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Evaluating Facebook as Aids for Learning Japanese: Learners' Perspectives

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Reviewer(s)' Comments to Author:

GE: I do believe that this paper has potentials for communication, the results are well organized and also well presented. Here are some of the issues that the authors need to address to improve the quality of the paper. Please revise the paper according to the review comments. Thanks.

>>> Thanks for your commendation and we have carefully revised our paper accordingly.

Reviewer: 1

Recommendation: Minor Revision

Comments:

I have the following comments to improve this paper.

1. The authors mention that there are few studies on Facebook-assisted learning Japanese, especially focusing on learners' perceptions in Hong Kong. The authors may be able to find the last five years of research literature on the perceptions of Facebook-assisted learning Japanese by learners from different countries. Then, the authors explain the differences between this study and other studies. In addition, two research questions that support this study are missing from the current literature review. I suggest that the authors could add to the literature of the last five years to support your research questions.

>>> We add some citations on recent related papers.

2. The authors did not specify how the survey was conducted to obtain participant data, e.g., which survey instrument you used to collect the data. For research question 1, the authors used the widely accepted Japanese Language Proficiency Test as a measure; however, I am not sure why this is appropriate for the questionnaire. I suggest that you review the literature to support the appropriateness of this questionnaire. In research question 2, the authors surveyed participants on the amount of time they spent learning Japanese activities. This is a very good idea. I would like to know what tools you used to collect this data. Are there any IRB issues with collecting this way? Finally, I would suggest that you support the importance of research question 2 with a literature review.

>>> We add more citations and explanations on the instrument used in the survey. The users just self-report their usage time and we got IRB approval for this research, including the survey instrument.

3. The results are a bit unclear, especially the findings of the two research questions could be further elaborated, perhaps adding to the literature of the last five years of research to support and compare to other studies.

>>> We add more comparison of our results to recent related studies.

4. In the conclusion, the authors should focus on the results and findings of the two research questions.

>>> We revise the conclusion accordingly.

5. The authors have tried their best to express their ideas. However, the clarity and readability of expression could be enhanced, especially in terms of sentence structure, jargon use, acronyms, etc.

>>> We further edited the paper and rewrite some sentences to improve the readability.

Additional Questions:

1. Originality: Does the paper contain new and significant information adequate to justify publication?: In this manuscript, the authors analyze the use of Facebook to help learn Japanese as a foreign language. The authors focus on Hong Kong learners' use of Facebook to assist in learning Japanese to further understand learners' perceptions. This study is original. The findings are useful for students, teachers, and language institutes to consider.

2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: The authors mention that there are few studies on Facebook-assisted learning Japanese, especially focusing on learners' perceptions in Hong Kong. The authors may be able to find the last five years of research literature on the perceptions of Facebook-assisted learning Japanese by learners from different countries. Then, the authors explain the differences between this study and other studies. In addition, two research questions that support this study are missing from the current literature review. I suggest that the authors could add to the literature of the last five years to support your research questions.

>>> We add some citations on recent related papers.

3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: The authors did not specify how the survey was conducted to obtain participant data, e.g., which survey instrument you used to collect the data. For research question 1, the authors used the widely accepted Japanese Language Proficiency Test as a measure; however, I am not sure why this is appropriate for the questionnaire. I suggest that you review the literature to support the appropriateness of this questionnaire. In research question 2, the authors surveyed participants on the amount of time they spent learning Japanese activities. This is a very good idea. I would like to know what tools you used to collect this data. Are there any IRB issues with collecting this way? Finally, I would suggest that you support the importance of research question 2 with a literature review.

>>> We add more citations and explanations on the instrument used in the survey. The users just self-report their usage time and we got IRB approval for this research, including the survey instrument.

4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The results are a bit unclear, especially the findings of the two research questions could be further elaborated, perhaps adding to the literature of the last five years of research to support and compare to other studies.

In the conclusion, the authors should focus on the results and findings of the two research questions.

>>> We add more comparison of our results to recent related studies and revised the conclusion accordingly.

5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The study has indicated the impact on research, practice, and society. These impacts are consistent with the findings and conclusions of the paper.

6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the fields and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The authors have tried their best to express their ideas. However, the clarity and readability of expression could be enhanced, especially in terms of sentence structure, jargon use, acronyms, etc.

>>> We further edited the paper and rewrite some sentences to improve the readability.

Reviewer: 2

Recommendation: Minor Revision

Comments:

This study arms the issue to facilitate the students, teachers, and language institutions from Hong Kong as well as other countries to improve their effectiveness in learning and teaching Japanese.. Generally speaking, this paper is good and well organized. The concept is interesting and useful for the related researchers. Here I just have some minor suggestion:

1. Please give a flow chart of the method in the Methodology section so that the reader can quickly understand the proposed method, and the method is only described in half a page, it is suggested that it can be expanded.

>>> The method used is a standard survey method and we are not showing the standard flowcharts and detail way to do this – readers are referred to the citations on how to do this. Yet, we extended thee methodology section with more details as suggested by Reviewer 1.

2. Teaching with Facebook is a topic that has been widely researched in recent years and the authors list many referred papers on teaching with Facebook. The authors are suggested to summarize a table to analyze the differences of each study to facilitate highlighting the contribution of the methodology in this paper.

3. The authors spend a large amount of time presenting their research results, which are very informative.

Overall, I suggest to strengthen the chapters on Literature Review and Methodology, and have no other comments on the rest.

>>> Yes, we also extend our literature review and citations with more related work.

Additional Questions:

1. Originality: Does the paper contain new and significant information adequate to justify publication?: Yes

2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: Yes

3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: Yes

4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: Yes

5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: Yes

6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the fields and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: Yes

>>> Thanks for your positive feedback.

Reviewer: 3

Recommendation: Reject

Comments:

My comments and remarks are given above. Thank you very much for the study. I think more detailed studies are needed for this kind of research.

>>> This is an explorative study and there are scant studies on this topic. We will extend our research to cover more different learners as discussed in our future work section.

Additional Questions:

1. Originality: Does the paper contain new and significant information adequate to justify publication?: The topics covered in the manuscript are very interesting and important for the literature. Using social media tools as a learning environment is a popular trend. However, the study focuses on a very limited population and that is not possible to generalize to whole Japanese learners.

>>> This exploratory study has already revealed many interesting findings. We will extend our research as discussed in our future work section.

2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: The literature presented in the study covers related studies.

3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: The main problem of the study is related to the methodology section. The surveyed population is too low in terms of number. On the other hand, the sources given in this section are insufficient, more explanations are needed for the study and the data analysis reflects that a comparison between male and female users. However, the number of participants is too different in terms of their genders. The ANOVA may not be appropriate for this research. There should be more explanations about.

