Unraveling the Connections: English Proficiency, Motivational Orientations, and Online Community Engagement among ESP Students

Jeongyeon Kim and Victoria Kim[*]

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This study addresses the scarcity of research examining technology's impact on learners of English as a foreign language in English for specific purposes (ESP) courses within English-medium instruction (EMI) programs. Focusing on a business communication course using a social question-answering platform, this study explores the interplay among English proficiency, motivational orientations, and online engagement. Surveying 126 university students via a mixed-method approach, this research identifies distinct motivational orientations (intrinsic, extrinsic, and self-efficacy) existing during class activities, influenced by proficiency levels, with notable differences in online participation between beginner and advanced learners. The findings suggest that while online activities enhance peer interaction and teacher feedback, they may trigger anxiety in beginners, potentially diminishing motivation and self-efficacy. These results emphasize the need to tailor technology integration to proficiency levels and motivational orientations in ESP/EMI settings. Practical recommendations are offered for educators aiming to implement effective online activities and provide targeted support, particularly for beginner learners, thereby bolstering their motivation and self-efficacy.

Key words: English-medium instruction, English for specific purposes, motivation, self-efficacy, online learning community

*First Author: Jeongyeon Kim, Professor, School of Liberal Arts, Ulsan National Institute of Science and Technology (UNIST)

Corresponding Author: Victoria Kim, Assistant Professor, Department of International Business and Trade, School of Global Convergence Studies, Inha University; 100, Inha-ro, Michuhol-gu, Incheon 22212, Korea; Email: victoria@inha.ac.kr

1. INTRODUCTION

Due to the rapid internationalization of higher education (HE) institutions, an increasing number of universities have integrated English into their academic curricula, giving rise to English-medium instruction (EMI). This trend has created multi-faceted educational models that combine content learning with language acquisition. The EMI model refers to "the teaching and learning of an academic subject … using English as the language of instruction, and usually without an explicit focus on language learning or specific language aims" (Dafouz, 2018, p.170). Despite multiple benefits of EMI on language proficiency when combined with content learning, the effectiveness of EMI programs is still being debated due to pedagogical issues and the limited language proficiency of both professors and students, particularly in Asian contexts (Chun et al., 2017; Kim, Kim, & Kweon, 2018). For example, numerous studies indicate that EMI presents a barrier to effective subject learning for students from a non-EMI background, which is common in many Asian contexts (Cho, 2012; Kim et al., 2018; Morrison, 2014). EMI instructors, dealing with this persistent challenge, were found to place less emphasis on the quality of their students' English (Evans & Green, 2007) and/or partially allowed students to use their common first language for some class activities such as study group discussions and tutorials (Evans & Morrison, 2011). A fundamental and educational solution has also been sought to increase students' language proficiency as in courses designed to teach English for specific purposes (ESP).

While the need for ESP is firmly positioned within tertiary education and research (Tuzlukova, 2022), it is crucial to understand students' learning experiences, such as motivational orientations that students form while participating in learning. Motivation is a key factor in foreign language learning achievement, with students being driven by various forms of motivation. This includes intrinsic or extrinsic motivation, such as the sense of accomplishment from mastering the language or external rewards like grades (Ryan & Deci, 2000). Highly motivated students develop self-efficacy, organization, and a positive attitude towards tasks and learning, leading to goal achievement and the use of effective learning strategies available within a localized context (e.g., online learning tools, instructors, etc.) (Alberth, 2019; Blooma, Kurian, Chua, Goh, & Lien, 2013; Pintrich & Schunk, 1995). Subsequently, their successful experiences are deemed to foster learner autonomy and academic skills development (Pajares & Valiante, 2006).

Integrating technology into coursework can be a practical approach to enhance motivation in ESP/EMI settings, considering the interaction between motivational attributes and the task environment (e.g., tasks, learning/teaching medium, and instructors). While technology-based approaches to support students' ever-changing needs have become even more important during the COVID-19 pandemic, few studies have investigated the relationship between EFL learners' motivational orientations, participation in technology-enhanced ESP

classes, and their perception of learning experiences. To address this research gap, the current study examines the motivational orientations and online participation of college EFL learners taking a business course in English.

2. LITERATURE REVIEW

2.1. EMI and ESP

English for specific purposes (ESP) and English-medium instruction (EMI) are two related but distinct concepts in the field of language education. ESP refers to the teaching and learning of English that focuses on specific professions or disciplines such as business or engineering, providing learners with the necessary vocabulary, skills, and communication strategies relevant to their area of specialization (Belcher, 2009). On the other hand, EMI refers to the use of the English language as the primary medium of instruction in educational settings where English is not the native language (Dafouz, 2018; Macaro, 2018). In EMI programs, academic subjects are taught in English, rather than the students' first language.

