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Mobile-Assisted Language Learning During Short-Term Study Abroad

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Abstract

This study examined how Korean teacher candidates' understanding of English and their use of the L2 (second language) and other semiotic resources for meaning making could be mediated through a mobile application, Band during study abroad. Drawing on the sociocultural perspective of L2 learning, the teacher candidates' weekly reflections, which were composed in L2 English along with other semiotic resources (e.g., emoticons, images, and videos) on curricular activities were analyzed and triangulated with focus group and individual interviews. Content analysis of the reflection posts indicated how the mobility and connectivity of Band mediated sojourners' understanding of variation in English and the host culture during study abroad. The analysis further suggests that the interactive and multimodal features of the mobile application helped L2 learners engage in enhanced learning opportunities through which they shared and negotiated each other's ideas, by using the L2 and other semiotic meaning-making resources, such as images and videos.

Abstract in Korean

이 연구는 미국을 방문한 한국 교사 지망생들의 영어에 대한 이해 및 기타 의미 생성을 위한 기호 자원의 사용이 모바일 애플리케이션, Band 를 통해 어떻게 매개될 수 있는지를 조사하였다. 제 2 언어학습의 사회문화적 관점에 근거하여, 사범대 학생들이

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커리큘럼 활동에 대해 영어와 기타 기호자원으로 작성한 주간 반성이 분석되었고, 포커스 그룹 및 개별 인터뷰와 삼각측량으로 검증되었다. 반성 게시물의 내용 분석은 Band 의 이동성과 연결성이 학생들의 영어의 변형성과 미국의 문화에 대한 이해를 어떻게 매개했는지를 나타냈다. 더 나아가 이 분석은 모바일 애플리케이션의 상호작용적이며 영어와 기타 이미지, 비디오와 같은 기호 의미 생성 자원을 사용하는 다모드적 특성이 제 2 언어 학습자들이 서로의 생각을 공유하고 협상하는데 도움이 되어 향상된 학습 기회에 참여했던 방법을 제시한다.

Keywords

Mobile-assisted language learning, mobile learning, multimodal authoring, study abroad

Introduction

In response to a marked increase in student mobility and internationalization of higher education in recent years, diverse forms of study abroad (SA) have been developed and implemented as a crucial part of higher education (see Kang & Pacheco, 2020, 2021; Kang & Shively, 2023). Among the topics addressed in the literature are investigations of mobile technology integration into SA (Durbidge, 2019; Godwin-Jones, 2016; Lomicka & Ducate, 2021). Earlier research into the role of technology in SA (e.g., Coleman & Chafer, 2010; Kinginger, 2013) cautioned against the use of social media during sojourn because it poses a barrier to immersive experiences afforded in the host country. Such research has even observed that those who feel homesick are more likely to use communication technology to stay connected with those at home, and this may prevent sojourners from making social connections in the host country, hindering their language development.

Despite the recommendation in previous research (e.g., Coleman & Chafer, 2010; Kinginger, 2013) to avoid social media during SA, mobile technology is now readily available anywhere and anytime, so scholarship in this area has turned toward focusing on how and to what extent mobile technology could mediate sojourners' meaningful interactions with co-nationals and members of the host culture (Dressler et al., 2021; Durbidge, 2019; Lee, 2011; Lomicka & Ducate, 2021). Considering the significant role of mobile device applications in L2 (second language) learning (Kukulska-Hulme & Viberg, 2018; Puebla et al., 2022; Rosell-Aguilar, 2018; Stockwell, 2022; Sung et al., 2016), it is essential to

examine how L2 and cultural learning during SA can be mediated by mobile-assisted language learning (MALL). Given that much research on MALL has focused on formal classrooms (e.g., Hsu, 2013), and more recently, informal environments (e.g., Lai & Zheng, 2018; Ma, 2017), it is crucial to expand MALL research to SA contexts.

To this end, the current study set out to understand how Band, a popular mobile application used for social interaction and connectivity in South Korea, mediates sojourner experiences and reflections on L2 and culture during a four-week SA program designed for a cohort of ten Korean teacher candidates hosted by a large public university in the US. Adopting a sociocultural view of language (Kress & van Leeuwen, 2001; Lantolf, 2000) and the design of a qualitative case study (Duff, 2008), this study aimed to examine how the mobility, connectivity, and multimodal features afforded by Band mediated these learners' construction of knowledge about L2 and culture in the US as the host country and their use of the L2 and other semiotic resources for meaning making during SA.

Mobile Technologies in Study Abroad

Affordances of Mobile Technologies in Language-Focused Study Abroad

As they travel to study abroad, learners take their mobile devices with them for various purposes: to document and share their sojourning experiences through blogging and journaling, to use dictionaries and translations, and even to complete assigned tasks in a credit-bearing SA program (Cote & Milliner, 2019; Durbidge, 2019; Godwin-Jones, 2016). Although research has shown how reflective journaling can be a powerful mediator of sojourners' cultural awareness during SA (e.g., Dressler et al., 2021; Lee, 2011; Quan & Menard-Warwick, 2021), relatively little research has examined sojourners' digital practices as mediators or their effects on SA experiences (cf. Hofer et al., 2016; Seibert Hanson & Dracos, 2019). Recent scholarship on technology use during residence abroad (e.g., Cote & Milliner, 2019; Godwin-Jones, 2016) has brought attention to the affordances associated with sojourner practices in relation to digital technologies. A growing body of literature has shown that the use of mobile technology during SA can help promote the outcomes of the SA experience in critical reflection on and awareness of linguistic and cultural differences, when learners are provided with appropriate guidance on goals

and processes related to technology-mediated activities (e.g., Dressler et al., 2021; Durbidge, 2019; Lee, 2011; Lomicka & Ducate, 2021; Quan & Menard-Warwick, 2021).

