



## Academic Engagement and Task Completion in L2 Listening through Mobile-Assisted Blended Learning (MABL) in Higher Education\*

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### ABSTRACT

Pyo, Jihoon and Chung Hyun Lee. 2022. Academic engagement and task completion in L2 listening through mobile-assisted blended learning (MABL) in higher education. *Korean Journal of English Language and Linguistics* 22, 1389-1416.

This study aimed to investigate students' academic engagement, actual task completion, and ensuing learning outcomes in L2 listening classes. 91 undergraduate students who attended college English courses in Korea participated in the study that implemented a mixed-research design. The participants were randomly assigned to the MABL instruction and the conventional instruction groups for L2 listening. The quantitative data were gathered through the questionnaire, offline and online activity records, and repeatedly measured LC tests. The interview and reflective journal data qualitatively supported the quantitative results. The findings are as follows. First, the students who experienced MABL showed significant differences with those who did not regarding their perceived academic engagement and attitudes toward online activities. The experimental group students revealed significantly higher completion frequency than the control group in the online listening activities and favored collaborative listening activities in online sessions. Second, L2 listening instruction through MABL positively impacted the development of L2 listening skills. Based on the findings, limitations and suggestions for further study are discussed.

### KEYWORDS

mobile-assisted blended learning, L2 listening, academic engagement, collaboration, task completion

## 1. Introduction

Despite its significance, L2 listening has been regarded as the covert skill taken for granted in L2 learning (Field 2008) and one of the mediums to prepare learners for other L2 skills (i.e., speaking and reading). Teaching and learning listening skills in English as a foreign language (EFL) context have also encountered difficulties from insufficient exposure and limited learning opportunities to the target language outside the classroom. Some scholars suggested implementing mobile-assisted language learning (MALL) and blended learning to break through such difficulties in L2 classes (Baek and Lee 2021, Jia and Hew 2022, Kang and Lee 2020, Kim 2013, Lee and Lee 2012, Read and Kukulska-Hulme 2015). Blended learning has attempted to combine the positive traits of in-person and online learning environments to provide learners with extended learning opportunities without constraints from time and space. Some previous studies on blended learning elucidated its pedagogical advantages in L2 listening instruction (Lee and Lee 2012, Yang and Kuo 2021). The notable development of mobile technology and mobile devices' growing portability, authentic app content, convenience, individuality, and ubiquitous affordances contribute to a great potential in teaching and learning L2 skills (Botero, Questier and Zhu 2019, Jung 2015, Kim 2013, Sung, Chang and Yang 2015). Previous studies on MALL and blended learning in L2 listening have expected a desirable synergy between technologies and appropriate L2 listening pedagogy to attenuate deficient exposure and practices and maximize optimal learning experiences.

As blended learning has contributed to bringing together strengths in offline and online learning, positive characteristics of MALL and blended learning can be efficiently combined (Baek and Lee 2021, Pyo and Lee 2022). Baek and Lee (2018) proposed the term *mobile-assisted blended learning* (MABL) with its brief rationale of integrating MALL and blended learning in maximizing the potential of MALL's ubiquitous feature and systematic management of offline and online environments in blended learning. The integration of the two constructs seems plausible in that recent mobile devices are excelling at bridging the gap between formal and informal learning, in-class and out-of-class learning (Botero et al. 2019, Jung 2015, Kim 2013). Nonetheless, some researchers suggested a lack of evidence of students' actual MALL engagement (Duman, Orhon and Gedik 2015, Stockwell 2013) and limited instructional support and teacher presence (Botero et al. 2019, Rosell-Aguilar 2017) outside the L2 classrooms. These limitations on MALL can be complemented based on a blended learning's systematic instructional framework, which embraces offline and online learning, where a teacher's presence, monitoring, and guidance are readily available (Pyo and Lee 2022). In this respect, MALL and blended learning are expected to show mutual support within a MABL's framework in L2 classes. Some previous studies on MABL showed its impact in improving L2 skills and students' positive perceptions (Baek and Lee 2021, Lee and Cho 2019, Pyo and Lee 2022). Regarding L2 listening skills, Pyo and Lee (2022) suggested the MABL instructional model and reported Korean university students' positive perceptions of MABL for L2 listening classes.

Even though there have been efforts to enlarge authentic exposure to the target language in developing L2 skills by taking advantage of MALL and blended learning (Kang and Lee 2020, Kim 2013, Pyo and Lee 2022, Read and Kukulska-Hulme 2015, Stockwell 2013), relatively few studies have investigated engagement in technology-enhanced approaches to L2 listening classes. Borup, Graham, West, Archambault and Spring (2020) posited the necessity of identifying *academic engagement* as it can be a barometer for understanding what is necessary for students to be actively engaged in activities. They defined the term as the students' energetic and productive involvement in provided learning activities. Botero et al. (2019) and Cho and Castañeda (2019) posited that raising academic engagement in formal and informal learning in MALL is vital since it successfully provokes language learning. Similarly, some proponents of blended learning argued a critical link between a high engagement level and improved L2 skills (Kang and Lee 2017, Lee and Lee 2012). Hence, MABL's pedagogical benefits and

potential cannot be fully understood without exploring if MABL increases academic engagement in learning activities as a prerequisite for expecting better outcomes.

However, empirical research examining learner engagement in offline and online activities using mobile devices has been scarcely conducted in L2 literature. Although Pyo and Lee (2022) showed students' positive perspectives on using MABL in L2 listening classes, their research did not address academic engagement in MABL. Therefore, this study investigates academic engagement based on Pyo and Lee's (2022) MABL instructional model for L2 listening by identifying students' perspectives of academic engagement and their task completion of offline and online listening activities. The research questions are as follows: 1) What are the students' perceived engagement levels and attitudes toward MABL for L2 listening? 2) To what extent do the students complete offline and online listening activities? and 3) What effects does the MABL have on developing L2 listening skills?

## 2. Literature Review

### 2.1 Technology-Enhanced L2 Listening Instruction and the Necessity of Exploring Academic Engagement

Without proper listening skills, any human being would hardly succeed in continuing meaningful conversations with others. Improving listening skills is, therefore, crucial for our daily survival. Vandergrift (2011) maintained that listening is the most critical language skill in L2 learning as it is directly or indirectly connected to the emergence of other language skills (i.e., speaking, reading, and writing) and facilitates the process of internalizing linguistic knowledge. Listening has also been regarded as a receptive skill requiring complex neurological, linguistic, and semantic processing (Rost 2016), which all play an essential role in interpreting and understanding spoken input. Many researchers have suggested various theories, techniques, and activities to deal with the invisible cognitive processes in L2 classes while addressing the significance of much exposure and practices to the target language in improving L2 listening skills (e.g., Field 2008, Newton and Nation 2021, Rost 2016, Vandergrift and Goh 2012). To this end, technology has long been interwoven in L2 listening instruction as it has specific advantages of being well integrated with L2 listening pedagogy and resolving insufficient exposure and learning opportunities in the L2 context (Kim 2013, Kukulska-Hulme and Shield 2008, Lee and Lee 2012, Pyo and Lee 2022). Hubbard (2017) pinpointed that after human voices were tapped into language classes in the 20th century, there has been technological development enabling to listening of various voices through vinyl records, audio/video tapes, CD/DVD-ROMs, and websites on the Internet. Besides, more recent development in mobile technology has made mobile devices more portable, and various qualified apps for L2 listening have been developed. Pyo and Lee (2022) insisted that some L2 listening websites provide mobile apps, which ensure great accessibility and increased ubiquity to authentic listening materials with various mobile devices. Such evolution has attracted many scholars to examine the role of MALL in L2 listening (e.g., Demouy and Kukulska-Hulme 2010, Jia and Hew 2022, Kim 2013, Read and Kukulska-Hulme 2015).

Demouy and Kukulska-Hulme (2010) reported students' positive perspectives of MALL in practicing L2 listening skills. The participants acknowledged the ubiquitous benefits of MALL as it helped them listen to the target language whenever they wanted without any constraints from time and space. Read and Kukulska-Hulme (2015) posited that MALL experiences contributed to raising students' awareness of how to utilize mobile devices in listening to the target language in their everyday lives. Read et al. (2021) examined MALL as a supportive medium for L2 listening pedagogy and confirmed students' positive voices on podcasts and social media apps in their listening practices. Some studies have investigated the effects of MALL on L2 listening skills (Azar and

Nasiri 2014, Jia and Hew 2022, Kim 2013). Jia and Hew (2022), for instance, investigated the students' interaction for dictation activities in improving L2 listening skills with 70 English learners of Chinese. The findings indicated that the students who participated in mobile group discussions significantly outperformed those who completed individual dictation activities. The study corroborated the benefits of out-of-class collaborative listening.

Blended learning has also provided ample learning opportunities in the L2 context based on systematic instructional designs that integrate face-to-face and online learning environments. Many researchers examined blended learning in L2 listening instruction. They reported students' positive perspectives (Lee and Lee 2012, Yoon and Lee 2012), the impact of improving L2 listening skills (Kang and Lee 2020, Lee and Lee 2012, Yang, Chuang, Li and Tseng 2013, Yang and Kuo 2021), and the benefits of teacher training programs for L2 listening (Yoon and Lee 2012). Yang et al. (2013) investigated the effects of blended learning for individualized learning on L2 listening skills integrated with critical thinking using Moodle as a virtual learning platform for online environments. The subject of the study was 83 Taiwanese students learning English. The results indicated that the learners in the blended learning instruction group showed significantly higher scores than the control group. Lee and Lee (2012) and Kang and Lee (2017) corroborated the positive influences of collaborative listening through blended learning in developing L2 listening skills since extended learning sessions gave students sufficient time to interact with others about what they heard and learned from listening materials.

