

Effects of Background Characteristics on Student Outcomes in a General English Blended Learning Course

: Gender, Class Level, and Personality Type

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Abstract

In the context of General English courses, instructors face challenges in engaging diverse student populations with varying background characteristics, such as gender, class level, and personality type. These factors can significantly influence student learning outcomes and engagement, yet prior studies examining their effects in online or Blended Learning (BL) environments have either shown limited significance or produced conflicting results, resulting in an absence of clear conclusions on their role. This study aims to fill this gap by investigating how these background characteristics shape academic achievement, self-evaluation, peer evaluation, collaboration, and satisfaction in a BL course using a 4-skills Discussion Board approach with student-created videos. A total of 81 students, separated into two treatment groups and one control group, participated in this study by creating student-created videos, evaluating their own and peers' videos, and completing surveys as part of BL activities over the course of a semester. The data were analyzed using factorial analysis of variance to examine the main effects of gender, class level, and personality type. The findings reveal significant gender differences in academic achievement and collaboration, and class level differences in academic achievement, self-evaluation, and peer evaluations. No significant differences were found based on personality type. These results suggest that considering gender and class level when designing BL courses can enhance student engagement and learning outcomes. Implications for course design and suggestions for future research are discussed.

Key Words: Background Characteristics, Blended Learning, Gender, Class Level, Personality Type

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1. Introduction

One of the unique and challenging aspects of teaching General Education courses is the opportunity to work with students from various colleges, departments, and majors. Beyond their varied majors, students bring unique background characteristics that present challenges for instructors in designing effective and inclusive lesson plans. To better understand these challenges, it is crucial to examine how specific background characteristics, such as gender, class level, and personality type, influence student engagement and learning outcomes in General English courses. For example, gender has been shown to influence collaboration, with female students often exhibiting higher levels of cooperation (Bostock & Lizhi, 2005). Class level also plays a role, with higher-level students typically displaying greater motivation and self-regulation in their academic pursuits (Rodriguez-Juarez & Oxbrow, 2010). In addition, personality type has been linked to how students approach collaborative tasks, particularly in language learning environments (Chew & Ng, 2016). Given these challenges in accounting for diverse student backgrounds, educators are employing more modern instructional methods, such as Blended Learning (BL). BL, which combines online elements with face-to-face learning, provides a flexible environment where the impact of gender, class level, and personality type on student engagement and collaboration can be more effectively accounted for. In particular, a BL approach that utilizes 4-skills Discussion Boards (DBs) with student-created videos presents a valuable opportunity to examine how these background characteristics interact to influence academic success.

Although research has increasingly focused on the role of background characteristics in student learning, few studies have explored how these characteristics interact within BL environments, particularly in the context of 4-skills DBs. Prior research has often examined these characteristics separately, yielding mixed results in both online and BL settings. For instance, gender has yielded

conflicting findings: some studies indicate that females outperform males (Suh, 2010; Bostock & Lizhi, 2005), whereas others suggest that males are more comfortable and equipped to participate in BL environments (Guiller & Durndell, 2006; Malik et al., 2017). Similarly, class level affects performance, with higher-level students excelling in fun and interactive lessons (Yang, 2021), while lower-level students benefit more from structured support and peer interactions (David et al., 2015). Research on personality type also demonstrates contrasting outcomes, with extroverts thriving in interactive, discussion-based settings (Harland, 2005; Lee & Lee, 2006), while introverts often excel in input-driven, independent learning environments (Altunel, 2015). Despite these mixed findings, recent work by Irvin (2024) offers a more structured approach, offering a framework for utilizing a 4-skills DB method in a General English BL course.

The study aims to investigate how gender, class level, and personality type influence student outcomes in a BL 4-skills DB environment. This research focuses on understanding how these background characteristics impact student achievement, self-evaluation, peer evaluation, collaboration, and satisfaction within such an environment. By examining these factors, this study seeks to address the gaps left by previous research, providing insights into how these characteristics affect student outcomes in language learning contexts. In doing so, it contributes to the growing body of literature on BL and offers practical implications for educators seeking to design more inclusive and effective learning environments. Furthermore, the findings from this study will offer new directions for future research into the role of background characteristics in blended and collaborative learning contexts.

2. Literature Review

2.1. Educational and Psychological Foundations

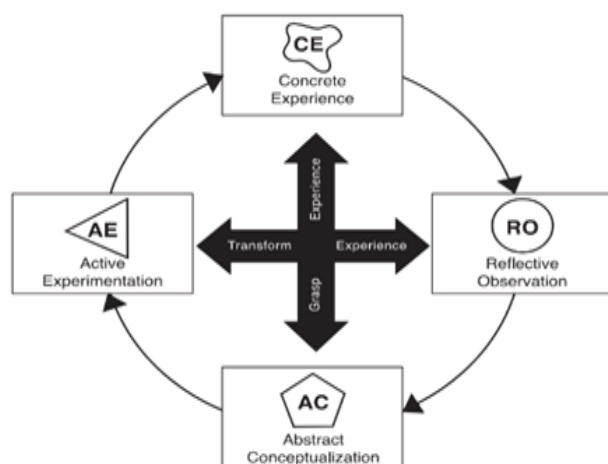
This study is rooted in educational and psychological

theories that emphasize learner-centered approaches and social interaction as critical components of learning. The first important theory is Vygotsky's (1978) sociocultural theory, which highlights the importance of collaboration and social interaction in cognitive development, specifically through scaffolding provided by peers and instructors. This theory aligns with the study's focus on how background characteristics, such as gender, class level, or personality type, may influence participation and collaboration in BL environments. Similarly, the second important theory, Bandura's (1986) social constructivist perspective, highlights the value of observation, reflection, and interaction in shaping individual learning experiences. Together, these foundational theories emphasize how discussion-based and collaborative tasks create opportunities for meaningful interaction and scaffolded learning experiences.

Additionally, Kolb and Kolb's Experiential Learning Cycle (2017) provides further insight into how learners construct knowledge through active engagement. The model outlines a four-step process, including Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation, which emphasizes the dynamic process of learning through doing and reflecting (See Figure 1). While the model offers a foundation for designing effective learning tasks, its application in this

[Figure 1]

Experiential Learning Cycle (Kolb & Kolb, 2017, p. 11)



study focuses on how individual differences in background characteristics shape the ways learners engage with and benefit from the learning process as a whole. For example, learners with different personality types may approach reflective activities, such as self- and peer evaluations, in unique ways, potentially influencing their overall learning outcomes.

