Talk the Flip: Empowering Adult Learners through Inquiry-Driven Speaking Classes[1]

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Abstract

This study explores the effectiveness of integrating the Flipped Classroom (FC) model with Inquiry-Based Learning (IBL) to enhance English-speaking proficiency among adult EFL learners. Conducted at a language institute in Ankara, the research involved 20 participants aged 20–30, randomly assigned to either a control group (traditional instruction) or an experimental group (FC-IBL integration). A quantitative design was employed, utilizing pre- and post-tests based on the Cambridge English Speaking Exam (B1 Level), alongside the Community of Inquiry (COI) Survey to measure teaching, social, and cognitive presence. Findings revealed statistically significant improvements in both groups; however, the experimental group demonstrated greater gains (mean increase from 13.8 to 16.7) compared to the control group (14.7 to 16.1). COI results indicated enhanced learner engagement, interaction, and autonomy in the FC-IBL environment. Despite starting with lower proficiency scores, the FC group outperformed their peers by leveraging self-directed pre-class study and collaborative in-class activities. These results suggest that the FC-IBL model fosters a more effective and engaging learning experience than traditional methods, particularly in developing oral proficiency. Limitations include the small sample size, short course duration, and variation in learner backgrounds, underscoring the need for larger-scale, longitudinal research.

Keywords: Flipped classroom, inquiry-based learning, speaking proficiency, adult EFL learners, Community of Inquiry, language education, learner engagement.

Introduction

In an increasingly interconnected and digitalized world, effective English-speaking skills are no longer a luxury but a necessity for academic, professional, and social mobility. Speaking, as a productive language skill, is particularly challenging for adult EFL learners due to its reliance on real-

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time cognitive processing, linguistic competence, and communicative confidence (Goh & Burns, 2012). Traditional language instruction, often teacher-centered and textbook-driven, fails to provide the flexibility, engagement, and authenticity that adult learners require to develop speaking proficiency (Tondeur et al., 2023).

To address these limitations, educators are increasingly turning to active learning paradigms such as the Flipped Classroom (FC) and Inquiry-Based Learning (IBL), which align with constructivist principles and digital pedagogy. The FC model reverses conventional teaching by delivering instructional content through asynchronous digital tools outside the classroom, freeing up in-class time for interaction, practice, and personalized feedback (Lo & Hew, 2019; Bishop & Verleger, 2013). This model not only supports learner autonomy and time management but also leverages digital affordances to promote engagement and deeper learning—especially relevant for adult learners who often balance academic goals with professional and personal commitments.

Complementing the FC, IBL engages learners in problem-solving, investigation, and critical reflection through real-world questions and collaborative tasks (Pedaste et al., 2022). Its emphasis on inquiry processes aligns closely with the development of communicative competence, encouraging students to generate, articulate, and negotiate meaning in contextually rich situations (Chen, 2021). When combined, FC and IBL create a blended learning environment that enhances both cognitive depth and communicative fluency. Additionally, the Community of Inquiry (COI) framework offers a robust lens for examining the quality of learning experiences within such blended models. By analyzing teaching presence, cognitive presence, and social presence, COI enables a holistic evaluation of how instructional design fosters meaningful learning and sustained interaction (Shea, Richardson, & Swan, 2022).

Despite growing interest in FC and IBL, few empirical studies have investigated their combined effect on speaking skill development among adult EFL learners. Existing research often focuses on reading, writing, or general language acquisition, overlooking the unique cognitive and affective demands of spoken communication in English as a foreign language (Yilmaz & Baydas, 2017). Furthermore, limited attention has been given to how these models interact with learner perceptions of engagement and presence—factors known to significantly impact learning outcomes in online and blended contexts.

This study addresses these gaps by investigating the impact of integrating the FC model with IBL strategies on speaking proficiency and learner experience in an adult EFL context. Specifically, it examines the extent to which this approach improves speaking outcomes and influences students' perceptions of teaching, social, and cognitive presence as defined by the COI framework. By triangulating test performance data with learner feedback, this study offers a comprehensive view of how blended, inquiry-driven pedagogies can enhance oral language development in adult learners.

Literature

Flipped Learning: Reorganizing Instructional Time for Active Learning

Flipped learning (FL) has emerged as a popular instructional model within blended and online education, where content delivery is shifted outside the classroom via digital tools, while class time is used for active, collaborative engagement (Bergmann & Sams, 2012). This approach aims to maximize students' engagement in higher-order thinking tasks during face-to-face sessions, leveraging digital materials—often videos or interactive modules—for pre-class preparation. Meta-analyses affirm the model's effectiveness in promoting academic achievement, motivation, and learner autonomy across various disciplines (Lo & Hew, 2019; Zou, Luo, Xie, & Hwang, 2022). Despite this, the model is not without critique. Studies such as those by Akçayır and Akçayır (2018) and Günbatar (2021) reveal inconsistencies in outcomes and point to the limitations of the pre-class phase, including a lack of immediate feedback, student procrastination, and insufficient engagement with materials. Ay and Dağhan (2023) directly addressed this challenge by embedding the Community of Inquiry (COI) framework into the pre-class component, finding that structured interaction and scaffolding significantly improved students' cognitive and critical thinking skills.

