Phonic Social Network Software Scaffolds Language Learning in Ubiquitous Learning Environment

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Abstract: Many kinds of applications were developed to support learners in ubiquitous learning environment. Among that, social networking software (SNS) plays an increasingly important role in various educational settings. In this paper, we integrated a phonic SNS *papa* into language leaning in ubiquitous learning environment. The research investigated the general usages of *papa* and examined that to what extent the use of *papa* could effectively improve language learning. The results indicated that the use of *papa* as a SNS does promote the language learning among lower age students. The ability to speak or talk is also improved.

Keywords: Ubiquitous learning, phonic social network, language learning

1. Introduction

Ubiquitous Learning (u-Learning) refers to a learning model in which the learners can learn anytime and anywhere with the aid of mobile devices and wireless communication (Phumeechanya & Wannapiroon, 2014). The u-learning environment is supported by embedded and invisible mobile devices in daily life (Ogata & Yano, 2003), allowing students to immerse themselves fully into different learning situations (Chin & Chen, 2013) and to interact with others at any time (Weiser, Gold, & Brown, 1999).

With the popularity of mobile devices, many kinds of applications were developed. Most of u-learning applications were extended from ubiquitous computing projects and later were focused on language learning systems to support teaching and learning activities (Chin & Chen, 2013) such as Japanese Polite Expressions Learning Assisting System (JAPELAS), Japanese Mimicry and Onomatopoeia Learning Assisting System (JAMIOLAS) and Language-learning Outside the Classroom with Handhelds (LOCH) (Yin et al.,2004; Yahya, Ahmad, & Jalil, 2010). Among u-learning applications, social networking software (SNS) plays an increasingly important role in various educational settings. Educators are exploring how SNS can be used as teaching and learning tools.

Nevertheless, many related researches focused on English as a foreign language (EFL) or second language learning (SLL) and almost all the information was represented on the social network by text and pictures. This study tries to investigate the potential use of phonic social networking application and how it improves language learning on ubiquitous learning environment. More specifically, the research questions are:

1. What are students' general practices or uses of *papa*?
2. To what extent the use of phonic SNS could effectively improve language learning?

2. Literature review

SNS, including communication tools and interactive tools, provides the basis for community driven content and social networking. Introducing SNS into classroom and other educational settings results in further empowerment of learners in a new way of communicating, collaborating, and interacting, which has been recognized as potentially powerful enabling tools for educational use. Learning through SNS is advocated by pedagogical theories such as authentic learning. There are four types of learning to ensure authentic learning through SNS: action, situated, incidental and experimental learning (Liu, 2009). Action learning is a social process of solving the difficulties, by involving that learners are doing things and thinking about what they are doing as well as a practical process where students learn by doing, by observing and imitating the experts, and by getting feedback from teachers and their friends. Situated learning is similar to action learning because learners are sent to school-like settings to learn and understand new concepts and theories to be applied later on in practice. Knowledge is developed through the authentic activities and important social interactions. Cognitive apprenticeship methods try to enculturate students into authentic practices through activities and social interaction in a way similar to that evident in craft apprenticeship. Incidental learning in education contributes to unintentional or unplanned learning that results from other activities (Kerka, 2000) through observation, repetition, social interaction, and problem solving (Rogers, 1997). Knowledge from incidental learning develops self-confidence and increases self-knowledge in learning. Incidental learning usually happens in the process of completing tasks using computers (Cahoon, 1996) and/or in the online environment (McFerrin, 1999). One form of the experiential learning is outdoor education which means an outdoor program to apply their new learning during an outdoor experience upon returning to the job in order to gain more insights through challenging activities. Learners integrate thoughts and actions with reflection from the outdoor experiences.

