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#### Abstract

Learners' word learning experience and learning needs are valuable indicators for learning resource developers. This article introduces a study on exploring Singaporean children's Chinese word learning experience and learning needs after school. Through the analyses of learners' needs in Chinese word learning, we seek solutions for developing a digital Chinese word resource that better suit children's learning needs in terms of both the contents and the presenting forms. Thirty students attending grade 3 and grade 4 in five primary schools will be invited to small group discussions on their word learning experiences after school. They were asked about their experience and difficulties in using the currently available Chinese word learning resources, their satisfaction in those resources and suggestions in improving their word learning forms were then concluded from the group discussions. Such information will advise our later Chinese word learning resource development.

Keywords: Word learning, Chinese Language, learning experience, Singapore

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### Introduction

Learning experience refers to any interaction, course, program, or other experience in which learning takes place, whether it occurs in traditional academic settings (e.g., schools, classrooms) or non-traditional settings (e.g., outside-of-school locations, outdoor environments), or whether it includes traditional educational interactions (e.g., students learning from teachers and professors) or non-traditional interactions (e.g., students learning through games and interactive software applications)(Abbott, 2014). The current pedagogical and technological shifts in the education system in Singapore is reforming in the design and delivery of knowledge and skills to students. Meanwhile, more information is needed in how, when, and where learning does and can take place.

Chinese dictionaries are useful word learning resources for Singapore students learning Chinese language (CL) as a second language. They are normally introduced to students from primary 3 onwards. They are one of the common means for a Singaporean student who seeks help in the meaning and the usage of a Chinese word. When using a conventional Chinese dictionary, a challenge for many Singaporean students is either the pronunciation or the decoding of the character (e.g. radical) should be produced. Undergone such difficulties in using dictionaries, students may display reluctance in using dictionaries to learn words in future. The motivation to seek further understanding to expand vocabulary is thus affected. Hence, a dictionary which eases the checking procedure for young learners is a critical consideration based on both learners' motivation and lifelong learning perspectives.

Besides the difficulties in the checking process, the next difficulty may arise when students attempt to learn and understand the meaning of the words they searched. A survey of the existing CL dictionaries used by primary and secondary students is quick to reveal that these dictionaries were compiled from a native learner perspective. In other words, most of Chinese dictionaries in Singapore market are originally written for native CL speakers (e.g. learners in mainland China). Dictionaries that claimed to be compiled for children appear to be adaptation of the adult dictionaries with little change in illustrating meanings. As a result, the explanations provided by the dictionary entries may be pitched at a level that is beyond Singaporean students' comprehension, especially our young CL learners. In addition, most of these entries provide direct definitions without contextual information. The examples are usually language segments, without further context of how the word is actually used in a sentence. These may affect the interpretation of the meanings and students' learning in using the words. Therefore, existing Chinese dictionaries that Singaporean students are using may not be of much help in their understanding of the words. A severe consequence is that their vocabulary acquisition may be impaired.

In sum, CL learners' in Singapore may encounter two kinds of problems during their word learning process with the help of Chinese dictionaries. One lies in the restrain of the dictionary form which causes the difficulties in checking the target Chinese word efficiently for young L2 learners; another is that the contents of the currently used Chinese dictionaries are not customised for age-appropriateness to suit L2 learners in the local CL context, which causes difficulties in making use of the dictionaries for understanding and learning Chinese words effectively.

To understand the extent of how students suffer from the aforementioned difficulties and how they view their current experience using Chinese dictionaries in learning CL words afterschool, we conduct interviews to target groups of Singaporean students to explore their CL word learning experience with CL dictionaries and to explore the possible solutions to the difficulties they encounter. Findings from the interviews are expected to advise the development of a word learning resources suitable for Singaporean CL second language young learners in terms of both content and presenting forms.

