

Research Article

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Exploring English Studies Majors' Interactions in Collaborative Research Teams as Communities of Practice

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Abstract

Background/purpose. Interactions encompass various aspects that support group members during collaboration; therefore, maintaining and fostering interactions in collaborative research teams (CRTs) as communities of practice (CoPs) in terms of shared knowledge, collective goals, and participation is crucial. The purpose of this study is to explore the interactions of English studies majors in CRTs perceived as CoPs.

Materials/methods. This study employed the phenomenological design, which relied on semi-structured interviews for data collection. The participants of this study consisted of 13 English major students from universities in EFL countries who had either participated in or were currently involved in CRTs for purposes such as graduation theses, publishing research articles, or university-level research projects.

Results. The findings from the thematic analysis assist in deliberating proposed interactions related to shared knowledge, collective goals, and participation during the collaborative processes in research groups. Regarding those critical indicators, the interactions are divided into three categories, each accompanied by specific interactions within its respective category. Most of the findings are correlated with theoretical frameworks and related studies. Additionally, several emergent findings are absent in three of the categories.

Conclusion. According to the research, English majors' Collaborative Research Teams (CRTs) in Vietnamese EFL contexts operate as socially motivated, goal-oriented learning communities where knowledge is jointly created via candid communication, shared accountability, and encouraging leadership.

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1. Introduction

Collaboration in groups and networks is becoming increasingly prevalent, as evidenced by the rise in co-authorship of scientific publications (Leydesdorff & Wagner, 2008). Besides, collaboration in research turns out to be a potential prospect for both progress and outcomes, assisting scientists in sharing knowledge and experiences. As a matter of fact, assembling a well-established and consolidated team also garners wide-ranging benefits for team members.

In the landscape of English studies majors, the predominant forms of scientific research include the senior thesis, published research papers, and university competitions. Undergraduates conduct this type of research as a demonstration of their course learning at the institution or as a contribution to general scientific knowledge. The potential applications of undergraduate research in various fields, including linguistics, second language acquisition, and English language teaching and learning, have garnered increasing interest (Truong et al., 2023). In general, students have a tendency to collaborate with their classmates for the sake of conducting research and decreasing perceived difficulties during research projects. Collaboration has been demonstrated to nurture academic development and assist in dealing with research challenges, especially when supported by open communication and mutual understanding (Tootell et al., 2021). As Vietnam has transitioned into a more academic and economically developed country, the use of collaborative research among EFL students has become prevalent. However, the process of conducting collaborative research remains largely unexplored, as collaboration in research is still limited to some extent among university students. Therefore, it can lead to nuances in the understanding of academic and collaborative research in this context. Furthermore, common challenges in collaboration, including conflict, unequal participation, or lack of accountability, may present differently among student groups (Bozeman et al., 2016).

In this light, a collaborative research team (CRT) is essentially a group of individuals assembled for a specific purpose. The concept of assembling a group of individuals for collaboration was initially developed by Wenger and Lave (1991) as Communities of Practice (CoPs), which are defined as groups of people assembled by shared knowledge, where they cooperate or interact to attain specific goals. The current study integrated the concept of CoPs into further research. Accordingly, the scope of the collaborative research teams (CRTs) as Communities of Practice (CoPs) discussed in the current study is engrossed in groups of students who undertake research projects. Based on the aforementioned documentation of consolidated CRTs and CoPs dimensions, there are emergent interchangeabilities between both aspects, and CRTs can be considered as CoPs.

We found that interactions encompass many aspects that support group members during collaboration; therefore, maintaining and fostering interactions in CRTs as CoPs, in terms of shared knowledge, collective goals, and participation, is essential. However, there is a dearth of literature that thoroughly explores this issue. Although collaborative research has been demonstrated in numerous studies and numerous publications have investigated and reported on its importance, enablers, and barriers. Currently known through existing research on collaboration are inter-organization collaboration (Tootell et al., 2021), International Collaboration Research (ICR) (Dusdal & Powell, 2021), and university-industry collaboration (Rossoni et al., 2024). In particular, numerous empirical studies have demonstrated the diverse dynamics that occur during collaboration procedures. For instance, Specht and Crowston (2022) identified various characteristics that facilitate the administration of cross-boundary groups. Moreover, numerous waves of literature have elucidated the dynamics and perspectives in collaborative teams. For instance, Bozeman et al. (2016) offered observations about the negative aspects of collaboration from team members, while Rossoni et al. (2024) classified significant barriers and facilitators in research partnerships.

In contrast, Hall et al. (2018) reviewed the literature on collaboration effectiveness, offering retrospective reflections on the collaborative effectiveness of Team Science (TS). Major empirical reviews have disambiguated collaboration in a contextual perspective, including knowledge co-production by Zurba et al. (2021). The aforementioned literature has provided insights into the enablers and barriers of research collaboration through various dynamics. Through relevant literature, it is transparent that interactions represent multilayered dynamics, which assist individuals in their collaborative processes. Therefore, the process of maintaining collaborative research teams as communities of practice and fostering interactions during shared knowledge, collective goals, and participation are of importance. Nevertheless, few research studies have broadened the scope to consider the interactions that emerged in teams during their partnership and how collaborative research teams can be intensively navigated to establish, negotiate, and coordinate during the process. In response, research on the interactions of collaborative research teams, which involves managing engagement to co-construct knowledge and achieve collective goals, presents a compelling argument that warrants further exploration.

Hence, the purpose of this study is to explore English studies majors' interactions in collaborative research teams perceived as CoPs. In particular, this study comprises three major components: shared knowledge, collective goals, and participation. The first section delves into the approaches employed by team members to develop shared knowledge; thereby, the study advances to seek relevant strategies used by members to consolidate and negotiate their collective knowledge. Next, the current study investigates the co-negotiation and cooperation processes in reaching collective goals through conflicts, progress management, and contribution. Finally, the remaining section discovers the growth of partnerships during the process through management, participation, motivation, and execution amongst members.

The study is thus guided by the following research question (RQ) and sub-questions (SQs):

RQ: How do collaborative research teams as Communities of Practice (CoPs) develop shared knowledge, negotiate collective goals, and foster participation?

SQs:

1. How do CRT members co-construct and negotiate shared knowledge in collaborative research?
2. How do CRT members negotiate, coordinate, and achieve collective goals in collaborative research?
3. How do CRT members engage and negotiate participation in collaborative research?

Based on the research questions and objectives, this study aims to provide a comprehensive understanding of the emergent interactions within Collaborative Research Teams (CRTs) concerning the creation of shared knowledge, collective goals, and participation. The findings aim to provide effective feedback, drawing on both theoretical and practical implications, for a diverse range of individuals. Firstly, this research validates and extends the theoretical frameworks of Communities of Practice (CoPs) and Collaborative Problem-Solving (ColPS) by integrating them to analyze real-world interactions in collaborative research settings and gain further insights into the complexity of collaboration. Secondly, the results aim to provide practical guidance for CRT members to effectively organize their activities within the team; therefore, CRT members can enhance their in-group activities and focus on productivity or research output. Thirdly, these insights into interactions can help professionals, mentors, and educators or trainers refine their preparations prior to team formation to refine their collaborative skills and achieve well-rounded results. Furthermore, at a broader level, educational administrators and institutional managers can structure research

initiatives based on student groups, enrich the educational experience, and contribute to the overall higher education ecosystem.

2. Literature Review

2.1. Collaborative Research Team

A collaborative research team (CRT) comprises individuals who combine diverse skills and experiences to address common research challenges (Dusdal & Powell, 2021). Such teams incorporate effective communication and mutual trust, addressing problems that are too complex for individuals to handle. Furthermore, CRTs also simulate CoPs in terms of engaging in mutual activities, sharing knowledge, and promoting a collection of common tactics. These collaborations have contributed to improving the quality of research output while also assuring professional and personal growth for individual team members (Wenger, 1998).