Inquiry-Based Learning: Enabling Epistemic Agency

Rooted in constructivist learning theory, Inquiry-Based Learning (IBL) positions students as co-constructors of knowledge, engaging them in the iterative processes of questioning, investigating, interpreting, and resolving real-world problems (Pedaste et al., 2022). Within language education, IBL supports the development of communication, problem-solving, and reflective thinking skills (Aidoo et al., 2022). It has also been shown to increase motivation and conceptual understanding (Jong et al., 2022). However, IBL on its own demands a high level of learner self-regulation and can falter in under-structured environments (Kwitonda et al., 2021). Jong et al. (2022), through their FIBER project (Flipped Issue-Based Enquiry Ride), emphasize that teacher facilitation is critical—particularly in tailoring the design of pre- and in-class activities across different academic bands. Their findings support the view that inquiry must be intentionally designed to scaffold learners' transitions between individual and social knowledge construction.

Flipped Inquiry-Based Learning (FIBL): A Synergistic Pedagogical Model

Combining FL and IBL into a Flipped Inquiry-Based Learning (FIBL) model aims to leverage the strengths of both approaches: autonomy, flexibility, and student engagement through FL, and deep cognitive processing, collaboration, and critical thinking through IBL. Studies exploring this integration in STEM (Aidoo et al., 2022), teacher education (Özüdoğru, 2021), and social humanities education (Jong et al., 2022) demonstrate that FIBL supports knowledge retention, learner confidence, and engagement more effectively than either approach alone.

The FIBL model also addresses a persistent issue in FL research—passive engagement with pre-class materials. By requiring learners to engage in inquiry-driven tasks based on those materials, the approach elevates the epistemic function of the flipped environment (Wang et al., 2023). This structured interdependence between the flipped and inquiry components creates an iterative learning cycle that encourages application, reflection, and collaboration. In chemistry education, Aidoo et al. (2022) found that FIBL led to significant gains in both academic performance and critical thinking skills among pre-service teachers. Female participants in their study performed notably better, suggesting FIBL may have additional gender-inclusive benefits. Similarly, Özüdoğru (2021), in a qualitative study with pre-service teachers, reported that online FIBL environments enhanced teaching and cognitive presence, particularly when combined with gamified elements like Kahoot to foster interactivity.

The Community of Inquiry Framework: A Lens for Learning Experience

The Community of Inquiry (COI) framework, introduced by Garrison et al. (1999), is widely adopted in evaluating the quality of online and blended learning environments. It comprises three interrelated presences—teaching presence, cognitive presence, and social presence—that are essential for deep and meaningful learning. Recent adaptations also introduce learning presence to highlight learners' self-regulation (Shea & Bidjerano, 2010).

Numerous studies now use COI to analyze flipped and inquiry-based models. For instance, Ay and Dağhan (2023) found that embedding COI into the pre-class phase of flipped learning enhanced not only teaching and cognitive presence but also addressed students' sense of isolation by improving social presence. Similarly, Wang et al. (2022) applied a revised COI framework in a MOOC-based flipped setting and reported enhanced metacognition, peer interaction, and facilitation quality. These findings suggest that the COI framework not only enhances learning experiences but also acts as a design tool to scaffold flipped inquiry-based models.

In a Turkish context, Günbatar (2021) employed COI to evaluate a flipped model in a technical teacher education course. The study reported very high levels of teaching, cognitive, and social presence, reinforcing the framework's applicability across disciplines. Özüdoğru's (2021) research also confirmed that student perceptions of COI elements were strongly associated with their satisfaction and engagement in online flipped environments, particularly when the course design emphasized peer feedback and reflective discourse.

Gaps and Contribution of the Present Study

While the individual efficacy of flipped and inquiry-based learning has been well explored, research on their combined application—particularly in language education—remains limited. Moreover, although COI has become a staple in evaluating online and blended environments, few studies systematically apply the full CoI model to FIBL in EFL or speaking-focused contexts. Additionally, much of the current literature is either domain-specific (e.g., STEM) or focuses on higher-order thinking

without explicitly connecting these outcomes to learners' perception of teaching, social, and cognitive presence.

