

# The Use of the Pleco Chinese Dictionary App in Chinese Language Learning in Sekolah Tinggi Bahasa Harapan Bersama

A S Wibowo<sup>1\*</sup> and Ina<sup>2</sup>

<sup>1</sup>Sekolah Tinggi Bahasa Harapan Bersama, Kubu Raya, Indonesia.

<sup>2</sup>Faculty of Teacher Training and Education, Universitas Tanjungpura, Pontianak, Indonesia.

\*albertswchencai2@gmail.com

**Abstract.** Dictionary is a very important tool in any second language learning. One of the Chinese electronic dictionary applications that is often used by students is Pleco Chinese Dictionary App which has more than 1 million downloaders in Google Play and App Store. This research used descriptive qualitative research method by distributing questionnaires to the entire population at Sekolah Tinggi Bahasa Harapan Bersama, conducting interviews and analysing the use and benefit of Pleco Chinese Dictionary App in Chinese Language Learning. The results of the study showed that Pleco Chinese Dictionary App is very helpful in Chinese pronunciation, reading and writing.

## 1. Introduction

Nowadays, mobile technology has developed widely and attractively. The very term “mobile” stands for the “mobility” or the ability to move freely and easily from one place to another [1], mobile technology can be accessed by anyone using handheld mobile devices like smartphone or tablets in anywhere at any time. The widespread of mobile technology also takes a role in education, especially in foreign language learning. According to Chen [2], technology has changed every aspect of human life and language learning is no exception, technology has ushered a new era of teaching and learning. Rahimi and Miri [3] defined that MALL (Mobile Assisted Language Learning) as any type of language learning that takes place with the help of portable devices. Mobile technology provides a variety of resources and tools for language learning that encourages students to be more motivated, autonomous, situated and socially interactive [4].

Dictionary app can be very useful for any foreign language or secondary language learning, especially in Chinese learning. According to Pinastika [5], vocabulary is a basic component which is one of the grammatical elements that is very important in Chinese learning. Understanding the meaning and use of words is very important in a foreign language learning. According to Widyaningsih, learning media [6] serves as a tool used to convey subject matter that aims to arouse motivation and provide learning stimuli to learners. Therefore, one of learning media that would be able to support Chinese vocabulary learning is a dictionary.

Elyana and Chaprin [7] mentioned that mobile dictionary and conventional dictionary actually have the same function, but both of them have the difference in the access media and the effectivity. Mobile



Content from this work may be used under the terms of the [Creative Commons Attribution 3.0 licence](https://creativecommons.org/licenses/by/3.0/). Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.

dictionary can be accessed through mobile devices, more effective, faster accessed and easier to use. Pleco Chinese Dictionary (Pleco) is one of an offline Chinese-English and English-Chinese dictionary. It contains many useful features and add-ons in Chinese learning such as: translation Chinese-English and English-Chinese dictionary, handwriting recognizer, OCR (Optical Character Recognizer), flashcard, clip reader, word matching, sentence examples, stroke order animation, character radicals, etc. At overall it's a free app, but some of the add-ons are prepaid add-ons. In an empirical study conducted by Goh [8], he concluded that Pleco should be engaged as a pedagogical tool in enforcing the effects of teaching of Chinese characters.

Harapan Bersama Language College conducts two majors: Chinese language linguistic bachelor degree program and Chinese language linguistic diploma 3 program, consists of 231 students in total. This paper aims to examine the use of Pleco in assisting Chinese learning of Harapan Bersama Language College students.

## 2. Method

### 2.1. Questionnaires

The questionnaire contained 17 questions regarding student information, the frequency of using Pleco, the level of effectiveness in using Pleco, the types of language skills that can be assisted with Pleco, the effectiveness of using Pleco in learning kinds of language skills, the strengths and weaknesses of Pleco. The questionnaire was written in a google form and distributed to respondents through Line chat group.

### 2.2. Interview

Interview participants selected from respondents that frequently used Pleco App in learning. There were 12 students, which is selected from 6 classes: 4 students per class. The interview contains questions about (1) How do they know Pleco. (2) Why do they use Pleco. (3) How often do they use Pleco. (4) Does Pleco help them in learning listening, speaking, reading and writing in Mandarin. (5) How can Pleco assist them in improving their capability in Mandarin? (6) Is Pleco be able to replace conventional dictionary. (7) The positive and negative impacts of using Pleco according to respondent's opinion (8) Respondent's suggestions and critics for Pleco.