Dressler et al. (2021), for instance, showed how blogging made it possible for five Canadian undergraduate teacher candidates to reflect on their learning and teaching-practicum experiences during a 9-week SA program. In particular, the study illustrated how blogging on a social networking site, Ning.com, enabled sojourners to reflect on the shifting nature of language teaching, shaped by diverse classroom environments, and to develop pedagogical competencies needed for teaching in diverse contexts. Blogging also helps promote critical self-reflection during SA. In a case study, Quan and Menard-Warwick (2021) showed how critical reflection through blogging during SA helped Terry, a Vietnamese-American learner of Spanish, to draw on her life experience and reflect on her multilingual resources as a speaker of minoritized languages, such as African American Vernacular English (the variety spoken in her working-class neighborhood), Vietnamese (her home language), and Spanish (the target language), as well as Standard English (the medium of schooling in the US). Their study illustrated how blogging with other structured reflection activities encouraged the multilingual learner to develop a critical awareness of meaning-making semiotic resources in relation to different contexts during SA.

Lee (2011) also illustrated how asynchronous blogs offered affordances for American undergraduates who were spending a semester in Spain. In the semester-long SA program, different types of blog tasks—individual, class, and project—were implemented with specific guidance. The learners were invited to keep journal entries on a personal blog in Spanish, drawing on their reflective observations about different aspects of the host country in relation to their home country, and discuss class readings and activities with other participants on a class blog. They were further guided in conducting interviews with local Spanish speakers about the topic of their choice. During the completion of these tasks, the learners relied on a range of semiotic resources, such as videos, pictures, and Spanish as a second language. Similarly, Lomicka and Ducate (2021) demonstrated sojourner reflections of intercultural differences via multimodal composition during SA, but with a focus on public signs (e.g., road signs, street and place names, billboards) in the host countries. Within the frame of linguistic landscapes, sojourners were made aware of their linguistic surroundings and documented their observations using Padlet, a cloud-based

real-time collaborative web platform enabling learners to co-construct a community of intercultural learning based on their evaluations of own and host cultures.

Affordances of Band, the Mobile Application for Language Use and Learning

Considering the affordances of different platforms used in previous studies on mobile technologies in SA, the current study utilized Band, a free mobile social networking application, as a platform for data collection, as well as participants' reflection tasks in a credit-bearing SA program. The mobile application was created by a Korean company and is exceedingly popular among members of the Korean community, which suggests participants' familiarity with the features of Band (as confirmed during the program). Although it was not developed specifically for L2 teaching and learning, Band has core features of MALL as discussed in previous research on mobile device applications in language learning (Kukulska-Hulme & Viberg, 2018; Lai & Zheng, 2018; Ma, 2017; Puebla et al., 2022; Rosell-Aguilar, 2018; Stockwell, 2022; Sung et al., 2016). First, the mobility of Band allowed participants to read other participants' posts, as well as to post their reflection entries, anytime and anywhere. Next, connectivity and social interaction afforded by Band made it possible for learners to share their reflection posts with other co-national learners and post their comments immediately after another learner's original post. Moreover, the Notification section alerts updates on new posts and due dates for upcoming assignments while the Community Board section keeps track of who has or has not read the postings in addition to listing participants' posts. These features available in Band were effective for facilitating timely participation and collaboration. Finally, individuality or personalized learning experiences were made possible through Band in that it allowed learners to draw on multiple modes (e.g., language, emoticons, pictures, and videos) and varied web resources (e.g., dictionaries and translation programs) for meaning-making purposes. A screenshot of the Band homepage for the SA program is given in Figure (1).

