9 Student-teachers' beliefs concerning the usability of digital flashcards in ELT

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Abstract

This paper reports on a study that explored five student-teachers' beliefs regarding the usability of three digital flashcard websites that can be used in a blended learning approach in English Language Teaching (ELT) classrooms. These student-teachers, who had previous teaching experience, were students on a year-long Master of Arts (MA) programme at Coventry University. Adopting a mixed-method research design, this study incorporated aspects of both surveys and case studies to explore different variables that could have an effect on the use of digital flashcards in blended learning classrooms. The websites' design features appeared to create two extreme reactions in student-teachers, suggesting it might be a significant factor in shaping their beliefs.

Keywords: blended learning, digital flashcards, vocabulary, CAVL, usability.

1. Introduction

Vocabulary learning, both incidental or deliberate (Nation, 2013), is pivotal to mastering a second language (Schmitt, 2008). However, direct deliberate vocabulary learning is more effective than incidental learning with regard to the quantity of acquired words and learning duration (Nation, 2013). Several

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experts, including Nation (2013) and Nakata (2011), recommend utilising flashcards, physical or digital, in deliberate vocabulary learning. One way to create digital flashcards includes using Computer-Assisted Vocabulary Learning (CAVL) tools, particularly websites, such as *Cram, Quizlet*, and *StudyStack*.

This study investigated the following questions:

- What are student-teachers' beliefs concerning the usability of *Cram, Quizlet*, and *StudyStack*?
- What variables shape student-teachers' beliefs?
- Will student-teachers incorporate digital flashcards in their classroom practice?

2. Method

Following Dörnyei's (2007) quan→QUAL model of mixed-method research, data was collected using a survey, which combined Likert-scale statements and open-ended questions, and a focus group discussion. Student-teachers studying on the MA in ELT at Coventry University were selected using purposive sampling (see Table 1). In order to be able to determine a CAVL tool's usability, participants need to have basic knowledge of Computer-Assisted Language Learning (CALL) and of materials design. Thus, only student-teachers who completed the following two modules on the MA were selected: *CALL: Past, Present, and Future* and *Designing Language Training Materials*.

The MA students were asked to give feedback on their beliefs regarding the usability of Cram (2015), Quizlet (2015), and StudyStack (2015). These three websites are freemium and dedicated to creating digital flashcards. Users can share the flashcard sets they have created or access pre-existing sets created by others. Users can look for pre-existing sets concerning numerous topics using the search bar. The websites also have other features for further practice

with the vocabulary words. One feature that these websites share is test mode, where users can quiz themselves and see their progress. Another feature includes practicing the vocabulary words in different games, such as 'Jewels of Wisdom' or 'Stellar Speller' on *Cram*, 'Match' or 'Gravity' on *Quizlet*, and 'Crossword' and 'Hungry Bug' on *StudyStack*.

Table 1. Student-teachers' demographics

Participant	Gender	Nationality/ First Language	Age	Years of Teaching Experience	Grade Level
A	Female	Pakistan/Urdu	30-34	10+	College - University
B	Female	United Kingdom/ English	25-29	3-5	College - University
C	Female	Bahrain/Arabic	20-24	1-2	Intermediate
D	Female	Bahrain/Arabic	20-24	1-2	Primary - Elementary
E	Male	Indonesia/Bahasa Indonesia	20-24	3-5	College - University

For additional features, users can pay a fee to upgrade their membership. These features include removing any advertisements and adding an unlimited number of folders to organise a user's flashcards. *Cram, Quizlet,* and *StudyStack* also have corresponding Smartphone apps, which is an important element in maintaining flexible access to flashcards. This aligns with Nation's (2011) belief that "the best [computer programmes] are those which can be used on a cell phone or an iPod so that the learner has flexibility in choosing when to do the learning" (p. 53).

Hubbard's (2011) methodological framework for evaluating websites was selected to construct the questions in the survey and the semi-structured focus group discussion. As part of the coding process for the Likert-scale items in the survey, the six responses were grouped into Agree and Disagree categories. An interpretative qualitative approach was utilised for the analysis of the data retrieved from the focus group discussion and open-ended questions from the survey. Coding of the data, as recommended by Miles and Huberman (1994), included tallying the rate of recurrence, observing any patterns, and sorting the data into categories.

3. Discussion

3.1. What are student-teachers' beliefs concerning the usability of *Cram, Quizlet*, and *StudyStack*?

Usability, or the website's ability to "effectively and efficiently" fulfill users' needs (Lim & Lee, 2007, p. 68), can be determined from two perspectives: technical and pedagogical. This is because evaluating websites from only one perspective, or their technical usability, is not sufficient if they will be used for learning (Lim & Lee, 2007). As Lim and Lee (2007, p. 75) highlight, both usabilities are "intertwined" given that technical usability does not necessarily contribute to the websites' effectiveness on learners. Accordingly, the beliefs of student-teachers regarding both technical and pedagogical usabilities will be discussed.