In sum, these theoretical foundations highlight the significance of understanding how diverse learner characteristics interact with educational practices. They also offer a framework for interpreting the findings of this study, particularly in terms of how gender, class level, and personality type might impact learner achievement, self-assessment, peer assessment, collaboration, and satisfaction.

2.2. BL and Instructional Activities in Relation to Background Characteristics

BL instructional approaches have become increasingly significant in the context of EFL, particularly in promoting student engagement and enhancing language skills. Research has shown that combining face-to-face and online learning components in a carefully structured approach can provide students with more active, flexible, personalized, and beneficial learning experiences (Bae & Lee, 2021; Irvin & Im, 2022; Lee, 2017; Klemsen & Seong, 2012; Riwayatiningih & Sulistyani, 2020). This method, which blends the use of digital platforms alongside traditional classroom instruction, allows students to engage with content in ways that address their learning preferences and individual needs. In the context of English language courses, BL creates opportunities for students to practice skills in a variety of settings, encouraging meaningful communication and fostering collaborative learning (Garrison & Kanuka, 2004; Graham, 2006).

One commonly used activity utilized by many General Education professors as part of a BL instructional approach is a DB. DBs are often selected because they enable students to engage in online dialogue, collaborate

on assignments, share opinions with one another, establish feedback mechanisms, and allow learners to reflect on learning outcomes. Moreover, DBs have been shown to promote critical thinking, peer interaction, and self-directed learning, which are all crucial for language acquisition and improving academic achievement (Kang & Park, 2014; Alharbi, 2015). However, while much of the existing literature related to DB use in language courses found increases in academic achievement and motivation (Im, 2022; AlJeraisy et al., 2015), increased learner engagement and more peer interactions (Dalelio, 2013), increases in collaboration (Bakar et al., 2013), greater satisfaction (Lee, 2017; Dalelio, 2013), and a preference towards audio instead of video submissions (Hew & Cheung, 2012), only a small number of studies have explored the influence of background characteristics on these outcomes, and even fewer have considered them in combination.

Finally, student-created videos, a form of Learner-Generated Digital Media, can be a valuable tool to encourage more interactive, self-reflective, and collaborative learning environments that meet diverse student needs (Reyna & Meier, 2018). Previous research suggests that student-created videos can enhance language learning by promoting creativity, engagement, and language proficiency (Edwards & Lane, 2021; Lee & McLoughlin, 2007). Furthermore, prior research has indicated that these videos have led to increased motivation and active participation (Lee & McLoughlin, 2007), facilitated collaboration through peer feedback and shared work (Seong & Kim, 2023; Hung et al., 2004), and enhanced speaking skills while fostering digital literacy and self-confidence (Im, 2021; Edwards & Lane, 2021; Innes, 2020). Thus, student-created videos have been shown to have several benefits as stand-alone activities. However, Irvin (2024) attempted to expand on the use of student-created videos in a General English course by incorporating them into a 4-skills DB BL approach. This novel approach offered learners opportunities to develop speaking, listening, reading, and writing skills simultaneously. Despite their efforts, few other

studies have examined how background characteristics, such as gender, class level, and personality type, might affect students' learning outcomes. This gap is significant, as such characteristics may play a crucial role in shaping student experiences.

In sum, the integration of student-created videos, DBs, and BL in this study presents a unique opportunity to explore how these approaches intersect with learner characteristics. Specifically, this study seeks to examine how gender, class level, and personality type might impact learner achievement, self-assessment, peer assessment, collaboration, and satisfaction.

2.3. Background Characteristics and Their Impact on BL Courses

2.3.1. The Role of Gender in BL Courses

The background characteristic of gender has sometimes been considered in understanding student engagement and achievement in online and BL environments, though findings on its impact remain inconsistent. Some studies report no gender differences in performance or engagement in BL courses (Cha et al., 2022; Machado, 2011), while others suggest that males may exhibit greater comfortable with technology and exhibit stronger participation (Guiller & Durndell, 2006; Malik et al., 2017). In contrast, female students have shown greater willingness to engage in discussions and collaborate, with some studies noting that females are more strategic in managing online tasks (Suh, 2010; Bostock & Lizhi, 2005).

These mixed results highlight the complexity of gender's role in BL. Another factor that adds to the difficulty in understanding the role that gender plays in BL activities, such as 4-skills DBs, is when instructors make assumptions or generalizations about one specific gender. For example, the idea that males are more tech-savvy (Lee et al., 2003), or that females tend to be more collaborative and engaged in online discussions (Suh, 2010; Guiller & Durndell, 2006), leading to better academic performance (Tsai et

al., 2015). However, these generalizations often do not align with research findings, suggesting that the influence of gender in BL contexts is more nuanced. As such, the present study aims to explore how gender affects achievement, self- and peer-evaluation scores, collaboration, and satisfaction in a 4-skills DB context.

2.3.2. The Role of Class Level in BL Courses

The background characteristic of class level has frequently been examined in relation to student engagement and achievement in both online and BL environments. A significant body of research suggests that higher-level students tend to be more motivated and better equipped to manage the demands of BL courses (Rodriguez-Juarez & Oxbrow, 2010). On the other hand, it has been argued that lower-level students may benefit more from structured support and peer interactions, which can enhance their learning experience in BL contexts (David et al., 2015).

However, the relationship between class level and BL outcomes is more complex than simple categorizations. While high-level students are often more motivated, they may disengage from tasks they find uninteresting or too easy, preferring to work independently (Yang, 2021). In contrast, low-level students may experience anxiety and demotivation, leading to avoidance of collaborative tasks due to language barriers and limited confidence (David et al., 2015). Therefore, this study seeks to explore how class level influences achievement, self- and peer-evaluation scores, collaboration, and satisfaction in a 4-skills DB context.

2.3.3. The Role of Personality Type in BL Courses

The background characteristic of personality type has gained increasing attention in educational research, especially in Korea. While there are several different types of personality test that can be used, one of the most widely used tools for identifying personality types is the Myers-Briggs Type Indicator (MBTI). The MBTI test is composed

of four separate preference pairs, with the first preference pair (i.e., introversion versus extroversion) being the focus of this study. Additionally, students' personality types can be an important factor to consider in today's student-centered classes. According to Almusharraf and Almusharraf (2021), instructors must carefully consider how they can address the needs of different types of students (e.g., extroverts and introverts) to increase social presence and a sense of class community. Adjusting to a student-centered approach can be challenging for learners depending on their personality type, but some prior studies help examine the current scholarly discourse surrounding extroversion and introversion.