### 2.3. Observation

Researchers observed Pleco's user's behavior in five Mandarin courses: Mandarin Comprehensive course, Mandarin Listening and Speaking Skills course, Oral Translation course and Reading Skills course. Researchers collected data on the intensity of using Pleco, the process of using Pleco, the features often used by respondents, which course or language skill learning supported by Pleco dominantly. Researchers recorded and made documentations on respondents' behaviors in using Pleco using hand notes, photos and videos.

### 2.4. Data analysis

Researchers analyzed and summarized the results of the questionnaires, interviews and observations inductively. Results descriptions made according to the percentage of questionnaires data and observation results were categorized according to participant feedback. While the results of observations would be interpreted in accordance to the actual condition.

## 3. Result and Discussion

### 3.1. Questionnaires Results

The following data obtained from questionnaires that were responded by 225 participants. There were 97.8% of respondents using Pleco and only 2.2% or 5 respondents claimed never use Pleco, it means almost all of respondents used Pleco. There were 48% respondents claimed that they used Pleco

frequently, 24.9% sometimes used Pleco, 20% seldom used Pleco, and 7.1% claimed they used Pleco rarely. So we can concluded that the frequency of using Pleco by respondents were quite high.

Regarding to the effectiveness of Pleco, 45.3% respondents claimed that Pleco was very helpful in learning Chinese, 28.9% felt being helped by Pleco, 23.1% claimed that Pleco quite helped their Chinese learning, 2.7% claimed that they just got a little help from Pleco and 0% claimed Pleco did not help Chinese learning. Regarding to Chinese ability learning supported by Pleco, respondents could give more than one answers, the results were: 80.9% respondents claimed Pleco helped them in writing Chinese characters learning, 68.9% respondents claimed Pleco helped them in reading Chinese characters learning, 42.2% respondents claimed Pleco helped them in writing essay learning, 36% respondents claimed Pleco helped them in Chinese pronunciation learning, and 24.9% claimed Pleco helped them in Chinese listening learning.

Regarding to the effectiveness of using Pleco in kinds of language skills summarized in the following table:

**Table 1.** The level of Pleco's assistance to kinds of of language skills learning

	Very Helpful	Helpful	Quite Helpful	Less Helpful	Not Helpful
Listening	18.2%	32%	28.4%	16.9%	4.4%
Speaking/Pronunciation	22.2%	35.1%	28.9%	12%	1.8%
Reading	54.7%	32.4%	9.3%	2.2%	1.3%
Letter Writing	35.1%	29.8%	22.7%	10.2%	2.2%
Sentence Writing	22.7%	34.7%	24%	16%	2.7%
Article Writing	15.6%	23.6%	35.1%	19.6%	6.2%

Table 1 indicated that Pleco was mostly helpful in learning reading and improving letter writing ability. Even though Pleco were helping respondents in listening, speaking, sentence writing and article writing learning as well.

When questioning about what do the respondents do when they found difficulties in learning Chinese? The questionnaire results indicated 64.4% respondents would try to look for an answer from Pleco first, 18.2% respondents would ask lecturers directly, 8.4% respondents would use conventional Chinese dictionary and other respondent answers consisted of many varied answers, such as asking friends (2.2%), opening Google Translate (1.3%), etc. So, we can concluded that there were a high the tendency of using Pleco for problem solving in learning Chinese language. This results had a consistency with an experimental research conducted by Widyaningsih [6], the use of digital dictionaries helps students improve their ability to master Mandarin letters than conventional dictionaries.

When questioning the respondents about why they chose Pleco rather than other app, respondents could give multiple answers and the results were 92.4% respondents claimed Pleco is very practical application because can be used anywhere and anytime; 43.6% respondents used Pleco because it can be used freely, and even they had to buy some add ons, the price is extremely cheap; 41.3% respondents claimed that Pleco has many features that could help them in learning Chinese. 18.7% respondents considered that the contents of Pleco were quite complete for Chinese language learning.

Regarding to the weakness of Pleco, there were various answers, mostly thought because Pleco does not have Indonesian – Chinese and Chinese – Indonesian translation. Respondents sometimes got a little bit confusion of the English term or the explanation since Pleco just serves English – Chinese and Chinese English translation.

According to the future of Pleco, 48.4% respondents extremely sure that Pleco could replace conventional dictionary, 45.3% respondents had doubtness that Pleco might be able to replace conventional dictionary, 6.2% surely stated that Pleco could not replace conventional dictionary.

