

Blended Learning Approach in Learning English Communication Skills for Japanese College Students

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Abstract

In universities and colleges throughout Japan, traditional teacher-centered teaching methods have long been the norm. This study examines how Japanese college students (JCS) learn English Communication Skills (ECS) and how an innovative blended learning approach affects their progress. The study includes 57 JCS who are enrolled in required ECS courses at a Japanese vocational school. Data were collected through structured interviews and questionnaires using a case study design. The study aims to answer the following questions: (a) How do Japanese college students (JCS) at vocational schools perceive their experience with blended learning in ECS courses? (b) What are the benefits, opportunities, and challenges associated with using blended learning to teach English Communication Skills (ECS) at vocational schools in Japan? The results indicate that JCSs have positive experiences with blended learning, as evidenced by high scores in terms of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), and students are satisfied with the user-friendly Learning Management System (LMS) used in this approach. This study highlights the benefits and challenges of using blended learning to improve ECS among JCS.

Keywords: Blended Learning (BL), Japanese Higher Education, Vocational Schools, Mixed Methods Research, Technology Acceptance Model (TAM)

Introduction

The rapid advancement of digital technology has had a significant impact on higher education in the past 20 years. Educational institutions worldwide have increasingly adopted remote learning to promote student independence, with studies conducted by Namyssova et al. (2019) supporting this trend. However, while this shift to digital platforms expands educational opportunities, concerns have arisen regarding the loss of in-person interactions and its impact on personal communication, as highlighted by Wang (2010). In response to these challenges, blended learning (BL), which combines the strengths of traditional classroom instruction with online learning, has emerged as a prominent educational approach (Garrison & Vaughan, 2008). Blended learning involves a combination of in-person and online learning opportunities, providing a flexible approach that enhances learning outcomes. One example of blended learning is the flipped classroom, where students engage in interactive, applied learning activities during class and have access to course materials online at their convenience.

The worldwide focus on English language competency has resulted in the acceptance and widespread use of blended learning methods in Japanese higher education (Alizadeh et al., 2019; McCarty et al., 2017). Recent research has conducted in-depth investigations and improved blended learning methodologies. Sugiura and Shigeta (2023) investigated the progress of teacher training programmes aimed at improving the use of blended education. Their research highlighted the difficulties of successfully using digital technologies while also

considering the welfare of both teachers and students. In their study, Nagahama, Watanabe, and Shigeta (2023) conducted a comprehensive analysis of the extensive effects of educational technology on blended learning, namely in the period following the COVID-19 pandemic. They highlighted the rise of hybrid educational models that integrate both online and in-person instruction.

This study investigated the application of blended learning (BL) in the instruction of English communication skills (ECS) in a vocational school in Japan. Vocational schools prioritise work readiness and the development of practical skills to meet the demands of the job market. They aim to shape students' learning choices in a way that aligns with their career objectives. Blended learning is a suitable strategy that aligns well with this approach, providing vocational students with a flexible and practical way of learning. Within this distinctive educational setting, students exhibit a strong drive to improve their communication abilities in anticipation of international training and exchange initiatives. The combination of small class sizes and the inclusion of native English speakers fosters an optimal environment that promotes the development of language proficiency and cultural comprehension.

Research Objectives

The main aim of this study is to evaluate the efficacy of blended learning (BL) in enhancing the acquisition of ECS skills among Japanese college students (JCS) who are enrolled in vocational schools. This research primarily aims to analyse the perspectives of JCS (Japanese college students) regarding their experience with BL (blended learning) in learning ECS. Additionally, it seeks to highlight the different potential and problems presented by BL as an innovative teaching approach in higher education. The results of this study will offer significant knowledge about the acceptability and incorporation of BL at vocational colleges in Japan. This will contribute to a wider comprehension of how effective BL is in helping Japanese college students acquire ECS skills.

Research Questions

1. How do Japanese college students (JCS) at vocational schools perceive their BL experience in ECS courses?
2. What are the benefits, opportunities, and challenges associated with employing BL in teaching English Communication Skills (ECS) at vocational schools in Japan?

Literature Review

This study aims to investigate the perception of JCS (Japanese college students) regarding the implementation of blended learning (BL) in specific higher education settings in Japan. Therefore, it is necessary to comprehensively examine BL studies in higher education both in an international context and specifically in Japan. Following that, this study will delve into two fundamental concepts that form the basis of its research: a) the Technology Acceptance Model (TAM) (Taylor & Todd, 1995) and b) Activity Theory (AT) (Leontiev, 1981; Cole, 1996).

Blended Learning in HE: International Context

Blended learning (BL) has emerged as a significant educational phenomenon globally, attracting extensive research across continents aimed at understanding its dynamics. Studies have consistently highlighted a range of factors influencing the effectiveness of BL, from technological to pedagogical differences. For instance, Plata's 2013 research on e-learning readiness demonstrated that adequate preparation of students significantly boosts the success of BL implementations. Similarly, Mozelius and Hettiarachchi, in 2017, synthesized findings from multiple studies to identify crucial determinants of BL success, such as the integration of technology with pedagogical goals, underscoring the need for meticulous planning and evolution of BL strategies.

Further emphasizing strategic approaches, Galvis (2018) presented a different framework suggesting that higher education institutions should align their BL initiatives with their institutional identity, leveraging existing pedagogical and technological resources. This alignment is crucial for fostering a student-centric approach and ensuring robust institutional support for BL. Additionally, Castro's 2019 analysis of scholarly articles and Müller & Mildenerger's 2021 study on learning outcomes revealed that while the synergy between BL theories and technologies enhances learning outcomes, significant variability exists. These outcomes suggest that a tailored approach, sensitive to the specific educational setting, is essential for optimizing learner engagement and achieving effective BL implementations.

Galvis (2018) proposed a framework that highlights the importance of aligning higher education institutions' blended learning activities with their institutional identity. This involves making use of their current pedagogical and technology resources. Ensuring alignment is essential for promoting a student-centric approach and providing strong institutional support for BL. Furthermore, Castro's 2019 examination of academic papers and Müller & Mildenerger's 2021 research on educational achievements demonstrated that the combination of blended learning theories and technologies improves learning outcomes, albeit there is considerable variation. These results indicate that a tailored approach, taking into account the particular educational environment, is crucial for maximising student involvement and delivering successful blended learning implementations.