In Asian HE institutions, EMI has predominantly been imposed top-down by governments and institutional administrators. The implementation of EMI in the EFL environments has presented challenges, as highlighted by researchers in foreign language policy. These challenges include students' insufficient English skills and professors' limited teaching capabilities (Chun et al., 2017; Evans & Morrison, 2011; Kim et al., 2018). Despite these challenges, Korean students and faculty generally agree on the necessity of EMI, considering it a major strategy to cope with escalating global competition within HE (Chun et al., 2017; Kim, 2015; Kim et al., 2018). However, when teaching engineering majors, EMI professors discovered that their students prioritized their subject learning over English language development (Kim et al., 2018). Considering the impact of academic disciplines on the perceived effectiveness of EMI, educators and classroom instructors are advised to ensure that EMI aligns with disciplinary characteristics and that curricula are specifically designed to address these challenges (Kim et al., 2018).

Researchers have suggested that HE institutions should offer well-designed ESP training courses that address both the perceived benefits and challenges of EMI (e.g., Airey, 2016; Dearden, 2018). ESP contextualizes English education according to disciplinary characteristics and professional training needs (Kankaanranta & Louhiala-Salminen, 2010). Without an awareness of these disciplinary differences, subject teachers may struggle to provide the necessary support for students to acquire discipline-specific language skills (Kankaanranta & Louhiala-Salminen, 2010). For instance, English plays a prominent role in the business discipline as the lingua franca of various business contexts, characterized by

specific linguistic features within business genres. Designing a business ESP course aligned with EMI requires first identifying these features alongside the goals of EFL learners. Additionally, it is essential to investigate their learning experiences during their participation in class activities, which are updated to the evolving HE landscape, including technology-enhanced learning (Chan, 2018).

2.2. Motivation

Motivation is widely recognized as a crucial factor in foreign language acquisition. Dörnyei and Ottó (1998) define it as a dynamic process that initiates, directs, and evaluates cognitive and motor processes in language learning. Their definition emphasizes its role in driving learners to make choices, take action, and persist in learning (Dörnyei & Ushioda, 2009). Models of motivation in language learning distinguish between different targets of learners' motivation (e.g., Deci & Ryan, 1985; Gardner, 1985). The self-determination theory, focusing on self-determination in learning initiation and persistence, is a commonly adopted model (Chiu, 2022; Deci & Ryan, 1985). L2 learners may be intrinsically oriented, deriving enjoyment from learning, or extrinsically motivated, seeking external rewards like prestigious jobs (Deci & Ryan, 1985). Both cases can lead to different levels of self-determined motivation, where learners autonomously monitor and regulate their motivation.

Regardless of the motivational type, all learners develop beliefs about their ability to perform tasks. These beliefs are influenced by cognitive and emotional experiences related to the success or failure of their motives. Self-efficacy, as defined by Bandura (1997), is the belief that one possesses the necessary skills to accomplish a task or goal. Self-efficacy, in conjunction with motivation, influences learners' behaviors, such as their use of strategies to regulate their learning (Bandura, 1997). These strategic actions, which involve the use of contextual factors like teacher and peer relationships, are crucial for successful learning processes and outcomes (Keller, Goetz, Becker, Morger, & Hensley, 2014). In EFL learning processes, students' choices of motivational regulation strategies may vary according to their English proficiency level (Kim & Kim, 2021; Teng, Yuan, & Sun, 2020). For instance, Chinese EFL learners with higher writing proficiency regulated their motivation through self-communication, increased interest, and emotional control more effectively than those with lower writing proficiency (Teng et al., 2020).

Importantly, motivational constructs can be influenced by contextual factors (Dörnyei & Ottó, 1998; Kim & Thompson, 2022). From a Vygotskian sociocultural learning perspective (Vygotsky, 1978), motivation can be fostered through targeted support from instructors and peers. In the context of EFL writing, interactions among learners, instructors, and materials within an institutional and social context play a crucial role (Aitchison & Lee, 2006). Instructor feedback, as highlighted by Mercer and Dörnyei (2020), assists L2 learners in

setting goals and engaging in learning activities, which are essential for motivation. The symbiotic relationship between interaction and motivation is also evident in learners' perceived self-efficacy. Low self-efficacy or a lack of confidence adversely affects interactions with instructors and peers, and vice versa. Further research should explore how various contextual factors influence this relationship and enhance our understanding of motivation dynamics and learner autonomy.

2.3. Learners' Interaction/Collaboration in the Online Environment

Digital technology has become increasingly integrated into HE, offering numerous opportunities for educational innovation (Kim, 2018; Timmis, Broadfoot, Sutherland, & Oldfield, 2016). Student engagement significantly increased when digital learning tools were employed in the classroom (Tan, Choo, Kang, & Liem, 2017). These learners were found to develop essential skills for learning, such as digital literacy, communication, autonomy, and collaboration (Tan et al., 2017). Moreover, technology-based tools efficiently assisted teachers in facilitating personalized learning and enhancing their pedagogical skills (Timmis et al., 2016). Through online discussions with peers and instructors, students can actively participate in idea-sharing processes, fostering a sense of community and knowledge building (Blooma et al., 2013). It is crucial, therefore, to enhance learners' participation and interaction in all modalities of online learning, including synchronous, asynchronous, and blended classes (Pyo, Yang, & Rha, 2021).