Compared to learning language specifically vocabulary by listening, talking and reading, learning words from abstract definitions and sentences taken out of the context of normal use, which is how vocabulary has often been taught, is slow and generally unsuccessful (Miller & Gildea, 1987). As people generally learn words and practice speaking in the context of ordinary communication by expressing his/her feeling through the words s/he has just learned, it is necessary to provide the context to learners for better language learning. A number of studies examine the use of multimedia tools or online SNS for language teaching and learning, particularly studies on reading comprehension and vocabulary learning. Research of Kabilan et al. indicates that university students consider Facebook as a useful and meaningful learning tool to support, enhance and strengthen English language learning (Kabilan, Ahmad, & Abidin, 2010). Aydin (2014) explored the level of learners' interactions with their teachers on Facebook when learning English as a foreign language and found that students preferred passive behaviors regarding their interactions with their teachers. Arnold & Paulus (2010) integrated Ning, a publicly available SNS, into a blended course. The outcomes showed that the site effectively served as an information repository and the blogs and discussion forums promoted reflection and review of each other's work. HJEnglish, the most successful second language learning social network in China, engaged users into real English context in synchronous and asynchronous ways.

In a nutshell, SNS has positive effects and can be used on language learning. However, a limited number of studies focus on the first language learning through SNS. For lower age learners, their literacy is little. Being unable to type on the SNS is a great barrier to communication and language learning. The birth of phonic SNS provides a new tool of language learning for lower age learners.

3. Methodology

3.1 Participants

The participants included one teacher, 43 first grade students of 6 or 7 years old from a primary school in Shanghai. All the parents of the 43 students are well-educated and they can tutor their children to use digital products properly. The teacher, a female who was about 26 years old, has a 2-year working experience as a literacy teacher. She was keen on computer-assisted instruction and often integrates learning tools into the class activities. In this research, she interacted with students through *papa*.

3.2 Research Design

In this research, we chose *papa* as the tool to enhance language leaning. In addition to the common functions of posting, following, sharing, comment, like, and/or adding to favorites of SNS, *papa* also has recording function. After capturing photos of the real-life contexts, the learners can upload them to *papa* and record descriptions for the photos. The 43 students were assigned to use *papa* on iPad during the whole fall semester in 2013.

According to the new National Curriculum Standard of China, first language learning in primary school emphasizes (1) words, vocabularies, sentences and articles; (2) emotional attitude and values; and (3) communication and social skills. In order to achieve those goals, Huang X. H., a primary school teacher agreed that students should seize every opportunity to learn language though (a) textbooks, (b) extracurricular books, (c) peopled around, and (4) the internet. Based on the requirements for first language learning, the participating teacher led the lesson design with the researchers' guidance and support. The research consisted of the following main activities:

- Students practiced describing the reading materials the teacher provided once a couple of days.
- Students took photos they were interested in in real-life contexts. They then uploaded the pictures to *papa* and constructed verbal sentences with the newly acquired expressions and idioms.

Both the teacher and students could comment, share, like, and/or add others' posts to favorites.

3.3 Data collection and analysis

The students were numbered from 1 to 43 randomly. At the end of the semester, contents from participants waere transcribed from recordings on *papa* into words in Excel for analysis. We calculated the quantitative data to know students' general use of *papa*. Qualitative analysis came from scaling process of the posts to know to what extent the use of phonic SNS could effectively improve language learning. Likert scale of 5 points was used to scale the content of post. The scaling scheme was adapted from YaoYing's research about lower grade students' language competence (YAO & SHI, 2013). The scheme consisted of two parts, (1) Practice reading the provided materials and (2) Describe your own photos. As for the first one, the teacher usually posts photos of a textbook page and assigns students to practice reading the sentences, paragraphs or articles. Each part had three dimensions to evaluate students' language competence. The scaling process included eliminating posts that were not related to the designed activities and scaling by two assistant researchers according to the scale scheme. Before they started, they got approximately two hours of training to understand the scale and elaborate on the scale process.

4. Findings and Discussion

4.1 Survey results

At the beginning of the semester, a survey was conducted among all the students' parents to learn whether the family owned any iPads and whether they would like to encourage their children to learn on iPad. 43 students whose parents had iPads and were very glad to share them with their children were chosen to compose an experimental class which was assigned to do this research. The parents were willing to engage in supervising the students' study out of class and ensuring their kids to acquire the basic skills to operate iPads. Once there were students who had problems using iPads, the teacher or even the parents would offer 1:1 help.

4.2 Students' general practices or uses of papa

Research question 1: What are students' general practices or uses of papa?