>>> Both ANOVA, *t*-test and regression can handle and report significance of comparison with totally different number of respondents, and is appropriate for this type of research design (Boslaugh, 2012)

4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The results are given in a well-structured format, however, only 100 participants and their profiles are insufficient for a study that is related to Facebook.

>>> Please note the number of people using Facebook as aids for Japanese learning is not too many. Yet, we will extend our research to cover more different learners as discussed in our future work section.

5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of

the paper?: The implications for research are not proper to generalize for Japanese learners. At least 200 participants are required for this kind of research and tests that were carried out in the study. Furthermore, differences between the generations should be mentioned and discussed. The results also can change based on the date and we cannot see any explanation about the date of the survey. More details are needed for this kind of study.

>>> We will extend our research to cover more different learners as discussed in our future work section. Also, as we use regression, ANOVA and t-test as our data analysis method, we do not see a specific requirement for having a sample size of at least 200 to perform such analyses.

6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the fields and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The language used in the study is sufficient and clear.

>>> We edited the paper and rewrite some sentences to further improve the readability.

Evaluating Facebook as Aids for Learning Japanese: Learners' Perspectives

Abstract

Purpose: This study analyses the advantages and weaknesses of using Facebook to aid the learning of Japanese as a foreign language.

Methodology: A questionnaire survey was conducted to collect data from 100 Hong Kong Japanese language learners (who are generally fluent in Chinese and English), ranging from total amateur to advanced learners (Japanese Language Proficiency Test, JLPT, qualified at different levels).

Findings: Our results suggest that the advantages of using Facebook to help learn Japanese include: (i) serving as a free-of-charge, casual, and convenient learning platform; (ii) enriching learners' knowledge beyond the language learning; and (iii) encouraging interactive and collaborative learning with other users for practicing the language. However, the low credibility and unstructured educational materials posted on Facebook and being easily distracted by other Facebook feeds are the major weaknesses of learning a language through Facebook. Furthermore, our result shows that Facebook is especially effective for Japanese learning when learners fall into either one of the following groups: young, female, or intermediate (N2/3) learners.

Originality: Scant studies focus on the aid of learning Japanese via Facebook, especially Hong Kong learners' perceptions, or generally in the East. Therefore, this study aims to fill this research gap. Our findings will facilitate the students, teachers, and language institutions from Hong Kong and other countries to improve their effectiveness in learning and teaching Japanese.

Keywords: *Facebook; Japanese Learning; Regression Analysis; Quantitative Study; Third Language, Japanese Language Proficiency Test (JLPT)*

Introduction

Learning Japanese is popular in the East, such as in Hong Kong, exemplified by the increasing number of Japanese language learners. Humphreys and Miyazoe-Wong (2007) revealed that Japanese education has become popular since the late 1950s and motivated Hongkongers to study Japanese. They pointed out three motivations leading Hongkongers to learn Japanese: (i) the influence of Japanese culture, (ii) the usefulness of Japanese in personal life and career, and (iii) the geographic proximity between Japan and Hong Kong. Similar to Mainland China (Zhang *et al*., 2015), due to the wide recognition of Japanese cuisine, entertainment (television, movies, manga, songs, etc.), and fashion in Hong Kong, Hongkongers are eager to know more about Japan through the information presented in Japanese. Hong Kong job seekers also recognized the need for learning Japanese to pursue careers when more and more Japanese companies set up Hong Kong branches. The close distance between Japan and Hong Kong and the increase in the number of flights provided by low-cost carriers contribute to Hongkongers learning Japanese for traveling. Recently, an increasing number of Hong Kong population can speak Japanese as another second language: from 1.1% of the population in 2006 (around 75,000 out of 6.8 million) to 1.7% in 2016 (about 119,000 out of 7 million) (Census and Statistics Department, 2016). The increasing proportion of Hongkongers who can speak Japanese reflects the increase in the popularity of Japanese learning in Hong Kong.

With the upward Japanese learning trend, it is essential to identify the effectiveness of learning Japanese through different channels. One possible aid for learning Japanese is learning and practicing Japanese through interaction with other people on social networking sites (SNSs)(Zhang *et al.*, 2015). SNSs have become an integrated part of modern life for people to share information and community, of which Facebook is the most influential one, having 1.5 billion users in 2015 (Manasijević *et al.*, 2016). The significant amount of time spent by Facebook users has stimulated Facebook information exposure, including the drastically rising number of comments, status, and photos posted on Facebook. Consequently, Facebook became the most common SNS in Hong Kong (Chan *et al.*, 2020). Hong Kong has up to 4 million Facebook users, more than half of the population and over 80% of the online user population (Chan, 2016). Supported by the growth in Hong Kong Facebook users, Facebook has a dominant influence on Hongkongers' daily life, including their habits and behaviors. With the growth of Facebook usage, plenty of Japanese learning materials appear on Facebook.

Recently, Moorthy *et al.* (2019) have revealed a positive perception of Malaysian university students towards Facebook for learning. However, there is generally limited research on the perceptions of learning Japanese via Facebook, and the effectiveness of Japanese-learning materials on Facebook has yet to be verified. Therefore, we conduct this study to examine the advantages of learning Japanese on Facebook to aid Hongkongers. This study also tries to identify the weaknesses of Japanese learning materials catered by Facebook from the Hong Kong learners' perspectives, which will provide suggestions for the quality of the provided learning materials. Besides, the effectiveness of learning Japanese through Facebook is examined. In particular, this research probes into the following two research questions (RQs):

RQ1: What are the advantages and weaknesses of using Facebook for learning Japanese?
RQ2: How effective is it to learn Japanese via Facebook?

Literature Review

Nowadays, SNSs commonly act as a platform for disseminating learning materials for language learners (Zhang *et al.*, 2015). These materials can be classified as direct resources or indirect resources. Direct resources are the materials such as but not limited to text and videos, as long as they are directly accessible on SNSs or directly posted on SNSs for learners to use. In contrast, indirect resources are materials that do not explicitly appear on SNSs but are shared through hyperlinks. After clicking on those hyperlinks, learners will be redirected to another platform for acquiring the resources, such as YouTube videos (Deori et al., 2021).

Recently, university students have moved from print to electronic media for casual reading and short supplementary materials (Yu *et al.*, 2021; Wang *et al.*, 2016), rendering SNSs convenient platforms for sharing learning aids. Besides using formal education management information systems (Stamenkov and Zhaku-Hani, 2021), students and teachers for university and adult students tend to communicate with one another for learning and mutual care outside classrooms (Dong *et al.*, 2021; Lei *et al.*, 2021). Further, the COVID-19 pandemic has caused a massive lockdown of face-to-face venues for teaching and learning, generating widespread online learning needs (Yu *et al.*, 2022; Guo *et al.*, 2021) and electronic learning materials (Sung and Chiu, 2021).