Profiling students' existing Chinese word learning experience in different occasions is important to better understand how they can make more use of the word resource. After a better understanding of students' possible interaction with the content, requirement analyses can be done and a detailed plan of the features of the presenting form can be decided based on the advanced technology in various fields such as mobile learning and online learning. Functions of the learning resource device will then be designed to solve the difficulties students met when learning a Chinese word and, at the same time, enhancing their learning experience. Some learner-centric features that can only been afforded by interactive information and communication technology will also be discussed. Students' feedback can be collected during the development process and the trial of the prototype. The learner experience exploring and profiling will also be used as valuable information for further learner-centric curriculum and learning experience designs.

# Method

The targeted population are P3 and P4 students because they were officially introduced to use CL dictionary in schools in Primary 3. Thus they have at least one year of experience using word resources in learning new word. Students will encounter more new words as their CL learning tasks are shifting from oral language in P1 and P2 to written language, i.e. reading in P3 and writing in P4. We may expect different experience from primary 4 students from their P3 counterparts, because P4 students' major CL learning tasks in school are transferring from reading to writing at this grade.

Exploratory qualitative data collections will be conducted with small group discussions. A list of questions on three aspects of students' word learning experience was asked. These aspects are:

- When and where: The usual circumstances that students encounter unknown Chinese words;
- Who: The key knowledge sources (e.g., textbooks, all forms of dictionaries, parents, and teachers) that students consult when encountering unknown Chinese words;
- Why: The key features of the knowledge sources that students choose when learning Chinese words.

We managed to invite 30 P3 and P4 students (16 girls and 14 boys, aged 9 and 10) from five government schools to the small group discussions. Personal, parental and

school consents were acquired prior to the interviews. Every three students from the same grade were interviewed by a trained researcher in a quiet room. They were invited to express their thoughts and share their experience freely. The researcher in each group will facilitate the discussion with questions in the aforementioned three aspects. All the ten group discussions were conducted and audio-recorded within one month in the last term of school year. Each discussion lasts about one hour. Transcriptions were then created in the next month by one trained researcher who did not participate in the interviews to avoid bias.

# Result

Although diverse, we have some prior knowledge in students' CL word learning experience at school. Thus the questions in our discussions were mainly focused on afterschool CL word learning. Three main themes were formed based on students' responses and feedbacks. They are students' comments on the content and the presenting forms of the current CL word learning resources, their CL word learning activities after school and device availability.

On the content and presenting forms of the currently available CL word resources, we conclude the following:

1. Paperback Chinese dictionaries.

Students were introduced to two types of paperback CL dictionaries mainly. They are the "Modern Mandarin Dictionary (Chinese Edition)" (《现代汉语词典》) and "Xinhua Chinese Dictionary" (《新华字典》). Although they were taught to use the dictionaries, students expressed that they seldom use paperback CL dictionary or its revised versions for students. The dictionaries are heavy and inconvenient to look up the target word rapidly.

2. E-dictionary and its varieties

Students' most commonly used CL word resources are Electronic dictionary. In Singapore market, there are customized devices from two major brands. The database in these E-dictionaries are usually revised or simplified versions from paperback dictionaries such as "Xinhua Chinese Dictionary".

The second most used word resources reported is online dictionary (and smartphone apps). As most of the online Chinese dictionary in the market are multi-lingual versions developed from English dictionaries, some students think it is convenient to understand the target Chinese word through its English translation, some disagreed because sometimes the translation is often not accurate in conveying the full meanings of a word.

It is also interesting to find that it is popular among students to use smart input methods in hand-phones or computers for checking the Chinese characters when completing writing tasks. Some input method will offer the most commonly used word to choose, which saves checking time. 3. Expected improvements on the content of the dictionaries.