Prior research has shown that extroverts tend to be more social and interactive in classrooms that emphasize participation and collaboration, which leads to more meaningful discussions and cognitive interactions (Harland, 2005; Lee & Lee, 2006). Conversely, introverted learners often perform better in courses focused on input skills and content knowledge, where independent work is prioritized (Altunel, 2015). Furthermore, mixed groups containing both personality types have been shown to demonstrate superior social, interactive, cognitive, metacognitive, and learning outcomes in online discussion boards compared to groups with only extroverts or introverts (Kang & Ryu, 2022). These contrasting findings highlight the complexity of how personality type can impact engagement and achievement. As such, this study seeks to explore how introversion and extroversion affect achievement, self- and peer-evaluation scores, collaboration, and satisfaction in a 4-skills DB context.

2.3.4. The Impact of Background Characteristics in Korean BL Courses

Similar to many other countries across the globe, there is a growing interest in Korea regarding how BL approaches, including DBs, can be integrated into General Education curricula. Yet, a notable gap remains in research concerning the interaction between learners' background

characteristics and their learning outcomes. Much of the existing literature either overlooks these factors or presents inconsistent findings, highlighting the need for more focused studies within the Korean context.

However, several significant studies in the Korean context have addressed the potential impact of background characteristics on learning outcomes. The first notable study is Cha et al. (2022), which focused on gender and class level. The self-reported survey results of 336 Korean university students enrolled in an online English course revealed no significant difference between genders, but intermediate learners were more active and positive about interacting online (Cha et al., 2022). Another important study is Bang and Park (2020), which analyzed 423 survey results from level-based general-English courses focusing on reading and writing. Their findings indicated significant differences in satisfaction based on class level, emphasizing that higher-level students tend to be more motivated and capable, while lower-level students might struggle due to their lack of language proficiency. A third notable study is Hong (2022), which conducted a systematic review of 22 precedent studies regarding MBTI personality types among nursing students. The findings highlighted common MBTI types in nursing students and suggested ways personality analysis could inform teaching strategies, learning approaches, and career guidance. The final study to consider for this research is Irvin (2024), which investigated 81 university students using multiple measurement tools to explore several learning outcomes in a 4-skills DB within a BL environment. The results revealed no significant interaction effects between gender and DB type; however, high-level learners showed greater increases in their peer evaluation scores when participating in DBs, highlighting the influence of class level in shaping peer evaluations.

Building on the theoretical foundations and addressing the gaps identified in prior research, this study seeks to contribute to filling this gap by exploring how gender, class level, and personality type shape the learning experiences of students in a first-year EFL course utilizing

a 4-skills DB-type BL approach. By examining these factors, this study aims to provide a deeper understanding of how individual differences impact learning in the Korean EFL context and contribute valuable insights to the discourse on personalized online learning strategies. Based on the goal of this project, the following research questions were created to guide the research:

1. What are the differences in academic achievement, self- and peer-evaluation scores, collaboration, and satisfaction based on participants' gender, accounting for DB type?
2. What are the differences in academic achievement, self- and peer-evaluation scores, collaboration, and satisfaction based on participants' class level, accounting for DB type?
3. What are the differences in academic achievement, self- and peer-evaluation scores, collaboration, and satisfaction based on participants' personality type, accounting for DB type?

3. Methodology

3.1. Research Design

This study was conducted as part of a larger research project that examined the potential main effects and interaction effects of adopting a 4-skills DB BL approach to enhance Korean EFL learners' outcomes, with a particular focus on the use of a 4-skills DB incorporating student-created videos (Irvin, 2024). While the current research shares many similarities with the previous project, it specifically focuses on quantitative analysis of the main effects of learners' background characteristics (i.e., gender, class level, and personality type) in relation to their learning outcomes across the three different DB types (i.e., 4-skills, 2-skills, and No DB).

To examine these effects, this study was conducted during the Spring 2023 semester (i.e., March to June) at a private university in Korea, in a first-year EFL General

English course (i.e., College English 1 or CE1) emphasizing 4-skills language acquisition. The course followed a BL approach, integrating both face-to-face instruction and online DB activities, with three different DB groups: a 4-skills DB incorporating student-created videos with typed posts, a 2-skills DB focused on the reading and writing of typed posts, and a No DB group that relied solely on in-class activities. Convenience sampling was used to select participants from six course sections taught by the researcher, who also served as the instructor. While this dual role raised ethical considerations, it provided a deeper understanding of students' experiences through direct observation (Griffith, 1998). At this university, the CE1 course is divided into three levels (i.e., low, middle, and high), with student placement determined by the university's administration. However, due to an uneven distribution of course sections, the middle- and low-level groups were merged into a single middle-low level. Each DB type was then randomly assigned one high-level and one middle-low-level section, with random assignment based on balancing the groups according to the number of participants rather than individual background characteristics. Despite efforts to maintain participation across groups, the final sample showed a 48% retention rate after excluding students who opted out or failed to complete required assignments, surveys, or evaluations. Thus, the study design builds on prior BL research while offering insights into how individual differences influence learning in this context.

3.2. Participants

Building on the research design, this study focused on students randomly assigned across six CE1 sections. As previously mentioned, CE1 is a first-year General English course required for graduation. While this course is primarily targeted at freshmen, there are occasions when second- to fourth-year students must take it to fulfill their graduation requirements. Additionally, students take a TOEIC-style entrance exam before their first semester at the university to determine their class levels. Those scoring below 400 are placed in the low-level class, those scoring between 400 and 700 are placed in the middle-level class, and those scoring above 700 are placed in the high-level class. Students who do not take the exam are generally placed in the middle-level class by default. At the start of the semester, a total of 168 students were enrolled across the six CE1 sections taught by the researcher, with each section randomly assigned a specific DB type. By the semester's end, 81 students took part in the study, representing a 52% attrition rate. The average age of the participants was 21.1 years in Korean age, and a full breakdown of the participants' background characteristics can be found in Table 1.