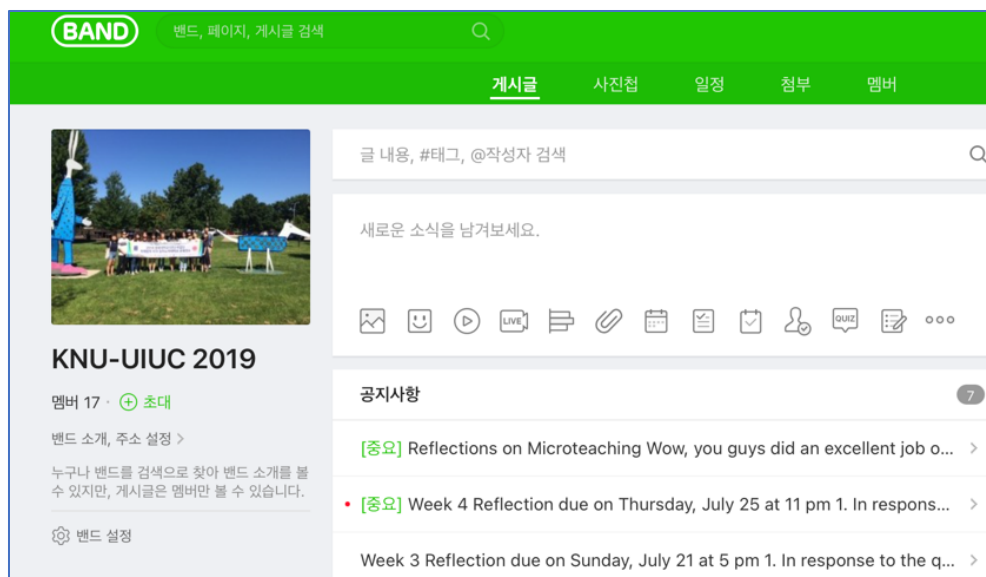


FIGURE (1): SCREENSHOT OF THE BAND HOMEPAGE

Theoretical Framework

To understand how the core features of a mobile application are intertwined with L2 use and learning in the context of an SA program, this study drew on a sociocultural perspective on language learning (Halliday & Matthiesen, 2004; Lantolf, 2000; Kress & van Leeuwen, 2001). From this perspective, language is conceptualized as one of the semiotic resources that is socially created and culturally used within a community. Learning is a tool-mediated and goal-oriented process in which learners use and adjust mediating tools according to their goals (Lantolf, 2000; Lantolf & Pavlenko, 1995). The sociocultural theory “erases the boundary between language learning and language using” (Lantolf & Pavlenko, 1995, p. 116), viewing language development as appropriating semiotic resources available in contexts to accomplish communicative goals. For instance, Jiang (2022) showed how EFL students in China learned to compose videos on civic participation through the mediation of CorelVideoStudio, a digital multimodal composing program, by appropriating meaning-making resources available in the medium. The composing processes mediated through mobile technology entailed (re)mixing appropriate semiotic resources to achieve the goals of advocating for those who have experienced gender discrimination, fundraising for economically disadvantaged students, and promoting civic learning about diseases and protection measures. According to the sociocultural perspective, learners develop language through meaning-making processes of using and

transforming semiotic resources for communicative goals (Halliday, 1978; Hodge & Kress, 1988). It is thus necessary to understand how learners' appropriations transform culturally mediated language practices, as well as to analyze how they appropriate semiotic resources for tool-mediated and goal-directed learning activities.

Within the sociocultural-theoretical framework, we maintain that computer-mediated learning is a socially situated practice contingent on contextual factors in learning environments. Given that ecological contexts (re)shape language learning, the affordances of language development through social media are constructed in social, cultural, and material contexts. Previous studies (e.g., Hsu, 2013; Lai & Zheng, 2018; Ma, 2017; Puebla et al., 2022; Rosell-Aguilar, 2018; Stockwell, 2022) have shown that social and cultural discourses surrounding technical tools in a specific context shape not only learners' perceptions and uses of Web 2.0 tools, but also provide different possibilities for L2 learning, afforded by computer-mediated learning. Such affordances could also enable learners to (trans)form their beliefs, goals, and strategies regarding L2 learning. Similarly, MALL consists of situated practices that emerge in the dynamics between tools (e.g., Web 2.0 tools) and the social and cultural discourses of the tools in contexts of culture and situation (see Stockwell, 2022). We conceptualize the mobility, connectivity, and individuality of MALL as a social practice at the intersection of tools, learners, and contexts.

Computer-mediated communication in MALL draws on various meaning-making semiotic resources. The concept of *design* captures the nature of composing contemporary forms of texts in the era of digital technology-based multimodal representation and communication (Kress & van Leeuwen, 2001). Examination of designing texts with multiple meaning-making resources available in a multimedia authoring tool entails such key concepts as *mode* and *medium*. *Mode* is a social and cultural meaning-making resource, including language, sound, visual, gestural, and spatial resources. Each mode has distinctive modal resources that differ from those of other modes. For instance, the linguistic mode/language has lexico-grammatical resources, whereas sound has modal resources that include vocal delivery, special effects, and silence. Available modes for an act of meaning making depend on a technological tool, called a *medium*, that carries different modes for use. For example, the linguistic mode is available in the medium of email, whereas sounds are possible in the medium of podcasts. Beyond material aspects, a medium also carries

sociocultural traits that are realized in communicative practices employed by a specific discourse community. The affordances of a medium convey socially and culturally defined avenues for meaningful application.

Research Questions

To understand sojourner experiences of L2 and cultural learning while participating in a SA program as mediated through Band, this study examined the following questions:

1. How do the mobility and connectivity of Band mediate Korean learners' collaborative understanding of the L2 and host culture during study abroad?
2. How do the multimodal and digital resources afforded by Band mediate Korean learners' L2 use and learning during study abroad?

Methods

Participants and Setting

The participants of the study were ten undergraduate students in teacher education programs at a Korean university who participated in a four-week summer program at a U.S. university. All participants were enrolled in the same teacher-education program, but in different content areas including science education, language education, and social studies education. They were recruited and selected to study abroad by the sending university, based on their GPA, interviews conducted in English, and diversity in academic programs. Using a convenience sampling method, the study recruited the program participants, and all of them agreed to participate in the study led by the first author, a Korean native, from the host university. In response to a request from the sending university, the U.S. university, located in a Midwestern college town, created a summer program specifically for this group of sojourners with the goals of (1) improving English language skills for classroom instruction purposes and (2) increasing awareness of linguistic and cultural diversity in the United States and around the globe. These goals were aligned with Korea's growing diversity in schools nationwide, where the participants were trained to teach.

During the program, students attended lectures and workshops on English expressions for classroom instruction purposes and linguistic and cultural diversity in the US offered by different instructors in the host university when not making field trips to local landmarks (e.g., a museum, cultural venues)

and visiting local schools and summer camps. In line with the sending university's guidelines, classroom instruction and cultural activities added up to 20 hours per week. In addition, multimodal reflections in Band (see Appendix for guided prompts) and individual and group discussions with the first author serving as a program coordinator were required for all participants. Students stayed in on-campus housing with meal plans in a dining hall and access to libraries and gym facilities. Outside of the instruction and cultural activities, students reported attending music events and performances and using the gym facilities.