These worldwide observations highlight the complexities and potential of BL, providing a basis for creating effective BL strategies, especially in the context of Japanese higher education, where such adaptations are crucial.

Blended Learning in Higher Education English Classrooms in Japan

It is crucial to comprehend the convergence of technology, pedagogy, and language acquisition to effectively study the implementation of blended learning (BL) in English language instruction in the Japanese higher education system. Recent work emphasises the changing nature of BL, indicating a shift towards more advanced incorporation of technology and teaching methods.

Studies conducted before COVID-19 have laid a foundation by exploring various facets of blended learning, from pedagogical impacts to the learner and teacher perspectives. For instance, studies by Lander (2015) and Nakayama, Mutsuura, and Yamamoto (2016) emphasized the potential of BL to enhance learner autonomy and self-efficacy through structured and reflective practice. Similarly, Alizadeh and colleagues (2019), Chapman (2019), and Shimizu et al. (2019) have provided insights into the quality assurance in BL courses, the impact on language anxiety, and the application of problem-based learning in medical education, respectively.

The recent studies from 2021 to 2024 extend these discussions, emphasizing the need for continuous innovation and support in BL practices. Sugiura and Shigeta (2023) developed

a teacher training program to assist university teachers in designing blended teaching strategies, addressing both the benefits and challenges experienced by educators in adapting to blended methods. Nagahama, Watanabe, & Shigeta (2023) reviewed the adaptation of blended learning post-COVID-19, noting it as the "new standard of education" that combines online and face-to-face learning to overcome geographical and temporal constraints while improving learning outcomes.

Shibukawa (2021) contrasted traditional classroom preparation with flipped learning, highlighting the optimization of learning time and activities through the strategic use of face-to-face and individual learning sessions. Furthermore, Taimur, Onuki, & Mursaleen (2022) explored the transformative potential of Design Thinking in hybrid learning settings, emphasizing the critical role of engaging and reflective learning experiences in fostering significant educational transformations.

While the scope of research on blended learning in Japan's English classrooms is expanding, a distinct research gap remains, particularly in the context of vocational colleges. This scarcity complicates research design and execution but also presents an opportunity to leverage insights from broader educational contexts to fill existing knowledge gaps. The ongoing research needs to focus on developing a comprehensive theoretical framework that integrates models like Activity Theory and the Technology Acceptance Model (TAM), ensuring a robust understanding of blended learning's potential benefits and challenges in this unique educational setting.

Theoretical framework

Two foundational theories anchor this exploration: a) the Technology Acceptance Model (TAM) (Taylor & Todd, 1995) and b) the Activity Theory (AT) (Leontiev, 1981; Cole, 1996). Their integration into this study is not simply theoretical but operational, guiding the research's design and the interpretation of its findings.

Technology Acceptance Model (TAM)

TAM, developed by Davis in 1989, elucidates the process of accepting and integrating new technologies. The Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1975) serves as the basis for TAM, which emphasises the importance of perceived usefulness (PU) and perceived ease of use (PEOU) in determining the acceptance of technology. Within the BL Backdrop, PU represents the extent to which students believe in the effectiveness of the technology, while PEOU indicates its ease of use. These parameters dictate learners' behavioral inclinations and engagements (Shukor, 2019). A host of empirical research has validated TAM's predictive capacity across varying contexts, encompassing educators' and students' technology perceptions and character traits (Al Busaidi, 2012; Anderson, 2005; Gao & Liu, 2005).

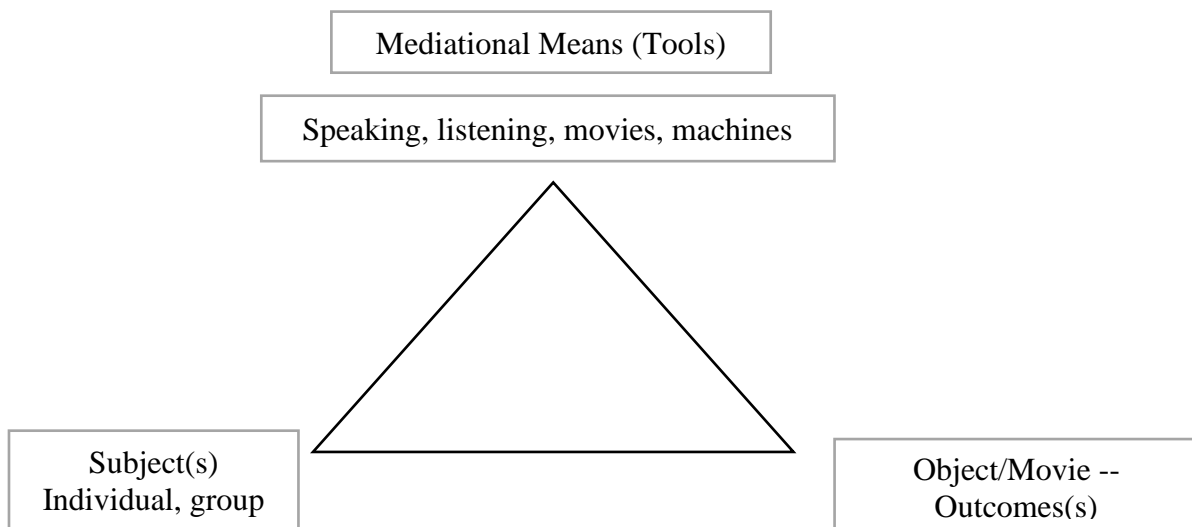
This study directly applies the dimensions of perceived usefulness (PU) and perceived ease of use (PEOU) from the Technology Acceptance Model (TAM) to evaluate the engagement of JCS with the blended learning system. This is accomplished through the use of questionnaires and interviews that are carefully tailored to elicit responses that indicate Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), thereby providing valuable insights into students' motivations and possible obstacles to the adoption of Blended Learning (BL). The data gathered from these devices is subsequently examined to ascertain the relationships between PU, PEOU, and students' satisfaction with the blended learning experience thus validating the relevance of TAM in this educational context.