Even though MALL and blended learning studies have represented their potential and benefits in improving L2 skills, previous scholars proposed their inherent limitations (Botero et al. 2019, Jia and Hew 2022, Lee 2021, Pyo and Lee 2022). Botero et al. (2019) argued that previous MALL studies have frequently overlooked the benefits of teachers' out-of-class intervention in encouraging students' active engagement, merely having the students self-directed, self-motivated, and continuing self-monitoring and management. They maintained that increasing teacher intervention would positively affect the students' motivation and engagement in MALL. Besides, primarily limited curricular integration (Burston 2014), lack of pedagogical concerns (Rosell-Aguilar 2017), and mismatch between the academic goals for formal and informal settings (Godwin-Jones 2017) in previous MALL studies were likely to confuse the students to navigate the right path in achieving instructional goals. These limitations would be well supplemented based on blended learning's systematic instructional frameworks (Pyo and Lee 2022), and blended learning can include ubiquitous strengths of MALL when working together. In this regard, there has been a further attempt to integrate positive features of MALL and blended learning in developing L2 skills (Baek and Lee 2021, Lee and Cho 2019, Pyo and Lee 2022). As the initial stage of MABL in L2 listening classes, Pyo and Lee (2022) proposed specific MABL instructional procedures and a model for L2 listening, which describe the entire learning processes, offline and online activities, mobile modalities, and suggestions for learner training. They examined 87 Korean university students' perceptions, revealing their preferences for interaction and activity types, generally positive perceptions of various mobile apps and activities, and a high-efficiency level in applying MABL for L2 listening. The findings were in line with previous studies revealing students' positive responses to their learning experiences with MABL in L2 classes (Baek and Lee 2018, Lee and Cho 2019).

Considering the vast learning opportunities, systematic instructional support, and ubiquitous benefits of MABL (Lee and Cho 2019, Pyo and Lee 2022), it has much potential to develop L2 listening skills. However, little has been examined concerning learner engagement in MABL in L2 classes. The lack of evidence in academic engagement has been a long-lasting issue in the previous literature on blended learning and MALL in L2 listening skills. Only a few researchers investigated how the students engaged in listening activities in those two constructs (e.g., Botero et al. 2019, Jia and Hew 2022, Kang and Lee 2017, Lee and Lee 2012). Therefore, more research is necessitated to comprehend academic engagement in the blended context in identifying the potential of MABL. In Lee and Lee's (2012) study, the high level of academic engagement in L2 listening activities through blended

learning positively influenced the development of L2 listening skills. Similarly, the growing body of studies emphasizing identifying whether a specific blended learning model can increase academic engagement has been observed as it correlates with students’ satisfaction, persistence in learning, motivation, and academic outcomes (Borup et al. 2020, Halverson and Graham 2019, Huang, Kuang and Ling 2022). In order to fill the research gaps, this study examined academic engagement in MABL for L2 listening and how it influences student learning.

## 2.2 Academic Engagement and MABL for L2 Listening

The term *engagement* has frequently been observed in studies dealing with educational settings (Azevedo 2015, Halverson and Graham 2019, Huang et al. 2022). Azevedo (2015) reported that over 32,000 articles included the term, with or without grounded theories, concepts, and adequate operationalization. Halverson and Graham (2019) described this excessive utilization of the term as a popular buzzword in the teaching and learning context. Despite its enormous emergences in literature, no universally accepted definition of engagement has been found, remaining the term theoretically ambiguous (Fredricks, Blumenfeld and Paris 2004, Henrie, Halverson and Graham. 2015), thereby calling for further clarification of its concepts and definition. Henrie et al. (2015) also maintained the inconsistency and confined specificity in the definition, constructs, and ways to explore engagement in technology-mediated learning. Reschly and Christenson (2012) summarized various constructs of engagement in defining and researching engagement. There have been various forms of engagement, such as *student engagement*, *school engagement*, *learner engagement*, and *academic engagement* (Henrie et al. 2015, Reschly and Christenson 2012). Learner engagement is a broad term that describes any type of learning in and out of formal learning (Henrie et al. 2015); school and student engagement demonstrate three-fold: institutional, class, and activity levels engagement (Skinner and Pitzer 2012). This study opts for the term *academic engagement* with its definition of what Borup et al. (2020) described as “the energy exerted toward productive involvement with course learning activities” (p. 810), introduced with an engagement research framework for blended learning. Borup et al. (2020) also maintained the three classical dimensions of engagement by referring to Fredricks et al. (2004), as described in Table 1. This study also involved the three dimensions of a self-report survey and followed their definitions.

**Table 1. Dimensions of Academic Engagement (Borup et al. 2020, p. 813)**

Dimension	Definitions	Example Indicators
Affective	The emotional energy associated with involvement in course learning activities	Boredom-enjoyment Anxiety/frustration-confidence Sadness-happiness Situational and personal interest
Behavioral	The physical behaviors (energy) associated with the completing course learning activity requirements	Attendance/participation Completing/submitting work Following course procedures Time on task
Cognitive	The mental energy exerted towards productive involvement with course learning activities	Attention Absorption/concentration Learning persistence Cognitive/metacognitive strategy use

Some previous studies on engagement in technology-enhanced instruction included the three dimensions and investigated those largely with Likert-type survey items in enquiring about students’ perceived engagement level (Fredricks, Blumenfeld, Friedel and Paris 2005, Henrie et al. 2015, Lee 2021). These studies insisted that self-report surveys with various quantifiable items help researchers explore unobservable aspects of academic

engagement (Fredricks and McColskey 2012). Other studies examined engagement with qualitative or quantitative observational measures, such as those reporting frequencies of behavioral observations, focus group analysis, and identifying valuable themes from written or verbal communication (Botero et al. 2019, Kang and Lee 2017, Lee and Lee 2012, Yoon and Lee 2012). The observational measures of engagement have been the most favored types in English language teaching (ELT) through MALL and blended learning.

Botero et al. (2019) examined students' engagement in informal learning settings in MALL. The participants were 118 university students in Columbia who attended language courses requiring independent out-of-class language learning activities (i.e., without a specific curricular link to the formal learning settings). The students experienced Duolingo app for their self-directed language learning, which contains various lessons and modules for developing four language skills and three sub-skills. The researchers analyzed the activity-tracking system in the app and reported that only 12 students (10.17%) were judged as completing a language course in the app. The findings illustrated a discrepancy between students' positive perspectives of the app in developing L2 skills and actual out-of-class engagement. Botero et al. (2019) suggested teacher involvement and collaborative activities for out-of-class learning to resolve the low engagement. The study that implemented online discussions for a dictation activity in L2 listening (Jia and Hew 2022) showed students' satisfaction. The online discussions helped them persist in learning since they could be motivated by observing other students' assignment completions and sharing ideas for intricate parts in L2 listening. However, a large portion of students in Jia and Hew's (2022) study also revealed a similar drawback to Botero et al. (2019): the lack of teacher intervention for informal learning in MALL that would affect out-of-class engagement.

Some previous studies in L2 listening through blended learning, where systematic teacher support for online sessions and various collaborative activities were provided for the students, presented a high level of engagement in their online activities (Kang and Lee 2017, Lee and Lee 2012). Lee and Lee (2012) examined engagement in collaborative L2 listening activities through blended learning. They analyzed students' perspectives of various collaborative activities, the frequency of online discussions, and a critical connection between engagement and developing L2 listening skills through blended learning. Likewise, Kang and Lee (2017) demonstrated students' positive perspectives on using blended learning for L2 listening instruction, active engagement in online group discussions, and improving L2 listening skills. They utilized engagement coding schemes based on language-related episodes that are useful in describing students' cognitive engagement (Henrie et al. 2015). These studies concurred that blended learning's advantages of sharing the same instructional goals in offline and online sessions, consistent teacher's guide and encouragement for online session activities, and extended learning chances helped the learners actively engage in various offline and online activities in L2 classes. These advantages also positively affected increased motivation, satisfaction, and learning outcomes.

Although some scholars have attempted to reveal students' engagement in MALL and blended learning in the L2 context, research exploring engagement in blended learning and informal learning in MALL for L2 listening has been particularly scarce. Considering the limited engagement in out-of-class learning in MALL (e.g., Botero et al. 2019), it is worth investigating academic engagement through MABL to identify how the specific model (Pyo and Lee 2022) affects students' engagement in listening activities. Moreover, Halverson and Graham (2019) suggested conducting more research on blended learning to clarify "which blended designs most effectively increase learner engagement and thus student learning" (p. 146), as countless options for combining in-person and technology-enhanced instruction are possible. Notably, most studies in the L2 context utilized quantitative and qualitative observational measurements in examining engagement. There has been a lack of studies using a self-report survey for academic engagement. Fredricks and McColskey (2012) maintained that the self-report survey items are appropriate in identifying cognitive and affective engagement since these unobservable engagements are

based on students’ personal experiences. Borup et al. (2020) also suggested involving the three dimensions (i.e., behavioral, cognitive, and affective) in the surveys as one dimension would affect others. Therefore, this study explored academic engagement utilizing self-report surveys and behavioral observations for offline and online session activities in MABL to obtain more fruitful results.

### 3. Methodology

#### 3.1 Participants

Ninety-one Korean university students who attended an H university in South Korea participated in this study. The study employed convenient sampling with preexisting language courses at the university. The second-year students from diverse majors were in the two-credit language courses focusing on English listening skills, which the university made mandatory for graduation. A native English speaker having nine years of teaching experience and a doctoral degree in teaching English to speakers of other languages (TESOL) instructed the courses with 15 weekly curricula once a week.

The university’s English placement test and listening pre-test results indicated that the students were generally at the beginning level. Of the 91 students, 37 were male students (40.7%), and 54 were female students (59.3%), having an average age of 20.8 (ranging from 19 to 22). They were divided into two groups considering the purposes of this study: 51 students in the experimental group and 40 in the control group. The students in the two groups reported less than three months of experience studying abroad to learn English. The experimental group students had L2 listening instruction through MABL, and the control group received the conventional one for L2 listening skills. None of the participants responded to having specific difficulty using mobile devices in their daily lives and learning language L2 skills. Smartphones were mainly utilized for L2 listening activities as all the participants equipped their devices. Six students from the MABL group volunteered for the interviews and assumed names were used when analyzing and representing the interview data. Table 2 presents information about the interviewees for this study.