Using SNSs as a platform to learn foreign languages has been studied in prior research in the past decade. For example, Akbari, Pilot, and Simons (2015) reported that a group of Persian-speaking Iranian Ph.D. students learning English through Facebook achieved a higher level of autonomy, competence, and relatedness. Another study that investigates university students learning grammar and vocabulary of a foreign language through Facebook suggests that the learners' self-productivity and initiation are raised after learning via Facebook, and their second language learning skills in reading and writing are flourished (Lantz-Andersson *et al.*, 2013). A Facebook learning experiment with students learning French through Facebook also showed that over 90% of the participants reflected that they learned a lot from French partners and improved French language skills (Blattner & Lomitska, 2012). Language learners indicated that Facebook generally benefits their language learning in these studies.

There are several case studies related to the learning of Japanese using SNSs. For example, Christensen (2013) conducted qualitative research on a group of Japanese learners for eight weeks from Bebo. Learners felt pleased to chat on Nihongo4us, a site page with people sharing the same interests with them. They could contribute to different topics, creating a positive learning environment with unlimited time allowed for learners to comment and discuss at any time under no pressure and anxiety. As the Japanese language is required to be used on the site, participants have to apply their Japanese language ability in their activities. The results showed that their Japanese reading and writing speed were boosted with the expanded vocabulary, and learners also found themselves more confident in using Japanese. However, several technical problems are encountered, such as no notifications and inconsistent layout on the site page. Besides, as the learners join the discussion at their convenience, some topics have low participation.

Harting's (2021) research echoed Christensen's (2013) finding on improving Japanese reading and writing due to expanded vocabulary and deepening their understanding of the culture after using Facebook to chat with native speakers and express themselves anytime on any topic. However, participants were concerned with the formal correctness of their wordings and the materials out of their language ability.

Further, Zhang *et al.* (2015) explored Chinese learners' perceptions of learning Japanese via Chinese SNSs, including Renren, Baidu Tieba, and Douban. Chinese learners also found using SNSs to learn Japanese beneficial to their learning. Respondents felt it convenient to receive prompt responses from other learners on SNSs, and they were encouraged to voice their opinions freely without worrying about making mistakes. As the participants often used those SNSs, they did not encounter many obstacles. Aligning with the previous research, Chinese learners pointed out some drawbacks in the learning process, such as distractions from other online activities and SNSs do not provide professionally edited learning materials.

To sum up, prior research has examined some advantages as well as some shortcomings of learning Japanese and other languages on SNSs. However, scant studies focus on the aid of learning Japanese via Facebook, especially focusing on Hong Kong learners' perceptions, or generally in the East. Therefore, this study aims to fill this research gap on the advantages and weaknesses of using Facebook as an aid for learning the Japanese language (RQ1), and our findings will facilitate the students, teachers, and language institutions in Hong Kong as well as other countries to improve their effectiveness in learning and teaching Japanese (RQ2).

Methodology

Facebook was initially constructed as an SNS for university students, which later expanded and became available to the public. It allows users to publish photos, blogs, and comments, create groups with other users, and view various resources. Prior research from Wang *et al.* (2021) and Lei *et al.* (2021) reported that most students utilized Facebook to aid academic studies. For instance, students can discuss problems and complete projects together, while teachers may also join students' groups to provide opinions and useful resources through Facebook.

In this study, we designed the survey questions according to the findings of Zhang *et al.* (2015) to explore the perceived advantages and weaknesses of using Facebook as an aid for Hongkongers learning the Japanese language. The survey was self-administered and distributed with Google Forms to participants within the university campus through email and Facebook message invitations. The survey was approved by the Faculty Research Ethical Committee of the researchers, which included two main sections.

The first part addressed RQ1 and investigated the strengths and weaknesses of using Facebook to help learn Japanese. The survey questions included items on the 5-point Likert scale and a few open-ended questions. Descriptive statistics can help us identify the features of Facebook useful for Japanese learning and how these factors contribute to assisting or hindering learners from learning the Japanese language. In particular, we hypothesized that learners' behavior and preferences might be different according to their language proficiency. We used the widely accepted Japanese Language Proficiency Test (JLPT) as a metric, which is popular in Hong Kong and widely accepted in Japan (Kanno *et al.*, 2005).

The second part of the survey asked specific questions to measure how different factors that help improve their Japanese learning experience, i.e., (i) time spent on Facebook and Facebook redirected Japanese learning sites, (ii) time spent in Japanese classes, (iii) time spent on Japanese recreational activities; and (iv) time spent on work-related Japanese tasks. The amount of time is provided on a self-reported basis anonymous to avoid privacy issues.

We invited 100 volunteers within the university campus to participate in our survey in the summer of 2018. They were Hongkongers learning Japanese and participating in learning activities on Facebook. Table 1 shows their demographic background. The *t*-tests and ANOVA tests were employed to compare significant differences among demographic groups (Boslaugh, 2012). Stepwise regression analysis was used to identify which elements or interactions between elements affected Japanese learning and its effectiveness.

Result and Data Analysis

Strengths of Using Facebook for Learning Japanese (RQ1)

Our respondents reported that the top three factors helping them learn Japanese using Facebook are free of charge, convenient, and flexible in time and space (Table 2). We also use *t*-test to check for the possibility of gender difference, and we note the effects for "More opportunity of using Japanese" (male = 2.59, female = 3.18, $p = 0.007$), and marginally difference is found for "Learning Japanese through Facebook is easy for me" (male = 3.14, female = 3.46, $p = 0.093$).

We also explored our participants' impact of their Japanese language proficiency on their factors, appealing to them to use Facebook to learn Japanese. ANOVA tests showed that amateurs have overwhelmingly good perceptions of using Facebook to learn Japanese, followed by beginners at N4/5 levels. However, more advanced learners at N1 and N2/3 levels showed a less positive perception of this issue.

Providing Free Japanese Learning Materials

The results suggest that Facebook can provide free Japanese learning materials to facilitate Hongkongers learning Japanese, compared to those courses organized by universities or other institutions requiring tuition. The learners who benefited from this arrangement were either those who devoted a lot to learning Japanese for leisure but were not willing to pay a high price or those who could not afford the high tuition for learning Japanese from a formal school or the price of formal Japanese textbooks.