Activity Theory (AT)

Activity Theory (AT), developed by Kaptelinin and Nardi (2009), explains the interconnections between different components in specific systems, such as education settings. In Vygotsky's initial iteration of AT (1978), the focus was on subjects, objects, and mediational means, as seen in Figure 1. This approach took into consideration the role of historical and cultural mediators in human cognition, as explained by Cole (1996).

Figure 1

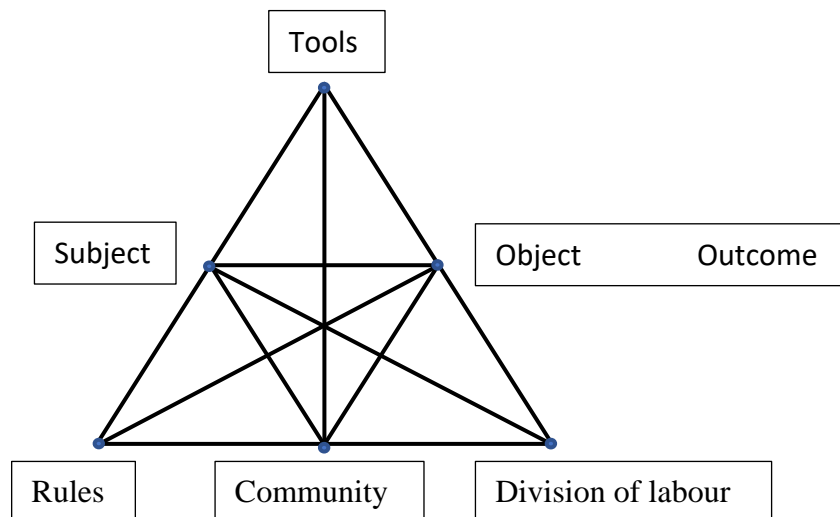
First Generation of Activity Theory



Expanding upon this, Leontiev (1981) proposed the second-generation AT, which included six essential components: subject, object, mediating tools, rules, community, and division of labour. These components are further explained in Figure 2. The focal point of this extended model, whether it be an individual or a group with a clear aim, remains of utmost importance. This helps clarify relationships' complex dynamics (Engeström, 1999).

Figure 2

Second Generation of Activity Theory



Engeström (1999) enhanced the third-generation AT by considering the connections between entities, artifacts, and behaviours, expanding its range. Despite its versatility, the intricate nature of this model presents operating difficulties. Therefore, this research relies on the second-generation AT to examine classroom dynamics in a Japanese vocational school context, with a specific emphasis on improving spoken English abilities through BL.

This study utilizes Activity Theory's (AT) framework (Leontiev, 1981) to analyze classroom dynamics and identify systemic tensions in the blended learning setting. The analysis and description of interactions in this environment are achieved by employing the components of AT, including subject, object, mediating tools, rules, community, and division of labour. In addition, AT's focus on the interactions between individuals reveals underlying conflicts and contradictions in the implementation of BL, which can be used to build strategies for enhancing ECS learning outcomes.

Research Gap

Research on BL in higher education over the past 20 years has consistently shown favorable attitudes toward it and highlighted its potential to produce a well-rounded educational experience (Garrison & Kanuka, 2004; Garrison & Vaughan, 2008). According to studies by Grgurovic (2017) and Liu (2013), BL is still at the forefront of innovative teaching techniques for English language learners despite the advancement of technology. However, there is an apparent lack of attention paid to student perspectives despite the wealth of research on the effects of BL on attitudes among students, especially regarding ECS courses in Japan. The efficacy of online interactions in improving English language proficiency has been highlighted in recent studies (Altay & Altay, 2019; Hseich et al., 2016; Spring & Graham, 2017), indicating the necessity for a thorough investigation of BL in Japanese educational settings. Though there has been much research on BL in this setting, little focus has been placed on the viewpoints of students in vocational schools (Kitada & Harada, 2019). By investigating the perspectives of Japanese college students (JCS) on BL in English Communication Skills (ECS) courses in vocational education settings, this study seeks to close this gap. It aims to comprehend their acceptance, expectations, and the perceived advantages and difficulties of incorporating BL into classes in higher education.

Methodology

Mixed-Methods Approach

Drawing upon the strengths of quantitative and qualitative research methods, this study embraces a mixed-methods approach. Such an approach provides a comprehensive view of the subject, blending quantitative rigor with qualitative depth (McMillan & Schumacher, 2010, p. 395). Specifically, this study employs the explanatory sequential design: it starts with quantitative data collection and then complements this data with qualitative insights, allowing for a thorough exploration of students' blended learning experiences (Creswell, 2007).

Adopting an explanatory case study method (Yin, 2003), this research explores the intricacies of blended learning experiences within a real-life vocational school context in Japan. While single-case studies occasionally face scrutiny for their broader applicability, they undeniably offer rich, contextual insights, making them invaluable for detailed examinations of specific phenomena (Bryman, 2008, p. 56).

Participants

This study involved 57 first-year college students from a Japanese vocational school aged 18 to 24 years. The gender distribution among participants was nearly balanced, with 47.4% males, 49.1% females, and 3.5% (2 students) not disclosing their gender. These students were enrolled in diverse majors ranging from animation design to animal husbandry, reflecting a broad spectrum of vocational interests.

Participants were divided into Class B and Class C based on their admission test scores, aligning with the CEFR levels of B1 and A2, respectively. Class B students are categorized at a B1 level, indicating they are independent users of the language, whereas Class C students are at an A2 level, identifying them as primary users. This classification provided a framework for examining the blended learning experiences of students with varying degrees of English proficiency within the vocational education context.