**Table 2. The Information of Interview Volunteers**

No.	Interviewee	Major	Age	Pre-test Score	Previous Experiences of MABL
1	Jin-Ju (JJ)	Early childhood education	19	45/100	Yes (in an English-speaking class)
2	Yae-Rin (YR)	Printing Engineering	20	56/100	No
3	Chul-min (CM)	Game Software	21	47/100	No
4	Han-Su (HS)	Game Software	22	43/100	No
5	Eun-Ji (EJ)	Journalism and Communication	19	38/100	No
6	Ji-Hoo (JH)	Special Education	21	54/100	No

#### 3.2 Data Collection Instruments

##### 3.2.1 The questionnaire for academic engagement

The questionnaire was conducted in the 14th week to scrutinize academic engagement in MABL for L2 listening. The first section for the previous experiences was inspired by Lee and Cho (2019) since their study suggested the questionnaire for students’ perspectives of MABL for L2 skills. This section asked the students about their personal

experiences, and their attitudes toward online activities were further explored through a semantic differential item. The students’ attitudes toward offline learning experiences were not explored as the two groups shared the same in-class instruction. The last in the first section was the open-ended item that enquired about the students’ ideas and beliefs on the language course they took for a semester.

As for the second section of the questionnaire, this study opted for Borup et al.’s (2020) definition of academic engagement embracing behavioral, cognitive, and affective engagement in a blended learning context, as described in Table 1. The questionnaire items for the engagement were adopted from Lee (2021) and revised considering this study’s instructional constructs and research purposes. Lee’s (2021) questionnaire, which includes behavioral (4 items), cognitive (5 items), and emotional (6 items) with a six-point Likert scale, was revised to have a four-point Likert scale (0 = strongly disagree, 1 = disagree, 2 = agree, and 3 = strongly agree) while maintaining the number of items in each of three dimensions.

### 3.2.2 Observations of the students’ offline and online activity completion

As the survey cannot fully represent how the students engaged in course activities, their task completions were counted to observe their actual engagement. The experimental and control group students experienced the same in and out-of-class activity types. However, the experimental group received the instructor’s support for the online activities, in which the instructor’s guidance, monitoring, and encouragement were readily available within the MABL instructional model for L2 listening. The control group students had to be self-regulated in completing the online listening activities. Listening comprehension questions, dictation, video lectures, and extensive listening were individual listening activities; jigsaw listening and dictogloss were collaborative listening activities for the two groups of students.

The course instructor directly observed the completion of offline listening activities of the two groups, while observing online activities necessitated different efforts for each group. Two individual online activities (i.e., video lectures and listening comprehension quiz) were relatively easy to observe the completion as the students’ logs were recorded on the learning management system (LMS) and Google survey forms, respectively. In the case of collaborative listening activities, the experimental group students participated in group discussions in KakaoTalk group chats, consistently monitored and encouraged by the instructor; the control group students spontaneously conducted the online group activities using LMS discussion functions. When the experimental and control group students completed extensive listening activities, they reported it on the weekly LMS survey by sharing to which they listened. Table 3 represents the total number of activities for each lesson’s online and offline activities for the two groups.

**Table 3. The Entire Number of Online and Offline Activities for the Two Groups**

	Offline activities				Online activities				
	LCQ	Jigsaw	Dictation	Total	VL	LCQ	Dictogloss	EL	Total
Weeks 2-3	2	2	2	6	1	2	2	2	7
Weeks 4-5	2	2	2	6	1	2	2	2	7
Weeks 6-7	2	2	2	6	1	2	2	2	7
Weeks 8-9	2	2	2	6	1	2	2	2	7
Weeks 10-11	2	2	2	6	1	2	2	2	7
Weeks 11-12	2	2	2	6	1	2	2	2	7
Total	12	12	12	36	6	12	12	12	42

LC = listening comprehension questions, VL = video lecture, EL = extensive listening



### 3.2.3 Listening comprehension (LC) test

The control ( $N = 40$ ) and experimental group ( $N = 51$ ) students took a listening comprehension test in the 2nd, 7th, and 13th weeks to identify their progress in L2 listening skills. The tests consisted of 15 questions; each item had two points, with a total score of 100 points, respectively. The items included T/F statements, multiple choices, fill-out-the-blanks, short-answer responses, and keyword note-taking. Students had to answer each question by listening to the audio at once. The test items were also checked and reorganized by the researcher, instructor, and professor in TESOL to develop a reliable test, considering the difficulty level among them.

### 3.2.4 Reflective journals and interviews

The students in the experimental group were required to complete reflective journals in the 5th and 9th weeks. The journals were scrutinized to complement the results from the academic engagement questionnaire qualitatively. Using Korean was allowed to reduce the unnecessary workload for the students. To gather as many journals as possible, writing down the reflective journals was conducted during the offline sessions after all the lessons were finished in the assigned weeks. Each journal entry asked the students about how they engaged in listening activities, what they felt in completing offline and online listening activities, and what they found necessary to increase their engagement in course activities.

Six students volunteered for the semi-structured interview implemented in the 14th week after the MABL treatment had finished. The interviewees answered their ideas and experiences about how they engaged in listening activities, what they found helpful in developing their engagement levels and learning outcomes, and MABL for L2 listening skills. The data from the interview were analyzed and presented as an excerpt to triangulate qualitative results from the study.

## 3.3 Procedures

The data collection periods were from March to June 2022 at an H university in South Korea during the 14 weeks of the spring semester. As the quasi-experimental research of gathering participants via convenient sampling, this study compared the experimental and control groups' academic engagement and the listening comprehension tests. The experimental group received the L2 listening instruction through the MABL model for L2 listening (see Pyo and Lee 2022). The control group had the same offline instruction and activities except for the MABL's online session procedures. In other words, the control group experienced mobile-enhanced learning that did not involve any elements of blended learning.

The two groups in this study shared common features in L2 listening instruction. *World Link 2A: Developing English Fluency* (fourth edition) (Douglas, Hughes and Morgan 2021), containing 12 different chapters and themes, was the main textbook for the two groups. Notably, the book offered various activities within the same theme by dividing each chapter into two lesson units (i.e., Lesson A, Lesson B), having the same goals and objectives for one specific chapter, and requiring two weeks to finish respective chapters. Six chapters dealt with in this study were as follows: 1) My Life, 2) Let's Eat, 3) Mysteries, 4) Trends, 5) My Neighborhood, and 6) Goal. Among the diverse activities in the textbook, this study concentrated merely on activities for listening skills. Considering the textbook's limited number of activities for listening skills, the researchers provided additional materials for group and individual activities (i.e., jigsaw, dictogloss, extensive listening, and dictation). All the online assignments for the two groups were not mandatory; instead, they were optional, and not evaluated for the course credit, to foster

the students' engagement and autonomous learning. The in-class listening instruction followed the pre-, while-, and post-listening stages supported by listening processing techniques (i.e., bottom-up, top-down, and interactive) and individual and group activities for L2 listening. As a large amount of authentic input and diverse visual aids are beneficial in listening classes, the students experienced multimedia and mobile-enhanced environments for in-class listening activities. They were also divided into groups of three or four students in the first week of the course to conduct collaborative listening activities.

As for the in-class instruction procedures, the pre-listening stage started by introducing learning objectives and activated the students' background knowledge with various schema-activating activities by representing pictures, drawings, videos, and words through audio/visual aids. In succession, individual and collaborative activities were operated during the while-listening stage, having two distinctive phases. The activities with processing techniques were allocated in the first phase of the while-listening. The activity types were discriminating segmental and supra-segmental features in listening, listening for main ideas and supporting details, listening and ordering, drawing and inferring, filling out blanks, and answering multiple choice and T/F statements. The instructor introduced practical English listening, pronunciation, and vocabulary applications. The students freely utilize the apps during the while-listening stage. In the second phase, the students participated in collaborative listening activities with three or four group members. They engaged in a jigsaw listening activity that required them to complete the whole information while listening to a script three times. Each group member had different blanks in their worksheets. It was informed that sharing answers was not suggested before finishing the individual work. After listening three times and filling out given blanks individually, they could share information and give feedback to their peers. The instructor also provided teacher feedback by observing the progress. Lastly, in the post-listening stage of in-class instruction, the instructor checked any complex parts aroused in while-listening activities and implemented a dictation activity to practice the problematic parts. The students then shared reflections and ideas about the in-class lesson.

What made a difference between the two groups was online sessions conducted only for the experimental group. As mentioned earlier, the two groups shared the same activity types and the number of them. However, while the experimental group students engaged in the online session activities based on the MABL's instructional framework, the control group students had to finish those activities as their assignments autonomously. The instructor observed the control group students' task completion without involvement in the online assignments. The students in the experimental group experienced the same instructional procedures in their online session learning, where the instructor's active intervention and encouragement were provided. The online session also includes the three listening stages identical to the in-class learning (offline sessions) but with different listening activities. The main venue for online sessions was a mobile instant messaging (MIM) app supported by some useful LMS functions in consolidating learning processes. The learning procedures of the experimental group are presented in Figure 1.