More Convenient Access

Facebook is convenient for Hongkongers to extend their learning experience of the Japanese language as well. Search engines, categories, and different user groups on Facebook allow learners to acquire the information they need. Learners can input keywords in the search engine or click a category for locating Japanese learning materials on Facebook, and loads of related results will be displayed. As long as the learners are familiar with the interface of Facebook, there will be low barriers for them to retrieve Japanese learning materials on the platform. Besides, Facebook is accessible via personal computers, laptops, and smartphones, which help learners learn Japanese at their convenience. Compared with taking Japanese courses from institutions and reading Japanese textbooks, obtaining Japanese learning materials on Facebook only requires a few clicks. Such results aligned with prior research, which reports "convenience" received the highest score in the college student's perception of learning on Facebook (Roblyer *et al.*, 2010).

More Flexible Access

As Facebook can be accessed anytime and nearly anywhere, the flexibility in time and space for learning Japanese through Facebook is one of the advantages indicated by the majority of the respondents. Learners can access Facebook and collect Japanese learning materials from it under any context with no limits of time and space. Unlike traveling to institutions to attend

Japanese classes, learners enjoy more freedom in learning Japanese via Facebook. They can freely schedule their Japanese learning time-slots to wherever and whenever they have spare time. As leisure learners may feel less confined to the regular Japanese courses and study at their own pace, they may be less dedicated to learning Japanese at an advanced level. A similar result was observed by Akbari *et al.* (2015) that second-language students could study at any time and pick any subjects or activities they like to do on SNSs autonomously. Flexibility has also been reported in other studies that use social media as learning aids (Lei *et al.*, 2021; Wang *et al.*, 2021; Zhang *et al.*, 2015).

According to the results from the perceived usefulness of Japanese educational materials directly posted on Facebook, most respondents found the materials convenient to access for study and useful for their learning. For example, one respondent expressed the ease of selecting a specific topic she wanted to learn, which could be quickly done on Facebook but not in regular classes. Similarly, another respondent conveyed that she could learn Japanese at her own pace on Facebook, unlike attending formal lessons with a fixed curriculum. A third respondent stated that she could instantly acquire learning information through Facebook. In summary, learners felt free to study any materials on Facebook according to their needs, at their own pace, with no constraints of time, space, study level, or learning ability.

Respondents also indicated that the directly posted Japanese-learning materials on Facebook are also generally useful for learning Japanese. One respondent pointed out that the learning materials she wanted to read were updated automatically with the Facebook feed function without any searching efforts. Unlike formal courses in which learners generally study the materials provided by the teacher, learners can access various resources as soon as they open Facebook.

More Interesting Learning Material

Some of our respondents found the Japanese learning materials posted on Facebook more attractive than those from formal classes, especially creative pictures and interactive videos, which engaged them in learning Japanese. They found more multimedia learning materials on Facebook than regular courses since Facebook advocates image and video upload. These less formal formats enabled learners to learn Japanese more casually than by attending formal lectures. One of the respondents stated that the pictures and videos on Facebook were clear and helpful because of the concise and appealing presentation (Yoon and Syn, 2022). For instance, a 5-minute video about Japanese vocabulary or a colorful illustration of Japanese sentence patterns provides a better learning engagement as well as quality, as Facebook learning materials are generally more attractive than the lecture notes that are mostly text (Zhang *et al.*, 2015).

Enriching Learner's Knowledge beyond Japanese Language Learning

Even though fewer respondents agreed that Japanese non-educational posts on Facebook improved their Japanese more than educational posts, some respondents found those non-educational posts helpful in learning Japanese because they were intriguing. Those non-educational posts often discussed popular topics or news in Japan, which educational posts might not cover. Respondents stated that such non-educational posts were fun and entertaining, motivating them to learn Japanese and explore even more. As such, they could learn Japanese from the articles in a practical manner. One respondent also revealed that the non-educational posts were more manageable for her to learn Japanese because of the intriguing way of studying. Further, some respondents found them helpful in learning Japanese because they could learn many new Japanese vocabularies from those articles. In Harting's (2021) and Zhang *et al.*'s

(2015) study, participants reported a deeper cultural understanding after using Facebook to communicate with native speakers on any topic, which helps enrich learners' knowledge beyond language learning.

Provide More Opportunities for Interaction

Except for N2/3 (intermediate) learners, most respondents agreed that Facebook was useful to Japanese learning by providing more chances to interact with other Japanese learners and Japanese speakers on Facebook. This result shares the same idea with prior research on the authentic interactions on Facebook that enhance language learning experiences (Wang *et al.*, 2013). They further commented that they exchanged information with other Japanese learners via Facebook, such as useful Japanese pages on Facebook. Since they shared a similar purpose of obtaining Japanese knowledge, Facebook became a platform to share their common interests and activities.

Moreover, those who interacted with other Japanese speakers conveyed that they learned about informal ways of Japanese conversation, such as tone, wording, and sentence patterns. Undoubtedly, learners can learn how they casually speak and write during conversations through interaction with other Japanese learners. This finding is consistent with the earlier findings of Kabilan *et al.* (2010), which reveal that authentic interactions on Facebook can improve students' language learning by raising their confidence and connectivity to the language. In addition, Mazman and Usluel (2010) discover a significant positive relationship between the educational use of Facebook on communication, collaboration, and resource or material sharing. Sánchez, Cortijo, and Javed (2014) also suggest that teachers promote discussion, collaboration, and participation in the learning process by using the social dimension of Facebook and thus enhancing the learning experience. They show how Facebook can provide opportunities for interaction to enhance learning. Kelly (2018) shows how Facebook aids university students in learning Japanese through peer learning and collaboration. This finding supported using Facebook as a socio-constructivist pedagogy, thus forming a community of practice (Lei *et al.*, 2021).

Compensating for the Shortcomings of Offline Learning

As in Michelson's (2017) review, SNSs, including Facebook, are virtual communities that can compensate for shortcomings in linguistic resources. In our survey, some N2/N3 (intermediate) learners commented that "The materials provide more pictures that are more lively and interesting in comparison to traditional Japanese textbooks." Our respondents mostly agreed on having more chances of interacting with local/nonlocal Japanese speakers, except intermediate learners. The result echoes Pasfield-Neofitou's (2011) finding that joining virtual communities also benefit learners by increasing their exposure to Japanese and receiving linguistic assistance from native speakers. Expanding the opportunity to interact with other Japanese learners and speakers on Facebook, which is less accessible in real life, helps Japanese learning. Besides the communication between foreign language learners and native speakers, SNSs can also create opportunities for language learners and teachers for a range of translingual communicative (Kulavuz-Onal & Vásquez, 2018), enriching their out-of-classroom learning. Furthermore, SNSs provide an alternative approach to learning Japanese out-of-classroom, especially for those who dislike studying with books (Nishioka, 2020).