In academic settings, CRTs often span multiple disciplines, enhancing interdisciplinary insights and yielding more comprehensive outcomes. In the context of English studies majors, students can examine language and culture from their distinct perspectives. Specifically, English studies students conducting thesis research not only show collaborative learning but also create an environment for learning that contains interaction and shared experiences (Le et al., 2018). In particular, they collaborate jointly throughout the research process, negotiating knowledge and ideas to achieve academic advancement and collective goals. In this study, the collaborative research team (CRT) refers to a group of English studies majors collaborating on conducting a thesis, publishing research papers, or conducting university-level research. These research teams represent the communities of practice (CoPs), which enhance interaction, knowledge sharing, and academic skill development.

2.2. Communities of Practice (CoPs)

Communities of Practice (CoPs) is a theoretical framework developed to comprehend the social interaction and shared activities that shape individual and collective growth. CoPs are groups of individuals who take part in collective learning around a common domain of interest. Collaborative research teams and communities of practice have specific characteristics that strengthen knowledge sharing, engagement, and collective learning (Wenger, 1998). These theoretical dimensions are supported by empirical evidence; for instance, Specht and Crowston (2022) identified that mutual engagement and shared objectives were essential for productivity in multidisciplinary teams, frequently shaped by social cohesion and leadership style. Additionally, both of these necessitate collaboration and interaction to achieve collective goals constructed by team members.

Lave and Wenger (1991) characterized CoPs by shared repertoire, mutual engagement, and joint enterprise. In particular, the members collaborate, share their experiences, and develop expertise through constant interactions. Moreover, they might learn from one another and contribute to the group. Thereby, we propose that CRTs have the feature of knowledge sharing, which is equivalent to the shared repertoire dimension of CoPs (Jorgensen et al., 2021). This encourages teamwork and skill development among students.

Additionally, the next characteristic of CRTs is engagement, which is consistent with the concept of mutual engagement within CoPs (Abedini et al., 2021). This aspect enables students to gain a deeper understanding and promotes mutual collaboration. Furthermore, CRT's remaining indicator, collective learning, relates to the joint enterprise of CoPs (Arinaitwe, 2021). Students in teams collaborate to achieve learning objectives, which is also crucial for achieving results and striving for success.

2.3. Collaborative Problem-Solving (ColPS)

Collaborative Problem-Solving (ColPS) is an approach in which individuals work together to address and solve problems by sharing their ideas, perspectives, and skills. The process combines social and cognitive parts, encouraging members to communicate effectively, coordinate their tasks, and think critically in order to find common solutions (Graesser et al., 2017). ColPS emphasizes mutual learning and collaboration in educational and research contexts. To address complex issues, team members undergo cycles of debate, analysis, and decision-making. ColPS stresses active collaboration, in which team members collaborate to solve mutual difficulties and co-design knowledge and a shared understanding for productive results (Rofik, 2022).

Especially in the context of students in English majors conducting thesis research, ColPS plays a crucial role in fostering collaboration and teamwork among students (Kirschner et al., 2011). When research teams investigate complex academic problems, they use ColPS to offer deep knowledge, critically discuss ideas, and improve the results of their research.

2.4. Theoretical Framework

The theoretical framework relates to the interactions for this research. It is constructed on Wenger's (1998) dimensions of communities of practice (CoPs), integrating mutual engagement, joint enterprise, and shared repertoire. These dimensions are equivalent to the interactions of shared knowledge, collective goals, and participation in Sun et al.'s (2020) collaborative problem-solving (ColPS) model. Although CoPs focus on organic community development and ColPs emphasize task-oriented problem solving within time settings, CoPs can serve as an environment in which ColPS activities can emerge. In particular, members in CoPs often deal with challenges that require immediate solutions, which in turn raise ColPS activities. Therefore, CoPs and ColPS complement each other, with CoPs providing a social foundation and ColPS providing ways to address problems that arise.

2.4.1. Shared Knowledge

In this research, we draw on the dimensions of communities of practice since we find that the interactions we are researching align with the dimensions described by Wenger. We first identify that shared repertoire corresponds to shared knowledge in the model of Collaborative Problem-Solving (ColPS). Wenger (1998) defines a shared repertoire as the practices in which members engage as a result of their membership. These encompass routines, terminology, instruments, methodologies, narratives, gestures, symbols, genres, acts, or thoughts that the community has generated or embraced during its process and which have become integral to its practice.

Following Sun et al. (2020), the Collaborative Problem-Solving (ColPS) model emphasizes constructing shared knowledge, as defined by the clear expression of ideas, while actively attempting to comprehend the thinking of others. It is a collaborative process in which team members contribute to a common understanding of challenges and solutions. A vital aspect is to share a mutual understanding of difficulties and their potential solutions. This has been further proven through active debate on certain subjects or concepts, as well as the proposal of focused solutions and the resolution of work limitations. Additionally, this process involves establishing common ground, where members work to identify and confirm their understanding of others' ideas, demonstrating comprehension through questioning, paraphrasing, or addressing misunderstandings. This method allows members to connect their efforts, develop their ideas, and co-create problem-solving methods, fostering the collaborative atmosphere required for successful team interactions. However, how knowledge is shared is also influenced by emotional climate and trust. Xia and Ya (2012) found that while emotional conflicts or unfavorable interpersonal dynamics hinder collaboration, mutual trust among team members significantly enhances information exchange. Furthermore, regular in-

person meetings can enhance group cohesion and the co-construction of shared knowledge, according to Vasileiadou and Vliegthart (2009).

2.4.2. Collective Goals

Following the interactions in this research, Wenger (1998) describes joint enterprise as the outcome of co-negotiation between partners, defined in the research process, and creating mutual responsibility that becomes a pivotal factor in the practice of achieving collective goals. Alongside this, these interactions correspond to negotiations to achieve an agreed-upon solution plan ready for execution.

The ColPS model, as provided by Sun et al. (2020), also highlights the importance of negotiation in achieving an agreed-upon solution plan, which is essential for effective collaborative teamwork. Interaction entails active engagement, with members responding positively to one another's inquiries or suggestions. Effective interaction might be to give reasons to support viable solutions, whereas unproductive actions, such as interruption, ignorance, or rudeness, would hamper research progress, resulting in poor results such as the team failing to reach their goal. Furthermore, monitoring the execution of plans ensures that they are consistent with the team's goals. This includes responding to discussions, sharing outcomes, and resolving challenges such as strategy persistence or adaptability. Through constructive negotiation and continuous monitoring, team members refine their methods, promote mutual understanding, and collaborate to implement solutions that ultimately move the team toward its collective goals.

2.4.3. Participation

This analysis focuses on the evaluation of collaborative endeavors through Communities of Practice (CoPs). The analysis evaluates CoPs using vital components, which include mutual engagement and shared repertoire that help define and understand such communities. This study examines community interactions where Wenger's (1998) concept of joint enterprise emerges from negotiations among its members, fostering mutual accountability and the shared pursuit of common goals. Such negotiations involve instrumental exchanges toward achieving a consensus. On the other hand, this study connects these kinds of interactions to Wenger's Communities of Practice, focusing on the shared repertoire, which is related to the ColPS model's shared knowledge. A shared repertoire consists of practices, routines, tools, languages, and other elements that a community develops and adopts as essential to its functioning. Competency models established in CoPs offer strong contributions to shared knowledge creation by solving problems while ensuring collaborative work relies on joint ground formation with responsive idea enhancement (Pyrko et al., 2017). This examination details the negotiation procedure alongside coordination elements and steady teamwork requirements, which include descriptions of roles and progress tracking in team-based work. Additionally, Dusdal and Powell (2021) noted that adaptable leadership structures facilitate the management of participation in diverse teams by adjusting to changing needs and tasks, and are also consistent with the ColPS model. Bozeman et al. (2016) also noted that collaboration becomes more inclusive and successful when team members are motivated to contribute in a meaningful way and egocentric behaviors are reduced.