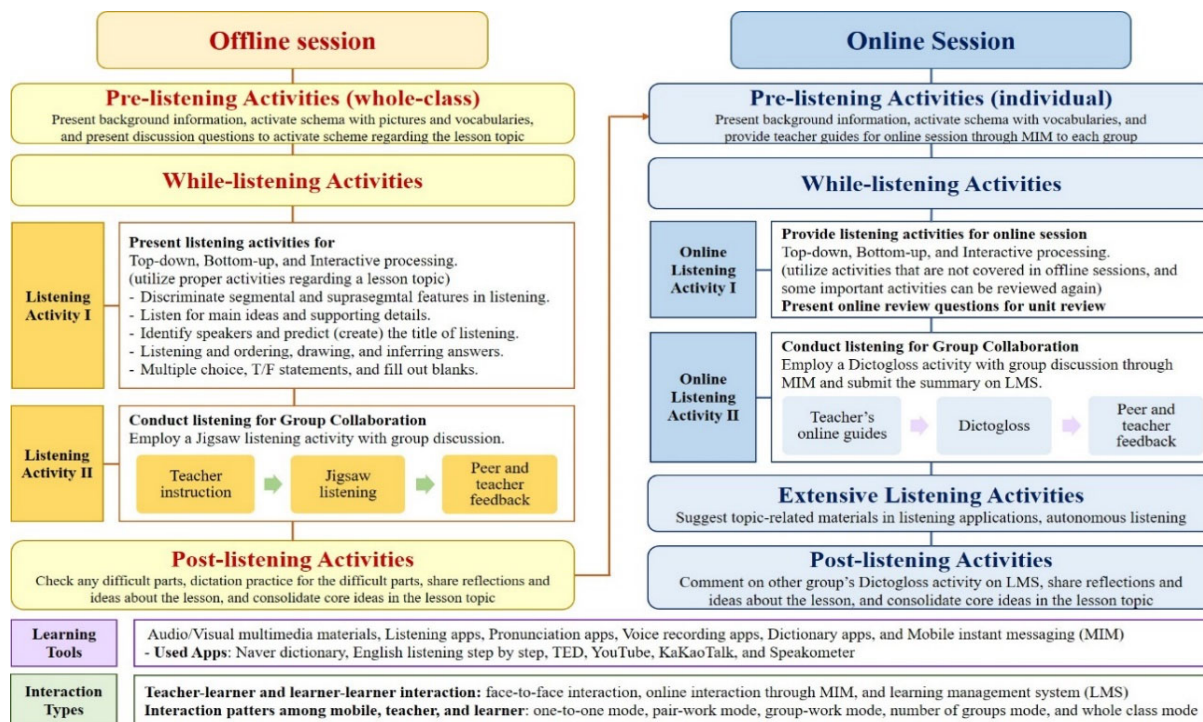


Figure 1. MABL Instructional Procedures in L2 Listening (Pyo and Lee 2022, p. 1182)

In order to introduce the students to the entire online session procedures and help them properly follow learning objectives, a video lecture (also available for the control group students) was uploaded on the LMS biweekly under the progress of starting a new chapter. Except for video lectures, all the information was announced to each group's KakaoTalk group chat room to increase the accessibility to online learning with mobile devices. Once the guidance of online session activities was shared, the students initiated their pre-listening activities based on the shared information. While-listening stage in the online session also had two phases; one was for listening comprehension questions with processing techniques, and the second phase was dictogloss as the collaborative listening activity. The listening comprehension questions were primarily not covered during the offline session. After all the group members informed the completion of the first phase's activity, the students began dictogloss using the MIM app. They prioritized keywords note-taking from listening materials on the MIM group chat and then made the summarized version of listening scripts. Based on their performance, the instructor provided feedback to each group on the MIM group chat. The next step after the dictogloss was an extensive listening activity where the students' self-regulated learning was highly expected. The three apps (i.e., YouTube, English listening step by step, and TED) were the main listening resources for the self-regulated listening activity. The instructor first suggested lesson topic-related listening materials, and the students listened to the suggested materials. They were also advised to listen more based on their interest and motivation. Finished the extensive listening activities, they could share their opinions about listening on the MIM group chat and report their completion on the self-report survey (opened weekly) on the LMS, which asked the students about what apps they used. Finally, each group was required to upload their dictogloss summary on the LMS for the online session post-listening activity and made the students leave comments on the other group's summary.

### 3.4 Methods of Data Analysis

All the gathered data from the students were analyzed to answer the three research questions in this study. The data from eight students were excluded as invalid owing to their dropout and course failure. Hence, the data from 47 experimental group students and 36 students in the control group were analyzed. SPSS 23.0 version was utilized when analyzing quantifiable data, and intact values were presented. The first research question could be answered by analyzing the academic engagement questionnaire and comparing mean values of the Likert-type scale and semantic differential item from the experimental and control group using the independent samples *t*-test. The differences in the two groups of students' previous learning experiences were also identified by exploring any statistical association via Pearson's Chi-square test. The reliability test on the questionnaire from Cronbach's alpha values indicated  $\alpha = 0.846$  (academic engagement) and  $\alpha = 0.817$  (attitude), revealing a high level of reliability.

The behavioral observation measures were implemented and scrutinized to answer the second research question. The students' offline and online activity completions were explored through the frequency analysis and illustrated with their frequency and ratio values. The instructor checked the students' in-class activity completion when the students completed weekly individual and group activity worksheets during the classes. The researchers and the instructor explored the online activity completion by accessing and counting the students' logs on the LMS (video lectures) and records from Google survey forms (listening comprehension questions). KakaoTalk group chats and LMS group discussion records were observed to identify the experimental and control group students' dictogloss activity completion, respectively. The completion of extensive listening activities could be checked by observing the two groups' LMS self-report survey (administered weekly) results. The online activity completions were then compared through the independent-samples *t*-test based on the mean values of the biweekly frequency of each of the two groups' activity completion. The interview and reflective journals were qualitatively analyzed and presented in an excerpt form when students' responses were judged relevant to support the first and second research questions. As the students used their native language when answering the interview and reflective journal questions, any responses concerning their academic engagement in listening activities were transcribed verbatim in English.

In order to answer the third research question, LC tests were conducted three times for the two groups, and the results were descriptively presented. The independent samples *t*-test on the first LC test checked whether the two groups were homogenous. A repeated measures ANOVA was conducted to identify the progress of the repeatedly measured LC tests for the experimental and control groups. Lastly, a mixed ANOVA was implemented again to identify the differences between the two groups based on the repeatedly conducted LC tests. The significance level was set at 0.05 ( $p < 0.05$ ) in the study.

## 4. Results and Discussions

### 4.1 Students' Perceived Academic Engagement in Listening Activities

The first item in the questionnaire asked about previous experiences using mobile devices for in-class activities in language classes. Of 83 students, 21 (25.3%) had experience in L2 classes, and 62 (74.7%) responded that they had yet experienced mobile technology. The Chi-square test revealed no significant association between the two groups ( $\chi^2 = 1.785$ ,  $df = 1$ ,  $Sig. = 0.209$ ). The questionnaire further examined students' previous experiences using mobile apps in learning four language skills (i.e., reading, writing, listening, and speaking) and two sub-skills (i.e., vocabulary and grammar). Table 4 illustrates the results from the frequency analysis on the previous mobile app

experiences in practicing L2 skills. The results from the Chi-square test revealed that all went beyond the .05 level of significance between the two groups.

**Table 4. Previous Mobile App Experiences on the Different Language Skills**

	Frequency		Percentage		$\chi^2$ (Group)	df	Sig.
	Yes	No	Yes	No			
Reading	6	77	7.2%	92.8%	0.218	1	0.685
Writing	2	81	2.4%	97.6%	1.422	1	0.510
Listening	17	66	20.5%	79.5%	1.180	1	0.408
Speaking	9	74	10.8%	89.2%	0.243	1	0.731
Vocabulary	9	74	10.8%	89.2%	0.243	1	0.731
Grammar	3	80	3.6%	96.4%	0.073	1	1.000

The students experienced utilizing mobile apps in listening (20.5%) the most out of 83 responses, followed by the same ratio values on speaking and vocabulary (10.8%), then reading (7.2%), grammar (3.6%), and writing (2.4%). Given the low values, mobile apps might have been less frequently adapted to teaching and learning L2 skills. The results showed that a larger number of the participants were not accustomed to using mobile apps for L2 listening before taking language courses in this study. The students also answered about their experiences with MABL in L2 classes. Only 3 participants indicated their previous experiences with MABL in L2 classes and, 80 participants (96.4%) had not experienced MABL. The results from the Chi-square test identified no significant relationship between the two groups ( $\chi^2 = 2.160, df = 1, Sig. = 0.266$ ). These results indicated that the participants in the two groups had homogenous previous experiences with MALL and MABL in learning L2 skills, indicating their generally incipient stage of language learning with mobile technology.

#### 4.1.1 Students' perceived behavioral engagement in L2 listening activities

The subsequent section of the questionnaire delved into students' perceived academic engagement based on the self-report survey encompassing behavioral, cognitive, and affective engagement. The survey was administered once in the last week of the course (14th week) to compare the students' perspectives between the two groups. The students answered their perspectives based on a four-point Likert-type scale, ranging from 0 (strongly disagree) to 3 (strongly agree). The independent samples *t*-test was first conducted on behavioral engagement; the results are presented in Table 5. The questionnaire primarily asked the students about their energetic involvement when completing offline and online listening activities.

**Table 5. Independent Samples *t*-test Results for Behavioral Engagement**

	Items	Groups	N	M	SD	df	t	Sig.
1	I spent time doing extensive listening whenever I had an opportunity.	EG	47	1.72	.772	81	3.203	.002
		CG	36	1.19	.710			
2	I actively participated in collaborative listening activities outside the classroom.	EG	47	2.02	.707	81	5.517	.000
		CG	36	1.08	.804			
3	I made extra efforts to complete offline listening activities.	EG	47	2.19	.576	81	.440	.661
		CG	36	2.14	.487			
4	I worked hard to complete individual listening activities outside the classroom.	EG	47	2.26	.607	81	3.538	.001
		CG	36	1.75	.692			

As described in Table 5, the students in the two groups answered their perceived behavioral engagement in L2 listening activities. The significant differences between the two groups were found in the three items (i.e., item 1, item 2, and item 4), each of which enquired about online learning regarding how the students engaged in individual and collaborative listening activities. The results showed that the control group students negatively perceived their behavioral engagement in online activities, as their mean values were under 2, skewed toward the negative scales. Many students in the control group were likely to be less engaged in online activities than the experimental group students. The control group students showed the lowest mean scores ( $M = 1.08$ ,  $SD = .804$ ) in item 2, related to the collaborative listening activity (i.e., dictogloss) outside the classroom. On the contrary, they positively perceived their engagement regarding offline activities (item 3) as having similar mean values ( $M = 2.14$ ,  $SD = .487$ ) with the experimental group students ( $M = 2.19$ ,  $SD = .576$ ) without a significant difference. S57 from the control group specifically demonstrated his preference for offline activities over online listening activities in the reflective journals, as illustrated in Excerpt 1.