The present study seeks to bridge these gaps by examining the effectiveness of a COI-guided FIBL intervention in a tertiary-level EFL speaking course. Specifically, it investigates the extent to which teaching, cognitive, and social presences are perceived by learners, and how these perceptions relate to learning outcomes and learner engagement. By doing so, this study contributes to ongoing discussions about the design, facilitation, and evaluation of hybrid pedagogies in digital language learning environments.

Methodology

Research Design

This study employed a quantitative, quasi-experimental pre-test/post-test control group design to evaluate the impact of a Flipped Classroom (FC) model integrated with Inquiry-Based Learning (IBL) on the development of speaking proficiency in adult EFL learners. The experimental group received instruction using the FC-IBL model, while the control group was taught through conventional teacher-centered methods. To assess instructional effectiveness, both groups completed pre- and post-intervention speaking assessments based on the Cambridge B1 Speaking Exam, in addition to a validated Community of Inquiry (COI) Survey to measure learners' perceptions of teaching, social, and cognitive presence.

Research Questions

1- Is there a statistically significant difference between the COI-based Flipped classroom of EFL learners and Traditional classrooms in pre-and post-tests?

2- Is there any difference in the learning experience of the student's perceptiveness in the three presences of the COI survey?

Settings

The research was conducted at a preparatory school for English language learning as an independent volunteer course designed to develop speaking skills in alignment with Cambridge speaking exam requirements. The course lasted eight weeks, meeting once a week for two lessons (each 45 minutes, with a 10-minute break). It was conducted during the second term, in the afternoon, following university lectures.

According to the institution's curriculum, English was both the medium of instruction and the spoken language in class. At the end of the semester, students were required to take a speaking exam, which was part of both the Cambridge exam and the curricular assessment. The experimental course, which was based on voluntary participation, took place outside of regular class hours and did not interfere with the main curriculum.

The materials for the experimental course were developed based on the Cambridge B1 Preliminary exam to enhance students' speaking skills, particularly in preparation for speaking exams in their main course at the language preparatory school. The primary goal of the experimental course was to build students' confidence and willingness to speak in English. While grammar and vocabulary instruction were included, the focus remained on encouraging active participation in speaking activities, fostering the ability to ask and answer questions, express ideas freely, and work collaboratively.

Participants

A total of 20 adult learners, aged 20 to 30, enrolled voluntarily in a supplementary English-speaking course at a language preparatory school in Ankara, Turkey. All participants demonstrated B1-level English proficiency based on institutional placement tests. Random assignment to experimental and control groups was conducted using a simple lottery method to ensure baseline comparability (n = 10 per group). The diverse linguistic and cultural backgrounds of participants introduced naturalistic variation typical of adult EFL classrooms, enhancing the ecological validity of the study.

Instructional Context and Procedure

The intervention spanned eight weeks, with participants attending two 45-minute sessions per week. The instructional design for both groups aligned with the Cambridge B1 Speaking Exam framework, structured into four thematic units. Each unit consisted of three instructional sessions followed by a practice session. In the experimental group, instruction followed the FC-IBL approach. Learners received digital content (videos, readings, guided tasks) via a WhatsApp group prior to each lesson. These asynchronous materials aimed to build foundational knowledge and linguistic input. In-class sessions focused on collaborative speaking tasks, inquiry-driven discussions, and peer interaction designed to promote critical thinking and communicative fluency. In contrast, the control group received traditional instruction, characterized by teacher-led explanations, textbook use, and drill-based speaking practice. Lessons followed a linear, presentation-practice-production (PPP) model with limited learner autonomy or pre-class preparation. Both groups were taught by the same instructor to minimize instructional bias. The instructor maintained consistent instructional objectives across groups while varying delivery methods according to the respective pedagogical models. Table 1 provides a comparative overview of the instructional designs implemented in the experimental and control groups, highlighting key differences in pedagogical approach, learner engagement, use of technology, and classroom dynamics.

Table 1

Instructional Design Comparison Between Experimental and Control Groups

Component	Experimental Group (FC + IBL)	Control Group (Traditional Instruction)
Teaching Approach	Flipped Classroom + Inquiry-Based Learning	Teacher-Centered Traditional Approach
Pre-Class Activities	Videos, readings, and guided questions shared via WhatsApp	None
In-Class Activities	Collaborative discussions, problem-solving, peer interaction	Teacher-led explanations, drills, textbook-based practice
Student Role	Active learner, inquirer, collaborator	Passive recipient of information
Teacher Role	Facilitator, guide, inquiry designer	Lecturer, controller of knowledge flow
Use of Technology	High – mobile platforms and digital content	Minimal – primarily face-to-face interaction
Instructional Focus	Application of knowledge, critical thinking, communicative practice	Memorization, language rules, controlled production
Autonomy and Flexibility	High – learners manage time and materials independently	Low – learning is bound to classroom and teacher's pace
Assessment Preparation	Speaking tasks aligned with Cambridge B1 exam, integrated into inquiry	Speaking tasks aligned with Cambridge B1, delivered as drills

Data Collection Instruments

Three instruments were used to collect data pre-and post-tests and the COI Survey.