Commenting on the experiences of using these word resources, students' most wanted changes on the content of the words resources are:

- Making some explanations simpler (i.e. easier to understand). Most of the interviewed students think that the explanations in the currently used dictionaries are incomplete in picturing the full meaning of the word. Although the explanations are short to read, students sometimes have trouble interpreting the unfamiliar situations the explanation depicts.
- Providing more real life examples.
  As L2 learners, Singapore students rely more on the examples to help them picture the situation of the target word was used, its function, and the reasons why the particular target word was used in that situation. Thus, students find the examples (if there were) in the currently used word resources often detach to their familiar daily life. Also the examples didn't showcase when and how the target word is most commonly used in a real life sentence.
- Using pictures or even videos to explain words. Students find that it is easier to understand many words if pictures and videos were used instead of trying to understand the abstract explanations. That is another reason they found online dictionary (or app) useful.
- Adding more words to the current e-dictionary. This was especially requested by almost all the P4 students as they have trouble locate some words during casual reading in CL.
- 4. Expected improvements or changes on the presenting forms (or functions) for a e-dictionary (or in other format).

Commenting on the e-dictionary, most of the students wanted to make the e-dictionary "smarter" (i.e., add more functions), for instance, add voice search, Optical Character Recognition, and Text-to-speech functions, etc. They also suggested to make e-dictionary easier to operate (i.e. with better user interface). For example, at least two groups of students specifically mentioned that the keyboard of the customized device are too small to operate which increased the trouble when searching words in a hurry.

On students' learning experiences in CL after school, we found that:

- Students usually have about one hour per day for CL learning or reading after school.
- They will be encountering unknown CL words in reading books, newspapers, watching TV, and completing tasks on CL workbooks.
- If got unknown words, students will firstly ask their parents, grandparents and siblings, although the family members may not speak CL at all. They will only look up the target word in dictionaries or check online when family members

can't provide satisfying answers.

• We also found that about half of the interviewed students attend CL tuition classes or enrichment classes after school. They will ask teachers in the enrichment classes or their CL tutors about the unknown words.

We also asked about students' access to mobile devices, networks, and data plans etc. Students reported that they may have access to mobile phones under parents' supervise. About 40% students reported that they have their own smart phones (or other mobile devices). Most of them are older models from parents. Sometimes they need to share the mobile devices with siblings. Parents will allow students using certain apps in smart phones, especially if they are recommended by CL teachers, if they were proved helpful in CL learning, and if they are free of charge. An estimation of the smart phone/ computer time for each students is at least 0.5 hour per day.

# Conclusion

We reported the preliminary findings in students' current learning experience with CL word resources after school from ten small group interviews. Our findings reflected that students are encountering difficulty in using the current versions of paperback dictionary and e-dictionary. Their word learning experience is influenced by the content of the word resource, the presenting forms and their accessibility to the devices. Students are, in fact, used to engaging the internet, mobile apps and other new technology formats into their learning process. From a side angle, parents have realized the influence of the new technologies and are willing to provide their children supervised opportunities to be familiar with the new techs.

Based on our findings from the interviews, we will propose to change the presenting forms of the word learning resource, should we design a device. We will propose contents in different digital formats, such as mobile app, which supports on-the-go usage of users. Laufer and Hill (2000) pointed out that the high speed and the ease of access of electronic dictionaries encouraged language learners to make frequent use of them in the process of vocabulary learning. Mobile apps, supported by the high population penetration rate of 148.2% for mobile devices and 192.8% for wireless broadband in Singapore (Info-communications Media Development Authority, 2016), have great potential to be tapped to advance language learning. More importantly, an app-based word resource can afford more learner-centred features (Weimer, 2013) that motivate learning through designs aimed at enhancing user experience and promote active learning (Uden, 2006). Examples of features may include the creation of lists of personal favourite words, and history of words checked that can be shared with peers, teachers and parents.

In summary, a CL word resource that is age-appropriate and provides comprehensible inputs to students learning CL in Singapore seems currently unavailable. We proposes the development of Chinese Language young learners' word learning companion in the form of a mobile app. The creation of an app that should be learner-centric — in terms of both contents and its form. The proposed word learning app should be compiled for Singaporean students based on the authentic CL use in the local context, which will be made possible using CL corpus collected from Singaporean CL context (Goh, Lin & Zhao, 2013). Harnessing the affordances of technologies, the

corpus-based word learning app is expected to be handy and with advanced functions that ease the checking process, assist situational comprehension, and enhance the learning experience.

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