A closer examination of Table 1 reveals the demographic breakdown for the entire sample and across the three DB types. The final sample included 81 participants, with a higher proportion of females ($n = 50$), many more students in the high-level sections ($n = 52$), and a majority of

<Table 1>

Background Characteristics of Study Participants

Category	Gender		Class Level		Personality Type	
	Female	Male	High	Middle-Low	Introverted	Extroverted
Overall ($n = 81$)	50	31	52	29	58	23
4-skills ($n = 29$)	21	8	22	7	24	5
2-skills ($n = 27$)	15	12	13	14	20	7
No DB ($n = 25$)	14	11	17	8	14	11

self-identified introverts ($n = 58$), as determined by self-reported MBTI results. A further look at Table 1 provides the breakdown of demographic characteristics for each of the three DB types. First, the 4-skills DB group consisted of 29 students, with a majority of females ($n = 21$), a considerably higher number of high-level students ($n = 22$), and most participants identifying as introverted ($n = 24$). Second, the 2-skills DB group included 27 students, with a slightly larger proportion of females ($n = 15$), slightly more middle-low-level students ($n = 14$), and a majority of self-reported introverts ($n = 20$). Third, the No DB group consisted of 25 students, with slightly more females ($n = 14$), double the number of high-level students ($n = 17$), and slightly more self-reported introverted participants ($n = 14$).

Overall, the complete breakdown of Table 1 highlights the demographic characteristics across the three DB types. Several factors, however, influenced the final distribution of participants. Firstly, the low sign-up rate for certain sections led to an uneven distribution, with one section starting with 33 while another began with only 20. Next, the gender balance within specific DB groups was influenced by the majors of the students, with certain majors having a higher proportion of either females or males, leading to an imbalance across the groups. Lastly, a higher-than-expected attrition rate, particularly in the middle-low-level sections, became more pronounced as the semester progressed. Each week, the researcher observed that more students failed to complete their required assignments, surveys, or evaluations, leading to their eventual exclusion from the study. This resulted in a reduction in all six sections; however, the final participant list revealed a significantly higher attrition rate in the middle-low-level sections compared to the high-level groups, most notably in the 4-skills and No DB groups.

3.3. Procedures

Following the participant details and course structure described in Section 3.2, this section outlines the

procedural steps taken throughout the study. As previously stated, CE1 is a first-year General English course with sections that have three distinct class levels. Each level follows a standardized curriculum established by the department, which includes common primary objectives and a shared textbook series. However, instructors have the autonomy to adjust their course delivery to fit their teaching style and the needs of their students. As such, a BL approach was employed in this study, combining in-class instruction with online DB activities. The DB types were chosen because they provided students with opportunities to practice and build their English skills outside of the classroom. In particular, the 4-skills DB offered extra chances for students to practice speaking and listening through student-created videos. To compare experiences across different learning environments, a No DB group was also included in the study. The DB types were selected to examine how different course designs influenced learning outcomes, with a specific focus on participants' background characteristics. This design aimed to explore how these characteristics shaped student experiences across the three DB types.

To ensure that this study met these objectives, a pilot study was conducted in Fall 2022 to refine the measurement tools and develop a procedural timeline. Insights gained from this pilot study ensured consistency in how tasks were assigned and assessed across DB types, as well as the overall course structure. Table 2 presents a detailed procedural timeline, outlining the sequence of activities and tasks completed throughout the semester.

The timeline presented in Table 2 shows that throughout the 15-week course, all students completed the same tasks across the three DB types and the No DB group. This ensured consistency while accommodating the different structures of each DB type. The final goal of the course was for students to create a 2-5-minute demonstrative speech video, which required them to record a video, self-evaluate their work, and evaluate at least two peer videos. To support this, the course began with initial homework assignments aimed at familiarizing students

with the school's Learning Management System (LMS) and providing them with opportunities to learn how to create digital media. After these preliminary tasks, students participated in four distinct DB activities, each focused on a specific topic (e.g., Likes/Dislikes or Music - Favorite Song). These tasks were customized to the DB type, allowing each group to complete the activities in their corresponding modality. Throughout the course, adjustments were made only to fit the structure of the DB type, ensuring that the course objectives and English language use remained consistent across all groups.

The course structure presented in Table 2 was further supported by specific tasks designed to promote students' skill development. The first phase began with participants completing a background survey, followed by Homework 1, which required students to create an introduction video, allowing them to practice the skills of video creation and submission. Homework 2 asked students to create a 2-5-minute video about their most precious item, serving as a pre-test to assess presentation skills. Additionally, students were asked to complete a self-evaluation of their Homework 2 videos to familiarize themselves with the evaluation rubric. After these initial assignments, students participated in two discussion activities during the first half of the semester, focusing on simple topics like preferences and favorite songs. These activities helped

students become familiar with the different modalities, whether online discussions for the DB groups or graphic organizers for the No DB group. Following DB/Discussion 1, each group created summary videos, allowing them to further practice self- and peer evaluations. Furthermore, following Discussion 2, the No DB group was asked to complete a summary paragraph to align with the expectations of the DB groups. The second half of the course expanded on these activities, with each group participating in more complex tasks, such as debates and preparing topics for their final project. The 4-skills DB group combined video, text-based responses, and peer evaluations to strengthen speaking and listening skills, while the 2-skills DB group focused on reading and writing through text discussions and in-class activities. The No DB group participated in in-person discussions and written assignments, enhancing speaking and writing abilities. All students completed the final project, which involved creating a demonstrative speech video, along with a self-evaluation and evaluations of at least two peers. Lastly, the semester concluded with an end-of-semester survey, allowing students to reflect on their experiences.

Finally, it is important to acknowledge the dual role of the researcher in this study. The author served not only as the researcher but also as the instructor for all six CE1 sections. While this role could introduce biases

(Table 2)

Procedural Timeline for the Study

Week(s)	Goal	Tasks
1	Course Introduction	Background Survey
2	Introduction to Measurement Tools & Learner Training	Pre-test Video (i.e., My Precious Item)
3-5	DB/Discussion 1 (Topic: Likes/Dislike) & Practice the Self- and Peer Evaluation	Complete DB/Discussion 1 (based on DB type) 1 Self- and 2 Peer Evaluations
6-8	DB/Discussion 2 (Topic: Music - Favorite Song)	Complete DB/Discussion 2 (based on DB type) Assignments based on DB type
10-11	DB/Discussion 3 (Topic: Debate - Student Topic)	Complete DB/Discussion 3 (based on DB type) Assignments based on DB type
12-14	DB/Discussion 4 (Topic: Final Exam Topics) & Complete End-of-Semester Questionnaire	Complete DB/Discussion 2 (based on DB type) End-of-Semester Survey
15	Completion of the Final Exam Submit & Evaluate Videos	Post-test Video (i.e., Demonstrative Speech) 1 Self- and 2 Peer Evaluations

in data collection or influence student participation, Griffith (1998) argues that the “insider” role can provide valuable insights into students' experiences that an external researcher might miss. This dual role allowed for closer observations, enhancing the depth and validity of the findings, as the researcher was able to directly observe student interactions and adjust instructional strategies as needed.