Based on Wenger's (1998) dimensions of Communities of Practice (CoPs) and the suggested proficiency model for ColPS to comprehend how students operate through the particulars of collaborative knowledge building and attain common research goals. It is vital that all members are aware of their role as part of the team and that each person's conduct impacts the team's overall goal. Equally important in team collaboration is maintaining team function, as well as sustaining team dynamics throughout the research and creation process, which fosters mutual accountability and facilitates the execution of specific duties within the team. Following Sun et al. (2020), to make it effective, team members should avoid initiating irrelevant discussions and focus on their assigned

tasks or roles. In this manner, the ColPS also demonstrates how to take the initiative to advance the collaboration process, such as proactively trying to improve team productivity when working together and showing a willingness to hear others' perspectives or take action before the other team members ask for help. It entails posing inquiries, recognizing the contribution of each member, and assisting in the preservation of team organization. It builds upon the clear expression of ideas, coupled with an active effort to understand each other. Likewise, compliments or encouragement from team members can highlight positive behavior that boosts team morale.

Table 1. Three Core Dimensions of Communities of Practice (CoPs) as defined by Wenger (1998)

CoPs dimensions	Prominent characteristics
Mutual engagement	Members can initiate and sustain dense relations organised around what they do
Joint enterprise	A result of negotiation between members defined 'in the process of pursuing it...and creates mutual accountability (among participants that becomes an integral part of the practice' (Wenger, 1998, pp. 77-78)
Shared repertoire	Practices in which members of a community engage by virtue of being members. These may include 'routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions, or concepts that the community has produced or adopted in the course of its existence and which has become part of its practice' (Wenger, 1998, p. 83)

Table 2. Generalized Facets, Sub-facets, and Indicators of Collaborative Problem-Solving (ColPS) as defined by Sun et al. (2010)

Facet	Sub-facet	Indicators
Establishing shared knowledge – open communication of individual ideas and attempts to comprehend others' ideas	Shared understanding of problems and solutions	Discussions regarding certain subjects, concepts, and methodologies related to problem-solving - Proposing particular solutions - Discussions about the givens and limitations of a particular task - Relying on others' ideas to amend solutions
	Establishing common ground	Identifies and confirms comprehension of others' concepts - Confirming others' understanding by asking questions or paraphrasing - Rectifying misunderstandings
Negotiation/Coordination— achieve and finalize a solution strategy for implementation.	Responding to others' questions or ideas	- Interrupting or speaking over others as an intrusion (R) - Ignoring in case others speak (R) - Joking, criticizing, or being rude to others (R) - Giving reasons to support or refute a prospective solution

		• Attempting discussions • Talking about results
	Monitoring execution	• Raising the prospect of giving up the challenge (R)
Sustaining team function and maintaining the team dynamics	Fulfilling individual roles	• Not visibly focusing on tasks and assigned roles (R) • Triggering off- topic conversation (R) • Engaging in off-topic
	Taking the initiative to advance collaboration processes	• Asking others' suggestions • Asking to take action before teammate need helps • Complimenting or encouraging others

3. Methodology

3.1. Research Design

Regarding the complex pursuit of discovering the dynamics of participants in research groups, the study aims to employ the phenomenological design within the qualitative approach. Phenomenological research is an inquiry design derived from philosophy and psychology, in which the researcher describes the lived experiences of individuals regarding a phenomenon as described by participants (Creswell, 2014). Comprehensively, the volume of collected data in this research design is not predetermined and measurable but persists till data saturation is attained. Regarding to quantitative design, participants' level of agreement with the proposed theoretical framework was assessed using the questionnaire. However, we want to gain a deep understanding of their interactions rather than just their acceptance of the available questionnaires. Therefore, phenomenological design is more appropriate for our research.

3.2. Research Instrument

As mentioned previously, to seek to clarify the research questions, sub-questions, and research objectives, the study aims to use the phenomenological design. This method's instrument primarily relies on semi-structured interview sessions to gain a profound understanding from respondents regarding the complex dynamics of participants within research groups. To be specific, to elucidate the formed research questions, the researchers used interview sessions while collecting data and used them for synthesizing the findings. Moreover, these intimate dialogues provide adequate dynamics from the interviewee's responses. For this reason, we conceive that the interview is a proper scheme for grasping the respondents' standpoints upon their participation in collaborative research teams. The usefulness of data obtained from the interview is based on the researcher's expertise and the strength of the questions (Roberts, 2020). Since observational studies or focus group studies require greater time and effort, we consider these instruments as our limitations.

3.2.1. Semi-Structured Interview

Accordingly, the interview questions were derived from the theoretical framework developed above (see Section 2.4 in the Literature Review). The interviews were conducted in a semi-structured format, allowing the researchers to obtain valuable and informative answers from the participants. Hatch (2023) defined this method as a particular type of dialogue or verbal exchange employed by researchers to investigate informants' experiences and perspectives. The purpose of using this

instrument is to gain the unique perspectives of participants rather than a generalization of a sensation (Adeoye-Olatunde & Olenik, 2021). Specifically, the semi-structured interview sessions conducted in Vietnamese were the main instrument for the research, which contained questions that generated the underlying findings of the research. Consequently, the method enables the researcher to obtain open-ended data, discover participants' thoughts, emotions, and perspectives, and conduct a meticulous analysis of personal and sensitive matters. The open-ended questions were based on the theoretical framework to guarantee that the data collected was representative and justified.

3.2.2. Interview Questions

Questions were open-ended and aligned with the above-mentioned framework (*see section 2.5 of the Literature Review*). The interview sessions were structured in accordance with the open-ended questions, which allowed researchers to articulate follow-up, unplanned, and instinctive questions in the course of sessions. Interviewers can enhance respondents' engagement and elicit more comprehensive responses by providing more resources and asking follow-up questions (Dillman & Christian, 2005). The full list of questions addressing the research objectives and gaps will be presented below.

The semi-structured interview sessions were fragmented into two sections. The first section mainly centered on the student's personal background, including name, major or academic year, and the types of collaborative research they have engaged in. The second section surrounded the 15 questions developed from the theoretical framework. Firstly, the five questions attempted to understand the strategies used by team members to solidify their shared knowledge and the emergent discrepancy in the flow of discussions. Secondly, the next five questions aimed to understand the process by which members reach collective goals, asking them about conflicts, approaches, or soft skills that unite tasks and achieve mutual goals. Lastly, the remaining indicator was also discussed regarding members' management of participation. These five questions were about the motivation, scheme, and experience of each member in engaging in the span of the research projects.

3.2.3. Reliability and Validity of the Interview

To ensure the reliability and validity of the interview questions, the researchers sent the questions to an English professional at a university to revise the grammar, arrangement, content, and accuracy of the sections. To validate the collected data, the researchers translated the research questions into Vietnamese to ensure the comprehension of respondents in each and every facet of the research questions. Then, researchers made some adjustments in accordance with the feedback from the professional to enhance the accuracy and measurability of the exploratory sessions.

Additionally, to enhance the reliability and validity of the interview sessions, the researchers piloted the interview before conducting the official ones to ensure its applicability and accuracy. Pilot testing might facilitate the early detection of potential defects by identifying issues and regions that may necessitate alterations in the instrument (Dikko, 2016). After that, the researchers pored over suitable interview instructions to gather data with a coherent and systematic guide (Moser & Korstjens, 2018). Therefore, the pilot helped the researchers to confirm that all interviewees understood every item of the interview questions, including shared knowledge, collective goals, and participation, and that the data aligned with the research aims. Then, the researchers adjusted the timeline to be suitable for later sessions.

The research also validated the respondents' responses by standardizing the interview sessions during the procedure. In this sense, the researchers ensured the questions were fairly distributed to respondents to ensure exactness in the data analysis. Henceforth, the researchers advanced to the main interview sessions using the aforementioned proposed protocols with students via direct and

online interactions. After data collection, the directly relevant quoted excerpts used for analyzing and demonstrating the study findings were translated into English, and two English professionals later checked them for accuracy.

