or impair collaboration, depending on their use and oversight. The fourth theme, cognitive and social benefits, explained core reasons for cooperative learning, emphasizing deeper engagement, understanding, soft skills, and group cohesion. Group work was key to linguistic and interpersonal growth. Prerequisites for feasibility and success at 21.7% frequency included important conditions for sustainable cooperative learning. It provided a checklist: suitable class sizes, flexible curricula, institutional support such as funding, aligned assessments, collaboration and training, and classroom designs that encourage interaction. This theme reflected experts' view of a supportive environment. The final theme was student challenges, focusing on issues from students' perspectives. Experts noted students often found group work ineffective, especially in exam-focused settings. Many were used to traditional methods and lacked skills or motivation for collaboration. This theme showed that adopting new methods requires addressing both logistics and students' mindsets.

5. DISCUSSION

A convergent mixed-methods study was conducted to explore the first research question. The implementation of CLL was assessed through questionnaires and interviews from multiple angles, primarily using dimension C. This dimension covers methods, frequency, and teachers' actions during CLL, including activities, grouping, and facilitation. Results show a moderate level of implementation, indicating a positive attitude, but less consistent practice than belief suggests. Although some positive efforts occurred, the implementation may be sporadic in some cases. Age-related differences in AI familiarity were observed anecdotally and not formally tested. Future research should examine how teachers' age affects technology adoption and CLL implementation.

CLL supported language learners by fostering positive interdependence from the teacher's perspective, where group success or failure promotes individual accountability and shared responsibility. Practicing speaking in real-world contexts improved communication, comfort, and motivation. CLL also boosted emotional and social development, resulting in greater motivation, positive feelings, higher self-esteem, and better interethnic relations, which align with prior studies (Dilfuza, 2025; León-del-Barco et al., 2020; Nguyen et al., 2021). Teachers' positive responses and feedback suggest that CLL boosts student motivation, consistent with the findings of George (2017) and Alalimi (2020). Aghajani and Adloo (2018) found that CLL enhances collaboration and community. Beiki et al. (2020a) show that cooperative activities improve interaction, understanding, and reflection, but based on the results of this study, it would be time-consuming. Although most teachers viewed implementing CLL positively, they reported common classroom issues, including unequal participation, in which dominant students overshadowed others, off-task behavior, and challenges in designing and managing group activities. Therefore, this research can support existing research on the challenges and implementation of the CLL approach (Dilfuza, 2025; Thanh, 2011; León-del-Barco et al., 2020; Nguyen et al., 2021).

The second question of the study explored technology use in CLL via questionnaires and interviews, focusing on its impact on collaborative learning and social interactions. The results showed strong agreement that technology and AI positively affect CLL. Educators saw tools as essential for collaboration, viewing them as beneficial rather than threatening. The participants agreed that AI and digital tools are transforming education and can enhance collaboration. This positive view indicates educators are willing to learn new tools to boost student engagement, fostering creative teaching (Yang et al., 2025). The study indicated that advanced technologies, particularly AI tools, can deliver precise feedback by analyzing large datasets and utilizing sophisticated algorithms, consistent with Crompton and Burke (2023). It affirmed that AI productivity tools assist educators in providing detailed feedback, managing complex projects (Mizumoto & Eguchi, 2023; Yang et al., 2025), and efficiently handling large student workloads (Mizumoto & Eguchi, 2023). Additionally, in line with Aghajani and Adloo (2018), the findings demonstrated that social media enhances collaborative learning and creates a more engaging learning environment. However, the study emphasized that AI cannot replace human interaction or educators' essential role in supporting social and emotional growth. Human interaction is crucial for building relationships, fostering empathy, and promoting collaboration, areas where AI still has limitations (Haleem et al., 2022). Furthermore, the participants, in line with other research, noted that over-reliance on content-generation tools could stifle creativity and may lead to addiction (Aghajani & Adloo, 2018; Hossain & Al Younus, 2025).