#### Excerpt 1

*I preferred various listening activities in the classroom as the professor's instruction and immediate feedback helped me understand what I needed to do in completing multiple listening activities. In the case of online listening activities, I knew completing them would help develop my English listening skills. However, completing assignments was challenging since no one I could rely on existed when meeting complex parts, and I was frustrated as I was unsure what to do. (S57, Control group).*

S57 explained why he favored in-class listening instruction, which enabled direct interaction with the instructor. Although he acknowledged the benefits of online activities, an isolated feeling without assistance in the online environment might lessen his motivation to keep learning. Since the control group received no involvement from the instructor when completing their out-of-class listening activities, the students were likely to be less engaged in completing them, as described in the survey results. However, the experimental students, who received systematic instructional support and encouragement for the online sessions, showed positive behavioral engagement in the offline and online listening activities. The highest mean values of the experimental group were observed from item 4, 'I worked hard to complete individual listening activities outside the classroom,' followed by item 3 (2.19), item 2 (2.02), and item 1 (1.76). Even though 'item 1 (engagement in extensive listening)' revealed the lowest mean values, it was still significantly higher than that of the control group, indicating that a more significant number of experimental group students engaged in the extensive listening activity. L2 listening instruction through MABL positively influenced the experimental group students' behavioral engagement in online activities. These findings are in line with previous studies that emphasized the importance of teacher presence in online environments in raising students' task participation and completion (Botero et al. 2019, Jia and Hew 2022, Pyo and Lee 2022), as the students hardly become autonomous by merely letting them finish activities by themselves (Benson 2007).

#### 4.1.2 Students' perceived cognitive engagement in L2 listening activities

The students from the two groups further responded to their perspectives of cognitive engagement when doing and completing the listening activities provided throughout the courses. Their responses were analyzed to check significant differences between the two groups concerning perceived engagement. Among the five statements about cognitive engagement, two items (i.e., item 6 and item 9) showed statistical differences having significantly higher cognitive engagement of the experimental group than the control group, as shown in Table 6. What is

worthy of attention is that the two items were about the online activities, which presented low behavioral engagement by the control group students. It seems plausible that the control group students' generally low level of behavioral engagement in the online activities might also affect their negatively skewed responses on cognitive engagement. These findings are consistent with some previous studies that maintained some overlapping features between behavioral and cognitive engagement (Halverson and Graham 2019, Henrie et al. 2015).

**Table 6. Independent Samples *t*-test Results for Cognitive Engagement**

	Items	Groups	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>Sig.</i>
5	Listening activities provided throughout the course helped me think deeply.	EG	47	2.23	.520	81	.621	.536
		CG	36	2.17	.447			
6	Various online activities motivated me to challenge myself intellectually.	EG	47	2.28	.682	81	3.559	.001
		CG	36	1.75	.649			
7	I used different types of strategies when doing listening activities.	EG	47	2.21	.414	81	-.957	.341
		CG	36	2.31	.467			
8	Listening activities led me to engage in higher-order thinking processes such as critical thinking, reasoning, and decision making.	EG	47	2.49	.505	81	.906	.368
		CG	36	2.39	.494			
9	When I was engaged in online listening activities, I asked myself or other friends to make sure that I properly understood to which I listened.	EG	47	2.55	.653	81	5.737	.000
		CG	36	1.75	.604			

The two group students showed generally positive cognitive engagement in item 5, item 7, and item 8, which was unrelated to the out-of-class activities and had similar mean values between the two groups. The results might indicate that many participants in this study positively valued in-class listening activities in terms of helping them engage cognitively in learning processes. The highest mean values of the experimental group ( $M = 2.55, SD = .653$ ) were found in item 9, 'When I was engaged in online listening activities, I asked myself or other friends to make sure that I properly understood to which I listened.' Given the lowest mean values on the same item from the control group, it could be assumed that the experimental group students were more cognitively engaged in online interaction. One experimental group student wrote in the open-ended item, "*I could resolve difficult listening parts thanks to my group members. Without their help, I could not finish the online listening activities (S15).*" A few more students shared similar opinions with S15, and they also argued their preference for group discussion over directly asking the professor about unknown things, owing to its convenience.

The instructor's involvement and systematic instruction for the online listening activities would also positively contribute to students' cognitive engagement in the experimental group. The experimental and control group experienced the same activity types and their total numbers, except for the MABL framework of the experimental group. Accordingly, as a wealth of research has documented, ubiquitous learning opportunities with mobile devices alone cannot successfully engage students in online learning (e.g., Botero et al. 2019, Chu 2014, Dashtestani 2016). Reeve (2012) and Meyer (2014) argued that students could be more cognitively engaged in online learning when encouraged to use their cognitive and metacognitive strategies. However, an improper instructional design and limited teacher guidance would hinder the cognitive processes of inexperienced learners with mobile technology, provoking learners' cognitive overload that negatively affects their motivation for out-of-class learning (Botero et al. 2019, Chu 2014, Halverson and Graham 2019, Jia and Hew 2022). Considering the larger number of students who had not experienced mobile technology in learning a language, the control group students' significantly lower cognitive engagement in online activities seems plausible. The control group students' low cognitive engagement in the online activities in the current study also supports the earlier research that necessitated the teachers to be

involved in out-of-class learning with mobile technology since their presence positively influences the students' academic engagement (Botero et al. 2019, Pyo and Lee 2022). These findings confirmed the benefits of MABL in developing the students' behavioral and cognitive engagement.

#### 4.1.3 Students' perceived affective engagement and attitudes toward L2 listening activities

The subsequent section of the academic engagement questionnaire explored the two group students' affective engagement on the offline and online listening activities. The students responded their perceived engagement level based on the six statements, as described in Table 7.

**Table 7. Independent Samples *t*-test Results for Affective Engagement**

	Items	Groups	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>Sig.</i>
10	While participating in offline listening activities, I felt that time passed differently than normal.	EG	47	2.60	.577	81	-.118	.906
		CG	36	2.61	.599			
11	Various online listening activities helped me highly motivated.	EG	47	2.43	.500	81	4.043	.000
		CG	36	1.94	.583			
12	I enjoyed weekly online listening activities.	EG	47	2.28	.713	81	3.525	.001
		CG	36	1.69	.786			
13	I got personally involved to which I listened when doing online activities.	EG	47	2.34	.600	81	5.002	.000
		CG	36	1.61	.728			
14	I was satisfied with offline listening activities that I completed during the course.	EG	47	2.51	.547	81	-.623	.535
		CG	36	2.58	.500			
15	Various online listening activities helped me persist in learning English listening	EG	47	2.28	.713	81	5.327	.000
		CG	36	1.44	.695			

The independent samples *t*-test was conducted to examine whether the participants from the experimental and control groups had significant differences in their perceived affective engagement in listening activities. It is worth noting that significant differences were observed from the statements about online listening activities (i.e., item 11, item 12, item 13, and item 15). The two groups showed similar mean values on 'item 10' and 'item 14,' which asked the students about their affective engagement in the offline listening activities. The control group students had higher mean values than the experimental group on the above two items: 'item 10 (2.61)' and 'item 14 (2.58). The findings revealed the control group students' preferences for offline activities over the online ones that they had to complete entirely by themselves. Both groups revealed their highest mean values [i.e., experimental group (2.60) and control group (2.61)] on 'item 10' by illustrating their high level of interest in offline listening activities. The runner-up mean values of the experimental group (2.51) were observed from 'item 14,' and the control group (2.58) also took second place on this item. These tendencies indicated that the students generally preferred offline instruction, which might be due to some benefits of receiving direct explanations, immediate feedback, and plenty of interaction with the instructor. The results are in line with Pyo and Lee (2022), where the students valued offline activities more than online activities in MABL as they favored direct instruction and interaction with the teacher in resolving intricate parts of L2 listening.

Moreover, the experimental group students' more significant affective engagement in online activities than that of the control group revealed identical results with their behavioral and cognitive engagement in L2 listening activities. The consistency of the three constructs provided further evidence of what earlier studies suggested: behavioral, cognitive, and affective engagement are closely interwoven in academic engagement (Borup et al. 2020, Henrie et al. 2015) while affecting each other. Similarly, Skinner and Pitzer (2012) argued that emotion is



“the fuel for the kind of behavioral and cognitive engagement that lead to high-quality learning (p. 33).” Henrie et al. (2015) postulated that behavioral engagement is the physical manifestation of cognitive and sometimes affective engagement. Thus, the findings of this study confirmed that each of the three constructs could provide additional support in interpreting academic engagement by unveiling the consistency of students’ responses to each of them. In order to obtain more valid results, the students’ attitudes toward online listening activities were further explored, as shown in Table 8.

The students answered their attitudes toward online listening activities regarding their motivation, enjoyment, satisfaction, usefulness, and persistence in learning. The students who experienced MABL generated significantly higher levels than those without instruction and assistance for online activities on all five items. Reeve (2012) and Lee (2021) maintained that exploring academic engagement and students’ emotions can effectively identify the pedagogical potential of the specific instructional model and explain the students’ energetic actions and how they would persist in their learning. Along with the significantly higher academic engagement, the experimental group students’ significantly positive attitudes toward the online activities indicated the positive attributes of MABL in improving the students’ behavioral, cognitive, and emotional involvement and persistence in offline and online learning. Hitherto, some previous studies have substantiated that blended learning in L2 listening improves the students’ engagement in online listening activities (Kang and Lee 2017, Lee and Lee 2012). The results from the present study also showed the positive potential of MABL in cultivating the students’ academic engagement and positive attitudes toward learning. Excerpt 2 from the interview data represents how the two students engaged in online listening activities.

