# Evaluating the Use of LINE Software to Support Interaction During an American Travel Course in Japan

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**Abstract.** This paper describes our use of the LINE social media software system to promote interaction, convey mood and emotion, and teach students about *Kawaii* culture during an international travel course that exposes undergraduate students at an American liberal arts college to Japanese culture, technology and design. The LINE user experience incorporates the important Japanese pop-culture principle of *Kawaii* (cuteness in the context of Japanese culture) and Japanese users enjoy interacting with LINE's *Kawaii* interface. We report on our method of integrating LINE software into an international travel course and our evaluation of how students compare LINE's *Kawaii* interface with the communication tools and social media tools that they are more familiar with. We also report on the extent to which the students believe that using LINE helped them understand *Kawaii* design. We also report on opportunities and barriers associated with cross-cultural adoption of social media platforms.

**Keywords:** LINE · *Kawaii* · Japanese design · Japanese culture · HCI education · Social media

## 1 Introduction

### 1.1 *Kawaii* Culture

Japanese cuteness described as *Kawaii* has been ingrained in Japanese contemporary society in many forms. The word *Kawaii* stemmed from the word *kawayushi* that appeared in the book *Makura no Sōshi* (The Pillow Book) in classical Japanese literature, in which it meant pitiful, shameful, or too sad to see [5]. During the course of Japanese history, the meaning of the word started describing the small, weak, and someone or something that intrigues the feeling of "wanting to protect" [5]. The meaning has been extended to the concept of "Japanese cuteness" in contemporary society. The notion of "*Kawaii*" (cuteness in the context of Japanese culture) is pervasive in Japan and ranges from Hello Kitty products to road signs to posters created by the Japanese government, just to name a few examples. Japanese products are consciously tailored to accommodate widely preferred "cuteness." In other words, "*Kawaii*" is an important concept for

making products. The visual representations of *Kawaii* are also manifested in social media. Emoji (literally, "picture letters" in Japanese) and cute stickers (or stamps) are widely used as forms of emotive communication.

## 1.2   The LINE Social Media Tool

Social media and communication systems such as FaceBook, WhatsApp, Skype and text messages are ubiquitous among college students in the United States. However, most American college students are unfamiliar with LINE [4] which was first released in 2011 and then became very popular among Japanese college students [1]. LINE is currently the most popular messaging and social media system in Japan [3].

LINE's feature-set offers comprehensive interaction tools including one-on-one chat, group chat, voice communication optionally including video, timeline organization, newsfeeds, language translation services, games, music and cute stickers [2].

The stickers are often characters such as a bunny, frog, bear, and other adorable creatures that convey the user's message or emotion. The use of these stickers is one of the key features of LINE and allows users to personalize their messages to help them communicate emotion and mood. LINE stickers embody *Kawaii* design and Japanese users enjoy interacting with LINE's *Kawaii* interface.

Figures 1 and 2 compare a typical text message exchange using the built-in iPhone Messages App to a typical message exchange using LINE.



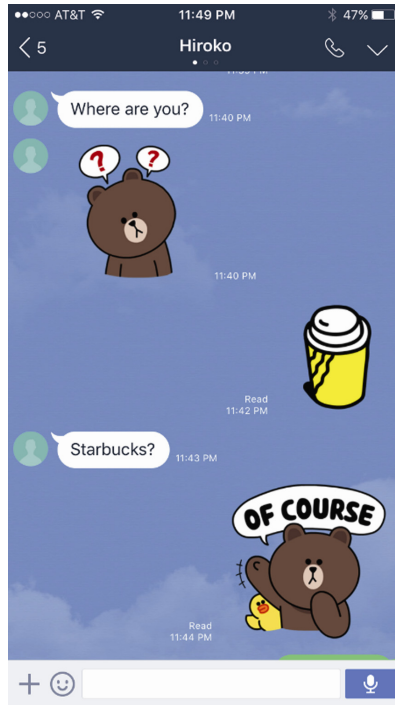**Fig. 1.**  Typical message exchange using the iPhone Messages App

**Fig. 2.** Typical message exchange using the LINE App

## 1.3   Course Context

The authors regularly teach a three-week Winter Term course that exposes undergraduate students at an American liberal arts college to key concepts related to Japanese culture, technology and design, as previously described in [2]. This course has been offered three times, with a combined enrollment of approximately seventy-five students. In our most recent offering, we modified the course by using LINE software on smartphones to enhance interaction during the course. This also provided us with the opportunity to give our students hands-on experience with the concept of *Kawaii* as it is manifested in the LINE interface and to evaluate their perception of this immersive experience.