3.4. Measurement Tools

This study used three measurement tools to assess the study's five dependent variables: academic achievement, self- and peer evaluation, collaboration, and satisfaction. The first tool was the Public Speaking Competence Rubric (PSCR), developed by Schreiber et al. (2012), which contains 11 items to assess learners' speech presentations. For this study, the original PSCR was adapted to include 10 of the original items to assess students' content, verbal skills, and nonverbal skills. Each participant was required to submit two 2- to 5-minute videos, one at the start of the semester (i.e., the pre-test) and one at the end of the semester (i.e., the post-test). Furthermore, three reviewers, including the researcher, were recruited to evaluate the videos. Reliability for the pre- and post-test videos was confirmed with Cronbach's Alpha values of 0.759 and 0.848, respectively, and inter-rater reliability showed coefficients of 0.853 for the pre-test and 0.870 for the post-test, indicating high reliability.

The second tool was the Tertiary-level English Oral Presentation Scale (TEOPS), proposed by Aryadoust (2015). This 18-item rubric allows students to assess both their own and their peers' presentations, focusing on content, organization, verbal skills, and nonverbal communication. Participants completed self- and peer evaluations twice during the semester: once after the first DB/Discussion and again after the final exam video. Reliability tests showed that the Cronbach's Alpha for the second self-evaluation was slightly higher ($\alpha = 0.876$) than the first self-evaluation ($\alpha = 0.859$), with both considered

very reliable. However, the opposite was true for peer evaluation. The Cronbach's Alpha for the first evaluation was slightly higher ($\alpha = 0.879$) than the second evaluation ($\alpha = 0.850$), with both considered very reliable, confirming the robustness of the TEOPS as an evaluation tool.

The third measurement tool was the end-of-semester survey, adapted from Hsieh (2015), which originally included 34 quantitative questions regarding collaboration, satisfaction, and technology use. For this study, the end-of-semester survey was revised to focus on collaboration, satisfaction, and participants' experiences based on the specific DB type to which they were randomly assigned. The final version contained 23 quantitative items: 9 on collaboration and 14 on satisfaction, using a 4-point Likert scale ranging from “Strongly Agree” to “Strongly Disagree.” Reliability for these sections was high, with Cronbach's Alpha values of 0.881 for collaboration and 0.844 for satisfaction. Additionally, seven descriptive items were added to the end-of-semester survey to complement the existing questionnaire. These items included five Likert-scale questions assessing participants' self-reported English proficiency (reading, writing, speaking, listening, and overall), as well as two preferential questions about their favorite and least favorite assignments. These additions were made to provide greater context regarding students' experiences and perceptions of participating in the study across the three DB types.

3.5. Data Collection and Analysis

Data collection for this study began with the administration of a background survey. Anonymity was a major ethical consideration, and to ensure this, all participant data were securely stored in a locked room and coded with random numbers (e.g., s1, s2...s81) to protect identities. Hard copies of the PSCR and TEOPS rubrics were provided for training, and virtual copies were distributed via the university's LMS. Pre- and post-test videos were organized by participant codes and uploaded

to a cloud service for evaluation. Three evaluators, including the researcher, all with more than ten years of experience teaching General English courses, used the PSCR to evaluate students' academic achievement, and the TEOPS was used by learners to rate themselves and their peers. Self- and peer evaluations along with the end-of-semester survey were collected using Google Forms to maintain consistency across participants. Data were subsequently compiled into a master Excel sheet for analysis, with only the researcher and advisor granted access to sensitive data.

Data analysis for this study utilized factorial analysis of variance (ANOVA) to examine the main effects of the independent variables (i.e., gender, class level, and personality type) on five dependent variables: academic achievement, self-evaluation, peer evaluation, collaboration, and satisfaction. ANOVA tests were performed using Statistical Package for the Social Sciences (SPSS) version 27 to analyze the main effects of each background characteristic (Myers et al., 2013). Secondary analysis was conducted on selected questions from the end-of-semester survey related to each background characteristic that were used to provide context for the quantitative findings. Additionally, as a project 'insider' (Griffith, 1998), the researcher drew on instructor observations to contribute to the interpretation of certain quantitative data findings.

4. Findings

This section presents the findings of the study, drawn from the methods presented in the previous section. Based on the research questions that guided this study, the findings are structured into three sub-sections: 1) Findings Related to Gender; 2) Findings Related to Class Level; and 3) Findings Related to Personality Type.

4.1. Findings Related to Gender

The first background characteristic considered in this study was gender. A factorial ANOVA test was conducted to determine whether significant differences existed between females and males in terms of academic achievement, self-evaluations, peer evaluations, collaboration, and satisfaction. The results for gender are presented in Table 3.

A closer look at Table 3 reveals no significant difference between females and males in terms of self-evaluations, peer evaluations, and satisfaction. However, a significant gender difference was found for academic achievement and collaboration. For academic achievement, $F(2, 78) = 5.72$, $p = 0.019$, partial $\eta^2 = 0.071$, with females ($M = 8.85$) outperforming males ($M = 8.19$). In collaboration, $F(2, 78) = 2.12$, $p = 0.025$, partial $\eta^2 = 0.065$, females ($M = 3.45$) reported higher collaboration levels than males ($M = 3.20$).

The quantitative results for gender showed mixed results, indicating a lack of a clear consensus and aligning with previous research. On one hand, three of the five

<Table 3>

Factorial ANOVA for Gender and the Five Dependent Variables

Dependent Variables	Female ($n = 50$)		Male ($n = 31$)		$F(1-2, 75)$	p	η^2
	M	SD	M	SD			
Achievement	8.85	1.17	8.19	1.16	5.72	0.019*	0.071
Self-Evaluation	3.93	0.39	3.76	0.54	1.67	0.051	0.050
Peer Evaluation	3.70	0.41	3.60	0.59	0.83	0.321	0.013
Collaboration	3.45	0.47	3.20	0.56	2.12	0.025*	0.065
Satisfaction	3.37	0.39	3.22	0.48	1.55	0.082	0.096

Note: *Significance Level at <0.05

dependent variables in this study had no significant differences, which are consistent with prior studies such as Cha et al. (2022) and Machado (2011), both of which also reported no significant gender differences. On the other hand, the two significant findings related to academic achievement and collaboration are in line with other studies suggesting that females often demonstrate better learning styles and higher engagement levels, leading to superior performance (Lee et al., 2003; Suh, 2010; Bostock & Lizhi, 2005; Tsai et al., 2015). To further understand these results, analysis from the end-of-semester survey offered additional context.