Data Collection and Analysis

To explore a complex phenomenon surrounding L2 use and learning mediated through Band for a cohort of participants in a credit-bearing SA program, the design of a qualitative case study was employed (Duff, 2008), therefore unraveling more contextualized insights into the phenomenon of MALL. Curricular activities (e.g., field trips to local landmarks, visiting local schools) in the SA program were integrated into research materials (or vice versa) to enhance the ecological validity of the study and its findings, as defined as “the degree of correspondence between the research conditions and the phenomenon being studied” (Gehrke, 2018, p. 2). The current analysis of this case study was part of a larger dataset, including (1) multimodal reflections (2) focus group interviews and (3) individual interviews. The primary focus of this study was on the multimodal reflection entries students posted and shared with fellow participants in Band, which were then triangulated with the individual and focus group interview data. Each participant was instructed to post one reflection entry every week, using different semiotic resources available in Band, such as language, pictures, sound, and videos, in response to the prompts in the Appendix, and to comment on two of their peers per week. Each reflection post was 200-300 words in length, with emoticons and pictures, and peer comments were 50-150 words, with few images.

For this study, the data were analyzed via three stages of coding—open, axial, and selective coding (Corbin & Strauss, 2015), as summarized in Table (1) on the next page. First, open coding was conducted to identify initial themes among the domains of the data by reading through the data, translating the interview data from Korean into English, and documenting recurring themes (Creswell, 2013). The identified themes were related to exchanged ideas, semiotic resources used, and interaction patterns in Band. The exchanged ideas

included “U.S. classroom environments,” “different ways of learning and teaching in Korea and the US,” “freedom in the U.S. classroom atmosphere,” “diversity and discrimination,” “different English accents,” and “English skill improvement through Band-mediated L2 learning.” The semiotic resources that were used encompassed language, photographs, emoticons, and videos, whereas the relations among modes included commentary between language and image. The identified interactions in Band postings carried “acknowledging and expanding peers’ views about different ways of learning and teaching,” “appreciation of linguistic and cultural diversity,” and “attitudes toward different varieties of English.”

Via axial coding, nascent themes were compared for similarities and differences across the dataset until no new themes were identified (i.e., data saturation). Themes were then grouped into analytical codes, such as “cultural and social issues in the host country,” “benefits of MALL,” “meaning making with linguistic and non-linguistic resources,” and “types of interactions in collaborative construction of knowledge.” Finally, the findings were presented based on selective codes that were central to all other analytical codes, as follows: “making sense of linguistic and cultural issues through Band,” “semiotic resources employed for meaning making through Band,” and “Band-mediated L2 use and learning.” To secure trustworthiness of our analysis, we compared the co-investigators’ independent and collaborative analyses and triangulated our findings across the data sources (Creswell, 2013; Stahl & King, 2020).

Themes	Open codes	Analytic codes	Selective codes
Exchanged ideas	<ul style="list-style-type: none"> - US classroom environments - Different ways of learning and teaching in the US in relation to Korea - Freedom in the U.S. classroom atmosphere - Diversity and discrimination - Different English accents - Improving English skills through Band-mediated L2 learning 	<ul style="list-style-type: none"> - Linguistic and cultural differences in the host country - Social issues in the host country - Benefits of MALL 	<ul style="list-style-type: none"> - Variation within English - Different ways of learning and teaching in the host culture

Semiotic resources used	<ul style="list-style-type: none"> - Language, photographs, emoticons, and videos - Commentary between language and image 	<ul style="list-style-type: none"> - Meaning making with linguistic and non-linguistic resources through Band 	<ul style="list-style-type: none"> -Band-mediated multimodal authoring for meaning making -L2 reading and writing via Band
Interaction patterns in Band	<ul style="list-style-type: none"> - Acknowledging and expanding peers' views about different ways of learning and teaching - Appreciating linguistic and cultural diversity - Attitudes towards different varieties of English 	<ul style="list-style-type: none"> - Types of interactions in collaborative construction of knowledge 	

TABLE (1): SUMMARY OF THEMES AND CATEGORIES OF CODES

Findings

Band-Mediated Understanding of Linguistic and Cultural Issues

The use of the Band mobile application enabled the sojourners to share their reflections and comments on others' postings in English. The reflection postings on the curricular activities and interactions that the learners experienced as a cohort during SA illustrated how they jointly constructed knowledge about the variations in the English language and different ways of using the language in the host country. This collaborative learning in/through and entailed processes of confirming, expanding on, and contesting each other's ideas and opinions.

Collaborative Understanding of Variation in the English Language

The Band-mediated interaction enabled the sojourners to question their prior beliefs about English and to co-construct critical perspectives on the use of English in relation to the notion of Standard English. Their debates related to a critical reexamination of Standard English and different accents, as shown in the thread below.

Jay's response:

I did not know that there are countless forms of English"es" in the world, particularly in United States! I believe most of Koreans may have this kind of prejudice still now, since we are taught that US accent is the most standard one at school.

Before taking these classes, I've always thought a person who speaks with fancy native English pronunciation and has tons of useful English expressions is the greatest English speaker. But that wasn't true. In fact, we've made a quite irrational criteria of "good" English and tried to force students to reach it. . . . I think we need to reform this old-fashioned stereotype. As a result, I want to define "good English speaker" as "a person who has a pride of own English accent".

So-young's comment:

i agree with you!!

we have to reform old-fashioned stereotype 😊 In Korea, when people judge English, they first see if our pronunciation and accent are similar to standard. 😊

Erin's comment:

I agree that we need to move away from what we once thought was a 'good' English speaker and move forward with how this world is developing. Now that you are more aware of the different varieties of English, how do you think it will change your future teaching? I'm assuming you have not run into the different varieties on your own, so I wonder how you will react to it when you are exposed to it. Do you even think that you will run into other varieties of English in Korea? Or do you think that there is a small chance of that happening?

Jay's response:

mm I've thought about this one continuously during this program. I understand the importance of embracing diverse English accents and learn the background of variety of language style, however, situation is different when teaching English in front of students who don't have enough linguistic knowledge of English like me. As an English teacher in secondary school in Korea (which is EFL nation), it is my job to teach native American English first rather than teaching variety of English accents. Students will be in great confusion due to different style of English. I think it is prior to teach typical English first, and then provide many opportunities to explore World Englishes. That will make students understand linguistic diversity better.