While extending the benefits of technology-enhanced learning to diverse educational contexts, researchers have rigorously explored the use of social media platforms such as Facebook, WhatsApp, and WeChat for content sharing, feedback, and micro-collaboration (Alberth, 2019; Elhay & Hershkovitz, 2019; Yan, 2019). WeChat, for instance, has been found to enhance team spirit, initiative, writing efficiency, critical thinking, and socialization with classmates (Yan, 2019). WhatsApp has also been recognized for its role in fostering better teacher-student relationships and creating a positive classroom environment (Elhay & Hershkovitz, 2019). These social media tools, however, can potentially lead to distractions, excessive exposure to information, and privacy concerns for both students and teachers (Hershkovitz & Forkosh Baruch, 2019).

Despite the drawbacks in the adoption of social media in classroom teaching, changes in the educational landscape are expected to persist due to the recent remarkable transition towards fully synchronous online learning during the pandemic and future crises along with increasing competition. Social question-answering (SQA) platforms have emerged to address several issues in social media and offer a more engaging and secure way to connect students beyond the physical classroom and reinforce active learning through micro-collaboration (Blooma et al., 2013; Grasso, 2017). It is crucial, then, to investigate specific

ways in which this technology-enhanced program can foster learner autonomy in the learning context characterized by new challenges that HE faces like those in an ESP class delivered via EMI.

Although the wealth of research accentuates the significance of recent technology-enhanced learning in EFL as well as L2 motivation, research on the its utilization in ESP/EMI settings remain underexplored (Kim, 2018). Further studies are required to fill this gap with critical consideration of emerging challenges placed on an HE context. This study investigates students' motivational orientations towards learning business English and online participation in one SQA platform, with particular interest in the effect of student English proficiency level. Understanding the relationships between these factors will ultimately contribute to the design of a feasible curriculum for an effective technology-enhanced ESP class in EMI settings.

3. METHODS

3.1. Research Questions

The current study aimed to address the following research questions:

1) What are the motivational orientations of college EFL learners who are enrolled in a business course delivered through an asynchronous online platform?
2) How do students' English proficiency levels relate to their motivational orientations and their level of online participation?
3) How do the motivational orientations of students change in relation to their participation in the online learning community?

3.2. Research Context and Participants

The study was conducted in an undergraduate ESP course (business communication & leadership) at a science- and technology-oriented EMI university in a South Korean industrial city. This course is crucial for students as it develops their communication skills, essential for job placement and career advancement. The curriculum covers business writing theories and practices applicable in real-world scenarios, including business letters, emails, formal reports, and proposals. Alongside content knowledge, students also learn English grammar (e.g., active/passive voice for diplomatic communication) and mechanics (e.g., capitalization and punctuation in letter addresses). The study included 126 participants, with 47.6% female and 52.4% male students. Among them, 17% were international students, primarily from Central Asian countries (Kazakhstan, Kyrgyzstan, Uzbekistan, etc.). 81% of

the students self-declared their proficiency in English as ranging from intermediate to advanced, as determined by their TOEIC reading and listening scores. See Table 1 for more details.

TABLE 1
Participants' Demographic Characteristics (N=126)

Characteristics	Number of Participants	Total Percentage
Gender		
Female	60	47.6%
Male	66	52.4%
Nationality		
Korean	108	85.7%
International	18	14.3%
Year of studies		
Sophomore	72	57.1%
Junior	42	33.3%
Senior	12	9.5%
Major		
Business	77	61.1%
Science/Engineering	49	38.9%
Perceived English ability		
Advanced	53	42.1%
Intermediate	49	38.9%
Beginner	24	19.0%

The course integrated the Piazza platform, an asynchronous online SQA platform, to foster interaction among professors and students, as well as facilitate peer-to-peer collaboration (see Figure 1). The selection of Piazza for this study was meticulously evaluated within the South Korean educational context for the following reasons:

1. **Global Effectiveness.** Piazza has demonstrated its efficacy across various universities worldwide, rendering it a valuable tool adaptable to diverse educational environments.

2. **Seamless Communication.** Piazza facilitates continuous communication between instructors and students, offering support 24/7.

3. **Rich Feature Set.** Piazza offers many useful features, including information grouping via tags for effortless searchability, polling capabilities, anonymous posting to encourage participation from all students, and mechanisms such as endorsing posts/questions/comments by clicking "good comment" or "helpful!".

4. **Cost-Effectiveness.** Unlike other paid platforms, Piazza is a free service, thereby eliminating financial barriers and ensuring accessibility for educational settings regardless of budget constraints.

