



# Optimizing Collaborative Performance in a Blended Learning Environment

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**Abstract.** Given the societal and technological advancements that have significantly impacted student cognition and learning preferences, the shift towards integrating blended learning approaches in higher education has become increasingly imperative. This paper aims to explore strategies that can enhance collaborative performance in a blended learning environment where students and instructors are expected to interact in meaningful ways, leveraging the strengths of both synchronous and asynchronous learning modalities. The strategies, including technology integration, redefining the roles and fostering reflection and metacognition, are all firmly rooted in the principles of social constructivism and the community of inquiry (CoI) framework. The comprehensive business English course examined in this paper exemplifies a realistic scenario that highlights the feasibility of increasing collaborative efficacy through planned technological and pedagogical interventions.

**Keywords:** Blended Learning, Community of Inquiry, Higher Education, Collaborative Learning

## 1 Introduction

In the evolving context of higher education, it is becoming increasingly clear that traditional methods are unable to address the need for higher-order learning experiences and outcomes<sup>[1]</sup>. Educational institutions are expected to offer increased flexibility and promote personal responsibility. For a start, rapid societal and technological changes have had a great impact on how students think and learn. They understand and want to employ the trend of digitalization to achieve deep and meaningful learning rather than receiving knowledge passively. Also, instructors have gained practical experience through emergency online teaching during the coronavirus pandemic and endeavored to move to high-quality digital education. Therefore, these changing student and instructor characteristics and needs create the condition and reason for adopting blended learning approaches in higher education.

Learning can take place in different modalities, often distinguishing between face-to-face classroom instruction and virtual learning, as well as asynchronous and synchronous learning<sup>[2]</sup>. Therefore, the integration of online learning with face-to-face classroom instruction is referred to as blended learning. Today, practically all univer

sities use an online teaching platform to supplement or replace some classroom time, which offers a way to enhance the effectiveness and efficiency of the educational experience.

## **2 Literature Review**

### **2.1 Social Constructivism**

Social Constructivism, a theory proposed by Lev Vygotsky in 1968, emphasizes the essential role of language and culture in intellectual development and in shaping human perception of the world. Vygotsky argued that the learning process is fundamentally a social one, where knowledge is not merely acquired individually but is co-constructed through collaborative efforts among learners. This theory highlights the importance of the learning context, suggesting that new knowledge is best synthesized and integrated when it is explored through dialogue, critical thinking, and the collective experiences of learners. Learning occurs through social interaction, where knowledge is co-constructed collaboratively, not only individually.

According to social constructivism, the learning environment is a dynamic space where individuals actively engage in constructing meaning. This construction of meaning is facilitated through various forms of interaction, such as discussions, debates, and collaborative projects. In these interactions, learners share their perspectives, challenge each other's ideas, and build upon the knowledge of their peers. This process of dialogue and reflection not only helps learners to deepen their understanding of the subject matter but also enables them to develop critical thinking skills and a sense of responsibility.

### **2.2 The Community of Inquiry (CoI) Framework**

Garrison's Community of Inquiry (CoI) framework is widely used for designing blended collaborative learning experiences. It provides a model that encourages learners to engage in ongoing dialogue and reflection, leading to meaningful learning. The structure fosters deep interaction among learners, instructors, and the content itself.

This framework emphasizes the importance of three key elements: teaching presence, social presence, and cognitive presence. Teaching presence involves organizing and directing educational tasks, offering assistance, and leading students through their inquiry process. Social presence focuses on fostering trust and personal connections among members of the learning community. Social presence consists of three aspects-affective/interpersonal expression, open communication, and group cohesion, all of which make up the collaborative climate of the community. Cognitive presence lies at the heart of the framework, where participants dive into hands-on inquiry by examining, assimilating, and solving issues.