3.3. Participants

Since the study extensively explores EFL students, the participants in this study were 13 English major students at universities in EFL countries who had experience or were working in collaborative research teams to fulfill one of the purposes, namely graduation theses, published research papers, or university-level research. In other words, these kinds of projects contained groups of students' interactions to fulfill the collective goals, which aligned with our research objectives.

In this study, to ensure that the sample was closely aligned with our question and objectives, convenience sampling was employed. This sampling type is nonprobability sampling, in which individuals from the target demographic are selected based on pragmatic considerations such as accessibility, proximity, availability at specific times, and their desire to participate in the study's objectives (Dörnyei, 2007). This method offers practical advantages for data collection within the available timeframe and resources, and is also suitable for our research objectives, as respondents are approachable and readily available. This sampling was deemed appropriate for our study's aims due to time and distance limitations in accessing respondents in other locations. Therefore, the respondents were gathered on the basis of the convenience sampling technique, which included the researchers' acquaintances and introductions from lecturers.

The study commenced with the recruitment of participants by the use of the convenience sampling technique. Many factors can influence the sample size in qualitative research; however, the fundamental basis should remain in achieving saturation (Mason, 2010). According to Saunders et al. (2018), saturation points can fluctuate and a specific number does not define them. Therefore, the study interviewed 13 students for data collection. The participants in this study were English major students at universities in EFL countries who had either experienced or were working in collaborative research teams to fulfill one of the purposes, namely graduation theses, published research papers, or university-level research. These 13 official interviewees were different from those in the pilot testing.

Table 3. Descriptions of Participants for Interviews

Gender	Male	7
	Female	6
Types of collaborative research	Publish research paper	4
	Thesis	5
	University-level research	4
Roles in collaborative research teams	Leader	10
	Member	3
Types of university	Public school	4
	Private school	9

3.4. Data Collection Procedures

This section comprises two steps, including piloting the interview and administering the interviews.

Table 4. Plan of Data Collection (Number of Weeks Marked Since the Beginning of Our Research)

Research activities	Timeline
Preparing the instruments for the study	Week 5
Pilot testing the semi-structured interviews	Week 6
Conducting the interviews	Week 6-7
Analyzing and synthesizing the data	Week 8-9

3.4.1. Piloting the Interviews

After the revision from the supervisor, the researchers proceeded to make some improvements to the questions to be suitable for the official interview sessions. Pilot interviews were implemented accordingly. The pilot interviews were tested on two English major students at a university, who were chosen from contacts with the researchers. Two students were working on their thesis in a team; one is a leader and the other is a sub-leader. They were deemed suitable since they had been participating in graduate thesis teams, which satisfied our research goals. The pilot sessions were implemented via online meetings on Google Meet and conducted in Vietnamese for participants to comfortably articulate their in-depth perspectives. The pilot sessions lasted for around 40 to 45 minutes. The pilot interviews were recorded and transcribed for the researchers to skim through the content of the answers. This process assisted the researchers in confirming that the transcripts were appropriate for the research objectives. Eventually, no adjustments were made to the questions after the pilots, and the interview questions proved reliable and valid for collecting data.

3.4.2. Administering the Interview

After the revision, the researchers proceeded to adjust the timeline for each question to be suitable for the interview sessions. Henceforth, the researchers proceeded to the main interview sessions using the aforementioned proposed protocols with students. The researchers organized official data collection on two types of interaction, which were direct and indirect sessions. The directed sessions were conducted in person with geographically approachable respondents at universities, and the indirect sessions were implemented via the video-conferencing tool Google Meet due to respondents' geographical distance. Prior to the beginning of the interview sessions, interviewees were notified that their answers would be recorded or captured for the purpose of data analysis to ensure that they felt comfortable during the interview. Additionally, the interviewees were provided with an overview of the research's purpose and an explanation of key terms that appeared during the sessions, as they had not been previously exposed to these concepts.

Throughout the process, the researchers depended on the interviewee's interactions and excitement for the questions to develop the follow-up questions. In this study, each interviewee answered a list of questions little by little, which mainly focused on discussing the major research question. These main sessions lasted for 40 to 45 minutes. Data analysis for the research depended on the recordings of respondents. The interview sessions were conducted with 13 respondents who were located in diverse places. They were graduates, seniors, third-year students, and sophomore students and had participated in or had been involved in collaborative research teams.

3.5. Data Analysis Procedures

After the data collection process, researchers extracted the document using Microsoft Word, and the interviewees' answers were transcribed sufficiently by TurboScribe. The tool was manageable in that it offered automated transcription, and the researchers ascertained the fulfillment of the transcripts. This careful transcription provided a reliable textual representation of the participants' voices, which was critical for sustaining the integrity of our research findings. The process was implemented by the researchers after completing the interview session, and then the full transcription was scrutinized by professionals. Thematic analysis was employed to analyze the collected data. This technique outlines the participants' perceived value and primarily focuses on providing a descriptive account of their understanding (Lochmiller, 2021). Coding condenses extensive qualitative data by categorizing and color-coding specific words and paragraphs according to their linked attributes (Coffey & Atkinson, 1996). Consequently, the process of producing themes initiates with an examination of the relationships among various codes and their organization according to their capacity to collectively elucidate the narrative underlying the data (Aronson, 1995). The relevant quoted excerpts that assist in analyzing and demonstrating the study's findings were transcribed and translated into English consecutively to refrain from misunderstanding and guarantee the reliability of the data. Henceforth, the researchers sent them to two English professionals to check for accuracy. The researchers meticulously read and revised the transcribed data.

3.6. Ethical Considerations

Invitation emails were sent to possible participants. Each email included a welcoming introduction to the project, an overview of the study's background and objectives, an explanation of the participant's roles, and a statement assuring that the data collected and responses remain anonymous and be used only for research purposes. The email also contained a consent form, which participants were asked to sign to confirm their willingness to participate in the interview. The form confirms that the participant's participation is entirely voluntary and that they could withdraw at any point without facing consequences.

All identifying information, including the names of the educational programs and institutions, was eliminated to guarantee anonymity. Avoidance was made of any reporting that might reveal the identity of the institution or its educational initiatives. In order to make the institutions less recognizable, the research site was also widely identified. Furthermore, every participant was given a distinct codename, or pseudonym, to use on all reporting forms containing their data (Heaton, 2022). In addition to anonymity, all gathered data were kept in encrypted files and drives that only the research team could access, ensuring confidentiality.

4. Results

4.1. Shared knowledge

Knowledge-Sharing and Discussions

Seven participants reported creating a group chat on instant messaging tools, such as Zalo, for members to share and update their ideas and research materials. Particularly, three out of thirteen interviewees revealed that group chats were best used for sharing sudden ideas, relevant articles, documents, images, or videos related to their research. These knowledge-sharing behaviors were representatively asserted by student A:

"Our group will have a common Zalo group where we can share articles or anything that members find." (A01)

These groups also supported members whenever they wanted to exchange thoughts and discuss with each other. Three participants indicated the necessity of instant message tools, including daily texting for discussions about their research. With the exception of sharing materials or discussion, students also took advantage of instant messaging tools to update groupmates' progress and distribute tasks or deadlines. These knowledge-sharing behaviors were typically asserted by student H:

"Typically, we have one group where we message each other to find information and set deadlines." (H02)

Seven out of thirteen interviewees emphasized the use of asynchronous tools, highlighting their compelling extensions. In this regard, these tools assisted team members by providing direct tracking of the team's activities, including their contributions, notes, and writings. Subsequently, they could be involved in the process by giving instant feedback and making suggestions for others' works. The exemplary quotes from student A confirmed:

"The benefit of the Docs tool is that other members can see who is writing or who is working on their tasks, and I can comment directly on those docs." (A06)