Speaking Proficiency Tests: Pre- and post-tests were adapted from the Cambridge English B1 Preliminary Speaking Exam. Participants were paired randomly via the lottery method, and each pair completed the test face-to-face in 10–12 minutes. Scoring was based on standardized Cambridge descriptors covering fluency, coherence, lexical resource, and interaction.

Community of Inquiry (COI) Survey: The 34-item COI instrument (Arbaugh et al., 2008) assessed learners' perceptions of teaching, cognitive, and social presence. Responses were rated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The survey demonstrated excellent internal consistency (Cronbach's α = .955) and had been previously validated for use in blended learning environments.

Demographic Information: Basic demographic data were collected to contextualize the results and ensure sample diversity.

Data Analysis

Data were analyzed using SPSS (Statistical Package for the Social Sciences). The Shapiro-Wilk test was used to assess normality due to the small sample size (n = 20). To determine within-group differences, paired-sample t-tests were conducted. Independent-sample t-tests compared pre- and post-test performance between the experimental and control groups. Descriptive statistics and reliability analysis were applied to interpret COI survey responses. A significance level of $p < 0.05$ was used throughout to determine statistical significance.

Validity and Reliability

Validity is a concept in applied measurement procedures or research tools used to collect the required information from respondents. Reliability refers to the consistency of findings when used repeatedly (Kumar, 2011). The pre-test and post-test in the study ensured consistent evaluation of participants' speaking skill improvements across both the FC and TC groups. Internal validity is reinforced through the alignment of instructional content, testing procedures, and learning objectives, ensuring that observed differences in performance are attributed to the instructional approach and the accuracy of the study's findings.

The COI survey, consisting of 34 items, was used to measure students' learning experiences. Content validity was established through expert review, ensuring that the survey items comprehensively covered the constructs of teaching, social, and cognitive presence (Kozan & Richardson, 2014). Construct validity was supported by factor analysis, confirming the survey's alignment with the theoretical framework (Kumar, 2011). Reliability was assessed using Cronbach's alpha, yielding a score of 0.95, indicating excellent internal consistency. These results suggest that the COI survey is a valid and reliable instrument for measuring the student learning experience in this study (Garrison et al., 2010).

Results

To answer the research questions, tests of normality, paired sample t-tests, independent-sample t-tests, and descriptive analysis were conducted accordingly.

To prevent errors in further statistical analysis, this study first performed the Shapiro-Wilk test of normality to check the score distribution in both the Pre- and Post-tests due to the small number of participants (only 20 students).

Is the data of the Pre-test and Post-test normally distributed?

Table 2 presents the results of the Shapiro-Wilk test applied to pre-test and post-test scores to assess whether the data are normally distributed. The results show p-values of 0.050 (pre-test) and 0.500 (post-test), indicating that the data do not significantly deviate from normality—thus justifying the use of parametric tests (t-tests) for further analysis.

Table 2
Normality of Data Distribution

	Shapiro-Wilk Statistics	Df	Sig.
Pre-test	.940	20	.050
Post-test	.958	20	.500

Is there any difference between the Pre-test and Post-test in the FC?

Table 3

Difference in Pre-test and Post-test Scores in FC

		Mean	N	Std. Deviation	Std. Error Mean
Pair1	Pre-test	13.8	10	1.3	.41
	Post-test	16.7	10	1.5	.49

Table 3 provides descriptive statistics (mean, standard deviation, and standard error) for pre-test and post-test speaking scores within the experimental group. The mean score increased from 13.8 to 16.7, showing a clear improvement in speaking proficiency following the FC-IBL intervention.

Is there any difference in pre-test and post-test in TC?

Table 4
Difference in Pre-test and Post-test Scores in TC

		Mean	N	Std. Deviation	Std. Error Mean
Pair1	Pre-test	14.7	10	2.0	.65
	Post-test	16.1	10	2.5	.79

Table 4 presents the same metrics for the control group. It shows a more modest improvement in mean speaking scores from 14.7 to 16.1, suggesting that while traditional instruction yielded gains, they were less substantial than those observed in the experimental group.

Is there any difference in a Pre-test in both groups FC and TC?

Table 5
Comparison of Pre-test Scores Between Groups

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pre-test	1	10	13.8	1.3	.41
	2	10	14.7	2.05	.65

Table 5 compares the baseline (pre-test) speaking performance between the two groups. The control group had a higher mean score (14.7) compared to the experimental group (13.8), which

suggests the FC-IBL group started at a slight disadvantage, emphasizing the significance of their later gains.