One notable observation from the end-of-semester survey was the absence of comments explicitly mentioning gender differences. This supports Valenziano's (2008) suggestion that, while gender may influence learners' interaction patterns, students often do not recognize or acknowledge these differences. This lack of recognition might reflect a diminishing impact of gender stereotypes inside Korean general education classrooms (Lee et al., 2003; Tsai et al., 2015). Nevertheless, future research could explore frameworks (Reyna et al., 2017) that focus on leveraging strengths and addressing challenges specific to each gender group.

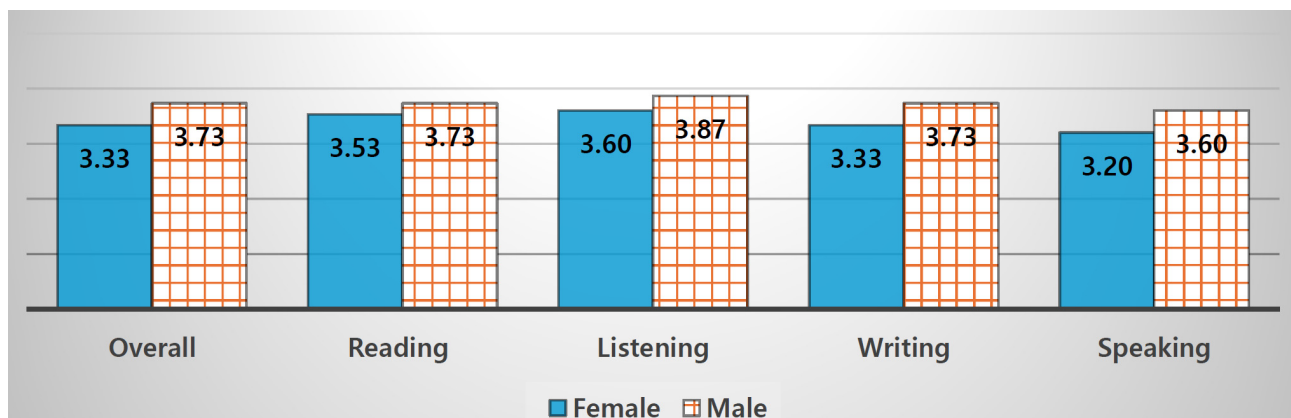
A second notable observation from the end-of-semester survey was the discrepancy in self-reported skill improvements. While Table 3 shows that females statistically

outperformed males in academic achievement, responses to self-reported Likert-scale questions related to perceived skill improvements revealed that male participants self-reported higher gains in every category, as illustrated in Figure 2. This discrepancy might stem from the unequal gender distribution among participants. In this study, females represented approximately 24% more than males, with the 4-skills DB group consisting of around 73% females. Alternatively, this result could suggest that female learners may undervalue their contributions and strengths in collaborative and academic settings.

Finally, observations from this study highlighted the relationship between gender representation and academic majors. As noted in Section 3, many class sections were organized by college, department, or major. This study found that majors such as nursing tend to have a higher percentage of female students, while natural science majors were generally more balanced or had a higher percentage of male students. As noted by Krentler and Willis-Flurry (2005), student characteristics, including gender and major, significantly influence the adoption of ICT tools and class participation. This study extends their findings, suggesting that gender demographics also influence collaboration levels. Notably, female students were found to be significantly more collaborative than males, underscoring the need to consider gender composition when designing BL courses.

[Figure 2]

Self-Reported Skill Gains at the End of the CE1 Course



4.2. Findings Related to Class Level

The second background characteristic considered for this study was class level. A factorial ANOVA test was conducted to determine whether significant differences existed between high-level and middle-low-level learners in terms of academic achievement, self-evaluations, peer evaluations, collaboration, and satisfaction. The factorial analysis results for class level are presented in Table 4.

A closer examination of Table 4 reveals no significant differences between high-level and middle-low-level learners in terms of collaboration and satisfaction. However, significant class-level differences were observed for academic achievement, self-evaluations, and peer evaluation. For academic achievement, $F(2, 78) = 25.71$, $p = 0.000$, partial $\eta^2 = 0.255$, with high-level learners ($M = 9.02$) significantly outperforming middle-low-level learners ($M = 7.85$). For self-evaluations, $F(2, 78) = 7.10$, $p = 0.009$, partial $\eta^2 = 0.240$, high-level learners ($M = 3.96$) scored slightly higher than middle-low-level learners ($M = 3.70$). In peer evaluations, $F(2, 78) = 23.69$, $p = 0.000$, partial $\eta^2 = 0.240$, high-level learners ($M = 3.84$) received higher ratings than middle-low-level learners ($M = 3.35$).

One notable observation from the instructor was related to the attrition/retention rate. As outlined in the methods section, the original design for this study aimed for a minimum of 50 participants per group, and the numbers were on track during the first week. However, as the semester progressed, participant retention dropped sharply.

Of the initial 168 participants, 91 were high-level learners and 77 were middle-low-level learners. By the end of the study, the final sample consisted of 81 participants, with the high-level group retaining 19% more students than the middle-low-level group (i.e., 57% retention for the high-level group compared to 38% for the middle-low-level group). Notably, the middle-low-level section in the 4-skills DB group had a 74% attrition rate, primarily due to absenteeism and failure to complete tasks. This finding highlights the greater commitment and persistence displayed by high-level learners compared to their middle-low-level counterparts. Furthermore, this finding aligns with research by Rodriguez-Juarez and Oxbrow (2010), who asserted that students with higher proficiency levels are often more motivated and dedicated. Thus, the differences in retention rates between high-level and middle-low-level learners support the idea that high-level learners tend to be more academically engaged, resulting in more consistent participation and task completion.