FIGURE 1

Screenshot of a Student's Inquiry and Responses from Classmates and the Instructor
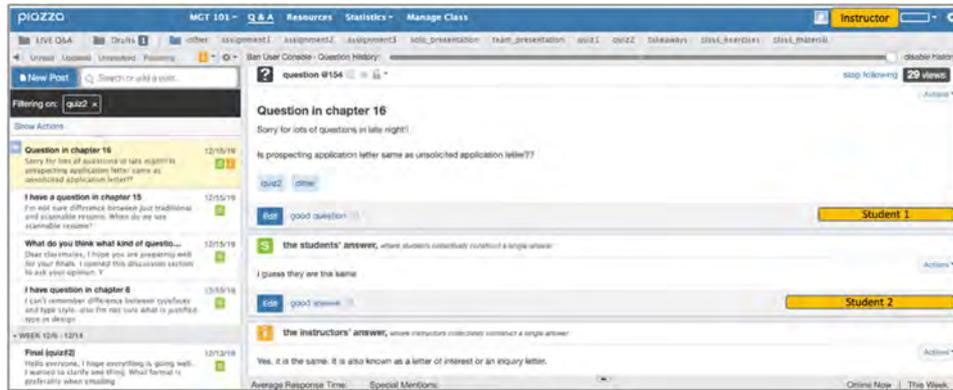
Note. All names are protected for privacy and confidentiality.

3.3. Research Instruments

To ensure validity, understand the phenomenon, and reduce bias, a mixed-method approach was used (Johnson & Christensen, 2019). Two questionnaires were administered for the quantitative part. The first questionnaire collected demographic information and included the academic writing motivation questionnaire (AWMQ) by Payne (2012) with 34 items rated on a Likert scale. The AWMQ has been widely used in English education research (e.g., Dedi, 2018). The second questionnaire focused on students' class experience, including perceptions of teacher feedback and the use of the Piazza platform. The pilot testing and results of this questionnaire were explored in another research paper. Both questionnaires were completed at the end of the 16-week semester, taking about 5 minutes. Out of 130 participants, four did not complete the writing motivation questionnaire and were excluded.

For further validation and exploration, a semi-structured focus group interview was conducted. Focus groups are known for their effectiveness in eliciting data and obtaining a comprehensive overview of participants' true feelings, opinions, and perceptions on a subject, allowing for a more systematic and integrated data collection process (Stewart & Shamdasani, 2014). The semi-structured nature of the interview allowed for focused and conversational communication between the researcher and participants, guided by a flexible interview protocol and supplemented with follow-up questions (Brown & Danaher, 2019). The interview involved eight volunteers, conducted in English, and took place two days after the online surveys. To mitigate potential bias, the interviewees were cross-referenced with Piazza metadata on individual student participation, which included contributions (e.g., posts and responses) categorized based on user type (frequent, moderate, passive). The interviews

were scheduled at convenient times and locations for the participants. Written informed consent was obtained from all study participants.

3.4. Data Analyses

To analyze the data for the first research question on students' motivational orientations in a business writing course conducted through an asynchronous online platform, exploratory factor analysis (EFA) was performed on the 34 survey items measuring students' beliefs. EFA is a commonly used technique in social and behavioral studies to identify underlying factors by reducing interrelated variables (Izquierdo, Olea, & Abad, 2014). Before conducting EFA, the data and sample suitability were assessed. Despite the relatively small sample size of 126 participants, the survey items showed excellent reliability (Cronbach's α = .932) (Pallant, 2020). The Kaiser-Meyer-Olkin measure of sampling adequacy was .865, exceeding the recommended threshold of .60, indicating suitable data for factor analysis (Pallant, 2020). Bartlett's test of sphericity yielded a significant result (χ^2 = 1960.804, df = 561, p = .000), supporting the factorability of the correlation matrix.

For the second research question, data from the 34-item writing motivation survey was collected to examine the differences in students' motivational orientations and degree of participation based on their English proficiency level. A one-way ANOVA was conducted, followed by a post-hoc test, to compare the effects of proficiency level on writing motivation. Piazza statistical metadata, including the number of posts, responses, follow-ups, and responses to follow-ups, was also collected for each participant. Another one-way ANOVA (Welch's) was performed to assess the influence of proficiency levels on online participation. Pairwise comparisons among the groups were conducted using the Games-Howell post-hoc test to identify statistically significant differences.

To address the final research question, Spearman's rho, a non-parametric correlation analysis, was used to examine significant relationships between students' motivational orientations and their online participation, considering proficiency level. Interview data underwent a rigorous coding process using MaxQDA 2020 software. The coding process included open coding, where initial themes were identified, axial coding to establish connections between codes, and selective coding to refine and solidify key categories. This coding process was conducted by one author and subsequently reviewed by another for consistency. Intercoder reliability was established through regular meetings and discussions to resolve any coding discrepancies. Furthermore, to enhance the methodological triangulation, metadata from Piazza's statistical reports on students' online participation throughout the semester were accessed and analyzed. This integration of qualitative insights with quantitative data allowed for a comprehensive understanding of the students' experiences. The detailed coding procedures, categories, and the intercoder

reliability process contribute to the robustness of our mixed-methods approach, allowing for a more thorough and nuanced analysis.

4. RESULTS

4.1. Types of Motivation

After assessing the data's suitability, the principal axis factor extraction procedure and the Varimax with Kaiser Normalization rotation method were used. Initially, eight factors with eigenvalues greater than one were obtained. However, based on parallel analysis and the scree plot, it was determined that only three factors should be retained, explaining a total of 41.5% of the variance (Pallant, 2020). Items with loading values below .40 (#6,12,31) were removed, resulting in a final 31-item instrument. The EFA identified three distinct factors representing the motivational orientations of college EFL learners in a business communication course. These factors (with example statements) are as follows:

1. *Intrinsic motivation* ("I enjoy writing assignments that challenge me.")
2. *Extrinsic motivation* ("I am more likely to succeed if I can write well.")
3. *Self-efficacy* ("I am able to clearly express my ideas in writing.")