Profile page, "following" and posts are common features of SNS. In this research, students' profile pages were personalized, with all of the 43 students uploading photos and 27 students changing the background of their profiles. All participants in this research followed each other's account on papa. As for "practicing reading the provided materials", a student posted the records of reading together with the task requirements written on a picture. After the other students saw the picture and listened to the records, they would either click "like" or give some comments. The teacher would also listen to all the posts, and if necessary she would give positive reviews or point out some mistakes so that they could be corrected next time. As for "describe your own photos", students could post any photos of beautiful sceneries or an interesting stories they took together with their records of photo description and wait for other people's comments. In this way, the teacher and students could communicate with each other about their works asynchronously. The examples are as follow:

Teacher comments

to Student 13: You used a perfect words to describe the fruitfulness in autumn. But next time please speak slowly.

to Student 24: Good reading! I can see your improvement! But "琴" is pronounced as "qin" not "qing".

Student 7 comments to Student 34: Don't laugh when telling a story!

Student 16 comments to Student 28: How can you think of the metaphor?

An obvious interaction among participants on papa is clicking "like". The data indicated that everybody got "like" and some students were much more active than others, as Student 20 and Student 7, got most "like" (3.5 and 3.2 "like" respectively), and Student 5 and Student 2 got least "like" (0.7and 0.3 "like" respectively). Everybody is engaged in interaction on *papa*.

Except clicking "like", *papa* achieved a higher level of visible student-to-teacher interaction compared to student-to-student interaction because the teacher has to trace the students' post and know the students' progress. It's her responsibility to correct the errors or mistakes of students in time. The teacher takes on roles as organizers, prompters, participants, counselors or investigators.

4.3 Papa as a SNS that facilitates language learning

Research question 2: To what extent the use of phonic SNS could effectively improve language learning?

To figure out to what extent the use of phonic SNS could positively improve language learning, we calculated the average scores in term of month from the aspect of context, language skill and emotional attitude. Overall, students had a slow and steady improvement during the 5 months according to the values in figure 1. As a phonic social networking software, *papa* can transmit not only information through words and pictures but also emotion through voice and sounds. Thus at the beginning of the semester, the young students achieved lower scores in emotional attitude but improved greatly after the activity of "practice reading the provided materials" though papa. For the content and language skill, practice is the key influential factor. Through practicing, the student minimum skipped and additive words so as to read more fluently with fewer stutters and pauses.

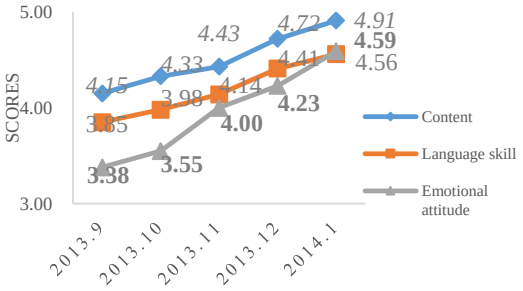

Figure 1. Scores of Reading Practice

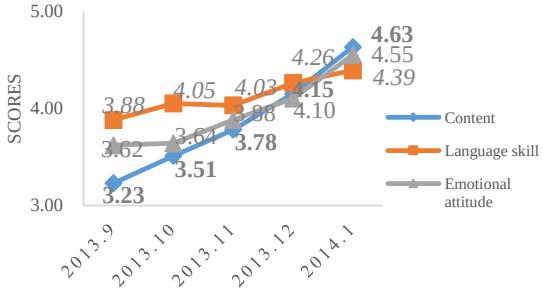

Figure 2. Scores of Photo Describing

We also calculated the average scores in term of month from the aspect of context, language skill and emotional attitude. On the whole, the scores indicated that students had an obvious and steady improvement during the 5 months according to the values in figure 2, especially the "content" and the "emotional attitude". Whenever the students in a real-life context pertained to the newly learned phrases or idioms, sentences or stories are constructed with them and the stimulated passion and emotion were real. As the teacher said, the social practice also contributes to the content and language skill for the teacher and companions can correct it.