3.1.1. Technical usability

Computer and internet access were the issues that were first highlighted by the student-teachers (Alnajjar & Brick, 2017). However, student-teachers mentioned that the problem of accessibility could be resolved if their learners had access to these websites and apps on their phones, as emphasised in the extract below (Focus Group Discussion, 26 November 2015).

> **Participant A:** "…If you want to use the applications, it's easier for the students to just pull out their devices and use that because they're in our hands… Very few people open their laptops because all the classes in Pakistan don't have computers. It's just the Language Lab. Almost every student has an iPhone. Android is a must. So, it's easier to ask [the students] to bring out their phones and use the apps. Like one of the websites said, 'Vocabulary on the go'. The advertising is really true. You can *learn* and *create* flashcards on the go".
>
> **Participant B:** "Then, it will be a resource for everybody in the class to use whenever they want".

In addition, survey responses revealed that student-teachers favoured *Quizlet* more than *Cram* and *StudyStack*. *StudyStack*'s design was unanimously disliked, as they mentioned that it was "outdated", "old-fashioned", "crowded", and had a lot of information "jammed into a little space" (Alnajjar & Brick, 2017).

3.1.2. Pedagogical usability

All student-teachers held positive attitudes towards digital flashcards, as they saw the potential of the CAVL tool, particularly *Quizlet*, in creating motivated English language learners and prompting those learners to practice the newly acquired vocabulary words. This was compatible with Chien's (2015) findings, where he reached the conclusion that this CAVL tool motivated the English language learners in his study to learn more vocabulary. The participants in his study, who were first-year university students taking English classes, also preferred using *Quizlet* more than the other two websites.

In addition to learners' motivation, student-teachers agreed that the website's user-friendliness played a role in its usability. For instance, one reason why *Quizlet* was preferred to the other two websites was because the student-teachers felt that it was easier to use, gave teachers more information about their learners' progress, and is teacher- and learner-centred.

3.2. What variables shape student-teachers' beliefs?

The first variable was the 'wow' factor (Murray & Barnes, 1998), as some of the student-teachers' positive or negative reactions were based on initial exposure. The second variable was learners' age, where they felt that the availability of games on the websites could be of interest to young learners. This exemplifies that learners' age influences many pedagogical decisions, in addition to materials selection, in the classroom. The third variable was the quality of the graphics on the websites. Student-teachers believe that their learners may not engage in websites with low-quality graphics. The fourth variable was student-teachers'

previous experience with using CAVL tools. This is because they had used one of these websites in their learning on the MA course and found the experience both useful and successful.

3.3. Will student-teachers incorporate digital flashcards in their classroom practice?

Student-teachers can have a unique standpoint when evaluating CAVL tools, as they can reflect on their learners' experience, as well as their own. They were not against the use of digital flashcards as a blended learning tool in their teaching, but were hesitant towards training learners. Consequently, it would be difficult to conclusively determine whether they will incorporate this tool in their classrooms. Nonetheless, student-teachers mentioned that their learners can access digital flashcards outside the classroom, which will subsequently minimise classroom time spent on familiarising learners with the tool.

To make the process of incorporating digital flashcards in the English classroom easier, we suggest following Hubbard's (2004) framework:

- having student-teachers experience the tool themselves to understand their learners' perspectives;
- giving learners training to help them become autonomous and understand the purpose of using the CAVL tool for their learning goals;
- using a 'cyclical approach' to training, where training is cumulative and continuous;
- using 'collaborative debriefings', where learners discuss their experience with each other; and
- teaching learners 'general exploitation strategies' of the CAVL tool to increase their control of it and to help them utilise these acquired strategies with other tools.

4. Conclusions

Five student-teachers participated in this study and explored the usability of *Cram, Quizlet,* and *StudyStack*. There was a consensus amongst them regarding their preferred website, which was *Quizlet*. Furthermore, they felt that the additional affordances of digital flashcards, as opposed to physical flashcards, could be advantageous to English language learners when implementing a blended learning approach to teaching vocabulary. However, due to the student-teachers' unease around training learners in the use of digital flashcards, they appeared to be somewhat reluctant to integrate them into their classroom, so a future study could investigate adoption rates and practice with flashcards vis-à-vis teachers' positive beliefs towards them. Moreover, the lack of agreement amongst them with regards to the most effective way of blending a CAVL tool in their English language classrooms highlights the need for more research in this area.

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