The Cronbach's α coefficients for each factor was found to be high (Table 2).

TABLE 2
Reliability Analysis of Three Rendered Factors

Factor 1		Factor 2		Factor 3	
# of items	α	*# of items*	α	*# of items*	α
12	.878	11	.841	8	.851

4.2. Motivation and Online Participation by Proficiency Level

Overall, participants rated the three identified constructs of motivation higher than the median, around 4. The mean score for their orientation towards external rewards was the highest ($M = 4.461$) (Table 3). During their participation in diverse asynchronous online EFL writing activities, students directly associated their performance with high test scores and/or their future careers. They also had an intrinsic need to improve English writing and evaluated their efficacy positively in writing business-related topics in English.

Motivational constructs were compared across different English proficiency levels

(beginner, intermediate, and advanced) in the business course. As shown in Table 3, intermediate and advanced groups had higher mean scores in motivational orientations for business writing. ANOVA tests indicated significant differences between groups ($p < .01$) for all three motivational orientations. Mean scores exhibited an incremental trend based on proficiency levels, indicating that higher proficiency corresponded to higher intrinsic and extrinsic motivation to enhance writing skills in business communication. Furthermore, individuals with higher proficiency levels tended to exhibit greater confidence in their writing abilities.

TABLE 3
Motivational Orientations Based on Proficiency Levels (N=126)

Factor	Total Mean (Total Sum of Squares)	Mean (SD)			F
		Beginner (n=28)	Intermediate (n=47)	Advanced (n=51)	
Intrinsic motivation	3.914 (26.013)	3.756(.492)	3.842(.527)	4.067(.302)	5.500[**]
Extrinsic motivation	4.461 (17.904)	4.300(.487)	4.418(.380)	4.590(.252)	6.344[**]
Self-efficacy	3.910 (.28.433)	3.634(.423)	3.766(.487)	4.196(.328)	21.178[**]

Note: [**] The mean difference is significant at the .01 level.

The subsequent post-hoc Tukey HSD test was conducted to determine specific group differences in the three types of motivational orientations observed in the asynchronous online context. As depicted in Table 4, advanced students exhibited significant differences from beginners in all three factors, with varying levels of significance ($p < .05$ or $p < .01$). Additionally, these learners demonstrated significantly higher intrinsic motivation and self-efficacy compared to the intermediate group. While the difference in extrinsic motivation between the intermediate and advanced groups was not statistically significant, it approached significance with a *p*-value of .053.

In addition, we examined participation patterns based on student proficiency levels. On average, each student actively participated in Piazza for 47.48 days throughout the 16-week semester, indicating high engagement. Contributions were categorized into four types: posts, replies, follow-ups, and replies to follow-ups. Results showed variations in online participation and interaction based on proficiency levels and activity type. As anticipated, the advanced group, comprising the largest number of participants, made the highest total contributions compared to other groups (Table 5). Notably, the advanced group achieved the highest mean scores across all contribution types.

TABLE 4
Tukey HSD for Multiple Comparisons

Factor	Proficiency (I)	Proficiency (J)	Mean Difference (I-J)	p
Intrinsic motivation	Beginner	Intermediate	-.0862462	.691
		Advanced	-.3110410**	.009
	Intermediate	Beginner	.0862462	.691
		Advanced	-.2247948*	.034
Extrinsic motivation	Beginner	Intermediate	-.1190936	.358
		Advanced	-.2913165**	.003
	Intermediate	Beginner	.1190936	.358
		Advanced	-.1722228	.053
Self-efficacy	Beginner	Intermediate	-.132029	.379
		Advanced	-.562150**	.000
	Intermediate	Beginner	.132029	.379
		Advanced	-.430121**	.000

*. The mean difference is significant at the .05 level.
**. The mean difference is significant at the .01 level.

TABLE 5
Students' Online Participation Based on Proficiency Level (N=126)

Contributions	Total	Number of Contributions (Mean)			F
		Beginner	Intermediate	Advanced	
Posts	408	47 (1.68)	139 (2.96)	222 (4.35)	40.55**
Replies	389	49 (1.75)	134 (2.85)	206 (4.04)	9.21*
Follow-ups	1037	144 (5.14)	324 (6.89)	569 (11.2)	22.49*
Replies to follow-ups	955	92 (3.29)	325 (6.91)	538 (10.5)	24.11**
Total (mean)	2789	332 (11.86)	922 (19.62)	1535 (30.10)	

*. The mean difference is significant at the .05 level.
**. The mean difference is significant at the .01 level.

The subsequent post-hoc test revealed a significant relationship between each type of online contribution and individual participants' proficiency levels. Table 6 shows that the advanced group differed significantly from the other groups. Notably, the difference between beginner and advanced level was significant across all types of participation. However, no significant difference was observed between beginner and intermediate level in terms of the students' replies to initial posts.