While confessing that she did not know of the variation in English, Jay attributed the lack of awareness to her EFL learning in Korea, where "Standard

American English” has been taught as the optimal form of English, without reference to any other form. In the posting, she further articulated her beliefs about what characterizes a good English speaker she held prior to this SA experience: “fancy native English pronunciation” and “tons of useful English expressions.” Referring to her prior beliefs as “old-fashioned stereotypes,” Jay brought up a need to “reform” biased perceptions and proposed an alternative model of a good English speaker as someone with pride in their accent. So-young expressed her affinity for Jay’s posting, along with emoticons. What followed shortly was Erin’s posting in which, as an ESL teacher in training, she left additional probing questions for Jay and other participants.

This thread of postings demonstrates how the learners critically reflected on and shared their preconceived notions of Standard English and other accents while jointly building knowledge about variation in English. The data excerpt illustrates the learners’ exchange of ideas and views about different accents of English that they were exposed to during SA in the US, as illustrated in the summary of themes and codes in Table 1. The learners typically posted their reflections and comments in Band at the end of a day or on a weekend when there were no scheduled activities, as shown in the posting date and time in Band. The mobility and connectivity of Band as a mediating tool available anywhere and anytime enabled the learners to critically reflect, share, and contest each other’s views about English and what constitutes a good English speaker.

Band-Mediated Learning of the Host Culture

In addition to helping promote collaborative understanding of variation in English, the mobile application helped participants to share, negotiate, and confirm each other’s ideas about the host culture they were exposed to during SA curricular activities and excursions. The mediation that unfolded through Band led learners to critically reflect on the educational systems of the host country compared to the home country, as shown in an excerpt in which Jeong-min posted her reflection on the visit to a local high school, followed by Jay’s and Eun-ah’s comments:

Jeong-min’s reflection:

In Prairie high school, I can see the class in free mood. They have a pet in their classroom. I was very surprised about that. In Korea, We think that classroom in class has silent mood and the students have

to quiet without speech class that needs presentation. But America was different. America class want to make free mood, and that makes students positive. Finally, I thought that the teacher in school must control the proper moods.

[I was surprised to see the American class having a lot of freedom, such as having a pet in the classroom, which is different from Korean classrooms where students are expected to stay quiet unless it is a speech class to make presentations. I think having freedom in class leads to a positive experience for students, but that teachers are responsible for creating such an environment.]

Jay's comment:

I feel you Jeong-min, for the part of you saying teacher must control proper mood of the classroom. I was also surprised that the whole class stay together with cute little guinea pig..:)

[I agree with you, Jeon-min, that teachers are responsible for creating a classroom environment. I was also nicely surprised that the entire class enjoyed having the little guinea pig.]

Eun-ah's comment:

I was also surprised by the free mood of the classroom. It was different from the Korean classroom which always forces a calm atmosphere. It was time to experience many new things in many ways!

[I was also nicely surprised with the American classroom environment. It was different from the Korean classroom environment where students are typically required to remain quiet. The visit was a great experience to get to see new ways of teaching and learning.]

After visiting a high school three times, with a couple of hours per visit during the first week of the program, Jeong-min shared her “surprise” in the “free” atmosphere of the U.S. classrooms compared with that of schools in Korea. While she voiced her speculation that the “free mood” she felt in the U.S. classrooms could have a positive impact on student learning, Jeong-min shared her belief that American teachers must control the classroom atmosphere to make it conducive to learning. In response to Jeong-min’s posting, both Jay and Eun-ah appropriated Jeong-min’s “surprise,” which led them to turn inside and

reflect on the classrooms and schools back in Korea. The Band feature, which allowed participants to post immediate and interactive responses to an original post, was effective in facilitating Jay's and Eun-ah's immediate comments in response to Jeong-min's original post.

Band-Mediated L2 Use and Learning for Meaning Making

In addition to the use of Band to help promote the learners' collaborative understanding of variation in English and different ways of learning and teaching in the host culture, Band was also used as a platform through which the learners drew on multiple semiotic resources, including language, emoticons, and images. The learners employed different semiotic resources afforded by Band to co-construct meanings, based on their shared sojourning experiences. Band also afforded enhanced opportunities for the learners to read and write in the L2, mediated through the mobile application and other web resources, including dictionaries and translations. Findings related to the use and learning of L2 English mediated through Band are described below.

Multimodal Authoring for Meaning Making through Band

The Band interface provided the L2 sojourners with expanded resources for communication that included image, music, and video beyond the linguistic mode. Among the linguistic and non-linguistic resources/modes, the learners opted to use language as a primary resource for meaning making in posting their reflections and peer comments. The other resources, such as images and videos, were only used for composing reflective texts. Among the images used were the photos the learners took with their smartphones during the curricular activities and excursions, as well as the emoticons available in Band. The photos were usually added at the conclusion of a paragraph or a text, while the emoticons were inserted within a paragraph, often between sentences. The employed images formed complementary relations with the linguistic mode of texts. Emoticons were often used as an interpersonal "hook" (cf. Hefner, 2015) to attract readers' attention, conveying feelings and ideas of texts or toward readers of texts, as illustrated in You-mi's reflection on her microteaching:

I felt nervous for the first time when I heard that I was going to do micro-teaching. I'm not even used to teaching classes in Korean yet, but I can't believe I should teach them in English! 😊😊😊. . . And I would like to thank everyone who attended today, including Professor Kang, Erin and Ivy for preparing this and listening our microteaching. 😊❤️

You-mi imparted her anxiety about one of the assigned tasks—microteaching—along with three perplexed-face emoticons. The number and type of emoticons used immediately after her declared “nervous” feeling underscored the intensity of her anxiety about having to teach in English as someone who is not used to teaching, even in her native tongue. You-mi went on to express her gratitude toward the program staff with a smiley-face emoticon and a heart emoticon. The use of these different emoticons may highlight a shift in her emotions from mere gratitude to happiness and warmth toward those who attended her microteaching session. The emoticons helped expand the learner’s messages beyond what the linguistic mode allowed, by attracting readers’ attention (that of other sojourners and the program staff) to the shift in intensity of feelings the learner intended to convey, serving as a “hook” (Hefner, 2015).