The first phase of the three-phase course takes place on-campus in a traditional classroom and provides students with background related to design principles, robotics, Japanese culture and pop-culture, Japanese history and geography, Japanese aesthetics, and Japanese language prior to departing for Japan. During this part of the course, we presented *Kawaii* as one of several key Japanese design principles. Students also installed, and became familiar with the LINE software system in preparation for using it during our travels. This gave us the opportunity to use LINE as an example to help students gain hands-on experience with the Japanese pop-culture principle of *Kawaii*, even before we left campus.

The second phase of the course took place in Japan and lasted two weeks. This portion of the course included a three-day homestay in a small town to experience Japanese design in daily-living, a five-day Tokyo stay to study the design of modern technology, a visit to Nagoya to learn about industrial development, a four-day stay in Kyoto to study traditional Japanese craftsmanship, and a one day-trip to Hiroshima to learn about the potential negative consequences of design and technology.

During our stay in Japan, students were encouraged to immerse themselves in Japanese design principles. Most relevant to this paper, they experienced the *Kawaii* design principle in part by using LINE software as our electronic communication and social media tool. Uses of LINE ranged from one-on-one and group chats with other course participants, keeping in touch with home-stay hosts and Japanese students who we met at the university we visited in Tokyo, exchanging information about daily schedules and sharing information about historical sites we visited as a group. When appropriate, students were encouraged to use stickers to communicate mood and emotion. Specific uses of LINE are described in more detail in Sect. 2 of this paper.

The third phase of the course took place after returning to campus. During this phase, students completed a survey that included quantitative and qualitative questions that captured student opinions about LINE as compared to their opinions about more familiar communication and social media tools. The results of this assessment are reported in Sect. 3 of this paper.

## 2 Integrating LINE and *Kawaii* Culture into Course Activities

### 2.1 Pre-departure Uses of LINE

At the start of our January 2017 offering of the course, we confirmed that each of the twenty-five course participants owned an American smartphone. We used the course budget to allocate $60 to each student at the start of the course. Each student was required to use these funds to purchase an international data plan from his/her carrier.

Prior to leaving for Japan, the class used LINE in a variety of ways. Some uses were intentionally initiated by the instructors, while other uses were initiated by the students. Examples of the more typical uses are described below:

- The instructors invited the students to install LINE and to join a group that was set up for the course.
- The instructors asked students to express their feelings using stickers when they joined the group.
- When the instructors taught the *Kawaii* aesthetic as a Japanese design principle, they used LINE as one of several examples of the principle. Since students had already experienced the LINE interface, it gave them a concrete example of *Kawaii*.
- When the instructors taught the difference between usability and user-experience, they compared the iPhone Messages App to LINE (see Figs. 1 and 2). This gave us a concrete way to explain that the two apps offered similar functionality (similar usability) but very different user-experiences.

- The instructors regularly communicated with the group about class materials and logistics such as meeting times, citation formats.
- Student groups were required to research sites we would visit in Japan. In addition to giving presentations about those sites, they were required to post notes about the sites on LINE for their classmates to read.
- Students sometimes posted stickers to express their random emotions and reactions, even without prompting from the instructors.
- Students asked questions about class material.
- Students asked and answered specific questions about the trip, such as time and place to meet as a group.
- Students asked and answered questions of each other, such as communicating about their whereabouts at the airport.

We were pleased to see the students using LINE spontaneously, almost immediately after introducing the tool to the class.