### 3.2. Interviews Result

The results of interviews of 12 respondents indicated that there were positive feedback and negative feedback for using Pleco in Chinese learning. Researchers categorized the answers into several points below:

#### 3.2.1. Handwriting Recognizer Helps in Reading and Writing

Interview results indicated that Pleco recognizer handwriting feature was considered very helpful in recognizing Chinese characters. According to a research conducted by He and Yang [9], the handwriting recognizer requires much less knowledge about the target words which makes users feel less stressful in consulting. With the handwriting recognizer, students are able to find letters easily and quickly without having to pay attention to the stroke order of the Chinese characters. Handwriting recognizer can determine mistakes of stroke orders. Recognizing chaotic stroke orders is one of favourite feature of Pleco. The research indicated 100% participants claimed the handwriting recognizer feature was very practical and easy to use, it was faster to look for a letter using Pleco rather than using conventional dictionary.

All of participants claimed that Handwriting recognizer feature was mostly helpful in reading course: when respondents found unknown characters, they would use this feature to search the pronunciation and the lexical meaning of the characters, so they stated that this feature was effective for problem solving in Chinese learning. Another 3 respondents in addition stated that this feature was very helpful in ensuring the letters written correctly, according to the standard of Chinese characters writing. In Chinese characters writing order standard, one stroke error can caused a big mistake: the addition or subtraction of a single stroke can caused errors or the character might be become another letter with a different meaning. Therefore, every students pay much attention in writing Chinese characters.

#### 3.2.2. Chinese-English and English-Chinese Translation helps in Writing

75% of 12 respondents claimed that Chinese - English and English - Chinese translations were understandable and practical. This application applies a simple translations in nouns, verbs or adjectives. But in idioms translation, the explanation sometimes causes ambiguity or can not be understood.

According to respondents, the function of the Pleco dictionary was very helpful in the process of composing or writing Chinese language discourse. When respondents wanted to translate an Indonesian word into Chinese, they would translate the word in English at first and then used Pleco to find the Chinese word. However, 33% of participants stated that the translation in Pleco did not mention how to use the word, so sometimes respondents would make some grammatical errors in using the word. Since Chinese has many homonym vocabularies, a clear explanation of how to use a word in a sentence is important to avoid semantic errors and grammatical errors.

#### 3.2.3. Native Speaker Audio helps in Pronunciation

67% of participants claimed that Pleco was very helpful in pronunciation learning due to the availability of pinyin and audio systems of each Chinese letters or vocabulary. They stated when they were not sure about the pronunciation of a word or letter, then the first thing they would do was checking the word or letter using Pleco, including the pinyin and the pronunciation, especially the tone. Then they would listen to the available audio and try to imitate the pronunciation. Individual pronunciation exercises could be carried out by respondents independently with the help of the audio, especially for vocabulary or short phrases pronunciation.

The results above had a consistency with Elyana and Chaprin [7] students can utilize the audio features in the mobile dictionary to learn how to pronounce a vocabulary and sound the notes correctly. Pleco provides audio from native Chinese speakers in two versions, male and female. Students can press the audio logo and the sound of Chinese pronunciation appears. Students will listen to audio and imitate the audio. With examples of good and precise pronunciation, it's able to direct students to pronounce better.

#### 3.2.4. *Stroke Order Animation helps in Chinese Character Writing*

67% of respondents mentioned that the stroke order animation feature was very helpful in learning the correct stroke order in writing Chinese characters. This feature shows animation how to form a full letter from a short stroke order to another stroke that will connected one another. Respondents claimed, the character animation feature made them possible to learn Chinese Character writing by themselves, without involving lecturers' help. In addition, 17% of respondents stated that the availability of traditional characters writing helped them to learn traditional character writing as well.

#### 3.2.5. *Word Matching and Sentence Examples help in Writing*

According to 58% of respondents, the word matching feature could enrich their Chinese vocabularies. When they input one letter into Pleco, the application would show them the word matching to the letter, thereby respondents could accumulate vocabularies. While sentence examples from Pleco helped respondents to understand the definition of vocabulary deeply and clearly, which as could provide ideas for writing articles.

Respondents also claimed that when they got writing assignments from lecturers, the first step they would surely taken was relying on Pleco to solve their matter in vocabularies. By doing this, they even would discover new vocabularies and new sentences that maybe had never been taught in the class. Kulkuska-Hulme [10] states that, "Mobile technology takes learning out of the classroom, often beyond the reach of the teacher." This is evidenced by new knowledge gained by learners often obtained outside the classroom. In language learning, especially in writing Chinese course, lectures often found some students wrote a new vocabulary or sentence that had not been taught in the class, although some mistakes occurred in using the word or sentence. Students claimed that they got the vocabularies or sentences from Pleco.