Three students emphasized the significance of these asynchronous tools and their utility in facilitating their group work, including contributing personal ideas, relevant materials, and even individual assignments. Those activities served as a common workspace for all members during the brainstorming of ideas or implementing specific assignments. Two out of thirteen participants confirmed that they used those tools for note-taking of joint information gathered by team members. All information would be updated on these tools for members to check and revise. Several representative interactions were proved by the indication of student D:

"We mainly use it to take notes on information or to combine the information that members have gathered. We have compiled it into a summary file so that everyone can view it. It's also helpful for providing feedback and making quick edits." (D01)

Four students expressed their belief that in-person meetings supported individuals to refrain from sedentary attitudes via virtual discussions; therefore, they were motivated to present their intrusive expression of ideas and thoughts. Moreover, teammates might discuss with others when they voice their opinions. The typical reports from student E added:

"Before forming ideas for our research papers, we always have face-to-face meetings because I believe that direct communication is the best way for everyone to quickly present and finalize ideas." (E01)

Co-Constructions of Idea

Given the diverse and disparate ideas contributed by team members, five participants described how each team member would present their own ideas and provide explanations for those ideas. Henceforth, all individuals might consolidate a common direction from the overall perspectives by combining all opinions, voting, or depending on the majority. These interactions were typically asserted by student B:

"Usually, team members explain their ideas. I also provide explanations, and then everyone agrees and votes based on the majority." (B07)

Four interviewed students described the dynamic process pertaining to finalizing the teammates' ideas. In this sense, each member raised their ideas, and they evaluated the pros and cons of these proposals, which combined each other's ideas. Those participants noted that this process helped them in selecting an appropriate scheme for their project. The exemplary quotes are from student M:

"I give the idea, and everyone gives the strengths and weaknesses. Then we will consider whether we will choose". (M02)

Three out of thirteen students echoed the perception of consolidating appropriate schemes for the team. In this regard, they considered discussions of contributed ideas as fruitful for making decisions about the suitable idea. The representative data was quoted from student K:

"Everyone will list the articles they've read and share their opinions. After that, I'll compile everything. We will have multiple meetings to discuss, and through continuous discussion, we will arrive at a final decision." (K02)

Data gathered from four interviewees suggested the importance of idea-sharing encouragement. This positive interaction was further clarified as a stimulation of teammates to express opinions confidently. These students alluded to the notion of encouraging teammates' viewpoints since more sharing corresponds with more ideas being contributed to the team. These key ideas were representatively responded to by student F:

"I encourage group members to share as many ideas as possible. Then, we sit together to discuss and select the best ideas to incorporate into the project." (F04)

Co-Establishment of Common Ground

Three participants revealed that in case team members encountered difficulties in understanding the problems, they could request and ask others for assistance through explanations. In this sense, they actively requested the remaining team members to explain or were asked by the team leader. The typical quote from student B revealed:

"I will ask if everyone understands the problem. For example. if my members don't understand, they will ask immediately. If they do understand, they will confirm that, or I will ask them directly." (B06)

The twofold interactions were also confirmed by team leaders, who verified members' understanding by requesting detailed explanations. Two participants claimed that they reviewed the accumulated information and ideas curated by their team members. Then, they confirmed their members' comprehension by asking them to make explanations on the reasons behind their choices, arrangements, or sources of information. Student C representatively said:

"We need to check and also ask them to explain what these ideas mean and why they are there." (C05)

Monitoring and Leadership

Regarding the knowledge establishment process through meetings, student C reported that she and her co-leader require their teammates to recount the obtained information at the end of the meetings. She added that they would offer criticism in case that specific partner was unable to tell them.

"Of course, everyone has different personalities. Sometimes, I or the other co-leader may need to remind or critique a member appropriately." (C15)

Two out of thirteen participants confirmed the role of leadership regarding monitoring and navigating discussions within the team. In particular, they mentioned the leader as a pioneer who provided motivation, fostered morality, and reconciled members' ideas. These dynamics were representatively asserted by student G:

"A leader doesn't have to be the most skilled; other members can excel in important tasks. However, the leader acts as a bridge, fostering a spirit of teamwork and motivation." (L01)

Managing Ego and Building Respect

Three out of thirteen students considered the detrimental characteristics of team members. It was attributed to the egoism and selfishness expressed by partners towards accepting others' ideas. Therefore, they addressed these issues by conscientious admission of mistakes, self-centredness, and personal emotion towards others' perspectives. The exemplary quote from student D noted:

"When I come up with a great idea, and it gets dismissed in favor of others, I initially feel resentment towards my teammates. However, I later realize that their ideas might be valid and gradually let go of my ego to accept them." (D06)

Four out of thirteen students supported the perception of giving mutual respect and acknowledgement for teammates' ideas. As the process might begin with diverse viewpoints from members, these students suggested that their team come to a mutual agreement to respect other thoughts. The participant quotes from student E who is represented:

"During research, many people will have different ideas. We have a mutual agreement to respect everyone's contributions and find common ground." (G07)

4.2. Collective Goals

Task Distribution

Regarding the process of task distribution to members, five participants mentioned that their team would consider the strengths of their partners due to differences in academic level. This process emphasized that team members should understand their partners' capabilities to effectively complete tasks. Moreover, allowing members to choose an intriguing task also enhanced the task's productivity. Student D revealed:

"We distribute tasks based on each person's strengths, ensuring everyone has equal work and that no one is left out or idle." (D03)

Three participants described that their team members were distributed assignments randomly. In this sense, there might be no distinction in the amount of tasks for specific individuals. These actions were noted as providing room for group members to challenge themselves in perceived weaknesses. Therefore, members might improve their abilities during the process. The typical quotes from student M expressed:

"The leader will also assign randomly, not just assigning specific sections, because we always want to challenge ourselves in areas where we are weak, not to the extent of competing, but to improve." (M02)

Progress Management and Tracking

Five out of thirteen students confirmed they used tools, including Google Docs, Sheets, or instant messaging, to manage mutual signs of progress. Task doers, in particular, informed results by marking on these tools or messaging directly to other members. On the contrary, authoritative members base their assessments on these actions to determine the degree of task completion among other members. The exemplary quotes were from student A:

"Based on the Docs, once someone completes a task, they will tick it off or notify the group on Zalo that they have finished. I will understand their work methods and how

they manage their time for research, and I will use that to evaluate their contributions to the research.” (A09)

Five students proposed that the execution of tasks was guided by planned schedules and deadlines. By doing this, executive members acted as monitors in reminding, urging, and giving feedback to others. Henceforth, team members became effortless in tracking mutual tasks and accomplishing their missions. Student H was one of the representative quotes:

“I usually assign deadlines and adjust them to be more suitable, and I will remind everyone to stay on track.” (H05)

Conflict Resolution

During the process of discovering and unifying collective goals, three participants indicated that there were unavoidable conflicts, including disparate ideas, opinions, or unharmonious individuals. In this regard, members often tend to conceal their thoughts during group meetings. Therefore, participants suggested that they might resolve all disagreements through open discussions and communication between teammates, which were subsequently addressed by mutual suggestions toward specific issues. These notes were expressed by student A:

“In recent offline meetings, I noticed that sometimes members want to express themselves but lack confidence and instead turn to speak to the person next to them.” (A03)

Apart from intimate discussions, student B reported that her team addressed unfavorable discords by voting upon a majority amongst members. In particular, each member could gradually deliberate their perspectives or make explanations on their own viewpoints. Then teammates would uncover an appropriate scheme by majority decision. Student B added:

“Members tend to follow the majority. Usually, they explain their opinions similarly to how I do, giving examples, and then everyone agrees and votes according to the majority.” (B05)

Two out of thirteen participants perceived the leader’s influence in resolving conflict among members. The potentially proposed dispute was members’ attempts to claim their favorite tasks. In this regard, the leader resolved this problem by randomly allocating the assignments for all members. Moreover, the unintentional situations might be settled by leadership through persuasiveness, constant comprehension, and open-mindedness to the issue. These echoed perceptions were expressed by student F:

“Yes, actually, we have had some arguments; for example, one member finds this part easy while another wants to take that part too because it seems easier, leading to conflicts among them. The solution here is for the team leader to assign tasks randomly, meaning we will draw lots to see who gets that part.” (F05)

Responsibilities and Task Allocation

Data gathered from seven participants suggested that team members shared equal responsibilities. To this extent, each individual was perceived as a dependent element, which bore specific missions to achieve their collective goals. Accordingly, partnerships seemed to eliminate opposing and jealous attitudes between assigned roles. As a result, this action also stimulated cooperative morality between groupmates. The typical quotes were from student D:

“There is a tracking document to see who is doing what, checking if anyone has no tasks or is contributing less than others to avoid competition and jealousy. Tasks are

distributed fairly and thoroughly among members, based on their strengths and capabilities.” (D10)

Making adjustments to each member’s ability was considered as another approach during the task allocation process. In terms of academic differences, potential assignments would be assessed and distributed to members based on their ability, which was suitable with their language proficiency. Student E representatively pointed out:

“Everyone will participate in our group research, contributing to the project, though contributions may not be equal due to varying abilities. We distribute tasks based on everyone’s abilities, so sometimes one member may contribute more than another, meaning equal participation may not always be possible.” (E06)

Two participants suggested that the leader would support their teammates during the implementation of accountability and tasks. The interactions were clarified as willingness to assist with perceived difficulties or oversee the degree of task completion by asking critical questions or showing support. The quote from student G stated:

“As the leader, I always remind and encourage everyone to continue with their assigned tasks. In the worst-case scenario, if a member cannot complete their tasks on time, I and that member will step in to help them write.” (G04)

Communication and Trust

Three out of thirteen participants perceived trust building as an integral element of group work. Mutual trust might increase motivations and belief in their partners in the execution of tasks. Then, trust further proved enhancement in the achievement of collect. Student D expressed:

“Trust is also a crucial part, serving as motivation that drives us to work toward the group’s goals. Communication is another important aspect; without it, members will not understand each other.” (D12)

On the same level, the data collected from six participants suggested that maintaining transparent communication was also essential in any team. During the negotiation process, teammates were expected to join conversations with others to discuss their intrusive thoughts or respond to others’ opinions. Moreover, members need to avoid ignoring their teammates’ inquiries, as they might feel fear and discouragement. By doing this, each member created mutual understanding for others, and the progress became effective toward achieving collective goals. The exemplary quotes from student A reported:

“Communication is key to the group’s success. Recognition in communication is important; if one person or group’s ideas are immediately dismissed, it discourages others from sharing and contributing. If a member finishes their work early or does a good job, we should praise them to encourage further effort.” (A12)

One student expressed a positive attitude towards promoting team cohesion and unity in achieving collective goals. In particular, he clarified that unity was reflected in mutual trust, acknowledgment, and a comfortable atmosphere throughout the process. Student F expressed:

“The key to unity is mutual trust, recognizing each other’s abilities, and communicating comfortably.” (F06)

4.3. Participation

Active Engagement and Involvement

Eight out of thirteen participants expressed their belief in equal contribution during their partnerships. In particular, a collaborative environment was enforced by team members taking the initiative in expressing their personal opinions, which were mutually discussed by remaining members. In this regard, each partner should proactively prioritize both their contributions and others to ensure the eventual scheme represents collective perspectives. These behaviors were representatively confirmed by student A:

"Ask each member to express their opinions; no one has the right to remain silent, and we will build upon those ideas together." (A01)

Two students asserted the notion of maintaining team dynamics by perceived accountability and responsibility. Therefore, each member fosters the process by holding accountability for particular tasks or sections within their project. This clear mission division ensured that each team member executed their tasks accordingly throughout the process. Student C noted:

"During meetings, if we need to assign tasks, I will specify how many tasks require how many people to resolve." (C01)

Eight students alluded to the importance of task allocation through their participation within the team. The team might promote the smoother execution of tasks by allowing members to choose tasks in accordance with their strengths and interests. Other than that, the team also considered fair task distribution amongst members or exchanged opinions upon the task being distributed. The exemplary quote was from student C:

"Whichever part they understand best, I will prioritize allowing them to choose those sections." (C06)

Open Communication and Interaction

As unexpected disadvantages emerged in the process of task operation, three out of thirteen participants dreaded the idea of practicing open communication throughout their partnerships with others. These unpredictable scenarios were unexpected contributions, task misunderstandings, or task performance. Particularly, they might conduct meetings to openly discuss, analyze, and resolve problems by helping others. Student C representatively expressed:

"I encourage everyone to re-read the content they have written and what other group members have contributed, as the sections will be interconnected. First, to avoid losing focus; second, to better understand the terms and content." (I04)

Two students emphasized the importance of collaborative idea sharing and debate in addressing their members' inquiries. These collaborations proved the detachment from criticisms and open-mindedness and further extended the group's growth. Student H said:

"When members are enthusiastic and proactively share their ideas, it builds a stronger development group." (H03)

Mutual Trust, Respect and Acknowledgement

Five participants underscored the perception of building a supportive environment for group work. By actively acknowledging others' contributions or progress, the team might enhance its functions through mutual trust between members. Moreover, team members required gentle reminders, advice, or conflict resolution in cases where their teammates made unexpected contributions to the project. The representative quote from student L stated:

"If they stop contributing, I will not rush to blame them; instead, I will address emotional issues first, as trust is essential for teamwork." (L04)

Two participants said that they prioritize respect and openness during their partnerships. These behaviors were proved by mutual respect and neutral standpoints during their gatherings. Moreover, the team also encourages members to discuss their perceived challenges or difficulties in the administration of their tasks. Student L indicated:

"Regarding contributions that do not meet expectations, we usually hold group meetings to ask why, checking if they are facing difficulties or need assistance, to understand if they are struggling or not comprehending the material." (L05)

Task Execution and Collaboration

During the process, three students mentioned the usage of some effective methods to assist their task execution. Particularly, they addressed the assigned roles by seeking related materials or artificial intelligence (AI) for a possible outline of ideas. Moreover, they also took advantage of these techniques to gain insights into their writings. Student I expressed that:

"I encourage members to use supportive tools like AI to explore ideas and outlines to assist their main points." (I05)

One student attributed collaboration to problem-solving during task execution by requesting support. On the other hand, others could express their assistance properly. Student A expressed:

"Whenever they finish their work, they will message the group, or if they don't understand something, they can ask for clarification and listen to feedback." (A11)

Seven participants expressed their belief in resilient and adaptable leadership. Especially, leaders were meant to take the initiative in group meetings, which motivated for their teammates to express their inquiries. Moreover, the leader should pioneer in monitoring groupmates by overseeing progress, creating a comfortable environment, and adapting to member conditions. The exemplary quotes from student A were as follows:

"Additionally, to effectively motivate a working group, there should be one person assigned to encourage the group or monitor deadlines to ensure timely completion." (A03)

5. Discussion

5.1. Shared Knowledge

In terms of co-constructing and negotiating shared knowledge through the research process, the findings showed that group members apply several methods to propose and discuss their ideas. However, in case members struggle with diverse perspectives, they also consolidate opinions and reach solutions by co-creating their opinions in different approaches. Next, the twofold interactions to confirm understanding from both the leader and members were also found in qualitative data. Moreover, the data also emphasized the leadership role in facilitating and stimulating knowledge sharing and the membership role in embracing idea-sharing during this knowledge development process.

The findings in this study confirmed that membership is operated through the sharing of materials and discussions amongst its members. These knowledge-sharing interactions occur within instant messaging and asynchronous tools created by the group itself. This finding concurs with the definitions provided by Wenger (1998) on shared repertoire, which he claimed that the knowledge development includes the formation of narratives, instruments, routines, or thoughts during the process. The qualitative data also explained that physical meetings are beneficial for members to

express their personal perspectives and discuss with their partners. These findings are well-matched with the previous studies by Vasileiadou and Vliegenthart (2009), in which they proposed that face-to-face meetings boost communication and productivity, and the findings from Sun et al. (2020), in which they revealed that the knowledge-sharing process consists of expressing ideas while comprehending the thinking of others.