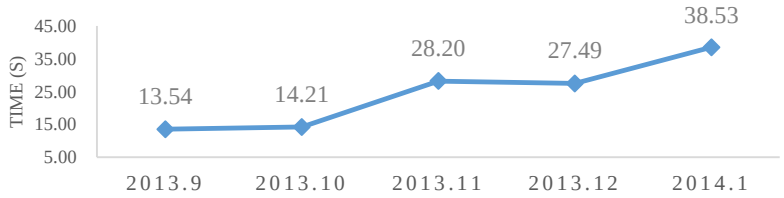

Figure 3. Average time of "describe your own photos"

In the research there is also an unintended outcome which is showed in figure 3. The average time of "describe your own photos" is gradually increasing from 13.54 seconds in Sep. 2013 to 28.2 seconds in Nov. 2013 and peaks at 38.53 seconds in Jan. 2014, except a slight drop in Dec. 2013. The trend resembles to earlier research findings of Fillmore (1983) who defined "good language learner" as a student who is talkative, eager to communicate with anyone, highly verbal and had mouth that seemed to operate non-stop around the clock. Therefore, if students are willing to say or they do have something to say, at least they have the opportunity to become "good language learner" .We can judge that the students' speaking and talking ability are improved in this research.

5. Conclusion

Based on the findings it can be concluded that *papa* has the potential to be used as a language learning tool in ubiquitous learning environment in line with the current trend and the use of *papa* as a SNS does promote the language learning among lower age students. In interpreting the results of this study, we must pay attention to a number of limitations. One is that tradition language learning can also improve students' competence. Therefore the future research should focus on the controlled trial which the controlled group do not use *papa* to examine if *papa* do make improvement in language learning. Beyond that the interactions between students is also worthy to investigate.

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References:

Arnold, N., & Paulus, T. (2010). Using a social networking site for experiential learning: Appropriating, lurking, modeling and community building. *The Internet and Higher Education, 13*(4), 188-196.

Aydin, S. (2014). Foreign language learners' interactions with their teachers on Facebook. *System, 42*, 155-163.

Cahoon, B. B. (1996). Computer skill learning in the workplace: A comparative case study.

Chengjiu Yin, Hiroaki Ogata, and Yoneo Yano, JAPELAS: Supporting Japanese Polite Expressions Learning Using PDA towards Ubiquitous Learning, The Journal of Information and Systems in Education, Vol.3, No.1, pp.33-39, 2004.

Chin, K., & Chen, Y. (2013). A mobile learning support system for ubiquitous learning environments. *Procedia-Social and Behavioral Sciences, 73*, 14-21.

Fillmore, L. W. (1983). The language learner as an individual: Implications of research on individual differences for the ESL teacher. *DOCUMENT RESUME ED 228 890 FL 013 679*, 157.

Folstein, M. (1999). MANIA, AGITATION AND ALZHEIMER DISEASE. *The American Journal of Geriatric Psychiatry, 7*, 5.

Kabilan, M. K., Ahmad, N., & Abidin, M. J. Z. (2010). Facebook: An online environment for learning of English in institutions of higher education? *The Internet and Higher Education, 13*(4), 179-187.

Kerka, S. (2000). Incidental Learning. Trends and Issues Alert No. 18.

Liu, T. Y. (2009). A context-aware ubiquitous learning environment for language listening and speaking. *Journal of Computer Assisted Learning, 25*(6), 515-527.

McFerrin, K. M. (1999). Incidental Learning in a Higher Education Asynchronous Online Distance Education Course..

Miller, G. A., & Gildea, P. M. (1987). *How children learn words*: na.

Ogata, H., & Yano, Y. (2003). How ubiquitous computing can support language learning. *Proceedings of KEST*, 1-6.

Phumeechanya, N., & Wannapiroon, P. (2014). Design of Problem-based with Scaffolding Learning Activities in Ubiquitous Learning Environment to Develop Problem-solving Skills. *Procedia-Social and Behavioral Sciences, 116*, 4803-4808.

Rogers, A. (1997). Learning: Can We Change the Discourse?. *Adults Learning (England), 8*(5), 116-117.

Weiser, M., Gold, R., & Brown, J. S. (1999). The origins of ubiquitous computing research at PARC in the late 1980s. *IBM Systems Journal [H.W. Wilson - AST], 38*(4), 693.

Yahya, S., Ahmad, E. A., & Jalil, K. A. (2010, 2010-01-01). *The definition and characteristics of ubiquitous learning: A discussion*.

YAO, Y., & SHI, Y. (2013). An Empirical Analysis of Test of Language Expression Ability of Students in the Lower Grades of Primary Schools. *Applied Linguistics, 3*, 14.