In parallel with emoticons employed for emotions, the learners used images to delineate their main ideas in posting a reflective text. Among the objects of the photos were classrooms, hallways, PowerPoint slides, instructors, other sojourners, and other artifacts (e.g., textbooks, maps, snacks). (The sojourners were instructed not to take pictures of K-12 students.) The learners opted to include photos to support what they stated in English, as shown in So-young’s reflection in Figure (2) on the next page.

The classroom was more like a house than a classroom because it was decorated with posters, colorful lights and it has cozy atmosphere. There are many differences from the rigid classroom atmosphere in Korea. Also unusual was that they were raising pet in the classroom. It was something unusual in high school in Korea. Raising pet relaxes the classroom atmosphere and is animal-friendly. But the pet is wandering around the classroom in a ball and rolling the wheels has been a considerable distraction to the class.

The subject of the class was to present his experiences related to a famous saying at a fixed time, but it was impressive because it was a presentation class that was hard to see in Korea.

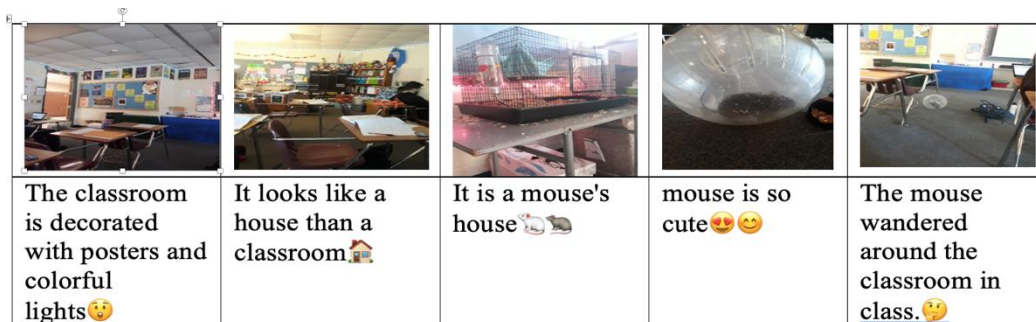


FIGURE (2): SO-YOUNG'S MULTIMODAL REFLECTION

So-young's reflection on the school visit in Figure (2) was largely focused on the physical aspects of the high school classroom that caught her attention. Included in the photos were the wall decorations in the classroom and the class's pet mouse in its nest. After making a contrast between the American classroom as "cozy" and "pet-friendly relaxing" and Korean classrooms as "rigid" in the reflective text, she added a few representative images of the classroom in conjunction with a brief description of each picture and emoticons. Complementing the factual statements in the text (Hafner, 2015), the emoticons shed light on the "feelings" she may have had, ranging from "surprised" to "happy" to "wondering." So-young drew on resources that included language, emoticons, and pictures to describe what she observed during the school visit and composed a multimodal text employing the non-linguistic resources to make up for the limited linguistic resources.

In addition to the physical aspects of the classroom, the learners added pictures of artifacts from their classes on different topics with different instructors, such as an instructor's PowerPoint slides and a drawing (Jay's reflection with pictures is given in Figure 3 on the next page). In response to a prompt on the overall SA program in Week 4, Jay first stated the overall themes, "understanding multiculturalism and globalization" across different classes led by different instructors in the SA program. She then added photos of a PowerPoint slide and her drawing. Of note is that the picture shows a slide titled "five tips for using classroom English" and that the drawing illustrates "five finger tips" she named "aat" which means an expression of surprise in Korean. This suggests the complementarity between the two images Jay chose to include in her reflection posting through Band. She then stated that the class on English for classroom instruction purposes was most useful to her in that she learned English expressions and strategies that she could employ in her future teaching.

As shown in Figure (3) below, the intermodal relations among the modes that included language and visuals complemented each other (see Hafner, 2015). The images helped expand the message and ideas that the linguistic mode alone construed, by adding additional information to the reflection posting.