TABLE 6
Games-Howell Post-Hoc Test for Multiple Comparisons

Contributions	Proficiency (I)	Proficiency (J)	Mean Difference (I-J)	p
Posts	Beginner	Intermediate	-1.28**	.002
		Advanced	-2.67***	.000
	Intermediate	Beginner	1.28**	.002
		Advanced	-1.40***	.000
Replies	Beginner	Intermediate	-1.1	.238
		Advanced	-2.29**	.002
	Intermediate	Beginner	1.1	.238
		Advanced	-1.19	.100
Follow-ups	Beginner	Intermediate	-1.75	.200
		Advanced	-6.01***	.000
	Intermediate	Beginner	1.75	.200
		Advanced	-4.26***	.000
Replies to follow-ups	Beginner	Intermediate	3.63*	.021
		Advanced	-7.26***	.000
	Intermediate	Beginner	3.63*	.021
		Advanced	-3.63**	.000

*. The mean difference is significant at the .05 level.
**. The mean difference is significant at the .01 level.

The interview analysis showed that the SQA platform received high praise for creating an interactive and informal classroom environment. Additional functions like photo upload were particularly appreciated for facilitating communication among students. One junior student emphasized the platform's effectiveness in supporting various class-related communication and resource sharing:

> It was convenient to ask each other regarding class or assignments, like due dates. We were able to submit assignments right there [Piazza]. In a classroom, we should share opinions frantically. But on the platform, we didn't have to be in a hurry when asking or answering questions. We also uploaded photos and other materials. In order to communicate smoothly with people, we sometimes need photos, statistics, or other materials to supplement our opinions. (S08: male/engineering/junior/advanced)

This advanced-level student expresses his satisfaction with the online platform based on two significant aspects: convenience, efficiency, and the versatility of interaction offered in the online environment. The student appreciates how the platform enables interactions that can be tailored to individual preferences, making them more informal. Importantly, these informal interactions through the online platform encouraged students to remain engaged

throughout the semester. A sophomore student commented on this informal nature of the interaction, highlighting its impact on their sustained participation:

> We can just post questions and get quick responses from groupmates when the professor is busy or not checking emails. It really helped me while I was doing my assignments. And when you did a good job, many students wrote warm, cute messages that make you feel happy and motivated. I think it is a good way to be close to my classmates. We say "hi" to each other after completing the course as well. (S05: female/business/sophomore/advanced)

In contrast to the positive views on the online platform and participation, there were a few negative aspects reported by learners. Some students did not necessarily value or enjoy the opportunities for expanded interaction. This sentiment is exemplified by a quotation from an interview with a junior student who had the lowest English proficiency level:

> I think I'm enough to post comments. I cannot easily write a comment like other students. Before I write some contents, I feel quite stiff thinking about my comments again and again. Even if it is not about our grading, I tried to look good in my comments. It feels like they [classmates] are all looking at me. (S03: male/business/junior/beginner)

The pressure to participate in online activities was particularly challenging for S03 due to his low English proficiency. He felt anxious about participating and believed that without reaching an optimal level of English proficiency, meaningful interaction might not take place. Additionally, observing a highly active group of students in participation made another student more self-conscious about their own English proficiency. The following quotation highlights this negative aspect of online interaction:

> I didn't do quite well in my opinion, although I tried. There are some classmates who participate in posts and replies all the time. When I see too many of them, I feel marginalized. There is no structure in this online work. (S07: male/engineering/sophomore/intermediate)

4.3. Relationship Between Motivational Orientations and Online Participation

To investigate the relationship between students' participation in asynchronous online interaction and their motivation, Spearman's rho, a nonparametric correlation, was

calculated between the quantified number of participation and scores on the three motivational types (Table 7). The results indicate a significant correlation ($p < .001$) between the quantified number of participatory acts on the platform ($M = 43.92$) and all three aspects of motivational orientations. It was found that the more motivated students were, either intrinsically or extrinsically, to learn business writing, the more active they tended to be in online participation. Additionally, students who perceived themselves as more efficient in these activities also contributed more actively to the asynchronous online platform.

TABLE 7
Spearman's Rho Correlation Between Online Participation and Motivation

Factor	Piazza Contribution (based on proficiency level)		
	Beginner	Intermediate	Advanced
Intrinsic motivation	.775***	.846***	.666***
Extrinsic motivation	.703***	.649***	.461***
Self-efficacy	.795***	.621***	.626***

***. Correlation is significant at the .001 level.

The interview data highlighted the relationship between interactivity facilitated by online participation and students' motivation to learn. Specifically, interviewees emphasized the significance of feedback, which motivated them to actively engage in writing posts and replies. One interviewee (S02: male/business/senior/advanced) mentioned that the interactions observed in posts and replies encouraged him to become more active. Additionally, receiving detailed feedback motivated him to study harder. Another student expressed that the instructor's feedback was particularly crucial in enhancing their self-efficacy:

> I think this course was a superb mix of theoretical and practical content. I received not only negative feedback, which might be discouraging, but also positive one regarding my strong sides. Trying to implement her [instructor's] advice, I often felt way more confident. (S06: female/business/sophomore/ intermediate)

As evident in this excerpt, the instructor's feedback played a significant role in promoting autonomous learning for the student, leading to an improvement in her confidence. The student (S06: female/business/sophomore/intermediate) highlighted that receiving immediate feedback from the professor on the platform was more emotionally comfortable compared to email communication. However, the impact of such feedback on increasing motivation to learn was contradicted by a student with a beginner-level proficiency.