Is there any difference in the Post-test in both groups FC and TC?

Table 6
Comparison of Post-test Scores Between Groups

	Group	N	Mean	Std. Deviation	Std. Error Mean
Post-test	1	10	16.7	1.5	.49
Pre-test	2	10	16.1	2.5	.79

Table 6 compares post-intervention performance, showing that the experimental group (mean = 16.7) outperformed the control group (mean = 16.1), despite starting lower. This supports the argument that the FC-IBL model was more effective in enhancing speaking proficiency.

Is there any difference between Pre-test and Post-test for all 20 participants?

Table 7
Overall Differences in Pre-test and Post-test Scores

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	20	12.00	18.00	14.2	1.7
Post-test	20	12.00	20.00	16.4	2.06
Valid (Listwise)	20				

Table 7 aggregates data from both groups (n = 20) to illustrate the overall learning gains. The average speaking score increased from 14.2 to 16.4, reinforcing the conclusion that the intervention (especially in the FC group) positively impacted learner outcomes.

Is there reliability in items (questions) in the COI survey?

Table 8
Reliability of Survey Items

Cronbach's Alpha	N of Items
.955	34

Table 8 reports the Cronbach's Alpha coefficient (.955) for the Community of Inquiry (COI) survey instrument. A value above 0.9 indicates excellent internal consistency, validating the reliability of the 34 survey items in measuring perceptions of teaching, social, and cognitive presence.

Is there any difference in the learning experience of the student's perceptiveness in the three presences of the COI survey?

Table 9

Differences in Survey Responses

Teaching presence	Mean	Std.Deviation
1. The instructor clearly communicated important course topics.	4.85	0.36
2. The instructor clearly communicated important course goals.	4.75	0.44
3. The instructor provided clear instructions on how to participate in course learning activities.	4.70	0.57
4. The instructor clearly communicated important due dates/time frames for learning activities.	4.70	0.57
5. The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.	4.80	0.41
6. The instructor was helpful in guiding the class toward understanding course topics in a way that helped me clarify my thinking.	4.88	0.36
7. The instructor helped to keep course participants engaged and participating in productive dialogue.	4.75	0.44
8. The instructor helped keep the course participants on task in a way that helped me to learn.	4.75	0.44
9. The instructor encouraged course participants to explore new concepts in this course.	4.70	0.57
10.Instructor actions reinforced the development of a sense of community among course participants	4.65	0.58
11. The instructor helped to focus the discussion on relevant issues in a way that helped me to learn.	4.75	0.44
12. The instructor provided feedback that helped me understand my strengths and weaknesses relative to the course's goals and objectives.	4.80	0.41
13. The instructor provided feedback in a timely fashion.	4.70	0.57
Social Presence	Mean	Std.Deviation
14. Getting to know other course participants gave me a sense of belonging in the course.	4.65	0.48
15. I was able to form distinct impressions of some course participants.	4.55	0.60

Table 9 (continued)

Differences in Survey Responses

16. Online or web-based communication is an excellent medium for social interaction.	4.40	0.88
17. I felt comfortable conversing through the online medium.	4.55	0.75
18. I felt comfortable participating in the course discussions.	4.50	0.60
19. I felt comfortable interacting with other course participants.	4.60	0.59
20. I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.	4.50	0.68
21. I felt that my point of view was acknowledged by other course participants.	4.40	0.68
22. Online discussions help me to develop a sense of collaboration.	4.30	0.80
Cognitive presence	Mean	Std.Deviation
23. Problems posed increased my interest in course issues.	4.35	0.93
24. Course activities piqued my curiosity.	4.55	0.75
25. I felt motivated to explore content-related questions.	4.55	0.68
26. I utilized a variety of information sources to explore problems posed in this course.	4.40	0.68
27. Brainstorming and finding relevant information helped me resolve content-related questions.	4.65	0.48
28. Online discussions were valuable in helping me appreciate different perspectives.	4.40	0.75
29. Combining new information helped me answer questions raised in course activities.	4.65	0.48
30. Learning activities helped me construct explanations /solutions.	4.88	0.36
31. Reflection on course content and discussions helped me understand fundamental concepts in this class.	4.75	0.44
Resolution	Mean	Std.Deviation
32. I can describe ways to test and apply the knowledge created in this course.	4.50	0.68
33. I have developed solutions to course problems that can be applied in practice.	4.70	0.57

Table 9 (continued)

Differences in Survey Responses

34. I can apply the knowledge created in this course to my work or other non-class-related activities	4.80	0.41

Table 9 presents the descriptive results of the COI survey administered to participants in the experimental group, who experienced instruction through the Flipped Classroom integrated with Inquiry-Based Learning (FC-IBL). The table is divided into three principal domains—Teaching Presence, Social Presence, and Cognitive Presence—with an additional section labelled "Resolution" that reflects applied learning. Each item was rated on a five-point Likert scale, and the high means across most items suggest a generally positive perception of the learning environment.