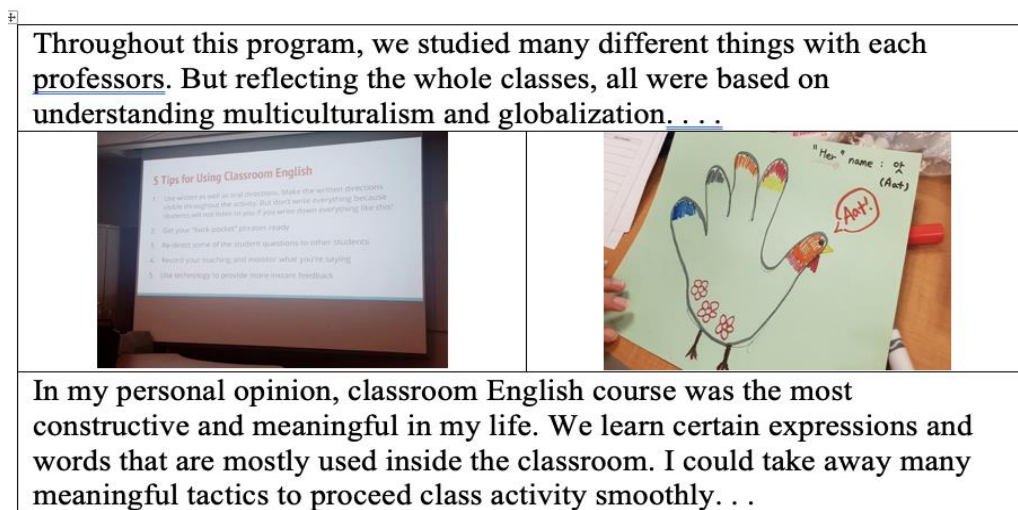


FIGURE (3): SO-YOUNG'S MULTIMODAL REFLECTION

While videos were not used as much as images by this group of sojourners, Ju-eun, an English education major, posted a video of her reflective narrative about the school visit. The video was added shortly after her reflective writing in L2 English, and the video and writing contained the same content. The combination of written text and video reflections also shows a complementary relationship between the non-linguistic modes (visual and aural) and the linguistic mode (Hafner, 2015). In the video, Ju-eun voiced her frustration about the confusing layout of the school building and the observed differences between American and Korean schools, and her speech was complemented with facial expressions, gestures, and vocal tones. In response to Ju-eun's multimodal reflection, Jeong-min showed her admiration for the video with a thumbs-up emoticon available in the mobile application: "I watched your video with interest! I think that you made a great video!" Although the video mode was readily available to the sojourners through Band and their smartphones, no one other than Ju-eun chose to use it for reflection purposes, which could be attributed to the absence of explicit instructions on the part of the program staff.

Band-Mediated Self-Directed L2 Reading and Writing

Language learning mediated through Band afforded the sojourners increased accessibility to the reflective texts and comments made by other Koreans in L2 English beyond the constraints of time and location. At the conclusion of the 4-week program, the learners shared their thoughts on the Band activities (e.g., writing reflections and comments in English) and the enhanced accessibility made possible through Band. As for the benefits of this Band-mediated MALL experience, they noted enhanced opportunities to read and write English in addition to L2 speaking as well as to discuss and value each other's experiences and views on the topics addressed during the SA program, as seen in the following exit interview with You-mi:

You-mi: Before I speak in English, I think first in Korean and translate my Korean into English. Through the study abroad, time for this translating process was shortened by half and my English expressions improved a lot. [저는 말하기 전에 한국어로 생각해서 영어로 번역을 해야하는데, 여기 와서 해보고, 그 시간이 한 절반으로 줄어든 것 같고, 표현도 많이 유연해진 것 같아요.]

For Band activities, I first wrote in my first language and wrote twice. I wrote in Korean, and then English sentences while finding English words with a search engine. [밴드도, 모국어로 먼저 쓰고, 두 번 썼거든요. 한국말로 쓰고, 그 다음에 영어로 문장을 써서, 단어를 서치엔진으로 찾아서 썼거든요.]

Researcher: Which search engine did you use? [어떤 서치 엔진으로 썼는데?]

You-mi: I found English words on Naver for writing sentences in English. [네이버로 단어를 찾아서 영어로 썼어요.]

Researcher: Was Band helpful? [밴드가 도움이 되었어요?]

You-mi: First of all, I read other teachers' thinking that they expressed in English and I came to be exposed to English a lot. It helped me to improve my English skills. [일단, 다른 분들 생각을 다 영어로 읽으니깐, 영어에 노출이 많이 된 것 같아요.... 영어 실력에 도움이 된 것 같아요.]

I came to develop a habit of expressing my thoughts in English. I tried to speak in English. Previously, I used to ask my friend for help about English expressions that I did not know. If it takes a longer time, I

made an effort to think and speak in English and to tackle frustrations by myself. [뭐든지 말하려고 하는 태도가 생긴 것 같아요. 어떻게든지 말을 하려고 하고, 예전에는 모르면 친구들한테 물어보고 했는데, 조금 오래 걸리더라도, 생각해서 말해 보려고 하고. 답답함을 뚫어 보려고 해요.]

As You-mi noted, Band-mediated L2 writing and interaction made possible multiple affordances for learning and using English. Specifically, she pointed out opportunities to read the writing of her fellow Korean sojourners in L2 English, which may have contributed to enhanced L2 exposure and input. While the curricular activities were implemented in English, and the interaction between the sojourners and the instructors and program staff was conducted in English, L2 exposure during the SA program was limited to the orality of English. The Band-mediated activity may have expanded the opportunity to use L2 English for L2 reading and writing, an often-disregarded aspect of L2 learning during SA. The above interview excerpt demonstrates how the MALL activity pushed the learner to take multiple steps, including drafting a reflection entry in L1 Korean first and composing the second draft in L2 English using a Korean search engine, Naver, to look up appropriate words and expressions to incorporate into the English draft. Like You-mi, the learners planned and implemented their own personalized self-directed steps to accomplish the L2 writing tasks mediated through Band.

Discussion

Among the goals of the current study was understanding how a mobile application, as part of the curricular activities in a SA program, can promote participants' understanding of language and culture in an English-dominant host country. The findings illustrate learners' use of Band as a mediating tool (Kress & van Leeuwen, 2001; Lantolf, 2000; Lantolf & Pavlenko, 1995) to reflect on their sojourning experiences and to co-construct a new understanding of variation in the English language and different ways of learning and teaching in the host country (Ahn & Kang, 2017; Kang & Ahn, 2019). In response to the guided prompts aligned with curricular activities and excursions during the SA program, the learners' postings were centered on themes that included their visits to local schools and their perspectives and practices in relation to L2 English in the host country. Their timely and interactive postings were facilitated by mobility and connectivity afforded through Band as a mediating tool (Lai & Zheng, 2018; Sung et al., 2016), such as notifications for new prompts

and postings and information on who had or had not read the other community members' postings, as well as a seamless platform where students could post their reflections and leave comments immediately after an original post.