Interestingly, intermediate learners were the only group that disagreed that Facebook could facilitate Japanese learning. Some comments that they used Facebook for leisure rather than for learning Japanese. Their reason for this could be that "the quality of those materials is not standardized and might not be accurate all the time," as one of them commented. Intermediate

learners may be more aware of the inaccuracy in the resources than those with lower Japanese language proficiency, who may legitimize the wrong Japanese as something they have not yet learned. Advanced (N1) learners may be confident with their Japanese proficiency and correct the inaccuracy themselves, so they may regard Facebook as a source to acquire bonus knowledge rather than a source for learning vocabulary and grammar.

Drawbacks of Using Facebook for Learning Japanese (RQ1)

Table 3 reports the disadvantages of using Facebook to learn Japanese based on gender and Japanese language proficiency, respectively. We noted that only a marginally difference is found for "Lack of guidance for learning Japanese" (male = 3.59, female = 3.92, $p = 0.081$). Concerning the effect of Japanese Language Proficiency, we only note that there is a significant difference for "Lack of credibility of the posted educational materials" (with $p = 0.024$), and a marginal difference for "Difficult to use Facebook" (with $p = 0.057$).

Unstructured Learning Materials

The most significant issue of choosing Facebook as a platform for learning Japanese was perceived to be a lack of a structured learning plan (Overall = 3.96, the highest score of all suggested reasons). There was also a general concern of lacking learning guidance on Facebook (Overall = 3.82, third place of all suggested reasons). Learners may have difficulties reading the educational materials on Facebook, but no teachers or professionals are committed to helping them side-by-side. Although instructional materials can be easily obtained, learners cannot consult a teacher when they are puzzled about the contents in real-life classrooms. Learners may need to construct a Japanese-learning plan themselves, which is often impractical for beginners, as Facebook provides an unstructured learning environment. Learners may also lose motivation or lose track of which knowledge they have acquired in such an open environment, as learning topics and contents of different levels randomly appear on their news feed based on Facebook's algorithm. In contrast, Japanese courses held by institutions may provide well-planned curricula from easy to difficult levels to teach the learners gradually. The reading level of Facebook posts being too difficult or colloquial is also problematic in Harting's (2021) study. Thus, using Facebook as an aid for Japanese learning is suggested to be mediated by a teacher (Lei *et al.*, 2021).

Lack of Credibility and Inaccuracy

All participants agreed on the lack of credibility of the posted educational materials, as Facebook does not revise the grammar or conduct fact-checking on every post. The accuracy and precision of the instructional materials are not verified unless explicitly pointed out by other users. That is a problem for amateurs and beginners (N4/5). It is reflected by a higher score (≥4.00) as the barrier to identifying the materials' correctness. Consistent with the previous study indicating that there are misuse and broken languages used on Facebook, this may hinder students from learning a new language (Kabilan *et al.*, 2010). As there is no practical way for Facebook to verify the credibility of all posted materials, learners need to be careful when studying the Japanese educational materials on Facebook. Further, as Fewkes and McCabe (2012) stated that as Facebook has a blurry boundary between entertainment and authentic educational materials, learners may also mistake those entertaining posts of inferior quality as educational materials.

Easily Distracted

The Facebook algorithm retrieves the educational posts randomly; there are many irrelevant posts between them. When Japanese learners read along the Facebook timeline, they may encounter irrelevant and often distracting posts. This may explain why our respondents agree they are easily distracted by other Facebook entertainment (Overall = 3.55).

Illiteracy Is Not a Major Concern

Before the survey, we wondered if the illiteracy in using Facebook might hinder users from learning Japanese. However, our survey showed that it was not a major concern (Overall = 2.21) and was significantly smaller for advanced learners. Several comments could explain that they did not consider using Facebook to learn Japanese (just communicating or even coaching others). Therefore, according to our question setting, they did not encounter any issues using Facebook as a learning aid. Also, Hong Kong students and teachers generally have a high level of information literacy and are thus ready to use SNSs (Wang *et al.*, 2021; Chan *et al.*, 2020; Li *et al.*, 2021).

Effectiveness in Using Facebook to Learn Japanese (RQ2)

To study the effectiveness of using Facebook to learn Japanese, we use stepwise regression to analyze the main effects between our subjects' time spent on learning Japanese and their self-reported improvement in Japanese proficiency. We also use the interaction terms in the stepwise regression to further investigate the moderating effect of age, gender, and Japanese language proficiency on the main effects. The definition of the independent and dependent variables are listed in Table 4, and our regression results are presented in Tables 5 and 6.

Results in Table 5 show on average, spending each extra hour on reading, commenting, and sharing non-educational Facebook posts written in Japanese (FB3) will link to 0.364 units of perceived improvement in Japanese reading ability. Such linkage with Japanese reading ability was not found in having Japanese courses organized by the university/ private Japanese school (Learn1). This may suggest that Facebook can compensate for the insufficient training of Japanese reading skills provided by universities or private schools. Recreational activities in Japanese, with a smaller coefficient (0.036) than the interaction with non-educational Facebook posts written in Japanese, can be secondary to improving Japanese reading ability.

Our results also suggest that regarding the improvement in Japanese writing skills, communicating with Japanese learners in a Facebook learning group, in the form of commenting and sharing posts using the Japanese language (FB4), can be more effective than having Japanese courses organized by the university/ private Japanese school (Learn1), by comparing the coefficients of 0.445 and 0.206, respectively. This suggests that the application of social networking sites is not just a supplement, but sometimes may serve as a better option than the traditional method of acquiring a language.

Considering the age effect, the results show a reverse effect on Facebook as a learning input (Table 6). If we keep the time spent on communicating with Japanese learners in a Facebook learning group, in the form of commenting and sharing posts using the Japanese language (FB4) unchanged, older people have a lower linkage with the improvement of Japanese reading ability than the younger groups (–0.486). Yet, older respondents have a more remarkable improvement in Japanese reading (0.313) and writing (0.222) abilities than the younger group

in self-learning Japanese using offline materials (Learn 2). However, communication in Japanese in the workplace has a relatively small negative effect (–0.045) with age, which might be attributed to the unbalanced sample size. In other words, most of the younger group in our sample do not have working experience that requires communication in Japanese as they are mainly full-time students.

From Table 7, we note that male learners improved Japanese reading ability less than female learners (–0.553) when they spent the same amount of time communicating with Japanese learners in a Facebook learning group, in the form of commenting and sharing posts by using the Japanese language (FB4). This could be explained by the behavioral difference between genders in using Facebook. Female learners may prefer interacting and discussing with other Facebook users, while male learners prefer commenting, a more unidirectional communication on Facebook. However, male learners have a significant correlation between recreational time and Japanese improvement in listening (0.295).

The results in Table 8 suggest that learners with different language proficiency adjust their learning methods after acquiring a higher Japanese level. Our results indicated that recreational activities significantly improve Japanese Amateur reading and writing skills.