In the domain of Teaching Presence, participants reported a high level of satisfaction with the instructional design, communication clarity, and facilitation skills of the instructor. The highest-rated item was "The instructor helped to guide the class toward understanding course topics in a way that helped me clarify my thinking," which received a mean score of 4.88 and a low standard deviation, indicating both strength and consistency in instructional support. Other high-scoring items included the instructor's provision of timely and useful feedback, effective communication of course goals and expectations, and success in keeping students on task and engaged. While all items under Teaching Presence received favorable ratings, the item relating to fostering a sense of community—*"The instructor reinforced the development of a sense of community among course participants"*—had a slightly lower mean of 4.65, suggesting that while facilitation and content delivery were highly effective, there is modest room for improvement in nurturing communal classroom dynamics.

Within the Social Presence dimension, learners indicated a generally strong sense of interpersonal connection and comfort in interacting with peers. For instance, items reflecting a sense of belonging and comfort in participation (e.g., "I felt comfortable interacting with other course participants") yielded mean scores above 4.5, confirming that students found the environment supportive for communication. However, some items reflected more variance. The statement "Online or web-based communication is an excellent medium for social interaction" received one of the lower mean scores in this domain (4.40) with a higher standard deviation, revealing a diversity of perceptions about the efficacy of digital tools for fostering social interaction. These responses point to a broader issue in hybrid and digitally mediated learning environments: while students may feel socially connected overall, not all learners perceive online interaction as an equally effective substitute for face-to-face engagement.

In terms of Cognitive Presence, which evaluates students' engagement in constructing and confirming meaning through reflection and discourse, the results were again positive. Students indicated high levels of motivation, curiosity, and intellectual engagement with course content. Notably, the item "Learning activities helped me construct explanations and solutions" received a mean score of 4.88, suggesting that the FC-IBL approach successfully promoted critical thinking and problem-solving. Other items, such as those addressing the use of diverse information sources and collaborative exploration of problems, also received favorable responses. Nonetheless, one of the lower-rated items in this dimension was "Problems posed increased my interest in course issues" (mean = 4.35), implying that while students found the activities intellectually engaging, not all tasks succeeded in sparking intrinsic interest or sustained inquiry.

The final section, Resolution, captures learners' confidence in applying the knowledge gained from the course to real-world or non-class contexts. Items here were rated highly, especially the statement "I can apply the knowledge created in this course to my work or other non-class-related activities," which received a mean of 4.80. This suggests that students not only acquired knowledge but also developed a clear sense of how to transfer and operationalize it beyond the immediate learning setting. The relatively lower-rated item in this section, "I can describe ways to test and apply the knowledge created in this course" (mean = 4.50), indicates that while learners felt capable of using what they learned, articulating strategies for testing its applicability may require further scaffolding or reflection opportunities.

In sum, the analysis of Table 9 reveals that the FC-IBL instructional model was perceived very positively across all three COI dimensions. Teaching presence was particularly strong, highlighting the instructor's pivotal role in designing and managing the learning process. Social presence was also rated highly, though the use of digital communication tools for social purposes received slightly mixed evaluations. Cognitive presence outcomes suggest that students were actively engaged and reflective, though task design could be improved to further stimulate curiosity and diverse perspectives. Finally, learners expressed confidence in the real-world relevance and transferability of their learning, reinforcing the pedagogical effectiveness of the FC-IBL approach in adult EFL contexts.

Discussion and Conclusions

This study aimed to investigate the impact of a Flipped Inquiry-Based Learning (FIBL) model on speaking proficiency and learner engagement in an adult EFL context, using the Community of Inquiry (CoI) framework as both a design principle and evaluative lens. The findings show a significant improvement in speaking outcomes for the experimental group and high learner perceptions across all three CoI dimensions—teaching, cognitive, and social presence. However, a deeper analysis reveals

important complexities and limitations often glossed over in the celebratory discourse surrounding hybrid pedagogies.

Performance Gains: Meaningful or Methodological?

The FC-IBL group improved from a mean of 13.8 to 16.7, outperforming the control group, which increased more modestly from 14.7 to 16.1. At face value, this reinforces prior findings on the efficacy of FIBL in supporting communicative skills (Kim & Ahn, 2018; Schallert, Lavicza, & Vandervieren, 2022; Santhanasamy & Yunus, 2022). However, these gains should not be interpreted uncritically. First, the control group began with a higher average, and its improvement suggests that traditional methods can also yield positive results, particularly when aligned with standardized exam formats. What differentiated the FIBL group was not content, but how learners engaged with it— through pre-class autonomy and in-class collaboration.