#### 3.2.6. *Negative Feedback*

According to 42% of respondents, using Pleco continually led them to the dependency of electronic devices and laziness. They would rely on Pleco to solve problems in learning Chinese. Once they were prohibited to use Pleco, they would not have enough confidence to their own understanding and ability. The dependency also created laziness in analytic thinking activity. It made students lack of willingness to guess and analyze the meaning of a word. Actually, deducing a word meaning based on the situation appeared in the sentence should be possessed in learning Chinese.

According to another 42% of respondents, it was easily to forget the vocabularies checked using Pleco, so they would check the same words repeatedly when they needed it, even the word had been checked before for several times. In researchers opinion, this were one of the negative impact of dependency on technology. When students can get results easily, they will not attempt to remember, because they can recheck it over and over again. Respondents stated that the most effective way to decrease this dependency was forcing themselves to try to remember the words or sentences checked before, try to decrease the frequency of checking the same thing.

Chinese - English and English - Chinese translations are also considered to caused misinterpretation. Respondents found Pleco's translation was not completely correct, sometimes it caused ambiguity and bias in meaning. This leded misunderstanding in the definition of vocabulary itself.

The absence of Indonesian features also reduced respondents satisfaction to Pleco, since their English proficiency is not good enough to understand some words. Therefore, they required to translate from 3 languages: Indonesian – English – Chinese or Chinese – English – Indonesian to understand a matter what they look for. So, respondents suggested that Pleco provide Indonesian translations.

### 3.3. *Observation Result*

Based on observations in 4 classes with different courses, researchers found that students tended to use Pleco when they found unfamiliar or new Chinese character or vocabulary. They would underline or highlight the characters or vocabularies, open Pleco, write down the characters with the handwriting recognizer feature, look for the pinyin and find the meaning with Chinese – English translation.

In the Comprehensive Mandarin course, researchers observed that there were 12 students who used Pleco when they needed guidance to write a Chinese character. They input the pinyin of the letter and checked it in Pleco, some of them checked the stroke order and followed the writing animation.

Based on this observation it can be concluded that Pleco plays an important role in helping students to read and write unfamiliar characters and helping them to understand the meaning of vocabularies that they have not learned before.

#### 4. Conclusion

Based on the results of the questionnaires, interviews and observations can be concluded that the intensity of using Pleco is high. Secondly, Pleco gives greatest assistance in reading Chinese characters, therefore the handwriting recognizer becomes student's favorite add-ons. Thirdly, stroke order animation add-ons also gives a lot of assistance in helping students to understand how to write Chinese character correctly. Meanwhile, Pleco's dictionary function plays an important role in helping students to understand the lexical meaning of vocabulary, as well as helping students to write essays in Chinese. Word matching add-ons and sentence examples Pleco helps students to write sentences and provide them ideas in writing as well. While native Chinese speaker audio helps students to practice and train Chinese pronunciation. According to respondents, the weaknesses of Pleco were the application can caused dependency on the technology, laziness to analyze, the existence of an appropriate translation, no homonym words explanation and the absence of Indonesian translations or explanations.

#### References

- [1] Gangaianmaran R and Pasupathi M 2017 Review on use of mobile apps for language learning *Int. J. o. App. Engi. Res.* **12** 11242
- [2] Chen X 2016 Evaluating language-learning mobile apps for second-language learners *JETDE* **9** 40
- [3] Rahimi M and Miri S S 2014 The impact of mobile dictionary use on language learning *Procedia – Soc. and Behav. Sci.* **98** 1471
- [4] Chee K N, Yahaya N and Ibrahim N H 2017 *Int. J. Mob. Learn. and Org.* **11** 210-25
- [5] Pinastika W 2016 Pengaruh penggunaan pleco (m-learning) terhadap kemampuan membaca pemahaman bahasa mandarin pada siswa smk negeri 2 jombang *Mandarin UNESA* **1** 1-9
- [6] Widyaningsih G E N 2019 Penggunaan kamus digital dan kamus cetak terhadap penguasaan 汉字 hànzi *J. Ilm. Edu. & Sos.* **10** 34-41
- [7] Elyana and Chaprin Z 2017 *JDP* **10** 204-25
- [8] Goh Y S 2016 *e-Academia J. UiTMT* **5** 30
- [9] He S and Yang H 2016 *China Aca. J. El. Publ. Hou.* **22** 358
- [10] Kukulska H A 2009 Will mobile learning change language learning? *ReCALL* **21** 157-65