The interaction between teaching and social presences creates a supportive community atmosphere, while the blend of teaching and cognitive presences shapes the educational content. Additionally, the combination of social and cognitive presences enhances student interaction during the learning experiences. When these presences are

well-balanced in a CoI, they can boost learner engagement and help students achieve better learning outcomes.

### 3 Strategies to Enhance Collaborative Performance

Collaborative learning, grounded in social constructivism, involves building knowledge within a social context which therefore encourages the integration of individuals into a learning community. Optimizing collaborative performance in a blended learning environment requires a combination of technological, pedagogical, and social strategies.

#### 3.1 Technology Integration

Benefiting from advances in technology, teachers can use online platforms to provide multimedia content like videos, audio, and animations to make teaching more engaging. Also, the online CoI environment facilitates the organization and documentation of student interactions and collaborative activities throughout the learning process. From the student's perspective, college students are skilled users of digital technology, which has indeed shaped their learning habits and preferences.

Consider a third-year comprehensive business English course as an example. The course is aiming to equip students with the language skills and knowledge necessary for business contexts. The course was originally taught through a weekly one-and-a-half-hour lecture, supplemented by slides, with fewer than 30 students in each class. Discussions in the form of case studies were frequently used, but it was hard to explore deeply because of the time constraints and discussions tended to be dominated by the same four or five individuals. After the coronavirus pandemic, blended learning model has been implemented in the course. The weekly lecture was complemented by online resources and collaborative activities. College English teaching includes language skills training, which are practical and full of culture. Therefore, it is necessary to create a friendly and harmonious external environment<sup>[3]</sup>. The abundant multimedia contents online provide environmental support for students. Additionally, one of the biggest changes is case studies have been conducted in the discussion board on the online platform. To encourage students' engagement, instructions were provided in terms of the nature, length of messages, and frequency, and credit assigned for online discussions was as high as 5-10 percent of the final grade. The results showed improved student engagement and better academic performance compared to traditional classroom settings.

The online environment enhances the opportunity for reflection and depth in discussions, allowing all students to contribute. It also gives a platform for shy or introverted students to voice their thoughts. Students can engage with and build on the ideas shared by their peers, fostering a collaborative exchange of ideas since there are enough time made for their interaction. In addition, all the records are placed in the platform for easy access. Also, with the aid of data analysis tools, instructors can be

alerted to students who may be disengaged or struggling, allowing for timely intervention and support <sup>[4]</sup>.

### **3.2 Changing the Roles in Blended Learning**

To transform traditional modes of information delivery into a community of inquiry, both students and teachers must adopt new roles.

#### **3.2.1 Instructor's Role.**

Instructors must give clear instructions and set expectations to guide discussions and collaborative tasks in a productive and focused direction. Clear requirements, guidelines, and rules should be outlined at the start. It is noted that too much direct instruction can discourage students from taking responsibility for approaching learning in a deep and meaningful manner while with too little intervention, students may get off-track and lose commitment to purposeful collaboration<sup>[5]</sup>. This insight suggests instructors should carefully balance instructional quality and quantity of contributions to enhance their leadership presence<sup>[6]</sup>.

Instructors should also act as a facilitator, guiding students through the collaborative process. For either face-to-face or online collaborative activities, instructors are expected to engage students in active participation and meaningful interaction by being available to answer questions, mediate conflicts, and provide support when needed.

In the example of comprehensive business English course, instructors were frustrated during the first round, because students were resistant. They regarded the collaborative activity as just another task, showing little interest. In the following rounds, instructors participated in the activities more actively, especially in the online environment, by asking probing questions, offering expert knowledge to clear up misunderstandings, providing additional resources when necessary, and giving timely feedback. To the instructors' delight, students reported more satisfying learning experiences with these assistance. They said they were motivated, engaged and learned the contents deeply.

#### **3.2.2 Student's Role.**

Blended learning focuses on reducing the traditional hierarchical structure of the classroom by promoting greater interaction and engagement. It encourages students to take on more responsibility for their own learning.