> I don't think online interaction affected my learning style or motivation to
> learn. I'm stubborn. I had my own motivation to study the topics. (S03: male/
> business/junior/beginner)

The quotation emphasizes the importance of proficiency level in the dynamics of motivation and online participation, considering the significant relationship observed between proficiency level and the amount of participation in online activities. In the case of the beginner-level student, who showed little appreciation for interaction, there was a reduced willingness to engage in diverse online activities, resulting in lower motivation to learn through interaction.

Another interviewee highlighted the impact of the instructor's lack of positive feedback on their unwillingness to speak or participate. This suggests that the absence of encouraging feedback from the instructor affected their motivation to actively engage in discussions or contribute to online activities:

> It was nice to be able to see right away what was wrong with me. This
> allowed me to immediately correct my mistakes and to study harder. But I
> hope she [the instructor] also had a compliment on what I did well. I think
> I'd be more motivated if I knew what I did well. (S01: male/business/
> sophomore/intermediate)

The students recognized the significant impact of explicit English language instruction during their online activities, which was an essential component of the course. The completion of tasks was attributed to the understanding of appropriate business interaction and language pragmatics, such as using the correct salutations and closing in business emails. This specific feature of ESP instruction is further supported by the following quotation, where an engineering-major student acknowledges the importance of using accurate English expressions for effective interaction with other students:

> The professor gave us the opportunity to share stories between students at the
> end of each part. In that part, I studied more to ask the opinions of other
> students and answer their questions. It's communication with my classmates
> and, if I want to convey my knowledge to someone, I have to know exactly
> about it. I tried to answer what I learned not only in class, but also through
> other books or internet surfing. (S08: male/engineering/junior/advanced)

It is interesting to note that the increased opportunity for online interaction enabled this student to discover a method for autonomously improving the accuracy of their English

writing. Similarly, the online posts and feedback, including the replies, solidified the importance of language instruction embedded within each task. This is evident in the following quotation:

> I made more progress in my English writing abilities in this class. I was totally wrong when I thought this course might be vague and impractical. Surprisingly, this course became one of my favorites. The professor's feedback on my posts and the book, gave practical ways and sources to improve my [business] communication skills. (S02: male/business/senior/ advanced)

As depicted above, through online interaction, this senior student discovered the practicality of the activities, leading to a shift from initial lack of motivation to enjoyment. Engaging in diverse forms of participation also enhanced their perceived self-efficacy. One interviewee reported that their language skills automatically improved through English interaction while learning business content on the Piazza platform (S01: male/business/sophomore/intermediate). However, the impact of participation was not consistently evident, as mentioned by a beginner-level student:

> I cannot simply say my language improvement was because of this course (or Piazza). I'm not fluent, so I tried to understand all English contents of other classes. I cannot judge how helpful the presentation and other writings in this course were [to my English development]. (S03: male/business/ junior/beginner)

These findings suggest that participants' motivational orientations are closely tied to their engagement in online activities. Feedback, particularly related to pragmatic and strategic skills in English for business, whether from peers or instructors, significantly motivated students. Active participation and interaction had the potential to transform initial motivation and self-efficacy into more positive states, as seen in one high-proficiency student (S02). However, interviewees with lower proficiency levels expressed less enthusiasm in this transformation, further highlighting the strong link between motivation and online participation supported by statistical results.

5. DISCUSSION

This study scrutinized individual EFL learner variables activated on an asynchronous

online platform adopted for a business ESP course in an EMI context. It has responded to the call for more topic-specific, research-informed curriculum innovations in ESP which are much needed from both EMI instructors and ESP specialists in the changing HE landscape (e.g., Chan, 2018; Dearden, 2018). The key findings of the study reveal that the online participation has great bearing on three motivational orientations among students: intrinsic motivation, extrinsic motivation, and self-efficacy. The learners exhibited a positive belief in learning and motivation to learn English for business interaction, which indicates that their perceived efficiency during online participation was precisely aligned with their determination to learn, i.e., whether intrinsic or extrinsic (Deci & Ryan, 1985). This finding demonstrates that all three constructs can coexist in actual realization (Gardner, 2019) and further reaffirms the profound role of self-efficacy in L2 learning processes and outcomes (Cohen & Dörnyei, 2002). This role loomed large in the participants' acts of participation in the online learning activities, supporting the autonomy of individual learners and their active engagement in learning activities (Tan et al., 2017).