## 2.2   Uses of LINE While in Japan

During our fourteen days in Japan, LINE was once again used in a variety of ways. Again, some of these uses were initiated by the instructor and others were initiated by students. Over time we observed that students were more likely to use stickers to convey their messages and express their mood. Examples of the more typical uses are described below:

- Instructors sent a "welcome to Japan" message to the group.
- Instructors posted urgent matters such as changes in meeting time or location.
- Instructors posted information about daily logistics.
- Students posted messages about their first morning in Japan.
- Students asked instructors about logistics such as the daily schedule, questions about how to access to Japanese phone network, etc.
- Students posted photos in real time and they reacted to the photos using both text and stickers.
- Instructors asked students to indicate how they felt about leaving Japan and students spontaneously expressed their feelings through stickers.

## 3   Evaluation

After returning from Japan, and with approval from the DePauw University Institutional Review Board, we invited all 25 undergraduate students enrolled in the course to complete an online anonymous survey regarding their experiences using LINE software.

The survey included demographic questions, a sequence of yes/no questions, a sequence of questions that students responded to using a five point Likert scale as well as open-ended questions. Each of the 25 students responded to the survey. Of the 25 respondents, 15 (60%) reported as male and 10 (40%) reported as female. Overall, only 2 (8%) of the respondents reported that they had used LINE prior to this course.

One set of objective questions focused on determining the ways in which students used LINE during the course. These responses are summarized below.

- 96% of students used LINE to send stickers even when they were not asked to do so by the instructors.
- 96% of students posted a photo on LINE.
- 84% of students used LINE to communicate with their host families and/or other people they met in Japan.
- 64% of students used LINE to make voice calls.
- 48% of students used LINE to communicate with family or friends from home who were not part of the course.
- 44% of students posted a video on LINE.
- 24% of students used LINE to share their location.
- 8% of students used LINE to make video calls.

When students were asked if they expected to use LINE after the course ended, 76% of students responded affirmatively. Several students indicated that they planned to use the system to keep in touch with people from Japan but that they would not use the system to communicate with American friends. For example, students wrote:

- "I plan on using it to keep in touch with friends I made in Japan."
- "I will probably only use it to keep in touch with people I met from Japan, because not many people in the US have line."
- "I doubt I will use it much to stay in contact with anybody from the course, as I'll probably revert back to other apps like Facebook and GroupMe. But I will use it to continue to keep in contact with my host mother, and possibly also with some students from the Chiba Institute of Technology."
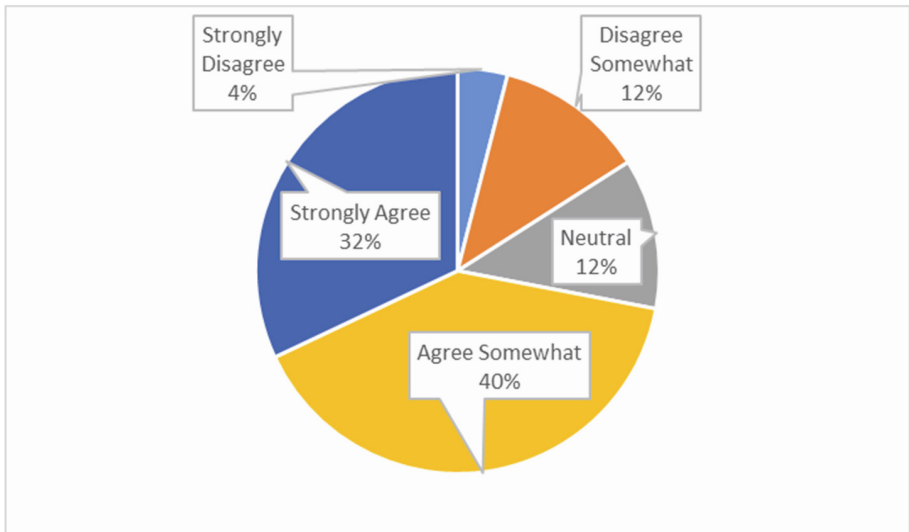