In regard to different perspectives sparking during their co-constructing process, the qualitative data showed that those perceived difficulties are solved as individuals gradually explain their proposed opinions; hence, the team reaches the ultimate solutions by voting. These findings are similar to the findings of Sun et al. (2020), which showed that shared knowledge is a cooperative endeavor in which members collectively enhance their understanding of perceived difficulties and possible resolutions. Moreover, the interview data suggested that the group members considered the disadvantages and advantages of each idea. This finding is compatible with the findings by Graesser et al. (2017), which integrate social and cognitive elements and then promote effective communication among participants and critical thinking to identify common solutions. Besides, the data from the research revealed that individuals foster a shared comprehension of difficulties and solutions through robust discussions on specific topics or concepts. This finding is in line with the findings of Sun et al. (2020).

Mutually guaranteeing the understanding of problems is one of the necessary steps during the process of creating shared knowledge. The results of the interviews indicated that individuals improve their mutual comprehension of related issues by asking for explanations from others, while leaders identify knowledge of others' ideas through asking. These findings are comparable to the findings of Sun et al. (2020).

Two aspects that necessitate consideration are leadership and membership during the co-construction of knowledge. One striking finding that should be mentioned was the leaders' roles in motivating members to join discussions and navigating knowledge sharing during the process. These findings are correlated with those of Xia and Ya (2012), who claimed that leadership facilitates transformation within a team by formulating a shared vision and integrating individual, project, and organizational identities. Therefore, it aims to favorably impact knowledge-sharing behaviors. The data obtained from the interviews suggested that the knowledge-sharing process is limited by clashing personalities, including egoism and self-centeredness towards their partners' viewpoints. This finding is in line with the findings of Bozeman et al. (2016), which revealed detrimental partnerships that include adverse personalities and individuals emphasizing self-interest over others' opinions. Another necessary finding to note was that the knowledge-sharing process is based on mutual respect and acknowledgment and embracing their partners during discussions. These findings are similar to those of Specht and Crowston (2022), who noted that effective social skills, such as respect, are emphasized to foster a peaceful environment during negotiations and research activities.

Apart from the relevant comparisons between the current findings and related studies and frameworks, one unanticipated finding was that during the co-establishment of the idea and knowledge, team members are encouraged to articulate their own thoughts to contribute diverse perspectives to the team.

5.2. Collective Goals

Concerning the process of negotiating and coordinating to achieve collective goals, team members are supposed to be assigned corresponding missions. Subsequently, tracking the degree of task completion is an indispensable part, which is demonstrated by several methods in the qualitative data. However, unavoidable conflicts that might spark in the process are resolved in some appropriate ways. By collectively functioning and achieving goals, team members are proposed to hold responsibilities during their partnerships, which are aggregated with task allocation behaviors.

Furthermore, the data also showed the important role of communication and trust during the partnership towards achieving collective goals.

The qualitative findings revealed that members are distributed tasks regarding achieving their collective goals. The findings are similar to the definitions provided by Wenger (1998) and Cheruvelil et al. (2014), which emphasize the pivotal importance of holding and creating accountability from each individual throughout the process toward their goals. In this process, each member accounts for their corresponding tasks, which the leader randomly distributes or considers their specializations. These findings are in line with the adaptable leadership in terms of task distribution provided in the findings of Dusdal and Powell (2021). Nevertheless, another noteworthy finding was the approach used in the process of task allocation. In general terms, each individual accomplishes assigned tasks in accordance with equal distribution and responsibility. These findings are comparable to those of Cheruvelil et al. (2014), who indicated that research teams jointly bear accountability during the process of achieving excellent research results. Furthermore, the qualitative data indicated that the leaders consider their partner's academic ability prior to task allocation and monitor task execution by stimulation and support. The findings from Dusdal and Powell (2021) also mentioned these aspects, which highlight the adaptable and flexible role of the leader regarding the dynamic distribution of responsibilities.

In case discords happen during the collective goals process, the data obtained from the interviews suggested that group members opt for open discussions about personal and collective problems in order to resolve possible conflicts. This finding is in line with the findings by Sun et al. (2020) about negotiation to achieve an agreed solution plan. In particular, they claimed that by engaging in constructive discussion, team members foster mutual comprehension and cooperate to execute solutions that ultimately advance the team towards collective goals.

During the process of achieving collective goals, the data from interviews revealed that mutual trust is one of the essential characteristics in the whole collaborative process, including the accomplishment of collective goals. These findings concur with previous studies by Xia and Ya (2021), which suggested that trust among team members can enhance information sharing and coordination. On the other hand, another finding that should be mentioned is the importance of communication during the process of creating and achieving collective goals, and productivity is also enhanced through communication and discussions amongst members. These findings are comparable to those of previous studies by Sun et al. (2020) and Tootell et al. (2021), which suggest that interaction entails active engagement, with members responding positively to one another's inquiries, suggestions, or discussions. Henceforth, team members can promote mutual understanding. Besides, Sun et al. (2021) proposed that collaboration depends on effective communication and the establishment of trust to get an adequate understanding of partners' beliefs, objectives, and competencies for decision-making.

Tracking progress by the usage of both digital tools, including Google Docs, Sheets, instant messaging tools, and planned schedules, was unexpectedly found in the qualitative findings. Partners in a group can check and validate each individual's progress and task completion based on these methods. Secondly, one unanticipated finding from the collected data provides insights into the ways conflict was resolved amongst members apart from open discussions. The findings consisted of reaching major decisions subsequent to individuals' explanations or leaders' interference in persuasiveness and comprehension to their members. Finally, another unpredictable finding was that establishing cohesion and unity during the process of reaching collective goals is of paramount importance, apart from mutual trust and communication.

5.3. Participation

In regard to the interactions surrounding engagement and negotiations during partnerships, members are expected to be aware of their participation through active contribution, which also relates to the process of task allocation. The qualitative data also showed the practice of open communication and active idea sharing or debate in group discussions. Moreover, maintaining dynamics while working with others demands that individuals build a supportive environment. Moreover, the data also indicated the necessity of collaborative problem-solving and leadership roles during the task execution process.

The qualitative data indicated that the team cooperates in accordance with equal contributions, in which each individual has the right to exert their perspectives, and no one is left behind during discussions. This finding is similar to that of Wenger (1998), who suggested that all members are perceived as an element of the team, and each member's behaviors affect the team's goal. Moreover, other findings garnered evidence on perceived responsibility and accountability, in which each individual is required to fulfill their specific missions throughout their partnerships. This finding coincides with the proposal by Wenger (1998), which recommended preserving team functionality and sustaining team interactions during the research process by promoting mutual accountability or fulfilling specific responsibilities. More than that, the obtained data also emphasized the effectiveness of task allocation by team leaders. In this sense, various considerations are applied by leaders, including the strengths and schedules of the members, or they solicit members' opinions or distribute them randomly. These findings are comparable to the findings of Sun et al. (2020), which revealed that membership enhances the collaboration process by actively seeking to improve team productivity and demonstrating a readiness to consider others' viewpoints.

Previous studies by Dusdal and Powell (2021) suggested that researchers might enhance knowledge and experience through regular communication regarding tasks and contributions to tackle work allocation. On the same hand, Rossoni et al. (2024) also indicated that a lack of efficient communication between parties might obstruct the formation of long-lasting partnerships. These previous findings are in line with the current findings on open communication, which revealed that communication is conducive to addressing misunderstandings and fostering mutual understanding between members. The findings also revealed that the foundation of partnership is prioritizing idea-sharing and debating over issues, in which individuals endeavor to provide feedback and contribute to the discussion sections. The finding is correlated to that of Sun et al. (2020), which claimed participation involves a clear expression of ideas coupled with an active effort to understand each other.