Course Design and Modules

This study centers on the English oral communication courses taught in the first semester of the 2023 academic year, specifically focusing on classes B-level and C-level. Both class levels utilize the EVOLVE series textbooks published by Cambridge University Press. EVOLVE 3 for Class B and EVOLVE 2 for Class C. Each curriculum level employs a blended learning method, incorporating 12 hours of Student Learning Time (SLT) per week, typically organized as follows:

- 1. Pre-Class Preparation** (1 hour per week): This includes familiarizing oneself with the course objectives and content.
- 2. Pre-Class E-learning** (3 hours per week): Involves online tasks such as video learning of relevant vocabulary and grammar and completing small tests for face-to-face courses. This is facilitated by an internally designed Learning Management System (LMS) within the school.
- 3. Face-to-face oral Classes** (3 hours per week): Comprises two focused sessions of 90 minutes each.
- 4. After-School Oral Tasks** (3 hours per week): These are related to face-to-face courses and include activities such as personal speeches and situational dialogues.
- 5. Exam Preparation and Reviews** (2 hours per week): Includes time for personal oral tests conducted twice a month, as well as mid-term and final written exam review and exam preparation.

This structure ensures that each student engages in a blended learning approach, allowing for the comprehensive development of their English communication skills.

Learning Management System (LMS) at this Vocational School

The primary e-learning platform at the vocational school is an LMS based on Moodle. While the LMS was designed with numerous features, it has been refined to meet students' specific course-related needs. The instructional approach echoes the flipped classroom model in blended learning: Students access course material online before in-person sessions, optimizing the practice of oral skills during face-to-face classes (Bergmann, 2012; Leis, 2022)

Introduced in 2001 at Waseda University in Japan (Umezawa et al., 2019), the LMS and blended learning approach has gained traction in Japanese higher education. In this

vocational school, students use the LMS for pre-uploaded videos as part of their English communication course and are expected to complete these online tasks before attending in-person sessions; this influences their attendance rate. While the LMS offers interactive features between students and educators, its current utilization primarily involves accessing test results and attendance records rather than direct communication. In essence, the LMS augments the face-to-face classroom experience in this vocational school by supporting students' blended learning endeavors.

Data Collection Methods: Surveys and Interviews

This study utilised questionnaires and semi-structured interviews to gather both quantitative and qualitative data on students' experiences and attitudes towards blended learning.

Quantitative Data: Survey

Surveys, as recommended by Fraenkel & Wallen (2012), were employed to capture students' perceptions and attitudes toward blended learning. Administered online via Google Forms during weeks 7 and 8 of the semester, students accessed the survey through a QR code. Google Forms allowed efficient data collection across devices, with results importable into SPSS. The questionnaire was structured to align with the Technology Acceptance Model (TAM) questionnaire, which had three sections (Davis, 1989):

1. Demographics - 6 questions.
2. Likert Scale Items - The Likert scale used was a 5-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), facilitating analysis of attitudes toward technology adoption. 12 questions assessing perceptions of the LMS, blended learning environment, and content. These items were adapted from existing validated instruments used in prior TAM studies and modified to fit the specific context of this research. Adjustments were made based on feedback from a pilot study to ensure clarity and relevance to the vocational school setting.
3. Open-ended Questions - 7 questions for deeper insights.

Descriptive statistics summarized the responses. A total of 57 valid responses were analyzed.

Qualitative Data: Interviews

Four students, identified as S1-S4, participated in semi-structured interviews that were performed using Activity Theory. The purpose of these interviews was to get insight into the learners' viewpoints and validate the accuracy of the questionnaire data (Patton, 2002). The four chosen students exhibited diverse interactions with the fundamental elements of the AT system, specifically tools, rules, community, and division of labour. The selection criteria comprised the students' classroom performance, pre-class test scores, clearly defined learning objectives, and their corresponding CEFR levels:

S1: A Japanese student with a CEFR level of A2, highly motivated and consistently engaged with the Learning Management System, illustrating the influence of tools on learning engagement.

S2: Another Japanese student at CEFR level B1 with average motivation, who actively participated in discussions about the rules and guidelines of blended learning, providing insights into rule adherence and interpretation.

S3: From Hong Kong, studying in Japan at a CEFR level B1, focused on improving English for better job prospects. S3's contributions highlighted community interactions, enhancing our understanding of cultural influences in the learning environment.

S4: An Indonesian student, also at CEFR level B1, demonstrated how the division of labor impacts learning by coordinating group activities.

The interviews offered valuable insights into the unique experiences and motivations of students with varying backgrounds and levels of proficiency. This enhanced the comprehension of how blended learning affects a diverse student population, as seen in Table 1.

Table 1

Interview questions inspired by Activity Theory

Elements of Activity Theory	Interview Questions
Tools	How do the LMS, teaching and learning materials and the flipped approach (all these make up the tools) help you learn communication skills?
Subject	How has BL helped you become more confident speaking English?
Object	Has blended learning made you more confident in using English?
Rules	In what way do the LMS, teaching, and learning materials and the flipped approach (all these make up the tools) help you in learning communication skills?
Division of labour	How has the BL approach helped you in preparing and organizing your learning?
Community	How different is it learning in a BL class compared to the traditional class?

Pilot Study

Pilot studies are integral to improving the design and clarity of research questions by offering preliminary insights and identifying potential designs (Hulley,2007; Oppenheim, 1992). This study utilized a pilot phase to refine the questionnaire and interview design for optimal clarity and relevance.

Pilot: Questionnaire Survey

Feedback on the questionnaire's feasibility was sought initially from three English instructors:

1. An instructor from the vocational school suggested reducing the number of open-ended questions for better student focus.
2. An English teacher from Canada Indicated the presence of redundant questions that needed revision or omission.
3. A lecturer from another Japanese university recommended a 'prefer not to say' option for the gender question and clarity on educational levels.

Further consultation with program directors and teachers from various majors led to the modification of some Japanese phrasing, the introduction of a detailed blended learning explanation in Japanese, and the clarification of the student current instruction mode. Consequently, the questionnaire became bilingual. In addition to the target first-year student group, a junior student who had substantial experience with the blended learning technique at this vocational school also tested the questionnaire. Despite not being a member of the target group, the junior student contributed valuable insights.