In line with sojourner reflections on intercultural encounters through the mediation of social media in previous research, such as blogging (Dressler et al., 2021; Lee, 2011; Quan & Menard-Warwick, 2021) and a collaborative web platform, Padlet (Lomicka & Ducate, 2021), Band afforded time and space for learners' multimodal reflections and knowledge co-construction. As shown in the findings, the connectivity and interactivity afforded by Band turned the postings into a venue for collaborative reflection through which the learners reflected on their immersive experiences and exchanged, negotiated, and contested each other's ideas related to Standard English and ways of teaching and learning in the host country. While it is plausible that the participants would have had these discussions in a face-to-face format, the use of Band may have specifically led to more critical reflection and collaborative interaction through the affordances of the Band application. The asynchronous nature of peer interaction mediated through Band may have helped the learners take the time to question their prior beliefs about English and to construct a new understanding of variation in English through social practices at the intersection of Band as a tool, SA as a context, and themselves as learners (Kress & van Leeuwen, 2001). This finding is corroborated by the previous literature on the affordances of asynchronous communication over synchronous modes (Dressler et al., 2021; Lee, 2011; Lomicka & Ducate, 2021; Quan & Menard-Warwick, 2021).

Multimodality made possible through Band also provided meaning-making resources for encoding emotions and ideas, which is consistent with the literature (Jiang, 2022; Lomicka & Ducate, 2021). Adopting the complementarity of text and image and using emoticons as a hook to attract audience's attention in the design (cf. Hafner, 2015), the learners employed multiple modes afforded by Band as a medium for the purpose of meaning making (Kress & van Leeuwen, 2001). Although the mobile application provided a range of modes (e.g., language, visuals, sounds), the learners in this study primarily drew on language and visuals (e.g., photos, emoticons, and drawings) without taking full advantage of multiple modes and design options afforded by Band. This suggests that the learners may not have transferred their previous multimodal writing practices with friends and family members directly to multimodal writing

activities during the SA program, possibly due to the lack of explicit instruction on the different features and how to use them for making-making purposes. Even as new media, multimedia authoring tools carry certain dimensions of old media. To maximize the multimodal affordances of MALL, the learners would have needed explicit instruction on multimedia, communication genres via new media, and metalanguage for multimodal composing, as often done in MALL practices in formal classrooms (Hafner, 2015; Lai & Zheng, 2018; Ma, 2017).

MALL further motivated the learners to utilize other tools, such as online dictionaries (e.g., Naver word search) and translation programs (e.g., Google Translate), to compose reflection posts and comments during the SA program. The online tools helped the learners encode their thoughts and opinions in the medium of L2 English while taking a series of steps to complete a writing task, shaped by an individualized learning style, which is another core feature of MALL (Lai & Zheng, 2018; Ma, 2017; Stockwell, 2022; Sung et al., 2016). Nonetheless, these online tools do not always provide expressions appropriate for a specific context. This finding suggests the importance of drawing learners' attention to the limits of AI-based language translations. It is not merely enough to direct learners to online tools for MALL. Rather, it is equally important for them to know how to use online tools for meaning-making purposes, considering communicative contexts.

In view of the premise of sociocultural theory as “erasing the boundary between language learning and language using” (Lantolf & Pavlenko, 1995, p. 116), the collaborative understanding and enriched use of the L2 mediated through Band in this study shed light on the L2 learning that took place in the shortened time. In that regard, the current findings lend support to the potential benefits of MALL in the context of an SA program, beyond formal classrooms and informal environments (see Kukulska-Hulme & Viberg, 2018; Lai & Zheng, 2018; Ma, 2017; Stockwell, 2022; Sung et al., 2016).

Conclusions

This study showed how Band, a mobile application, mediated Korean college students' cultural understanding and L2 use during a short-term SA program hosted by a U.S. university. The opportunities for Band-mediated learning led the learners to critically reflect on and share their views about variation in the English language and classroom interaction in the host country by drawing on multimodal resources (e.g., language, images). While this study

focuses on US-hosted SA participants, the findings are applicable to other English-centric host countries as well. Despite the small sample size in this study, the findings help us understand the complex nature of the sojourner L2 practices in relation to mobile technology, which, in turn, offers implications for future SA research and pedagogy. For instance, multimodalities and digital tasks could be integrated into an SA program to promote learner reflection on immersive experiences during SA and to assess the efficacy of SA experiences in relation to the goals of sojourners and other stakeholders (e.g., sending and host institutions). In doing so, it will be essential to provide explicit instruction on different modes and design options available in a medium of choice to accomplish meaning-making goals. The mobility, connectivity, and interactivity associated with MALL could offer promise in making SA activities more aligned with real-world tasks and expanding the range of topics that can be analyzed in research at the nexus of SA and technology.

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Appendix

Prompts for Multimodal Reflection

Week 1: Education in the US

What were your impressions of the American education system after visiting the schools and camps? Is there anything surprising in the schools and camps you observed? How would you compare it with Korean schools and classrooms?

Week 2: Diversity in the English language

What kinds of English do you aspire to speak? What kind of associations do you have with speaking that kind of English? What comes to your mind when you think of a good English speaker?

Week 3: Diversity in the US

What are your thoughts about ethnic and racial diversity and education in the US? Have you noticed any differences and similarities in diversity between your home country and the US? What were most surprising things about diversity in the US context, and why? How do you think what you learned about the diversity in the US can help you to teach in your home country?

Week 4: Wrapping up the program

What are some things you would like to take away from this summer program in terms of learning English and teaching and working back home? Which experiences here in America do you think had the biggest impact on you? Do you think you used and learned as much English as you had planned? If so, with whom, in what contexts, and how often did you use English? How comfortable are you with using English? What do you talk about in English?