Yet, these gains may be partially attributed to the novelty effect or increased motivation triggered by being part of an experimental group. Learners in the FC group had access to digital resources and collaborative problem-solving tasks—advantages that may not be replicable in more resource-constrained or high-stakes contexts. Furthermore, the short 8-week duration limits conclusions about the long-term transferability of speaking skills.

Community of Inquiry Results: Depth or Surface?

Survey findings revealed high levels of satisfaction across all CoI domains. Teaching presence was particularly strong, with students praising the clarity of communication, feedback, and guidance provided by the instructor. Cognitive presence was also highly rated, especially in items related to constructing explanations and solving problems—echoing findings by Wang et al. (2023) and Özüdoğru (2021), who noted that CoI-aligned design promotes reflective discourse. Social presence received slightly lower, though still positive, scores. Learners felt a sense of belonging and trust, but items related to the effectiveness of online communication tools were rated lower (mean = 4.4), suggesting that digital interaction is still not a perfect substitute for face-to-face social dynamics.

This echoes concerns in the literature that CoI, while robust conceptually, often masks deeper inequalities in learner engagement (Ay & Dağhan, 2023; Loizou, & Lee, 2020). The assumption that social presence automatically follows from interaction ignores differences in digital literacy, personality, and communicative confidence. In this study, although WhatsApp and group discussion platforms facilitated some bonding, not all learners appeared equally empowered, as evidenced by participation asymmetries during class tasks.

Instructional Design: Pedagogical Power and Cognitive Load

While the FIBL model yielded success, it did so within a highly orchestrated environment. The instructor played a central role in scaffolding both the pre-class materials and the inquiry process. Learners were not left to "discover" meaning in an open-ended sense but were guided through structured, communicative tasks with clear expectations. This points to a tension: inquiry-based models often advocate for learner autonomy, but autonomy must be carefully supported to prevent cognitive overload—especially in linguistically challenging contexts like EFL speaking (Chen et al., 2022; Jong et al., 2022).

The balance between structure and openness is delicate. In our study, pre-class materials were interactive and accessible, yet a small number of students expressed uncertainty in connecting them to in-class inquiry tasks. This suggests that the model's success depends on tight alignment between asynchronous and synchronous phases, a finding consistent with Aidoo et al. (2022). It also highlights that teacher facilitation, not just pedagogical model, is critical for success—something often underemphasized in FIBL literature.

Learner Engagement: Autonomy or Anxiety?

Theoretically, FIBL fosters learner autonomy by allowing students to prepare at their own pace and arrive to class ready for critical dialogue. However, our findings suggest this idealized version of autonomy may only apply to a subset of learners. While most students in the experimental group embraced the self-directed model, a few remained dependent on peer cues or expressed hesitation when speaking without scripted support. This aligns with Tondeur et al. (2023) and Turan & Akdag-Cimen (2022), who caution that not all adult learners possess the same levels of self-regulation, metacognition, or confidence—especially when transitioning from traditional to inquiry-based environments.

Moreover, some learners may interpret open-ended inquiry as ambiguous or anxiety-inducing rather than empowering. This discomfort, though educationally productive in some cases, requires careful emotional scaffolding and a redefinition of learner roles, which cannot occur overnight (Hmelo-Silver, Golan Duncan & Chinn, 2007). Ignoring this emotional labor risks reproducing a hidden curriculum of exclusion, where confident, vocal students dominate inquiry while others remain passive.

Equity and Sustainability: The Limits of Innovation

While the FIBL model clearly offered pedagogical benefits in this study, its broader scalability is questionable. The intervention succeeded in part due to its small class size, dedicated instructor, and extracurricular context, which allowed flexibility in task design and assessment. These conditions are

rarely present in large-scale institutional settings. Furthermore, the model assumes device access, digital literacy, and instructor fluency in hybrid pedagogies—resources that remain unevenly distributed across global EFL contexts.

As Ay & Dağhan (2023) note, innovative pedagogies often carry hidden costs: more preparation time for instructors, the need for content creation skills, and constant moderation to sustain engagement. In systems that are already overburdened, such innovations risk becoming aspirational rather than actionable. To move from proof-of-concept to policy, institutions must invest in capacity-building, not just technology adoption.

Conclusion

This study showed that integrating a Flipped Classroom with Inquiry-Based Learning (FIBL) can bolster adult EFL learners' speaking skills, but these gains come with important caveats. Learners in the FIBL group achieved larger improvements in speaking performance than those in a traditional class and reported higher levels of teaching, cognitive, and social presence. However, we caution against broad generalizations. These findings stem from a small, well-supported class in a specific context, illustrating what is possible rather than what is guaranteed in other settings. The success of FIBL in our case hinged on key structural factors. A small class enabled intensive guidance and active participation, and strong scaffolding with continuous instructor involvement (clear pre-class expectations, guided inquiry tasks, prompt feedback) kept learners on track. These conditions were pivotal; in larger or less-supported classes the same activities might not have flourished. Thus, FIBL requires careful orchestration in a favorable context.