Pilot: Interview Questions

Feedback on interview questions, based on the Cultural Historical Activity Theory (CHAT) (Nussbaumer, 2012), was collected from the two teachers and the junior students who piloted the questionnaire. After conducting two face-to-face interviews and one interview via Zoom, the recommendation was made to simplify the questions and start with a casual chat before moving on to more structured questioning. The feedback from the students further emphasised the significance of conducting interviews in the participants' mother tongue to elicit a more genuine and comfortable response.

Data Analysis

Quantitative Data Analysis

Quantitative data was analysed using SPSS 28th edition to examine students' perspectives on the blended learning environment based on the Technology Acceptance Model (TAM) (Ma & Schapira, 2017). The data's symmetrical form and the importance of the central peak were emphasised using a Bell Curve distribution (Amrhein et al., 2019). Consistent with the findings of Amrhein et al. (2019), this study prioritised clear and comprehensive reporting rather than drawing skewed or restricted conclusions.

Qualitative Data Analysis

A manual coding thematic analysis was chosen for the qualitative data. Given the smaller interview sample, this method was seen as more intimate and effective than software like NVivo, often reserved for larger datasets (Hill, 2020; Saldaña, 2016). Data analysis was cyclical, with initial coding happening alongside data collection, allowing for the organic emergence of themes (Rogers, 2018). Focused coding further aided the extraction of prevalent categories (Saldaña, 2016).

Guidance from Braun and Clarke (2006) facilitated the six-phase analytical approach:

1. Familiarization with data: Transcription, repeated reading, and early annotations.
2. Generating initial codes: Systematic data categorization.
3. Searching for themes: Consolidating codes into potential themes.
4. Reviewing themes: Assuring theme relevance across coded data and the dataset.
5. Defining and naming themes: Refining and labeling identified themes.
6. Producing the report: Drafting a comprehensive analysis, linking back to research objectives.

Interview recordings underwent a multicultural transcription process due to the diverse participant backgrounds: Two Japanese students, one from Hong Kong and another from Indonesia. Initial codes were grouped based on Activity Theory and then further refined into broader themes, shedding light on participants' blended learning experiences.

Research Ethics

Ethical considerations in research are of paramount importance. Prior to data collection, participants were provided with comprehensive information about the purpose and methodology of the study. This information was conveyed through a research information sheet, which included the study title, abstract, and researcher contact information (British Educational Research Association [BERA], 2018).

Furthermore, participant consent forms were disseminated to ensure participants' understanding and voluntary agreement to participate in the study. These forms emphasized essential details about data collection procedures, privacy rights, and data protection strategies.

Participation in this study was entirely voluntary. While the research was conducted in Japan, ensuring that the ethical considerations were culturally and contextually appropriate was paramount. Participants were informed of their right to withdraw at any stage without facing any consequences. Confidentiality is assured, and all collected data were securely stored, complying with the ethical guidelines outlined by BERA for educational and social science research (BERA, 2018).

Findings and Discussion

Demographics

English learning habits of the 57 first-year students:

- 70.2% studied 2-3 times weekly.
- 24.6% studied once weekly.

A significant driver for this frequency was the compulsory LMS (Learning Management System) engagement for course preparation, contributing to their attendance rates. Yet, independent online English self-study was infrequent among participants.

For the majority (64.9%), Blended Learning was a novel educational approach. Familiarity with the LMS system varied:

- 10.5% were highly familiar.
- 52.6% had a basic understanding.
- 36.5% were unfamiliar.

This data emphasizes the importance of thorough student orientation for the LMS system and tailored pedagogical approaches for effective Blended Learning implementation. Table 2 shows the demographic and learning habit breakdown of the sample.

Table 2

Demographic and Learning Habit Breakdown of Sample

Characteristic	Percentage (%)	Total Number
Gender - Male	47.4	27
Gender - Female	49.1	28
Gender - Undisclosed	3.5	2

Age range	18-24 (100%)	57
Frequency of English study (2-3 times a week)	70.2	40
Frequency of English study (once a week)	24.6	14
Exposure to Blended learning (None)	64.9	37
Familiarity with the LMS system (Highly familiar)	10.5	6
Familiarity with the LMS system (Somewhat familiar)	52.6	30
Familiarity with LMS system (Not familiar at all)	36.5	21

Presentation of Quantitative Data

Reliability and Validity Analysis

Reliability in quantitative research pertains to the repeatability of results (Twycross & Shields, 2004). The Cronbach's Alpha statistic, which measures reliability, yielded a score of 0.879 for the 25-item questionnaire rooted in the TAM Model, signifying a solid psychometric characteristic as it is above the recommended threshold of 0.7 (Pallant, 2013).

To assess factor analysis suitability, the study employed the KMO measure and Bartlett's test of sphericity (Field, 2024). The obtained KMO value of 0.766 signifies data appropriateness for factor analysis, and Bartlett's test being significant ($p < .001$) reinforces this finding (Figure 3).

Table 3

Results of KMO and Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.766
Bartlett's Test of Sphericity	Approx. Chi-Square	369.382
	df	66
	Sig.	<.001

In conclusion, the questionnaire's high Cronbach's Alpha values for all items, as well as the satisfactory KMO and Bartlett's test results, indicate the high reliability and validity of the dataset and its suitability for factor analysis.

RQ1: How do Japanese college students (JCS) at vocational schools perceive their BL experience in ECS courses?