A second key observation from the end-of-semester survey focused on learner motivation, specifically related to task engagement and perceived usefulness. Previous research on class level and DBs suggests that learner preferences, especially regarding DB topics, are more important for high-level learners (Bang & Park, 2020; Yang, 2021). However, this study's results slightly contradicted that assertion. When asked to select their favorite and least favorite DB activities, 23 out of 52 high-level students (i.e., 44%) selected DB/Discussion 2 as their favorite, while 11 out of 29 middle-low-level

(Table 4)

Factorial ANOVA for Class Level and the Five Dependent Variables

Dependent Variables	High ($n = 52$)		Middle-Low ($n = 29$)		$F(1-2, 75)$	p	η^2
	M	SD	M	SD			
Achievement	9.02	0.97	7.85	1.24	25.71	0.000***	0.255
Self-Evaluation	3.96	0.36	3.70	0.57	7.10	0.009**	0.086
Peer Evaluation	3.84	0.34	3.35	0.55	23.69	0.000***	0.240
Collaboration	3.41	0.50	3.26	0.54	1.25	0.268	0.016
Satisfaction	3.34	0.42	3.26	0.45	0.48	0.493	0.006

Note: ***Significance Level at $=0.000$. **Significance Level at <0.01

learners (i.e., 38%) chose the same activity. Similarly, when asked to select their least favorite DB task, both groups selected DB/Discussion 4 (i.e., 32% of high-level students and 41% of middle-low-level learners). These results align with the findings of Irvin and Im (2022), who suggested that learners are more motivated by DB tasks they find enjoyable. This study also highlights that both high-level and middle-low-level learners value engaging and interesting DB topics, underscoring the universal importance of task design in fostering learner motivation, regardless of proficiency level.

4.3. Findings Related to Personality Type

The final background characteristic analyzed in this study was participants' personality type. Specifically, learners' personality types were classified as extroversion or introversion based on self-reported MBTI data. A factorial ANOVA was conducted to assess whether differences between extroverts and introverts existed across the five dependent variables: academic achievement, self-evaluation, peer evaluation, collaboration, and satisfaction. The results are summarized in Table 5.

A closer look at Table 5 revealed no statistically significant differences between extroverts and introverts for any of the dependent variables. These findings contradict prior research suggesting that extroverts might benefit more from active and collaborative approaches, such as BL environments that emphasize speaking and discussion (Chew & Ng, 2016; Harland, 2005; Lee & Lee, 2006; Mirhosseini & Abousaedi, 2023). Given the

lack of significant findings, further analysis of the end-of-semester survey or instructor observations is not necessary.

However, the lack of significant differences may be partly due to the limited scope of the MBTI data. The small sample size (i.e., 58 extroverts and 23 introverts) likely influenced the results. As noted by Zhou (2015), small sample sizes are common in DB research and can inflate or obscure findings, especially when less rigorous methods are employed (Reyna & Meier, 2018). Additionally, the study's focus on the extroversion-introversion preference pair alone may have overlooked other aspects of personality that could influence learning outcomes. Therefore, a more comprehensive analysis, with a larger number of participants per group or the inclusion of additional preference pairs, could provide a clearer understanding of personality's impact on academic achievement, self-evaluations, peer evaluations, collaboration, and satisfaction.

5. Implications

The results of this study contribute to a deeper understanding of how background characteristics, such as gender, class level, and personality type, affect student outcomes in BL environments. Specifically, the findings of this study suggest that gender and class level may play important roles in shaping students' experiences and outcomes in English language learning, particularly in collaborative settings such as a 4-skills DB that utilizes student-created videos. Although no significant findings

<Table 5>

Factorial ANOVA for Personality Type and the Five Dependent Variables

Dependent Variables	Introvert ($n = 58$)		Extrovert ($n = 29$)		$F(1-2, 75)$	p	η^2
	M	SD	M	SD			
Achievement	8.58	1.27	8.65	1.03	0.48	0.489	0.006
Self-Evaluation	3.84	0.45	3.93	0.48	0.70	0.793	0.001
Peer Evaluation	3.63	0.52	3.75	0.36	2.32	0.105	0.058
Collaboration	3.29	0.53	3.51	0.46	1.75	0.084	0.431
Satisfaction	3.25	0.44	3.45	0.37	1.95	0.167	0.025

emerged related to personality type, the results underscore the complexity of interaction effects and highlight the importance of background characteristics in educational contexts. These results have several implications for both English language teaching practices and future research in the field.

The first implication of this study focuses on the role of gender in collaborative learning environments, with several key findings emerging. Firstly, contrary to previous research that reported no significant gender differences in academic achievement (Cha et al., 2022), this study suggests that gender might influence academic achievement in BL environments. Secondly, this study reaffirms prior findings that female students tend to be more engaged and collaborative in online and BL environments (Bostock & Lizhi, 2005). Thirdly, this study also supports Valenziano's (2008) assertion that students often overlook gender differences, despite their potential influence on interactions. These results offer valuable insights for educators aiming to incorporate more BL instructional activities particularly 4-skill DBs. To support both genders effectively, instructors might consider offering more leadership opportunities to females in group settings, while providing structured collaboration opportunities for males who may benefit from additional guidance. Additionally, creating mixed-gender groups, assigning specific roles, or fostering peer mentorship could help balance contributions and promote more equitable learning experiences. Future research should explore how gender influences instructional practices in BL and collaborative learning environments, with a focus on how gender dynamics shape student interactions and learning outcomes. Specifically, quantitative studies exploring gender-based group dynamics, paired with qualitative measures such as interviews or focus groups, could provide valuable insights into how students navigate gender differences in collaborative learning. Overall, these findings highlight the importance of considering gender in academic achievement and collaborative learning, offering practical strategies for educators while suggesting

avenues for future research.

The second implication concerns the impact of class level on learning outcomes. The findings suggest that higher-level students tend to outperform their lower-level peers in academic achievement, self-evaluations, and peer evaluations, aligning with prior research by Bang and Park (2020) and Rodriguez-Juarez and Oxbrow (2010). Additionally, both groups prefer engaging and enjoyable activities, but for different reasons: higher-level students are motivated by the challenge and the opportunity to encourage participation, while lower-level students find these activities enjoyable, which enhances their willingness to engage (Yang, 2021; Rodriguez-Juarez & Oxbrow, 2010). Given these results, instructors should consider modifying their approaches to support students across various proficiency levels. For higher-level students, efforts should focus on offering advanced learning opportunities, such as peer teaching or project-based assignments, to enhance engagement and motivation. In contrast, lower-level students may benefit from additional scaffolding, targeted support, and teacher-led demonstrations, particularly in BL settings emphasizing collaboration. Furthermore, Korean administrators might consider revising the current leveling system to create more proficiency-based groupings. This adjustment would allow students to work with peers of similar abilities, fostering more effective learning. Finally, future research should further explore how class level influences motivation, engagement, and achievement, particularly in BL environments where interaction among students of varying proficiency levels can be leveraged for collaborative success.