To address the third question, several factors were considered, especially since Dimension B was a key part. The results indicated that educators strongly believe in the benefits of CLL, including improvements in critical thinking, motivation, responsibility, and social skills, and that these beliefs nearly matched their trust in its core principles. The study aligned with Nguyen et al.

(2021), showing that CLL promotes accountability and shared success and fosters a team climate through critical thinking and collaboration (Dilfuza, 2025). It boosted emotional and social skills, raising motivation, attitudes, self-esteem, and inter-ethnic relations (León-del-Barco et al., 2020; Nguyen et al., 2021). Peer support in CLL encouraged responsibility for individual and peers' success. A key feature of collaborative learning was the provision of feedback to promote active involvement, as noted by Alalimi (2020). The study supported George's (2017) ten factors of cooperative learning: effective group management, diversity, independence, fair tasks, motivation, interdependence, openness, learning from experience, collaboration, and teamwork beyond class. Most teachers agreed that cooperative activities improve interaction skills, understanding, and reflection, as highlighted by Beiki et al. (2020a).

The final question focused on the obstacles and challenges teachers may face when implementing the CLL approach. Dimension D covered teachers' challenges and obstacles in implementing CLL. Although challenges were evident, their impact ranged from minor to frequent for different teachers. Overall, teachers acknowledged these obstacles without feeling overwhelmed. This paper concurs with Dilfuza (2025) in highlighting challenges such as handling varying proficiency levels and classroom problems like noise and lack of focus. However, most participants believed that structural and cultural barriers have little impact on the implementation of CLL, though institutional challenges may be more significant. Thanh (2011) noted that Asian learners initially focus on understanding texts or lectures, but also analyze and connect new information to broader contexts. A common obstacle was inadequate teamwork training, consistent with another research (León-del-Barco et al., 2020; Sikandar et al., 2022). Teachers report issues with activities and group formation (Thanh, 2011; Nguyen et al., 2021). The study showed that integrating CLL is hindered by large class sizes and limited time, which restrict deeper engagement, as noted by Nguyen et al. (2021). These challenges are manageable with institutional support, including suitable curricula, training, and financial aid for teachers. These are the main issues in applying the CLL approach.

6. CONCLUSION

This research found that educators and specialists responded positively to all questionnaire themes, especially the CLL principles. Agreement was strong on the principles, but slightly weaker on classroom application, likely due to real-world constraints such as large classes and limited time. Educators supported good practices, but struggled to implement them consistently, underscoring the need for training, resources, and time. Teachers generally viewed technology positively, believing AI and digital tools were transforming teaching and promoting collaboration. They were open to training that helps incorporate tools to boost student interaction rather than hinder it. They acknowledged challenges such as participation, classroom management, and extra prep time, but saw them as manageable. Their overall outlook remained positive, emphasizing the need for both English learners and teachers to receive training, develop self-regulation, design activities using educational apps, and be guided in implementing the CLL approach.

This study acted as a reference for educators unfamiliar with CLL and provided guidance for technology planners. Teachers perceived that technology and AI tools positively influenced student motivation and independence, though these perceptions require further empirical investigation. The researchers obtained sufficient data to ensure reliability, though the goal of equal participant numbers was a limitation. Unexpected factors emerged: some experienced teachers had limited exposure to AI, while many younger teachers used these tools regularly. The process extended from 6-8 to 12 months due to war and internet outages. Planned classroom

observations could not be completed due to wartime disruptions. Future research should incorporate direct observation to complement self-reported data.

The credibility of the responses depended on honest experts and teachers. Since the study was conducted in Isfahan, Iran, further research in other cities is needed to better understand the teaching methods. Most teachers said that institutional constraints, such as regulations, rigid curricula, fixed courses, prescribed processes, and limited training, hinder the adoption of diverse methods. However, they were confident in their ability to manage various techniques. Future research could explore why universities hesitate to change pre-designed programs and fixed teaching methods. The widespread use of AI tools underscores the need for adaptable teaching methods. Some experienced teachers avoid AI use, which can be problematic, as these technologies are transforming lives regardless of acceptance. Researchers should examine the balance among AI acceptability, usability, and the manageability of use.

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