For intermediate learners who passed a higher level (N2/3) in JLPT, the effect of having classes is overtaken by the time spent on Facebook. Specifically, sharing non-educational posts (e.g., news) written in Japanese (FB3) is perceived to improve their speaking skills. Further, communicating with Japanese learners in a Facebook learning group by commenting and sharing posts in the Japanese language (FB4) can improve their writing skills.

However, for advanced Japanese learners (N1), they may consider spending less time on reading, commenting, and sharing educational posts on Facebook (including posts written by Japanese-teaching pages) (FB1) as a good way to improve their reading skills. This is possibly due to the mismatch of the level of the educational posts, i.e., the Japanese grammar or vocabulary are considered too simple by the advanced learners, or even if those learners can identify the wrong information or errors in the language provided on Facebook. At the advanced level, the time spent self-learning Japanese offline materials (Learn2) is more effective in all aspects than interacting with educational posts written in Japanese on Facebook.

Discussion

Effectiveness of Facebook in Learning Japanese

The regression analysis shows that Facebook is generally a useful tool for Japanese learning when learners fall into either one of the following groups: young, female, or intermediate (N2/3) learners. When Japanese language learners spend extra time interacting with Japanese learners in Facebook learning groups, there is a linkage to improving Japanese writing skills. It is particularly useful for intermediate learners who acquired N2/3 qualifications. This result is consistent with a previous study that demonstrated Facebook groups could effectively improve students' English writing skills (Yunus & Salehi, 2012). The statistics results suggest that using Facebook to aid Japanese learning (RQ1) could improve Japanese ability. Facebook can serve as an effective Japanese-learning aid offering directly posted learning material, non-educational posts, and interactions with other users. To be precise, the regression results show that Facebook usage indeed has a statistically significant positive correlation to reading and writing improvement. Commenting and sharing posts in Japanese is generally an engaging and

effective way of practicing Japanese writing, while reading posts on Facebook naturally extends practices in Japanese reading. However, we see a weaker relationship between listening improvement and Facebook usage based on the regression results. This is understandable as Facebook is likely to be mainly about reading and commenting, while opportunities to listen to Japanese are relatively less available, usually through posted videos or music. Our result is different from Mainland China, where they tend to share more learning resources, including multimedia, on SNS (Zhang *et al.*, 2015).

On top of that, other possible factors may also explain how Facebook assists in learning a foreign language outside the classroom. For example, regarding the improvement in Japanese writing skills, a Facebook learning group can provide communications among learners anywhere, anytime, which is more engaging and useful than Japanese courses in classrooms. Further, our result suggests that SNS application is not just a supplement, but sometimes a better option than traditional methods in acquiring a foreign language, which confirms the conclusion of Ng and Maniam (2015). Their study observed a significant effect of Facebook group discussions on college students' writing performances by offering plentiful chances for them to practice and improve, as practicing is a critical element of foreign language learning. This aligns with the community of practice concept, as pointed out by Lei *et al.* (2021).

However, the regression analysis of this study does not indicate that learning on Facebook and other variables contribute to Japanese learning independently. Their co-operative contribution to Japanese learning may be higher than simply adding up their individual effects. A literature review of 350 articles shows a lack of studies on the impact of social networking on language learning up to 2014 (Golonka *et al.*, 2014). Since empirical studies about measuring the effectiveness of Facebook in foreign language learning is rare, this analysis contributes to a pilot study in comparing the effectiveness of Facebook to other factors in foreign language learning. We plan to investigate further into these variables in our follow-up studies.

Causes of Variation in Effectiveness

In-class learning and self-learning are found to be highly effective among our female, older, amateur, or advanced (N1 qualification) participants, which the *noticing hypothesis* could explain. Schmidt suggested the noticing hypothesis in 1990, together with similar studies by Gass (1988) and Mackey, Gass, and McDonough (2000), that awareness and attention are the keys to learning a second language (as cited in Lightbown & Spada, 2011, pp. 44-45). During classes or self-study, learners will draw attention to "learning," and they are conscious of their learning behaviors. Thus, in-class learning and self-studying will become much more effective than on other occasions like leisure and work, of which the activities do not require awareness of "learning Japanese."

However, the explanation above is insufficient to explain why specific Facebook interactions can be equally, if not more, effective as in-class learning in improving Japanese reading or writing skills, since Facebook interactions do not usually require the learners' full attention. In this regard, the unique characteristic of Facebook, as an SNS, could be other factors behind social co-construction. Sociocultural theorists suggest that people learn their second language while interacting with others, then become a cognitive process of external socially mediated activities, and eventually become internalized knowledge (Lightbown & Spada, 2011, pp. 47-48). Swain, Lapkin, and their colleagues conducted a series of studies on how learners co-construct linguistic knowledge while speaking and writing that draws their attention to form a meaning simultaneously (Lightbown & Spada, 2011, pp. 48). Learners can post and comment

on one another on Facebook on educational or recreational matters to create more opportunities for practicing their Japanese output (especially on reading and writing), compared to leisure activities, mostly on input (listening to music or watching television programs). This explains why learning Japanese on Facebook is also highly effective even though it does not always draw learners' full attention to "Japanese learning" than in-class learning or self-studying.

Variances in learning effectiveness related to subjects' age may be due to the relatively high concentration of subjects in the two age groups below 25. The use of dummy variables for age groups may lead to a higher susceptibility of the regression coefficient towards extreme values in older age groups that form the minority. Besides, demographics such as age have a significant impact on regression results as people of a higher age may have a lesser tendency to learn a language from digital means, leading to weaker positive correlations between Facebook usage and Japanese improvement.

Surprisingly, the workplace has the smallest or even negative coefficient. The composition of the participants might cause it, as the majority (82%) of our respondents did not use Japanese in their workplace, and they could be undergraduate students or employees of non-Japanese companies. This would cause the workplace to be ineffective in our regression analysis and inapplicable in their learning process. Thus, we plan to conduct further studies on the working population.

As workplace culture is usually less tolerant of making mistakes than in schools and casual interactions, learners tend to be reluctant to practice their Japanese in their workplace. Siegal (1996) interviewed a white woman learning Japanese, and she expressed that honorific language was her weak point. Japanese honorific language is used when communicating with supervisors, customers, and others with a higher social position than the speaker. As both Chinese and English do not have such remarkable differences in the honorific language as Japanese, Hong Kong learners may struggle when learning and speaking the honorific language. As the honorific language is essential in the workplace, but Hong Kong learners may have difficulties mastering it, they tend to avoid using Japanese in their workplace and use Chinese or English instead. Therefore, most of our participants report zero hours using Japanese in their workplace, rendering it the smallest or even negative coefficient. Thus, employers requiring their employees to use the Japanese honorific langauge should offer specialized training and language response summaries to satisfy their workplace language information and knowledge needs (Chan *et al.*, 2022).