Using the Technology Acceptance Model (TAM), student perceptions were divided into Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude towards Technology, and Behavioral Intent (BI). Table 4 summarizes students' perceptions:

Table 4:*Japanese College Students' Perceptions of Blended Learning in English*

Items	Mean	Std_Dev	Skew	Kurt	
Perceived Usefulness (PU)					
LTS1	My blended English learning experience has helped me improve my ability to speak English.	3.6491	0.8270	-0.5740	0.6898
LTS2	I find blended English learning helpful in improving my four English language skills.	3.8596	0.8673	-0.8548	1.0015
LTS3	I would recommend my blended English learning experience to my friends who are also learning English.	3.6667	0.9048	-0.2895	-0.0453
Perceived Ease of Use (PEOU)					
LTS4	I found the learning management system (LMS) for blended English learning to be easy to navigate.	3.2632	0.8333	-0.3200	-0.5664
LTS5	I found it easy to access course materials and complete assignments on the LMS.	3.4912	0.9389	0.0254	-0.8872
LTS6	I feel comfortable asking questions or participating in discussions on the LMS rather than directly asking the teacher in class.	2.9298	0.7460	0.1140	0.1623
Attitude towards Using this Technology					
LTS7	I am satisfied with my blended English learning experience.	3.5439	1.0772	-0.5345	-0.5571
LTS8	I am motivated to use the LMS to complete course assignments.	3.7544	0.9418	-0.2499	-0.8640
LTS9	Blended English learning suits my learning style and needs.	3.4561	0.8598	0.1359	-0.6267
Behavior Intention					
LTS10	I intend to continue using blended English learning in the future.	3.4386	0.9555	-0.0056	-0.4461

LTS11	I will recommend blended English learning to other students studying English.	3.5965	0.8348	0.1456	-0.6705
LTS12	If I had the opportunity, I would take another course that uses the same blended learning method.	3.0175	1.0512	0.2369	-0.5603

The conclusion about students' strong inclination towards the efficacy of blended learning, particularly in enhancing oral English skills, is drawn from the mean scores of the Perceived Usefulness (PU) items. Specifically, the items LTS1 and LTS2, which directly relate to the improvement of English language skills through blended learning, have mean scores of 3.6491 and 3.8596, respectively. These scores are above the neutral midpoint of 3 on a 5-point scale, indicating that students generally agreed or strongly agreed that blended learning had a positive effect on their ability to speak English and on their overall English language skills.

High scores across Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) items suggest that the Learning Management System (LMS) was deemed user-friendly, and there is a strong belief in the benefits of the blended approach. Specifically, for PU, students recognized that blended learning had a positive impact on their language competencies, as evidenced by average scores exceeding 3.6. However, the variability in these scores, as indicated by standard deviations around 0.83 to 0.90, suggests that while many students were quite positive, there was some divergence in opinions.

PEOU metrics underscore the user-friendliness of the LMS with average scores above 3.2, although the standard deviation of up to 0.94 points to some inconsistencies in these perceptions. The lower score of 2.9298 for LTS6 reveals a notable hesitation among students to engage in LMS discussions, possibly indicating a preference for direct interactions within the classroom. This is further highlighted by the highest standard deviation observed for LTS6, suggesting a broad range of feelings about the use of LMS for communication.

Students expressed a motivation to use the LMS for assignments, with an average score of 3.75. Nonetheless, the average score of 2.9 for LTS6 signals a reluctance to utilize the platform's interactive features, which is confirmed by its skewness closer to zero, indicating a more evenly distributed set of responses with no significant lean towards agreement or disagreement.

For Behavioral Intention (BI), the average scores suggest a neutral-to-positive attitude towards adopting blended learning in future courses, yet the score for LTS12 indicates some hesitancy, which could be due to limited prior exposure to such methods. The kurtosis values across the items, particularly those that are negative, suggest that the distribution of responses is generally flatter than a normal distribution, indicating a wide variety of opinions and experiences among the students.

Overall, while students acknowledged the utility of the LMS, the measures of standard deviation, skewness, and kurtosis reveal a need for further encouragement to fully exploit the interactive capabilities of the LMS and embrace blended learning more enthusiastically in the future.

RQ2: What are the benefits, opportunities, and challenges associated with employing BL in teaching English Communication Skills (ECS) at vocational schools in Japan?

The Benefits of Blended Learning in Teaching English Communication Skills

From the qualitative interviews, three themes emerged: benefits, affordances, and challenges (Table 5).

Table 5*The Benefits of Blended Learning in Teaching English Communication Skills*

Theme	Frequency	Categories	Frequency
Benefits	23	Accessibility	5
		LMS Design& Navigation	8
		Learning Motivation	9
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		Time Saving	6
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		Time Management	2
		Network Connection Issues	1
		Dependence on Translation Software	4

Accessibility. Students highlighted the importance of stable internet access for successful blended learning. S1 spoke of connectivity issues, while others had consistent home Wi-Fi. Campus internet sometimes lagged. Technical issues with the LMS included mobile access problems, though its design was appreciated for its ease. However, a significant drawback was its dependency on continuous online connectivity, limiting offline learning.

Blended Learning Experience. While the LMS's utility was recognized, students expressed wanting reminders or notifications. The system's flexibility, despite its closure on late submissions, was appreciated. Still, students preferred direct teacher interaction over the LMS's communication functions, evidenced by S4's comment: *"No student uses the LMS's questioning function. For questions, it's easier to ask classmates through LINE or directly ask the teacher in class."*

Attitude towards LMS and Learning Motivation. Most students viewed blended learning favorably. The external pressures, like course requirements, were evident. However, S4 expressed genuine enjoyment of English learning. S1 spoke of the confidence boost received from peers, stating: *"With the teacher's encouragement and peer support, I strive to learn the LMS content better."*

The Affordances of Blended Learning in Teaching English Communication Skills

Expansion of F2F Classroom

The LMS was seen as a valuable supplement to classroom learning. S2 explained its benefit on the go: *"I use the video capture function to save test questions as images on my phone. I review these... during tram rides."*

Time Saving. LMS offered learning continuity. S3 expressed: "*Sometimes I have to miss F2F English classes due to other school activities. However, I can still complete tests and study on LMS...*"

Continuous Learning. LMS supported students' busy schedules. S4 highlighted its flexibility: "*I can study on LMS during the commute, saving time...*"

The Challenges of Blended Learning in Teaching English Communication Skills

English Language Proficiency. Students' limited vocabulary and reading skills posed challenges. S1 mentioned: "*I initially thought college would be free from heavy homework, but LMS grammar and vocabulary tests must be completed.*"

F2F Course Content. The desire for more direct, topic-specific speaking practice was evident. S2 questioned the interrelation between LMS assignments and attendance.

Time Constraints. Students struggled with managing time, especially when other commitments overshadowed English learning. S2 admitted: "*I had to spend a lot of time on my personal work... I didn't have the motivation to learn English.*"

Internet Connectivity. Internet issues like slow video buffering affected engagement, as S1 mentioned, leading to distractions like social media.