Student proficiency levels significantly impacted learner autonomy in the online learning community. Among the three proficiency levels, beginner-level students exhibited the lowest motivation (both intrinsically and extrinsically) in learning about business communication. They also felt less efficient in engaging with online activities. Furthermore, their participation varied based on proficiency levels, with significant differences observed between levels 1 and 3 in all types of interaction. These findings align with previous research highlighting the variation in learner autonomy based on English proficiency levels (Kim & Kim, 2021; Park, 2020). Low-proficiency students in this study may have focused primarily on task completion, resulting in less active participation and interaction (Park, 2020). While the online platform received positive feedback for communication immediacy and visual resources like photos, some interviewees expressed anxiety due to their perceived lack of English proficiency evident in their posts. Consequently, these expanded interaction opportunities were deemed neither useful nor enjoyable.

Notably, motivation and online participation exhibited a significant correlation, particularly in specific acts of participation, evident across all proficiency levels. This correlation was more pronounced for beginner-level students, where lower motivation was linked to decreased participation. As revealed in the qualitative analysis (e.g., S03), beginner students with little appreciation for interaction showed lower motivation to learn through interaction and became unwilling to participate in online activities. However, a strong correlation was observed in enhanced class interactivity and communicative efficiency as well. This increased interactivity was facilitated by instructor feedback and the availability of additional communicative resources. Immediate and constructive feedback on English language usage in specific business genres, like business emails, promoted interactivity on the online platform. The online platform, similar to social media platforms, offered efficient

communication and versatile interactive opportunities, as supported by previous studies (Pyo et al., 2021; Yan, 2019). Engaging in tasks in the virtual space provided students with modified and negotiated language input, leading to meaningful and understandable content (Kareva & Echevarria, 2013). Moreover, feedback and other semantic resources enabled explicit instruction of language skills like punctuation and mechanics. Thus, acquiring accurate English usage in business contexts motivates students to develop language skills necessary for effective interaction with peers and in business communication, increasing their perceived self-efficacy and transforming their initial lack of motivation into enjoyment.

On a positive note, students mentioned that their online experiences were informal and receiving "warm, cute messages" made them feel happy and motivated. These informal experiences further enhanced their motivation and participation, which are crucial for learning and transforming motivational orientations. Previous research has shown that foreign language learners are motivated by social factors, such as the desire to be part of a foreign language culture and seeking approval from others (Csizér & Dörnyei, 2005). Interestingly, in this study, peer feedback, combined with emotional support from the instructor, played a significant role in fostering and transforming students' initial perceptions of online interaction. This beneficial impact of peer feedback should thus be noted by instructors and explicitly communicated to students before launching the online activities of a course.

Several implications can be drawn for EMI and ESP programs utilizing asynchronous online learning platforms. Firstly, the curriculum should consider students' cognitive and affective aspects, taking into account learner autonomy and proficiency levels. While expanded interaction offers micro-collaboration and community building potential, it may not be enjoyable for students with lower proficiency levels. Clear instructions and encouraging feedback from instructors are needed to support these students. Students expressed anxiety regarding English writing activities and observing the tasks and participation of others on the platform. Instructors can address this by providing clear and accessible task instructions (Aitchison & Lee, 2006). It is also important to balance mandatory and optional participation in online posts and replies. By defining interaction sequences, instructors can facilitate the participation of lower proficiency students who may experience negative emotions and have lower motivation and self-efficacy in online interaction.

EMI and ESP instructors should receive training not only for delivering explicit teacher feedback but also for addressing L2 learners' emotional experiences in online interaction (Keller et al., 2014). Including emotional support in instructors' feedback within the virtual space enhances students' sense of connectedness and social presence (Kim & Kim, 2021; Lee, 2016). Technology-based instructors should adapt their pedagogical practices to cater to students' diverse motivational profiles online. Personalizing class materials to align with

learners' goals using tools like mobile applications can be an effective strategy (He & Loewen, 2022; Stanchevici & Siczek, 2019). This additional support may benefit less motivated students, enabling them to transform their initial lack of motivation and self-efficacy into intrinsic enjoyment.

6. CONCLUSION

This study contributes to understanding L2 learner autonomy in technology-enhanced business ESP programs by investigating the combined impact of ESP and asynchronous online learning on learner variables and their participatory actions. Further research may explore diverse disciplines and provide practical implications for promoting asynchronous online interaction in extended ESP contexts. One limitation of this study is the absence of a comparison group, which hinders the ability to attribute the observed findings solely to the online educational platform. While the study provides valuable insights into the participants' experiences with the platform, future research incorporating a comparison group would contribute to a more comprehensive understanding of the platform's impact on learning outcomes and better isolate its effects from other potential factors. This study was also conducted at a Korean university specialized in science and engineering education/research, which may limit the generalizability of the findings to other contexts with different orientations towards ESP. Moreover, self-reported data from end-of-semester surveys and interviews may be biased. It would be intriguing to longitudinally track the changes in learner autonomy and online participation throughout a semester of teaching an ESP course and examine their integral effects on learning outcomes, which can be pursued in future research. It is hoped that the findings of this study can assist ESP curriculum designers and teacher educators in proactively adapting to technological advancements with heightened sensitivity to the unique attributes EFL learners bring to an ESP course.

Applicable level: Tertiary

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