Conclusion

To the best of our knowledge, this study is the first to compare the effectiveness of Facebook with other related factors of learning Japanese as a foreign language, especially in the context of the East. Our results show that Facebook is as helpful as learning deliberately. Our findings also confirm the earlier studies on the advantages and disadvantages of Facebook for Japanese learning and are consistent with other studies (Roblyer et al., 2010; Akbari et al., 2015; Kabilanet et al., 2010; Fewkes & McCabe, 2012; Kelly, 2018; Nishioka, 2020; Harting 2021).

Responding to RQ1, our results indicated that the advantages of using Facebook to help learn Japanese include: (i) serving as a free-of-charge, casual, and convenient learning platform; (ii) enriching learners' knowledge beyond the language learning; and (iii) encouraging interactive and collaborative learning with other users for practicing the language. These advantages align with those found in the community of practices on social media (Lei *et al.*, 2021). However,

the low credibility and unstructured educational materials posted on Facebook and being easily distracted by other Facebook feeds are the major weaknesses of learning a language through Facebook. Responding to RQ2, our result indicated that Facebook is especially effective for Japanese learning when learners fall into either one of the following groups: young, female, or intermediate (N2/3) learners.

Notably, this study has added a new dimension, the variety of information types (such as videos, graphics, and hyperlinks) as a supplement to the formal course teaching materials and the socio-technical and cultural factors specific to Hong Kong learners (Lei *et al.*, 2021; Yu *et al.*, 2021; Chan *et al.*, 2020). Also, the high autonomy of learning on Facebook may lead to little guidance and unsystematic learning plans.

The major limitation of this study is that the improvement of the Japanese language depends much on self-reported figures. The accuracy of the analysis can be improved by studying their responses using panel data, i.e., tracking their responses using the same survey instruments at a 6-month interval to evaluate their language ability, as well as using a standardized test to estimate their language proficiency, which would provide a more reliable result on their actual improvement. As the number of participants was relatively small in this exploratory study, we plan to launch a larger-scale comparative survey in Hong Kong, Mainland China, and other Southeast Asian countries. We also plan to investigate further the combined effect of face-to-face lectures and Facebook on learning Japanese.

On the other hand, we are interested in the effectiveness of short-form videos on newer SNSs like Instagram (Chan *et al.*, 2020), as well as other popular SNSs like Wikis (Au and Ho, 2021), YouTube (Deori et al., 2021) and WeChat (Yin et al., 2021). We are also interested in using virtual reality (Suen et al., 2020), augmented reality (Li and Liu, 2022; Cheng, 2021; Dalili Saleh et al., 2021) and digital animation games (Wu and Tu, 2022) for language teaching. We are investigating the use of social media for online learning during the COVID-19 pandemic (Huang *et al.*, 2021; 2022; Leung *et al.*, 2021). With a better understanding of the interplays between various activities and learning improvement, educational institutes would then help structure their curricula to educate their students more effectively (Asiedu & Badu, 2018).

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Table 1. ***Demographic***

	Male (N = 29)	Female (N = 71)	Total (N = 100)
Average age	22.5	22.1	22.2
Academic background			
Arts and social sciences	6	39	45
Business	5	6	11
Education	3	14	17
Science, medicine and engineering	14	9	23
Others	1	3	4
Japanese Language Proficiency			
Advanced (passed JLPT N1)	6	16	22
Intermediate (passed JLPT N2/3)	6	14	20
Beginners (passed JLPT N4/5)	12	24	36
Amateurs (A)(not passed any tests)	5	17	22

Table 4. ***Variables used in Stepwise Regression Analysis.***

Variables	Item
Independent Variables:	
(A) Facebook Activities - average weekly time spent (in hours) in the last 6 months on the following activities:	
FB1	Reading, commenting, and sharing educational posts on Facebook (including posts written by Japanese-teaching pages)
FB2	Reading, commenting, and sharing Facebook redirecting to Japanese-educational websites
FB3	Reading commenting and sharing non-educational posts (e.g., news) written in Japanese
FB4	Communicating with Japanese learners in a Facebook learning group, in the form of commenting and sharing posts by using the Japanese language
(B) Learning Activities - average weekly time spent (in hours) in the last 6 months on the following activities:	
Learn1	Japanese courses organized by the university/ private Japanese school
Learn2	Self-learning Japanese using offline materials
(C) Recreation Activities, measured as average weekly time spent (in hours) in the last 6 months on the following activities:	
Recreation	Recreational activities in Japanese (including gaming/ video watching/ karaoke/ reading)
(D) Work Activities, measured as average weekly time spent (in hours) in the last 6 months on the following activities:	
Work	Using Japanese to communicate in the workplace
Dependent Variables	
Reading	Perceived improvement in Japanese reading ability on a scale of 1-10 in the past 6 months
Speaking	Perceived improvement in Japanese speaking ability on a scale of 1-10 in the past 6 months
Listening	Perceived improvement in Japanese listening ability on a scale of 1-10 in the past 6 months
Writing	Perceived improvement in Japanese writing ability on a scale of 1-10 in the past 6 months
Overall	Perceived improvement in overall Japanese ability on a scale of 1-10 in the past 6 months
Control Variables	
Age	Coded based on their age group, 18-20 = 0, 21-25 = 1, 26-30 = 2, 31-35 = 3; 36-40 = 4, > 40 = 5.
Gender	Female = 0, Male = 1
Japanese Amateur	Dummy variable for subjects who claim to be an amateur in learning Japanese
Japanese N1	Dummy variable for subjects who claim to have Japanese N1 level
Japanese N2/3	Dummy variable for subjects who claim to have Japanese N2 or N3 Levels

Table 5. Stepwise Regression Analyses – with Main Effects

	Reading	Speaking	Listening	Writing	Overall
Age	–0.787 ***	–0.704 ***	–0.641 **	–0.681 **	–0.579 **
FB3	0.364 **				
FB4				0.445 *	
Learn1		0.146 **	0.248 ***	0.206 ***	0.134 **
Recreation	0.036 *	0.034 *			0.038 **
Intercept	5.233 ***	4.893 ***	4.418 ***	4.555 ***	4.983 ***
R^2	0.202	0.204	0.214	0.199	0.182
R^2 (adj)	0.178	0.179	0.197	0.173	0.157
F-value	8.125 ***	8.181 ***	13.17 ***	7.925 ***	7.133 ***
Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$					