Students are expected to actively participate in course discussions, respond to their peers' questions, and contribute to collaborative learning activities. Group work, such as pair workshops or small team projects, requires each member to be accountable for their specific tasks.

In a business strategy project of the comprehensive business English course, roles such as project manager, researcher, drafter, and presenter were defined in a teamwork agreement. The project manager is responsible for coordinating team meetings and ensuring deadlines are met. The researcher gathers data on market trends, the writer

drafts the report, and the presenter prepares the slides and delivers the presentation. This helps students understand their individual contributions and how they fit into the larger team effort. Students reported feeling more comfortable engaging in online dialogues. In online discussions, it is easier for them to disagree at times, which helps to develop productive group cohesion. Also, online discussions with student moderation were implemented. Each small team was responsible for moderating and summarizing its chosen online discussion over a designated period (usually one or two weeks). And the increased responsibility of being a moderator of the discussion gave them the opportunity to approach learning in a deep manner and yield a better learning outcome.

### **3.3 Reflection and Metacognition**

Metacognition is a critical component of the learning process, involving the active management of one's own cognitive activities. It includes self-assessment, which is the evaluation of what needs to be done to achieve learning goals, and self-regulation, which is the effective implementation of strategies to carry out the learning task.

When choosing assessment types for synchronous and asynchronous environments, it's important to consider their suitability. As Mendoza and Venables suggested that time-bound, skill-based assessments, such as oral assessments, need to be synchronously whereas open-ended or problem-based questions are suitable in asynchronous environment<sup>[7]</sup>. One of the key benefits of online learning is that it creates a permanent record of students' thinking, thus providing an opportunity for individual and group reflection. In online settings, engaging students in monitoring and managing their learning strategies through discussions and collaborative tasks can be highly effective. Online platforms provide a unique opportunity for students to reflect on their learning in a more structured and visible way. Additionally, it is crucial for instructors to clearly define responsibilities that guide individual student actions and govern group dynamics. Instructors can facilitate this by providing clear guidelines for participation, setting norms for group behavior, and monitoring group interactions to ensure that all students have an opportunity to contribute. Assessment tools such as portfolios and learning journals allow students to reflect, think critically, and organize their thoughts as they document or track their learning on the platform they are using.

In the case of a comprehensive business English course, a group project with specific roles were assigned to students, aiming to encourage critical thinking, foster metacognitive monitoring and control, and ultimately enhance cognitive presence. Furthermore, assessment tools, such as individual learning journals and peer feedback were used to promote metacognition. Students were also encouraged to share their reflections and metacognitive experiences with the whole class. For example, students can talk about the project they worked on, what they learned about themselves as learners, and any strategies they discovered that helped them. This creates a culture where reflection and metacognition are valued and shared. Additionally, instructors can praise students who demonstrate good reflective and metacognitive practices by posting their learning journals or their feedback comments in the discussion board, reinforcing the importance of these skills in the learning process.

## 4 Conclusions

The transition to blended learning in higher education is not merely a choice but a necessity, as traditional teaching methods fall short in fostering the higher-order learning experiences required in the swiftly evolving educational landscape. The profound impact of societal progress and technological innovation on student cognition and learning preferences, coupled with the valuable lessons instructors have gleaned from the pandemic-era teaching, has laid a foundation for the adoption of blended learning approaches.

By embracing the latest technological advancements, redefining the traditional roles of instructors and students, and actively encouraging reflective and metacognitive practices, educational institutions stand to offer a more dynamic and engaging learning experience. This synergy of face-to-face instruction and digital learning platforms results in a learning ecosystem that better equips students with the skills, knowledge, and adaptability necessary to thrive in the interconnected world. The blended learning model, therefore, emerges as a strategic educational paradigm that optimizes learning outcomes, enhances student engagement, and prepares the next generation of learners to meet the multifaceted challenges of the future with confidence and competence.

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