**Table 8. The Independent Samples *t*-test Results on Students’ Attitude toward Online Listening Activities**

	Groups	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>Sig.</i>																																												
Motivation	Experimental	47	2.38	.491	81	8.812	.000																																												
	Control	36	1.42	.500				Enjoyment	Experimental	47	2.43	.500	81	6.108	.000	Control	36	1.67	.632	Satisfaction	Experimental	47	2.15	.659	81	4.489	.000	Control	36	1.56	.504	Usefulness	Experimental	47	2.47	.546	81	5.348	.000	Control	36	1.81	.577	Persistence in Learning	Experimental	47	2.51	.505	81	8.853	.000
Enjoyment	Experimental	47	2.43	.500	81	6.108	.000																																												
	Control	36	1.67	.632				Satisfaction	Experimental	47	2.15	.659	81	4.489	.000	Control	36	1.56	.504	Usefulness	Experimental	47	2.47	.546	81	5.348	.000	Control	36	1.81	.577	Persistence in Learning	Experimental	47	2.51	.505	81	8.853	.000	Control	36	1.47	.560								
Satisfaction	Experimental	47	2.15	.659	81	4.489	.000																																												
	Control	36	1.56	.504				Usefulness	Experimental	47	2.47	.546	81	5.348	.000	Control	36	1.81	.577	Persistence in Learning	Experimental	47	2.51	.505	81	8.853	.000	Control	36	1.47	.560																				
Usefulness	Experimental	47	2.47	.546	81	5.348	.000																																												
	Control	36	1.81	.577				Persistence in Learning	Experimental	47	2.51	.505	81	8.853	.000	Control	36	1.47	.560																																
Persistence in Learning	Experimental	47	2.51	.505	81	8.853	.000																																												
	Control	36	1.47	.560																																															

The two students, JJ and JH, presented their positive attitudes toward MABL in learning L2 listening skills. JJ and JH concurred that they could be motivated in online activities based on the instructor’s consistent support and encouragement. JJ, in particular, mentioned how she could be self-regulated in online sessions by learning how to set her goals for extensive listening activities. Sun and Rueda (2012) and Meyer (2014) mentioned that self-regulation is closely related to student motivation and metacognitive strategies that positively contribute to their behavioral and cognitive engagement in online learning. JH explained that he found the development of his English listening skills, which motivated him to keep finishing online activities. He also appreciated systematic stages for online listening activities and teacher presence in online sessions. Since the two students indicated the teacher’s assistance for the online activities, qualitative results also necessitated the teacher's involvement in the technology-mediated online learning to help the students self-regulated and persist in learning (Botero et al. 2019, Pyo and Lee 2022).

**Excerpt 2**

*A professor’s consistent encouragement motivated me to complete various online listening activities. Thanks to his support in group chats, I could learn how to set my goals in practicing English listening. As the end of this course did not indicate I could quit studying English, I was satisfied with MABL in practicing keeping carrying on my learning. (JJ, interview)*

*I have always desired to keep studying English by myself, so I needed to figure out where and how to start it. MABL instruction was beneficial as I could follow the given steps for outside-the-classroom activities with my smartphone. Besides, a professor’s additional explanation about some complex listening parts, which he gave us when we tagged his name on the group chat, was extremely helpful. In the middle of the semester, I noticed that I could listen better compared to the first week of the course. This made me motivated to keep completing online activities. (JH, interview)*

**4.2 Students’ Task Completion of Offline and Online Listening Activities**

The second research question explored the students’ actual task completion of offline and online listening activities. As some earlier studies pointed out, it seems valuable to identify whether there is a discrepancy between the students’ positive perspectives and their actual task completion (e.g., Botero et al. 2019, Dashtestani 2016). What is worth noting is that examining the students’ listening activity completion was an inevitable choice owing to the distinctive features of listening skills as unobservable mental processes. Table 9 demonstrates the frequency of the two group students’ offline activity completion. As mentioned earlier, it took two weeks to cover each of the six units in the textbook; hence, the students had to complete the same activity types biweekly based on the same theme. In this regard, the frequencies of the three offline activities were calculated with the biweekly sum number of the same activity.

**Table 9. Descriptive Results of the Two Group Students’ Offline Activity Completion**

Weeks	Groups	LCQ		Jigsaw		Dictation		Total	
		C	IC	C	IC	C	IC	C (%)	IC (%)
Weeks	EG (N = 47)	91	3	91	3	91	3	273 (96.8%)	9 (3.2%)
2-3	CG (N = 36)	64	8	70	2	72	0	206 (95.4%)	10 (4.6%)
Weeks	EG (N = 47)	88	6	90	4	90	4	268 (95.0%)	14 (5.0%)
4-5	CG (N = 36)	69	2	68	4	68	4	205 (94.9%)	11 (5.1%)
Weeks	EG (N = 47)	83	11	87	7	87	7	257 (91.1%)	25 (8.9%)
6-7	CG (N = 36)	65	7	65	7	65	7	195 (90.3%)	21 (9.7%)
Weeks	EG (N = 47)	88	6	94	0	94	0	276 (97.9%)	6 (2.1%)
8-9	CG (N = 36)	66	6	70	2	68	4	204 (94.4%)	12 (5.6%)
Weeks	EG (N = 47)	89	5	89	5	89	5	267 (94.7%)	15 (5.3%)
10-11	CG (N = 36)	64	8	66	6	66	6	196 (90.7%)	20 (9.3%)
Weeks	EG (N = 47)	90	4	88	6	88	6	266 (94.3%)	16 (5.7%)
12-13	CG (N = 36)	65	7	69	3	69	3	203 (94.0%)	13 (6.0%)

C = completion, IC = incompleteness, LCQ = listening comprehension questions

The experimental and control group students received the same in-class instruction with the same activity types. Listening comprehension questions and dictation were the individual activities, and jigsaw listening was the group activity. The two groups unveiled over 90% of task completion for the six counted terms, as described in Table 9. As the instructor counted the students’ activity completion and encouraged them during the classes, they could

complete the three activities unless they were absent. Accordingly, the results illustrated a similar level of activity completion between the two groups. Notably, the COVID-19 pandemic affected some weeks' relatively low task completion rates (e.g., weeks 10-11 of the control group) by restraining the students from participating in classes for several days if having symptoms of illness. The experimental group's highest frequency was observed in 'weeks 8th and 9th (97.9%),' showing the students' full completion of the jigsaw and dictation activities.

**Table 10. Descriptive Results of the Two Group Students' Online Activity Completion**

Weeks	Groups	VL		LCQ		Dictogloss		EL		Total	
		C	IC	C	IC	C	IC	C	IC	C (%)	IC (%)
Weeks	EG (N = 47)	20	27	54	40	70	24	51	43	195 (59.3%)	134 (40.7%)
2-3	CG (N = 36)	15	21	46	26	36	36	30	42	127 (50.4%)	125 (49.6%)
Weeks	EG (N = 47)	33	14	60	34	72	22	50	44	215 (65.3%)	114 (34.7%)
4-5	CG (N = 36)	17	19	44	28	34	38	26	46	121 (48.0%)	131 (52.0%)
Weeks	EG (N = 47)	35	12	61	33	81	13	49	45	226 (68.7%)	103 (31.3%)
6-7	CG (N = 36)	20	16	44	28	31	41	15	57	110 (43.7%)	142 (56.3%)
Weeks	EG (N = 47)	36	11	66	28	73	21	53	41	228 (69.3%)	101 (30.7%)
8-9	CG (N = 36)	15	21	41	31	29	43	14	58	99 (39.3%)	153 (60.7%)
Weeks	EG (N = 47)	34	13	64	30	78	16	57	37	233 (70.8%)	96 (29.2%)
10-11	CG (N = 36)	16	20	43	29	27	45	10	62	96 (38.1%)	156 (61.9%)
Weeks	EG (N = 47)	35	12	62	32	80	14	60	34	237 (72.0%)	92 (28.0%)
12-13	CG (N = 36)	19	17	40	32	24	48	10	62	93 (36.9%)	159 (63.1%)

C = completion, IC = incomplection, VL = video lecture, LCQ = listening comprehension questions, EL = extensive listening

The different aspect of task completion was observed in the online activities, as depicted in Table 10. The two group students were required to complete the four online listening activities. They were required to listen to various materials using their mobile devices to provide them with ubiquitous learning opportunities. Apart from the offline activities, the two groups experienced different environments for their online activities. The experimental group students were instructed with systematic stages (i.e., pre-, while-, and post-listening) with the instructor's consistent guidance and encouragement for the four activities. In contrast, the control group students had to finish the four activities autonomously as the online assignments. The frequency analysis results indicated that the experimental group showed higher task completion rates than the control group for all six terms, meaning that experimental group students were more engaged in online activities. As time passed, the experimental group students also showed an increased completion frequency from 'weeks 2-3' to 'weeks 12-13.'

The increased frequencies seem to be influenced by proper instructional support for individual and collaborative listening activities. Some students wrote in the reflective journal about how they could be motivated for individual and group activities based on the intimacy bond with group members. As the instructor managed and encouraged the students through KakaoTalk group chat based on MABL's framework, they could easily accumulate intimate relationships with their group members while meeting each other in offline and online environments. Excerpt 3 describes the experimental group students' reflections on the advantages of collaborative listening with MABL for L2 listening skills.