Table 6. Stepwise Regression Analyses – with Interaction Effects from Age

	Reading	Speaking	Listening	Writing	Overall
Age	–0.923 ***	–0.823 ***	–0.641 **	–0.880 ***	–0.707 ***
FB3	0.572 ***				
FB4				0.435 *	
Learn1		0.136 **	0.248 ***	0.189 ***	0.123 *
Learn2	–0.198 **				
Recreation		0.033 *			0.038 **
Age × FB4	–0.486 *				
Age × Learn2	0.313 ***	0.132 *		0.222 **	0.144 *
Age × Work	–0.045 ***				
Intercept	5.559 ***	4.876 ***	4.418 ***	4.527 ***	4.965 ***
R^2	0.337	0.227	0.214	0.253	0.211
R^2 (adj)	0.294	0.194	0.197	0.222	0.177
F-value	7.886 ***	6.963 ***	13.17 ***	8.054 ***	7.133 ***
Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$					

Table 7. Stepwise Regression Analyses – with Interaction Effects from Gender

	Reading	Speaking	Listening	Writing	Overall
Age	–0.777 ***	–0.696 ***	–0.798 ***	–0.681 **	–0.525 **
Gender			–1.325 **		
Japanese N1			0.945 *		
FB3	0.590 ***				
FB4				0.445 *	
Learn1		0.183 ***	0.216 ***	0.206 ***	0.134 **
Recreation					0.037 **
Work					
FB4 × Gender	–0.553 *				
Recreation × Gender		0.113 *	0.295 ***		
Work × Gender	–0.101 *	–0.083 *			–0.086 *
Intercept	5.342 ***	4.911 ***	4.461 ***	4.555 ***	4.988 ***
R^2	0.241	0.223	0.324	0.199	0.208
R^2 (adj)	0.209	0.190	0.288	0.173	0.175
F-value	7.542 ***	6.812 ***	9.028 ***	7.925 ***	6.234 ***
Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$					

Table 8. Stepwise Regression Analyses – with Interaction Effects from Japanese Language Proficiency

	Reading	Speaking	Listening	Writing	Overall
Age	–0.850 ***	–0.883 ***	–0.762 ***	–0.759 ***	–0.684 ***
Gender				–0.821 *	
Japanese Amateur	–1.172 *				
FB3	0.329 **				
FB4					
Learn1			0.224 ***	0.183 ***	0.118 *
Learn2	–0.208 ***	–0.178 **	–0.171 **	–0.143 *	–0.134 *
Recreation					0.037 **
Learn1 × Japanese Amateur		0.490 *			
Recreation × Japanese Amateur	0.497 ***			0.392 ***	
FB1 × Japanese N1	–0.672 ***				
Learn2 × Japanese N1	0.519 ***	0.446 ***	0.413 ***	0.664 ***	0.401 ***
FB2 × Japanese N2/3	0.628 *				
FB3 × Japanese N2/3		0.670 ***			
FB4 × Japanese N2/3				4.139 **	3.084 *
Intercept	5.653 ***	5.377 ***	4.675 ***	4.736 ***	5.116 ***
R^2	0.383	0.285	0.283	0.401	0.275
R^2 (adj)	0.329	0.247	0.253	0.355	0.228
F-value	7.066 ***	7.498 ***	9.389 ***	8.781 ***	5.885 ***

Table 2. ***Reasons for choosing Facebook as the platform for learning Japanese***

		Gender			Language proficiency					
Reason	Overall	Male	Female	*p*-value	N1	N2/3	N4/N5	Ameratur (A)	Rank	*p*-value
Free of charge	4.14	4.14	4.14		4.00	4.05	4.19	4.27	-	
Convenient	3.92	3.76	3.99		3.68	3.75	4.03	4.14	A, N4/5, N2/3, N1	*
Flexible in time and space	3.86	3.86	3.86		3.77	3.70	3.97	3.91	-	
Timesaving	3.72	3.55	3.79		3.41	3.55	3.81	4.05	A, N4/5, N2/3, N1	*
Clear and understand with the use of Facebook	3.57	3.52	3.59		3.59	3.15	3.64	3.82	A, N4/5, N1, N2/3	**
More interesting	3.53	3.34	3.61		3.36	3.10	3.58	4.00	A, N4/5, N1, N2/3	**
Learning Japanese through Facebook is easy for me	3.37	3.14	3.46	*	3.27	2.95	3.47	3.68	A, N4/5, N1, N2/3	**
Receive quicker response	3.25	3.17	3.28		3.14	2.75	3.44	3.50	A, N4/5, N1, N2/3	**
More chances of interacting with local/nonlocal Japanese speakers	3.21	3.21	3.21		3.23	2.85	3.22	3.50	-	
More chances of interacting with Japanese learners from Hong Kong	3.18	3.10	3.21		2.86	2.85	3.36	3.50	A, N4/5, N1, N2/3	**
Facebook is easy for me to do what I want to do about Japanese learning	3.17	2.97	3.25		3.05	2.70	3.19	3.68	A, N4/5, N1, N2/3	***
Sufficient/many Japanese learning materials available on Facebook	3.16	3.14	3.17		3.18	2.95	3.31	3.09	-	
More opportunities for using Japanese	3.01	2.59	3.18	***	3.05	2.35	3.19	3.27	A, N4/5, N1, N2/3	***
Improve my Japanese performance	2.96	2.97	2.96		2.82	2.85	2.92	3.27	-	
Translation is available	2.82	2.79	2.83		2.73	2.60	3.00	2.82	-	

Notes: (1) The survey is using a 5-point Likert Scale. (2) *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$

Table 3. *Disadvantages of Choosing Facebook as the Platform for Learning Japanese*

		Gender			Japanese language proficiency					
Disadvantages	Overall	Male	Female	*p*-value	N1	N2/3	N4/5	Amateurs (A)	Rank	*p*-value
No structured learning plan	3.96	4.10	3.90		3.91	4.05	4.11	3.68		
Lack of credibility of the posted educational materials	3.84	3.86	3.83		3.59	3.55	4.00	4.09	A, N4/5, N1, N2/3	**
Lack of guidance for learning Japanese	3.82	3.59	3.92	*	3.77	3.85	3.97	3.59		
Lack of face-to-face interaction	3.79	3.90	3.75		3.77	4.05	3.83	3.50		
Insufficient/only a few Japanese educational materials	3.72	3.69	3.73		3.64	3.55	3.69	4.00		
Easily distracted by other Facebook entertainments	3.55	3.69	3.49		3.27	3.80	3.53	3.64		
Difficult to use Facebook	2.21	2.24	2.20		2.64	2.20	2.06	2.05	N1, N2/3, N4/5, A	*

Notes: (1) The survey is using a 5-point Likert Scale. (2) *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$