The data from the interviews revealed that members in a group necessitate recognition by showing respect to others' contributions, and it is necessary to ask for support in unexpected issues. The findings from Sun et al. (2020) also suggested that participation involves asking questions, acknowledging each member's effort, and aiding in the maintenance of team organization. Similarly, commendations or support from team members underscore positive conduct that enhances team morale.

Sun et al. (2020) also indicated that participation through collaboration and demonstrating a readiness to consider others' viewpoints might enhance productivity. Therefore, this finding is well-matched with the current findings since it revealed that team members regularly ask for support and proactively improve from feedback. Other striking findings were the leader's influences during the task execution process, which revealed that the leader initiates group discussions, provides a comfortable environment, and modifies suitable conditions for their partners. These findings are compatible with the findings of Dusdal and Powell (2021), which suggested leadership in receptiveness to teammates' opinions; moreover, the findings from Sun et al. (2020) also revealed

that demonstrating members' readiness in considering others' viewpoints or taking action prior to requests for assistance from fellow team members.

One unexpected finding that was absent from previous findings was the encouragement of respect and neutrality during negotiations, further proved by openness in sharing perceived difficulties during task executions. Another finding was unexpected and suggested that group members mutually accomplish their assigned tasks by suitable approaches, including the use of AI or outlining.

6. Conclusion

The interactional dynamics within CRTs comprised of English majors in Vietnamese EFL university settings were investigated in this study. The study examined how participants created shared knowledge, negotiated group objectives, and maintained active participation throughout the collaborative research process. It was based on the CoPs and ColPS frameworks.

Results show that CRTs function as purpose-driven, socially motivated learning communities. Through the use of both synchronous and asynchronous tools, open idea sharing, and feedback, participants co-constructed knowledge. The information also demonstrated how structured task distribution, constant communication, and agreed-upon deadlines were used to actively negotiate and monitor group objectives. It became clear that leadership was a crucial but facilitating role that was more concerned with motivation and mediation than with authoritative control.

High levels of individual responsibility, respect for one another, and flexible communication techniques were key characteristics of participation that helped participants resolve conflicts, manage workload disparities, and remain engaged. Core components of both CoPs, mutual engagement and a shared repertoire, and ColPS competencies, initiative, progress tracking, and cooperative problem solving, are reflected in these interactional behaviors.

The study theoretically advances our understanding of how undergraduate research teams operate as communities that generate knowledge in addition to serving as task units. By concentrating on student-led teams in EFL contexts, this study fills a significant gap in the literature, which has previously studied team collaboration from organizational or interdisciplinary perspectives. Practically speaking, the results provide insightful recommendations for academic advisors, instructors, and institutional administrators seeking to establish more effective support systems for student research. Promoting open communication, fair task distribution, and the development of soft skills may improve team output and students' readiness for future academic or professional cooperation.

However, the study's scope is restricted to a small, convenient sample within a particular academic and cultural context. Findings might not be entirely generalizable as a result. By incorporating CRTs from various academic fields, cultural backgrounds, or educational levels, future studies could expand this investigation. Additionally, longitudinal research may show how team dynamics change over time and influence academic development over the long term.

In conclusion, the study confirms that CRTs that are organized around a common goal and reciprocal accountability not only support research results but also encourage significant academic cooperation and the growth of student researchers' identities.

7. Suggestion

Due to the current study's limitations proposed earlier, further research in this field should focus on another sampling technique or population. In particular, generalizability should be considered in terms of choosing purposive sampling instead of convenience sampling for data diversity. Moreover, further studies could regard participants in other regions or countries instead of the Mekong Delta

region in the current research. An observational or focus group study could be conducted to gain more dynamic interactions from research members.

Since the current study focused on approachable participants, the data yielded would be limited to some extent, such as the representation of the other individuals. In terms of using a purposive sampling technique over a convenience sampling technique, the generalizability of the study would be more accurate and specific.

The current study aimed at the Mekong Delta region population for data collection. Therefore, further studies might consider expanding the target population to diverse regions in Vietnam where collaborative research takes place. Moreover, transitioning to other countries might be interesting, as collaborative research could be different in terms of context, geography, and ways of organization.

Moreover, other studies might consider different research designs and research methods rather than the qualitative research design in the current study. In this sense, an observational study or focus group study could assist researchers in discovering well-rounded interactions where collaboration happens among collaborative research members.

Declarations

Author Contributions.

Truong, T.P.: Conceptualization, literature review, interview design, original manuscript preparation

Nhu, T.L.B.: Data collection, methodology, data transcription, and analysis.

Y, V.N.N.: Literature review, participant recruitment, and interview coordination.

Duy, N.N.K.: Data coding, thematic analysis, review, and editing.

Duy, T.T.: Supervision, validation, final manuscript review, and editing.

Conflicts of Interest. The authors declare no conflict of interest.

Ethical Approval. The study received the approval from the FPT University Research Ethics Committee and the agreement to participate from all the participants. The code the ethical clearance approval is ELT492-EL17-A-SP25-04. The validity of this ethical clearance approval is effective from February 24, 2025, to June 30, 2025.

Data Availability Statement. The data supporting the findings in this study are restricted to ensure participants' privacy and confidentiality. However, reasonable requests for de-identified data are available from the corresponding author with FPT University Research Ethics Committee's approval and especially with the participants' agreement.

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Appendix I.

Interview Question

Section 1. General Information

1. Can you introduce yourself (name, academic year)?
2. What type of research project have you worked on as a collaborative research team (CRT) (e.g., research paper publication, or graduation thesis)?

Section 2. Shared Knowledge

3. How does your team share information or ideas with one another during the research process?
4. What tools or strategies does your team apply to share information or ideas with one another?
5. In what way do you and your team members ensure that every member understands the collective problems in the research process?
6. How does your team build up potential solutions based on each member's ideas?
7. Have you ever experienced disagreements or conflicts while collaborating in your team? How did you deal with them? How did other members deal with them?

Section 3. Collective Goals

8. How does your team decide on research objectives and tasks?
9. Have you ever experienced conflicts or disagreements in deciding objectives and tasks? How did you deal with them? How did other members deal with them?
10. How does your team ensure that all members are committed and contribute to achieving shared goals?
11. How does your team keep track of each member's progress toward achieving shared goals?
12. What factors help your team collaborate successfully to achieve collective goals (e.g., communication, trust)?

Section 4. Participation

13. How does your team ensure that every member participates in discussions and decision-making?
14. What factors motivate your all members to participate in discussions and decision-making?
15. Have you ever experienced a situation where someone is not contributing as expected? How did you deal with it? How did other members deal with it?
16. How does your team share responsibilities to achieve collective goals? Can you give an example?
17. What factors motivates your team members to stay engaged and contribute effectively to achieve collective goals?

Appendix II.

Approval of Ethical Clearance

Code: ELT492-EL17-A-SP25-04

Date: February 24, 2025

Dear Advisor, Truong Phuoc Truong, Nguyen Ngoc Kieu Duy, Ton Le Bao Nhu, Vo Ngoc Nhu Y:

I am pleased to inform you that the Ethics Review Committee of the English Language Department, FPT University in Can Tho, has approved the ethical clearance for your study entitled “Exploring English Studies Majors' Interactions in Collaborative Research Teams as Communities of Practice” supervised by Mr. Tran Thanh Duy.

The validity of this ethical clearance approval is effective from February 24, 2025, to June 30, 2025. In case you employ any other research instruments than the ones mentioned in your original ethical clearance form or change your current research direction, you are asked to apply for separate authorization. You are also required to use FPT University's logo in all written communication with your researched participants or parties involved in your research.

The Ethics Review Committee retains the right to retract and cancel this approval if unethical practices are revealed or suspected.

Should there be any matters or concerns arising from your research, you must contact the Department Head for clarification and support at: chinh6@fe.edu.vn.

You are advised to save this email in your Inbox for future correspondence. The Ethics Review Committee wishes you well in your research.

Yours sincerely,

Chi Kim Pham

Ethics Review Committee