The third implication concerns personality type in the learning process. Contrary to prior research suggesting that extroverted students perform better in interactive and collaborative settings (Chew & Ng, 2016; Harland, 2005), the findings show no significant differences in academic achievement, evaluations, collaboration, or satisfaction based on personality type. While no significant effects of personality type were found in this study, further research into how personality traits influence learning

outcomes may provide valuable insights for educators. Given these findings, instructors should avoid making assumptions about students' ability to succeed in collaborative activities based solely on their extroversion or introversion. Instead, they should create inclusive learning environments that accommodate a wide range of personalities, fostering opportunities for all students to engage meaningfully. In Korea, where it has been suggested that self-reported MBTI results could or should influence curriculum design and even career planning (Hong, 2022), it is important to exercise caution in over-emphasizing personality type as the sole determinant of learning approaches. Although personality may offer useful insights, it should not be the primary criterion for designing student-centered BL settings that require collaborative learning. Future research should expand the scope of this study by going beyond the first MBTI pair to explore how other personality traits influence learner outcomes in BL courses. By recognizing the diverse personality traits students bring to the classroom, educators can better support learners in reaching their full potential, especially when it comes to speaking a second language.

6. Conclusion

In the end, this study provides valuable insights into how background characteristics, such as gender, class level, and personality type, affect student outcomes in General English courses within the context of BL. Specifically, the study found gender differences in academic achievement and collaboration, class level differences in academic achievement, self-evaluation, and peer evaluations, and no differences based on personality type across the three DB types. These findings have important implications for improving BL instructional activities and enhancing student success by considering background characteristics in course design. By accounting for gender, class level, and personality type, instructors can better support individual learning needs,

leading to more effective and inclusive educational experiences. These insights extend beyond General English courses, with potential applications in various General Education contexts where diverse student backgrounds are prevalent. Additionally, this study sets the stage for future research into how background characteristics shape student engagement and learning outcomes, which could lead to more nuanced and inclusive BL course designs.

Despite the valuable insights gained from this study, several limitations must be acknowledged. First, the sample size was relatively small, and the distribution for gender, class level, and personality type was skewed. The small class sizes, combined with a high attrition rate, resulted in a lower-than-expected number of participants. This imbalance in participant distribution among the background characteristics suggests the need for future research with a larger, more balanced sample to ensure more reliable and generalizable findings. Second, the study focused on only one preference pair from the MBTI (i.e., Extraversion-Introversion), which limits the scope of personality analysis. Future studies should expand the range of personality traits by including additional preference pairs, such as Thinking-Feeling, to provide a more comprehensive view of personality's influence on learning outcomes. Moreover, while MBTI is widely used in Korea, employing other measurement tools, particularly non-self-reported assessments, could offer more accurate insights into the role of personality in student engagement and success. The last limitation of this study concerns the methodology. Future research should incorporate both quantitative and qualitative approaches to gain a more comprehensive understanding of how background characteristics influence learning outcomes. Specifically, quantitative methods could explore the interaction effects of gender, class level, and personality type on academic achievement and other dependent variables. Complementing this with qualitative methods, such as interviews or focus groups, could yield deeper insights into students' experiences and perceptions. These additional methods would provide a more nuanced understanding of how

background characteristics shape student learning in BL environments. Finally, consideration needs to be given to separating the roles of research and instructor. While there are advantages to having both roles in research, future studies could benefit from clearer boundaries between these two roles. This would help ensure the research process is more ethically sound and that the findings are not overly affected by the instructor's relationship with the students.

Overall, the findings from this study highlight the importance of considering background characteristics when designing BL courses and promoting student success. By acknowledging the differences in gender, class level, and personality type, instructors can tailor their teaching approaches to maximize collaboration and learning outcomes. As the field of BL continues to evolve, it is essential to further investigate these variables to build on the insights gained in this study and refine best practices for effective and inclusive course design.

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교양 영어 혼합 학습 과정에서 배경 특성이 학생 결과에 미치는 영향

- 성별, 학년, 성격 유형

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초록

교양 영어 수업에서 교수자들은 성별, 학급수준, 성격 유형과 같은 다양한 배경 특성을 가진 학생들을 참여시키는 데 어려움을 겪고 있다. 이러한 배경 특성은 학생들의 학습 성과와 참여도에 중요한 영향을 미칠 수 있지만, 온라인 또는 혼합 학습(Blended Learning, BL) 환경에서 이들 특성이 미치는 영향을 다룬 이전 연구들은 제한적인 중요성만을 보이거나 상충된 결과를 제시하였으며, 이에 대한 명확한 결론이 부족하다. 본 연구는 이러한 갭을 해소하기 위해 배경 특성이 BL 과정에서 학생들의 학업 성취도, 자기 평가, 동료 평가, 협력 및 만족도에 미치는 영향을 조사한다. 이 연구는 학생들이 창작한 비디오를 활용한 4-skills 토론 게시판(DB) 접근법을 사용한 BL 과정에서 배경 특성이 학업 성취도 및 협력, 자기 평가, 동료 평가, 협력 및 만족도에 미치는 영향을 분석한다. 연구에는 81명의 학생이 참여하였으며, 이들은 두 개의 실험군과 하나의 대조군으로 나뉘어 한학기 동안 학생 제작 비디오를 제작하고, 본인 및 동료 비디오를 평가하며, BL 활동의 일환으로 설문조사를 완료하였다. 데이터는 성별, 학급수준, 성격 유형의 주요 효과를 분석하기 위해 분산 분석(ANOVA)을 사용하여 분석하였다. 연구 결과, 성별에 따른 학업 성취도와 협력에서 유의미한 차이가 있었고, 학급수준에 따른 학업 성취도, 자기 평가 및 동료 평가에서 차이가 나타났다. 성격 유형에 따른 차이는 나타나지 않았다. 이러한 결과는 BL 과정 설계 시 성별과 학급수준을 고려하는 것이 학생들의 참여도와 학습 성과를 향상시킬 수 있음을 시사한다. 본 연구는 향후 연구와 과정 설계에 대한 시사점을 제공하며 논의된다.

주제어: 배경 특성, 혼합 학습, 성별, 학급수준, 성격 유형