Dependence on Translation Software. Relying on translation software hindered English improvement. S3 revealed: "*Sometimes, I feel that my English reading ability hasn't improved because I habitually use Google Translate.*"

Contradictions and Tensions Using Activity Theory

Activity Theory's application highlighted contradictions and tensions in students' English learning attitudes. This model considers students as participants, with tools like learning resources, computers, and practical activities mediating the transformation process from objectives to outcomes.

Community Contradiction. A tension was observed between the students' participation and the school's role in the community. S2 highlighted a disconnect between teacher feedback and understanding one's performance: "*After the speech ended, I didn't know my rating...*"

Object Contradiction. Different attitudes towards English learning influenced participation. For some, peer pressure was a challenge, as S2 mentioned: "*If everyone doesn't discuss, I can only stay silent.*"

Discussion

The results of the current investigation highlight the effectiveness of blended learning in enhancing Japanese vocational school students' spoken English proficiency. This is supported by the positive feedback received regarding the blended learning environment facilitated through the Learning Management System (LMS) (Davis, 1989). The positive feedback from vocational school students regarding the blended learning environment can be attributed to their inherent focus on career readiness and practical skill acquisition. Unlike

students in more traditional academic settings, who might prioritize theoretical knowledge, vocational students are likely to value blended learning for its ability to blend theoretical and practical learning experiences. This focus on direct applicability and career relevance makes BL a particularly effective approach in vocational education settings.

The results of this study are consistent with the core principles of the Technology Acceptance Model (TAM) introduced by Davis (1989), which formed the theoretical foundation for this research. The concepts of perceived usefulness (PU) and perceived ease of use (PEOU) are crucial variables in the adoption and integration of new technological platforms, as outlined by Davis (1989) in the context of TAM. Accordingly, vocational students' positive attitude towards blended learning appears to be influenced by their acknowledgement of its immediate advantages (PU) and the user-friendly interface of the Learning Management System (PEOU) (Teo, 2009).

Significantly, the variation in students' responses, as indicated by the standard deviations, skewness, and kurtosis, reflects a diversity of experiences and perceptions (Ginns & Ellis, 2007). While the majority of students expressed positive views, the range of responses suggests that not all students found the LMS equally intuitive or beneficial. This variation highlights the importance of adaptive pedagogical strategies that can accommodate a wide range of learner preferences and abilities (Neumeier, 2005).

Skewness and kurtosis further shed light on the nature of this variability (Motoyoshi et al., 2007). Skewness, which represents the asymmetry of the distribution, indicates that while many students may have a tendency towards positive perceptions of the LMS, there is a significant minority whose experiences may differ considerably. A positive skew suggests that more students had experiences better than the average, whereas a negative skew would imply the opposite (Kim & Anderson, 2010). Kurtosis, which indicates the "tailedness" of the distribution, provides insights into the extremity of perceptions. High kurtosis indicates that more students had extreme views (either very positive or negative) compared to a normal distribution (Angrawan, 2019).

This diversity in perceptions and experiences underscores the necessity for adaptive pedagogical strategies within blended learning environments. Recognizing that students have varying levels of comfort and familiarity with digital learning tools, it becomes crucial to design learning experiences that are flexible and inclusive.

Strategic Insights for Enhancing Blended Learning

To further improve the effectiveness of blended learning in vocational education, several strategic insights can be considered. These insights aim to address the varying levels of familiarity and comfort students have with the LMS, and to create a more inclusive and engaging learning environment. The following recommendations provide a roadmap for educators to enhance their blended learning strategies:

Firstly, individualized learning paths should be implemented. This involves creating multiple pathways through the LMS content to cater to different levels of prior knowledge and digital literacy. For instance, offering "beginner" and "advanced" tracks for certain modules, or allowing students to choose between text-based and video-based content based on their learning preferences, can greatly enhance the learning experience.

Secondly, enhanced support structures are essential. Given the range of familiarity with the LMS among students, providing additional support mechanisms such as tutorial sessions on using the LMS, a helpdesk for technical issues, or peer mentorship programs can help reduce the learning curve and encourage a more consistent and positive experience.

Thirdly, incorporating feedback loops is crucial. Regular feedback mechanisms should be integrated into the blended learning experience to identify students who are struggling with

the LMS. This can be achieved through periodic surveys, reflection assignments, or analytics within the LMS to track engagement levels.

Lastly, pedagogical flexibility is necessary. Educators should be prepared to adjust their teaching strategies based on the diverse needs of their students. This might involve varying the type and frequency of LMS-based assignments, offering alternatives to online discussions for those less comfortable with digital interaction, or providing more in-class support for LMS activities. By acknowledging and acting on the diversity of student experiences with the LMS, educators can ensure that blended learning environments are more equitable, engaging, and effective for all students. This approach not only enhances the overall learning experience but also supports the development of resilient and adaptable learners prepared for the challenges of the 21st-century educational landscape.

Furthermore, the high average scores for items encapsulating Perceived Usefulness (LTS1, LTS2, LTS3) and Perceived Ease of Use (LTS4, LTS5, LTS6) underscore the students' belief that blended learning is instrumental in improving their English capabilities and that the LMS is user-centric. These patterns strengthen the credibility of the Technology Acceptance Model (TAM) as an effective predictor for the adoption of technology, particularly in academic contexts (Al Busaidi, 2012; Gao & Liu, 2005).

The semi-structured interviews, complementing the quantitative data, provide insights into the intricacies of students' educational experiences within the blended learning context. These insights were analyzed through the lens of the second-generation Activity Theory (AT) as conceptualized by Leontiev (1981). The six pivotal components of AT—subject, object, mediating artifacts, norms, community, and roles—manifested distinctly in the students' interactions with the blended learning system and their academic peers. This interconnected matrix of components, integral to students' blended learning experiences, supports the concepts posited by Leontiev (1981) and Engeström (1999).

The findings of this study advocate for a carefully tailored blended learning approach, supported by a well-designed LMS, to enhance English language learning among vocational students in Japan. This approach should consider the variability in student familiarity and comfort with digital learning platforms, ensuring that all students can fully engage with and benefit from blended learning experiences.