Our results also prompt reflection on assumptions about learner autonomy and engagement. FIBL assumes a high degree of student self-direction, yet we observed considerable variability in practice. Some participants embraced the self-paced study and collaboration, while others were superficial in preparation or struggled with inquiry's open-ended nature. This echoes critiques of flipped classrooms that report procrastination and uneven preparation. In our class the self-motivated learners reaped greater benefits, whereas those with passive habits lagged behind. Not everyone overcame discomfort with the student-driven format; a few remained hesitant about open-ended inquiry, reminding us that innovative pedagogy alone will not change ingrained habits. These patterns temper the notion that FIBL guarantees engagement for all and highlight the need for support to assist less-autonomous learners.

Finally, although participants reported a strong sense of social presence by course end, cultivating that community—especially in online spaces—required deliberate effort. Simply providing forums or chat channels did not automatically yield engagement; some learners stayed reticent, so

connection had to be actively nurtured. This suggests that the "social" element of the Community of Inquiry framework demands careful facilitation. As others have noted, using familiar, user-friendly technology can help build cohesion in flipped classrooms, underscoring the importance of purposeful interaction design. Without such efforts, social presence may remain superficial, limiting FIBL's overall impact.

Looking ahead, this study carries practical implications and directions for further research. For educators, training is essential to learn how to scaffold inquiry, facilitate interactive learning, and manage the increased planning load. Curriculum reforms should introduce flipped-inquiry elements gradually, with clear student guidelines and time frames to help learners adjust. Equally, institutions must provide adequate technology, support, and planning time to make FIBL sustainable. Future research should probe FIBL in varied contexts (e.g. larger classes or resource-limited settings) and develop strategies to support less self-directed learners. Longitudinal studies can determine whether gains in speaking and COI persist over time. FIBL holds genuine promise for enriching EFL speaking instruction—but its success is conditional. Its impact ultimately depends on thoughtful implementation aligned with learners' needs and robust support.

Research and Publication Ethics
The study adhered to ethical standards set by the Higher Education Institutions Research Ethics Committee Directive. Ethical approval was granted by the OSTIM Teknik University Social and Human Sciences Ethics Committee (Decision Date: 29.02.2024; Document Number: E-96274976-100-28456). All participants were informed of the research purpose, procedures, and their right to withdraw without consequence. Participation was voluntary, and no identifying information was collected or reported.

Ethics committee permission information
In this study, all rules specified in the "Directive on Scientific Research and Publication Ethics of Higher Education Institutions" were followed. None of the actions specified under the second section of the Directive, "Actions Contrary to Scientific Research and Publication Ethics", have been carried out.)

Name of the committee that conducted the ethical assessment: OSTIM TEKNIK UNIVERSITY Sosyal ve Beseri Bilimler Etik Kurulu
Date of the ethical assessment decision: 29.02.2024
Ethics assessment document number: E-96274976-100-28456

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1. Contribution rate statement of researchers: First Author 60 %; Second Author 40 %.
2. No potential conflict of interest was reported by the authors.

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Appendices

APPENDIX 1. Speaking Test (Pre-test and Post-test)

Cambridge Assessment English. (n.d.). **B1 Preliminary exam format**. Cambridge University Press & Assessment. Retrieved [insert retrieval date], from https://www.cambridgeenglish.org/exams-and-tests/preliminary/exam-format/

APPENDIX 2. The Course Program

The name of the course:

Improve speaking skills in terms of Cambridge speaking exam requirements

Part A: Respond to questions

Lesson 1: Understanding the Purpose of the Question

Lesson 2: Structuring Your Answer

Lesson 3: Asking for Clarification or Feedback

Lesson 4: Practice Speaking Test

Part B: Describe one color picture

Lesson 1: Describing Objects and Their Position

Lesson 2: Describing Animals and Their Habitat

Lesson 3: Describing People and Their Characteristics

Lesson 4: Practice and Feedback

Part C: Make one response to a suggestion

Lesson 1: Understanding the Importance of Feedback

Lesson 2: Responding to Suggestions

Lesson 3: Giving Feedback

Lesson 4: Practice and Feedback

Part D: Discuss likes and dislikes, experience, hobbies, etc.

Lesson 1: Introduction to Discussion

Lesson 2: Expressing Likes and Dislikes

Lesson 3: Sharing Experiences and Opinions

Lesson 4: Discussing Habits and Preferences