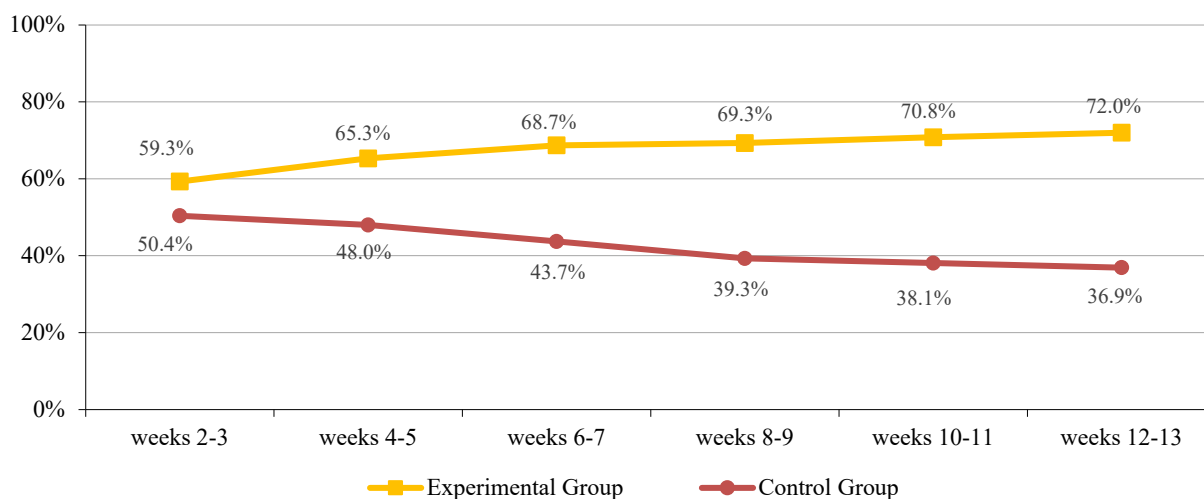
**Excerpt 3**

*I liked sharing opinions with group members about complex parts in listening materials for dictogloss, and the discussions helped me resolve unknown things quickly. We could be familiar with each other while completing various listening activities. As all the group members shared the same desire of improving English language skills, we decided to complete online activities as many as possible. (S23)*

*As a professor suggested, each group member set and shared goals for improving English listening skills that we wanted to achieve during the semester. We discussed dictogloss tasks and what we listened to for an extensive listening activity to improve English listening skills, further suggesting impressive materials. I liked MABL since it motivated me to participate in activities using my smartphone anytime and anywhere. (S37)*

S23 and S37 denoted their satisfaction with MABL and online group discussions. They specifically explained how they were motivated by the online listening activities, noting that MABL listening activities were excelling at pursuing learning goals. Since the students had the shared goal of improving L2 listening skills, they attempted to complete online activities while encouraging each other. S37, in particular, maintained that his group members shared information about extensive listening on the group chat while recommending good listening materials. He also valued MABL as it could motivate him to engage in learning by allowing listening to English anytime and anywhere with mobile devices. These commonly occurred among the students in the experimental group and might influence the highest completion frequency of dictogloss activity, having over 70 (74.6%) of completion for each of the six terms. The findings of this study were consistent with previous studies in blended learning that showed a high level of engagement in group activities for L2 listening (Kang and Lee 2017, Lee and Lee 2012).

On the other hand, the control group depicted a consistent decrease in online listening activity completion rates as time passed, as seen in Figure 2. In the last two biweekly terms that covered the fifth and sixth units of the textbook, over 70% of students in the experimental group finished the online activities, but the control group revealed under 40% of activity completion. The control group students' less frequent online activity completion was consistent with the significant differences between the experimental and control group students' perceived academic engagement in the online activities explored through the first research question.



**Figure 2. Biweekly Activity Completion Rates of the Two Groups**

In order to substantiate the consistency of the findings, significant differences between the experimental and control group students' actual task completion were investigated through the independent samples *t*-test, as described in Table 11. The independent samples *t*-test results indicated the significant differences between the two groups for all the six biweekly terms that covered six different textbook units.

**Table 11. Descriptive Results and Independent Samples *t*-test Results of Online Activity Completion**

	Groups	<i>N</i>	Min.	Max.	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>Sig.</i>
Weeks 2-3	Experimental	47	3	6	4.15	.780	81	2.956	.004
	Control	36	1	5	3.53	1.134			
Weeks 4-5	Experimental	47	3	7	4.57	.903	81	5.590	.000
	Control	36	1	6	3.36	1.073			
Weeks 6-7	Experimental	47	3	7	4.81	.992	81	8.444	.000
	Control	36	1	5	3.06	.860			
Weeks 8-9	Experimental	47	3	7	4.85	.884	81	10.614	.000
	Control	36	1	5	2.75	.906			
Weeks 10-11	Experimental	47	3	7	4.96	.779	81	12.232	.000
	Control	36	1	5	2.67	.926			
Weeks 12-13	Experimental	47	4	7	5.04	.751	81	14.325	.000
	Control	36	1	5	2.58	.806			

Biweekly maximum completion = 7

Consistent with the results from online activity completion rates, the two group students showed opposite aspects of mean values of their completion: continuous increases in the experimental group and decreases in the control group as time passed. The experimental group showed the highest mean values ( $M = 5.04, SD = .751$ ) in ‘weeks 12-13’ while the control group revealed the lowest mean values ( $M = 2.58, SD = .806$ ) on the same biweekly term. The results were in line with some previous studies on MALL (Botero et al. 2019, Dashtestani 2016, Jia and Hew 2022), demonstrating low engagement levels in MALL usage of informal learning without teacher presence. In the current study, MABL’s instructional support, proper teacher guidance, and encouragement positively influenced academic engagement in online sessions with mobile technology. Given the effects of MABL in increasing academic engagement in offline and online activities, MABL needs to be sustained in L2 classes expecting the students’ intellectual involvement and better outcomes.

### 4.3 The Development of L2 Listening Skills through MABL

Previous sections delved into the students’ academic engagement in offline and listening activities. The control group students positively perceived their academic engagement in in-class listening activities, and they showed similar completion rates with the experimental group students for the in-class activities. However, further analysis indicated that the experimental group students had a significantly higher academic engagement in online activities than the control group, revealing consistent findings in their online activity completion. Many previous scholars insisted that academic engagement closely correlates with students’ learning outcomes (Fredricks and McColskey 2012, Halverson and Graham 2019, Henrie et al. 2015, Kang and Lee 2017, Lee and Lee 2012). Hence, this study investigated the effects of MABL on developing the students’ L2 listening skills since the two groups illustrated the opposite aspect of engagement in online listening activities. Table 12 showed the descriptive statistics on the three LC tests conducted in the 2nd, 7th, and 13th weeks.

**Table 12. Descriptive Statistics of the Three LC Tests from the Two Groups**

Tests	Groups	<i>N</i>	Min.	Max.	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
1st LC test	Experimental	47	31	70	48.77	10.981	.024	-1.219
	Control	36	32	77	46.08	9.906	.925	1.160
2nd LC test	Experimental	47	36	80	58.00	11.952	-.298	-1.026
	Control	36	35	80	53.58	9.658	.504	.575
3rd LC test	Experimental	47	42	88	67.60	11.652	-.227	-1.022
	Control	36	38	83	60.94	10.725	-.049	.162

Full score = 100

The descriptive statistics results on the three LC tests showed each test’s mean scores of the two groups. The skewness and kurtosis values for the three LC tests were all within the acceptable range of -2/+2 for a normal distribution (Bachman 2004). As the results of the descriptive statistics met the requirement, inferential statistics were implemented to examine statistical differences between the two groups regarding the development of L2 listening skills. Independent samples *t*-test was first conducted for the 1st LC test to identify whether the two groups were homogeneous in their L2 listening skills.

**Table 13. The Independent Samples t-test for the 1st LC test**

	Groups	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>Sig.</i>
1st LC test	Experimental	47	48.77	10.981	81	1.150	.253
	Control	36	46.08	9.906			

As seen in Table 13, the independent samples *t*-test for the 1st LC test reported no significant differences between the two groups ( $t = 1.150, p = 0.253$ ), indicating that the students’ L2 listening skills between the two groups were similar in general. Moreover, considering the mean scores from the experimental group ( $M = 48.77, SD = 10.981$ ) and control group ( $M = 46.08, SD = 9.906$ ), the students’ L2 listening skills were generally at the beginning level. As noted already, the students in the two groups took the LC tests three times at different time points (i.e., 2nd, 7th, and 13th); hence, whether each group made significant differences among the three LC tests was explored via a repeated measures ANOVA for within-subject variables, as described in Table 14.

Repeated measures ANOVA results with Greenhouse-Geisser correction indicated significant differences between the individual time points for three repeated LC tests. Although the results showed the statistically significant development of L2 listening skills for the two groups, the experimental group ( $F(1.716, 78.952) = 376.010, p < 0.000$ ) revealed a higher effect size ( $\eta^2 = .891$ ) than the control group ( $F(1.187, 41.540) = 111.546, p < 0.000, \eta^2 = .769$ ).

**Table 14. The Results of Repeated Measures ANOVA on Each Group’s Three LC tests**

Groups	Source of variance	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig.</i>	<i>partial η²</i>
Experimental ( <i>N</i> = 47)	Time (LC tests)	8333.206	1.716	4855.194	376.010	.000	.891
	Error (time)	1019.461	78.952	12.912			
Control ( <i>N</i> = 36)	Time (LC tests)	3975.463	1.187	3349.589	111.546	.000	.769
	Error (time)	1193.870	41.540	28.740			

Post hoc analysis with Bonferroni adjustment presented that the experimental group students’ LC test scores were significantly increased from 1st LC test to 2nd LC test (9.23 (95% CI, 7.59 to 10.88) points,  $p < 0.000$ ), 2nd LC test to 3rd LC test (9.60 (95% CI, 8.12 to 11.01) points,  $p < 0.000$ ), and 1st LC test to 3rd LC test (18.83 (95% CI, 16.82 to 20.84) points,  $p < 0.000$ ). The control group similarly illustrated the statistically significant

development from the 1st LC test to 2nd LC test (7.5 (95% CI, 5.26 to 9.73) points,  $p < 0.000$ ), 2nd LC test to 3rd LC test (7.36 (95% CI, 5.86 to 8.87) points,  $p < 0.000$ ), and 1st LC test to 3rd LC test (14.861 (95% CI, 11.59 to 18.13) points,  $p < 0.000$ ). Even though the two groups in this study showed statistically significant differences between the individual time points for the three LC tests, the experimental group reported a higher increase in mean scores for all three tests than the control group. This might indicate that the MABL instruction more positively influenced the improvement of L2 listening skills than the conventional one. In order to identify the effects of MABL, a mixed ANOVA was conducted to identify the interaction effect between within-subjects factor (i.e., 1st, 2nd, and 3rd LC tests) and between-subject factor (i.e., different instructional conditions) on the LC test scores (dependent variable), as shown in Table 15.