Moreover, the effective integration of TAM and AT provides a comprehensive framework for examining students' interactions with blended learning. These theories offer valuable insights into the factors that influence students' acceptance and effective use of technology in their learning journey. Therefore, educators and curriculum designers are encouraged to leverage these insights to create more engaging, effective, and inclusive blended learning environments.

Conclusions, Implications, and Recommendations

This research provides important insights into the enhancement of English Communication Skills (ECS) through blended learning in Japan's higher vocational education.

Focus on User Experience: The findings emphasize the significance of students' perceived usefulness (PU) and perceived ease of use (PEOU). It is crucial for course designers to prioritize a user-friendly Learning Management System (LMS) interface, along with clearly defined academic benefits of blended learning. An easily navigable LMS not only simplifies access but also enhances the overall learning impact, assisting students in their language acquisition efforts.

Relevance of Theoretical Frameworks: The applicability of the Technology Acceptance Model (TAM) and Activity Theory (AT) in the context of blended learning in vocational

schools is reaffirmed. These models help educators understand the complex dynamics between learners, technology, and the overall learning environment. Insights from TAM and AT can preempt potential challenges, fostering a rewarding learning environment.

Significance of Teacher Training: The results highlight the need for comprehensive training for educators in blended learning approaches. Such training enhances educators' proficiency with LMS tools, optimizing student learning experiences. Moreover, well-trained educators can contribute valuable insights to research, thereby strengthening the data collection process.

Validation of Blended Learning for ECS: Students' favorable attitudes towards blended learning indicate its potential to enhance English oral communication skills, a critical aspect of ECS. These findings can guide the development of future blended learning strategies, particularly in similar vocational education settings.

In essence, this study adds significant value to the ongoing discussion on blended learning in Japan's distinctive educational landscape, with a focus on enhancing students' English communication skills. The derived implications pave the way for more effective and refined blended learning approaches in the future.

Implication and Recommendations

Streamlining Student Transition to LMS Blended Learning

The study highlighted the importance of orienting students to LMS Blended Learning. A key aspect of this transition is providing students with information about their engagement tracking, login statuses, and terms agreement by instructors. It is crucial for students to understand features such as attendance recording, online check-ins, and study logging. However, the research found that there is a lack of clarity regarding certain functions, such as posting queries or seeking counselor assistance during e-learning. The dual-edged nature of e-learning monitoring, as both a motivation source and a pressure point, necessitates efficient troubleshooting mechanisms. Initiating face-to-face sessions to address students' e-learning challenges can foster a vibrant learning atmosphere.

Elevating Teacher Proficiency in Blended Instruction

Teachers play an indispensable role in classroom dialogue and in shaping students' cognitive growth. Therefore, it is essential for teachers to understand the rationale behind online content, its benefits, and its significance for students. Teachers should integrate LMS content into classroom activities and allocate time for student queries. An immersive approach, such as projecting online content for collective discussion, can provide direct feedback on student engagement and comprehension. By integrating online content into the classroom, the focus on advanced online content can drive cognitive gains. In the classroom, fostering participative discussions, gathering student feedback on LMS content, and addressing online challenges can strengthen a communal learning spirit. Recognizing student achievements in blended learning can enhance their English oral proficiency and cultivate a positive attitude towards the blended pedagogy.

Limitations

While this study offers interesting insights, it is important to acknowledge its limits. A significant constraint is the dependence on a solitary administration of the questionnaire, which occurred only once during the middle of the semester, specifically around weeks 7 or 8 of the 15-week course. This single snapshot may not fully capture the dynamics of students' experiences, as their perceptions could be influenced by various factors at a particular time,

such as academic stress or recent feedback. Having repeated measures throughout the semester would have provided a more comprehensive view of the students' evolving interactions with blended learning.

Another significant limitation is related to the pilot testing phase of the questionnaire. Ideally, piloting the questionnaire should have involved distribution to a subset of the targeted population, i.e., first-year students, to ensure its suitability for the target demographic. However, due to constraints at the time of the pilot study, only a junior student with extensive experience with the blended learning system was involved. This student's in-depth familiarity with the system allowed for valuable feedback on aspects such as the intuitiveness of the interface and the clarity of instructions. Nonetheless, the lack of involvement of first-year students in this phase is acknowledged as a limitation, as it would have provided additional assurances of the survey's appropriateness and relevance for the target group. Future studies should aim to include a representative subset of the intended population in the pilot phase to enhance the reliability and validity of the questionnaire.

Moreover, the study specifically targeted students enrolled in Levels B and C of the first-year English Communication Skills (ECS) course at a vocational school. Increasing the duration of the study to cover the entire semester or employing a multi-case method could have enhanced the reliability and validity of the results. Furthermore, my position as the primary instructor may have inadvertently created biases.

Another constraint pertains to the inclusion of double-barreled items in the questionnaire. Double-barreled items, which combine two distinct concerns into one question, can create confusion and compromise the accuracy of responses. This methodological concern is acknowledged as a constraint since it has the potential to create uncertainty in the interpretation of the findings. In order to maintain clarity and precision in data gathering, future research should refrain from using double-barreled questions.

Finally, the methodological approach has specific constraints. Despite utilizing a mixed-methods approach, the absence of observation logs hindered the possibility of conducting a triangulation analysis. The lack of an experimental group for comparison with the blended learning cohort restricted the extent of the comparative study. Increasing the number of respondents could have allowed for more in-depth qualitative insights, leading to a more comprehensive grasp of the intricacies of blended learning. This expansion may have provided a comprehensive comprehension of student perceptions and the intricate dynamics they negotiate, as emphasized by Activity Theory.

Conclusion

This study highlights the important impact blended learning can have on vocational education. However, it is crucial that such initiatives are carefully planned and implemented, taking into account the different needs and preferences of students. As educational technology advances, we must also adapt our teaching and learning methods to ensure that all students can benefit from these innovations. This research is a first step towards fully harnessing the power of blended learning to improve language skills and enhance the educational experiences of vocational students in Japan and beyond.

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