**Fig. 3.** I understood the concept of *Kawaii* culture prior to enrolling in this course.

Given the importance of *Kawaii* culture to the course goals, an important set of Likert scale questions focused on measuring the student's impression of the their change in understanding of *Kawaii* culture as well as the value of LINE in helping them with this learning. These questions, along with the associated responses, appear below in Fig. 3 through Fig. 6. All percentages are rounded (Fig. 3 through Fig. 6).
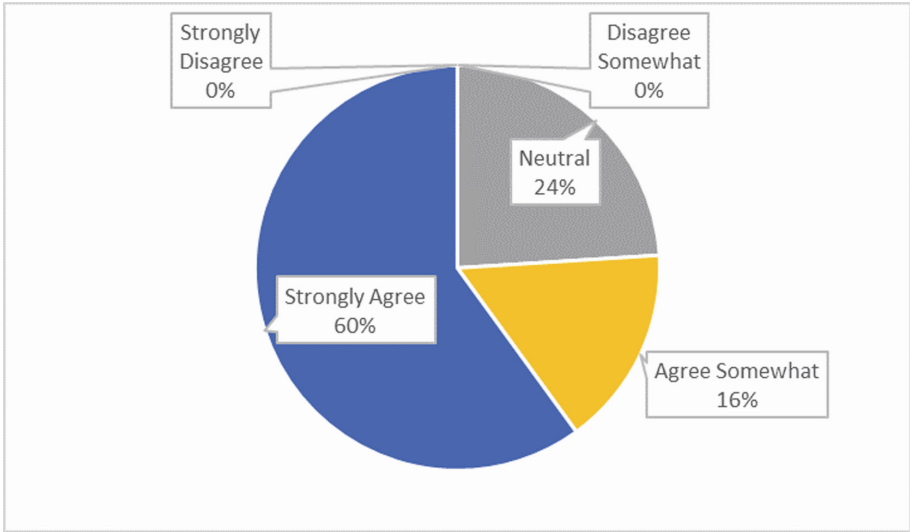


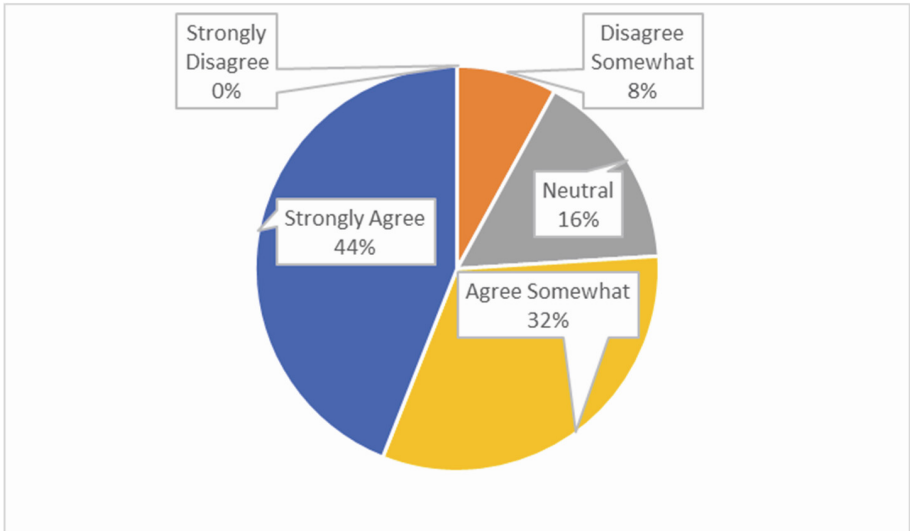**Fig. 4.** I understand the concept of *Kawaii* culture better now than I did at the start of the course.



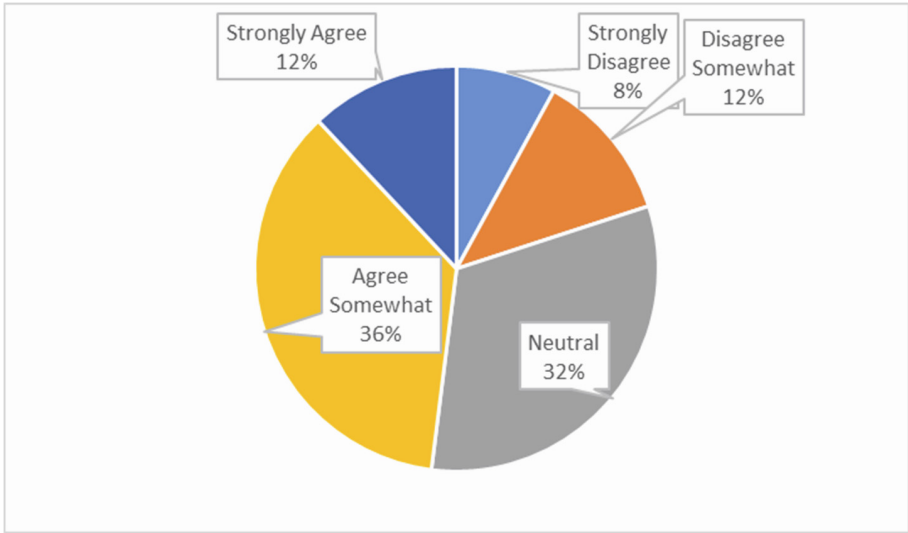**Fig. 5.** Using LINE contributed to my understanding of *Kawaii* culture.