**Table 15. The Results of a Mixed ANOVA on the Two Groups' LC Tests**

Source of variance	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig.</i>	<i>partial η<sup>2</sup></i>
Within-Subjects (Time)	11569.745	1.427	8108.034	423.411	.000	.839
Between-Subjects (Time*Group)	161.392	1.427	113.103	5.906	.009	.068
Error (time)	2213.331	115.583	19.149			

The results of a mixed ANOVA with Greenhouse-Geisser correction indicated the interaction effect between time and group ( $F(1.427, 115.583) = 5.906, p < 0.009$ ) having a moderate effect size ( $\eta^2 = .068$ ). The results also described the statistical significance of the main effects (time) on the students' three LC test scores ( $F(1.427, 115.583) = 423.411, p < 0.000, \eta^2 = .839$ ) with individual time points. Post-hoc test with Bonferroni adjustment illustrated no significant difference from 1st LC test between the two groups (2.68 (95% CI, 2 to 7.32) points,  $p < 0.253$ ) and 2nd LC test (4.41 (95% CI, 0.44 to 9.27) points,  $p < 0.074$ ), as shown in Table 16. However, the results showed a significant difference from the 3rd LC test between the two groups (6.65 (95% CI, 1.70 to 11.62) points,  $p < 0.009$ ) with a moderate level of effect size ( $\eta^2 = .081$ ).

**Table 16. Post-hoc Analysis Results for Group Comparison**

LC Tests	(I) Groups	(J) Groups	<i>MD (I-J)</i>	<i>SD</i>	<i>Sig.</i>	95% CI for Difference	
						Lower Bound	Upper Bound
1st	Experimental	control	2.683	2.332	.253	-1.958	7.323
	control	Experimental	-2.683	2.332	.253	-7.323	1.958
2nd	Experimental	control	4.417	2.441	.074	-.440	9.273
	control	Experimental	-4.417	2.441	.074	-9.273	.440
3rd	Experimental	control	6.651	2.494	.009	1.689	11.614
	control	Experimental	-6.651	2.494	.009	-11.614	-1.689

Thus, the findings indicated that the students who experienced MABL outperformed the control group in the 3rd LC test. The experimental group students' gradually increased academic engagement in the online sessions seems to affect the higher development of their L2 listening skills.

Based on the above findings, it can be concluded that listening instruction through MABL positively improved students' L2 listening skills. It seems plausible that the experimental group students' high level of engagement in online activities (e.g., Dictogloss and extensive listening) positively affected a higher achievement than the control group. This was also possibly due to the positive attributes of MABL, whereby mobile technology and blended learning maximize the systematic language learning opportunities with a large quantity of authentic exposure to the target language (Baek and Lee 2021, Lee and Cho 2019, Pyo and Lee 2022). The results of the current study represented consistency of the students' perceived academic engagement, actual online activity completion, and

the development of L2 listening skills, having statistically significant differences between the experimental and control groups. These were in line with some previous studies in blended learning for L2 listening that indicated a high level of engagement that ensued better learning outcomes (e.g., Kang and Lee, 2017, Lee and Lee 2012).

## 5. Conclusion

This study attempted to investigate academic engagement in L2 listening classes through MABL and how it affected the students' learning outcomes. Based on the purposes of the study, the three research questions were answered through the self-report questionnaire, frequency analysis of activity completion, and L2 listening scores from repeatedly conducted LC tests (three times) by comparing the experimental and control groups. The following findings would present valuable insights into understanding the students' academic engagement in L2 listening classes and subsequent learning outcomes through MABL. First, the two groups of students' perceived behavioral, cognitive, and affective engagement were explored by using the questionnaire. The experimental group students generally showed positive perspectives on behavioral, cognitive, and affective engagement in offline and online activities, having positive mean values of over 2 (out of a maximum of 3). However, the control group students endeavored for offline listening activities but generally reported low mean values (i.e., under 2 out of a maximum of 3) for online listening activities. The results described statistically significant differences in the statements about online listening activities between the two groups for all the behavioral, cognitive, and affective engagement. Notably, no significant differences were observed from the statements about offline listening activities for the three constructs in academic engagement, meaning that the control group students were highly engaged in the offline activities compared to the online ones. Besides, the two groups significantly differed in their attitudes toward online activities regarding their motivation, enjoyment, satisfaction, usefulness, and persistence in learning. The mean values would explain that a more significant portion of the students in the experimental group had positive attitudes toward the online listening activities (i.e., having mean values over 2); on the contrary, many control group students negatively perceived online activities.

Second, the experimental and control group students illustrated high offline activity completion rates. Both group students could complete offline activities by interacting with their peers and instructor based on the same instruction and activity types throughout the courses. However, the two groups showed different aspects of completion rates for the online activities, affected by contrasting instructional supports. The two groups' online activity completion patterns were worthy of attention. Albeit the control group students displayed gradual decreases in their activity completion frequency, the experimental group students revealed progressive increases as time passed. In the last biweekly term (weeks 12-13), the experimental group represented 72% of online activity completion with a mean value of 5.04 (out of 7), and the control group depicted 36.9% of completion frequency ( $M = 2.58$ ). The results even revealed significantly different mean values of activity completion frequencies for all the six counted biweekly terms. The experimental group students particularly highly favored dictogloss activities by having over 74.6% of completion for every counted biweekly term.

Lastly, MABL instruction had effects on developing L2 listening skills. The first LC test demonstrated that the experimental and control group students were homogeneously at the beginning level in L2 listening skills. The two group students reported statistically significant development of their L2 skills in the individual time point (i.e., from 1st test to 2nd LC tests, from 2nd to 3rd LC tests, and from 1st to 3rd LC tests), but the experimental group had a higher effect size ( $\eta p^2 = .891$ ) than the control group ( $\eta p^2 = .769$ ). The group comparison results described the significant differences for the 3rd LC test with a moderate effect size ( $\eta p^2 = .081$ ), indicating a significantly



higher mean score (6.65 points gap) of the experimental group compared to the control group. The results confirmed the effects of MABL on improving L2 listening skills.

Based on the main findings, this study generated some implications for L2 listening through MABL. First, it is also recommended to apply MABL for L2 listening skills for those classes with intermediate and advanced learners. Some previous scholars insisted that the attentive and systematic integration of in-person and online instruction of blended learning efficiently assists students to more fully engage in learning (Borup et al. 2020, Halverson and Graham 2019, Kang and Lee 2017, Lee and Lee 2012). Halverson and Graham (2019) argued that blended learning could absorb various technological advantages if it maintains a specific affordance of combining offline and online environments. The MABL, as the combined context of MALL and blended learning, positively influenced the students at a beginning level in developing their academic engagement and L2 listening skills. Since the evidence of academic engagement in MABL proved the effectiveness of the instructional model in this study, if sustained in L2 classes, MABL would positively contribute to language learning. The inexperienced students with mobile technology in language learning could effectively be benefited from MABL; therefore, the instructional model in this study can be applied to the intermediate or advanced learners of L2 listening skills. Second, when applying MABL in L2 listening classes, training learners about self-regulation and metacognitive strategies is suggested. The use of metacognitive strategies has been frequently emphasized in previous literature on L2 listening skills (Newton and Nation 2021, Rost 2016, Vandergrift and Goh 2012). Besides, Halverson and Graham (2019) maintained the significance of *cognitive and metacognitive strategies* in behavioral and cognitive engagement. Accordingly, training the students about metacognitive strategies would help them properly engage in activities and listen to English better. Besides, since MABL requires online sessions, students' self-regulated learning seems vital. Some researchers suggested that the students' self-regulation and metacognitive strategies are indicators of displaying how students remain motivated in blended learning contexts (Meyer 2014, Sun and Rueda 2012). In this regard, helping the students self-regulated using metacognitive strategies would provide a meaningful learning experience with MABL. Lastly, not only important is systematic instructional design but also the teacher's presence in online sessions should be emphasized. Botero et al. (2019) mentioned the *novelty effects* of mobile technology in the online environment, where the students were less engaged after being accustomed to MALL. Jia and Hew (2022) denoted the necessity of teacher involvement to increase the engagement level in MALL. The current study also showed a decreased activity completion frequency from the control group, which required completing the online activities without a teacher's presence. In comparison, the experimental group with consistent guidance, monitoring, and encouragement represented higher academic engagement and activity completion frequencies. Therefore, as Lee and Cho (2019) and Pyo and Lee (2022) argued, the teacher's role in online sessions should be facilitator, counselor, and monitor by showing their presence in the online environments.

This study investigated the students' engagement and learning outcomes in L2 listening classes with a small sample size at the university level. Besides, the instruction the control group received cannot be labeled as the conventional instruction in L2 listening. In order to reduce the likelihood of obtaining biased results owing to the instructional gap between the two groups, the control group also utilized mobile devices and apps in learning. The effects of MABL can be more exactly investigated when comparing three groups: the MABL group, the MALL group, and the conventional instruction group. Lastly, learner autonomy may affect the study results as MABL includes online activities requiring self-regulated learning. It calls for further study to be carried out about learner autonomy in L2 listening through MABL.

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Examples in: English  
Applicable Languages: English  
Applicable Level: Tertiary