**Fig. 6.** I was more likely to notice examples of *Kawaii* culture in Japan because we had experienced *Kawaii* culture using LINE before departing for Japan.

Another set of Likert scale questions asked students to evaluate LINE with respect to both user-experience and usability. These questions, along with summaries of the associated answers, follow below. Respondents who "agreed somewhat" and those who "strongly agreed" are aggregated as "agreed" in this summary.

- 100% agreed that LINE was useful for receiving update messages sent by the instructors to the whole class.
- 99% agreed that LINE was useful for exchanging messages with small groups.
- 96% agreed that LINE was useful for exchanging messages with other individuals.
- 92% felt more connected to the group because we used LINE.
- 92% agreed that LINE stickers are cute.
- 92% agreed that they enjoyed seeing their classmates' stickers during the course.
- 92% agreed that they were glad we used LINE instead of a social media tool such as Facebook that is more common in the United States.
- 90% agreed that they felt more comfortable exploring Japan because they could use LINE to contact instructors or classmates if needed.
- 88% agreed that they enjoyed using LINE stickers to express their feelings about experiences they had during this course.
- 88% agreed that LINE notes posted by the instructors were useful.
- 75% agreed that the LINE notes posted by students about the places we would visit were useful.

## 4   Discussion

As seen in the previous section, we found that LINE was a useful tool in several different ways. First, LINE was helpful in facilitating communication between the students, faculty and Japanese hosts who were involved in our course. Additionally, using LINE helped students learn about Japanese culture, especially the *Kawaii* design principle.

Instead of simply reading about *Kawaii*, the students were able to experience *Kawaii* culture first-hand using LINE. The students reported that this experience helped them understand the Japanese *Kawaii* design principle more deeply.

The students reported that they enjoyed expressing their emotions and mood using stickers that carried their messages in the condensed form of cuteness. We found that students were more likely to use stickers during the time when we were in Japan. Additionally, the students indicated that they were more observant of different forms of cuteness in Japan as a result of regularly interacting with LINE's *Kawaii* design. In other words, LINE itself served as instructional scaffolding to learn about the aesthetic of cuteness.

The authors also observed that enabling the students to use LINE as soon as they joined the group helped create a sense of belonging and a group learning environment. LINE provided users with the virtual space to share their messages embedded in visuals that soften negative emotions and magnifies positive emotions.

Students were better able to help each other with problems because of our use of LINE. Often a student would post a question to our LINE group and another student would answer the question before either of the instructors had a chance to answer. It was rewarding to see the group helping each other out, although this approach was also potentially problematic as described below.

There were a couple of minor downsides of using LINE as a communication tool. As in using any social media platform, students may use it to rely on others with regard to getting information about details and logistics. This can lead the students to become less responsible, because they are aware that they can get help from others if it is needed. In other words, because the social media tool can become their information source, students may be less diligent about keeping track of important logistical issues. Additionally, some of our students did not know how to turn data roaming on and were not able to use their phones immediately upon arrival in Japan and others did not know how to monitor their data usage to ensure they stayed under the limits imposed by their international phone plans.

Overall, incorporating LINE had multiple benefits, making group communication easier, helping create a sense of belonging, and serving as instructional scaffolding to learn about usability, user-experience and cross-cultural design principles. In addition, because LINE is popular with Japanese people, our students were better able to communicate with their homestay families and others who we met in Japan. In several cases, students have continued to use LINE to stay in touch with people they met in Japan.

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