GENESIS OF AN E-PLATFORM FOR LANGUAGE ENHANCEMENT

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ABSTRACT

This paper covers the work in progress of an e-platform being developed for language enhancement at a tertiary institution in Hong Kong. There is an actual or perceived concern about the English and Chinese language ability of undergraduate students at certain universities in Hong Kong. One reason for this is that a significant proportion of students with a lower language proficiency enter university in their third year of the four-year degree. Their first two years are spent at other tertiary institutions, and they are then able to articulate to finish their studies at university and gain a degree level qualification. Given their crowded timetable from the third year, there are very limited opportunities for extra credit space in order to enhance the language skills of these students. As a result, an e-platform which students would utilise through the informal curriculum to improve their English and Chinese language ability was proposed by senior management. This paper will examine the beginnings of the e-platform, including results from a large-scale survey of undergraduate students about the preferences for an e-platform, and initial discussions among language experts as to the design of the e-platform. This paper will consider the decision to use H5P to create interactive content within the platform and discuss some of the features that are expected on the e-platform. Problems that have been encountered and expected will be discussed with an outline of the next steps that will be taken. The paper concludes with the observation that an e-platform alone is unlikely to significantly enhance the language ability of learners.

KEYWORDS

Instructional Design, e-Platform, eLearning, Language Enhancement.

1. INTRODUCTION

1.1 Need for and Focus of e-Platform

Given the packed timetable of undergraduate students in Hong Kong, it is unlikely that extra credit space can be provided to students in order to enhance their language capabilities. It was therefore proposed that an e-platform is developed for students so as to help them to improve their language skills through informal means. As indicated by a student survey conducted within the university, 75% of students are already using an e-platform of some sort (e.g., Grammarly, Duolingo) to enhance their language learning, with nearly half accessing the platform several times per week. Research has shown a positive, moderate correlation between the amount of time spent on a language learning platform and learning gains (Loewen et al., 2019), so it is important that (1) students access any platform frequently, and (2) the platform is informative, effectively designed and built to encourage ease of use.

The focus of the proposed e-platform has been discussed in depth within the university. Considerations include a desire not to duplicate existing platforms while also providing students with an easy-to-use platform that can enhance their language skills. It is believed that the e-platform should provide students with opportunities for practice, input and feedback, and it is agreed that the e-platform should aim at improving the vocabulary of students, including vocabulary usage and pronunciation, which would facilitate them to have better standard language test scores. It was noted that in the survey that students self-rated English vocabulary among the lowest. The e-platform would not treat vocabulary in isolation, but rather consider it in context so that students can enhance their overall writing skills and integrate vocabulary into workplace English and Chinese (including Putonghua) and daily communication.

In order to develop the e-platform, a project team was formed from various members of the Faculty of Humanities in the university. Members had varying levels of experience of developing different language learning tools using different technologies. This paper first provides a short overview of other platforms and studies related to the topic. It then gives an overview of the requirements of the e-platform, both technical and pedagogical. It will give a brief overview of H5P, before considering the findings of an online survey among students as to their habits and preferences towards learning online. The final section will consider progress towards the e-platform as well as problems encountered and possible solutions.

2. EXISTING STUDIES

A literature review was conducted to examine similar platforms. Probably the most popular language learning platform today, with 500 million users in 2020 (Blanco, 2020), is Duolingo. This gamified mobile-assisted language learning (MALL) application has numerous features that attract users, including challenging activities, incentives, different levels, and the ranking of users. A study by Shortt et al. (2021) is useful on understanding how the design of Duolingo has an impact on how the platform is used. One key feature of Duolingo is it use of gamification, and Dehganzadeh and Dehganzadeh (2020) in a review of previous studies, point out that gamification-based learning can have benefits. Regarding the use of H5P to design language learning tasks, recent literature reviews have shown it is conducive to increasing attention and interest of learners (Addhiny, 2022).

3. REQUIREMENTS OF E-PLATFORM

The experience of members of the university and the results of the survey informs this section of the paper. In order that an effective e-platform is developed, it is important that it meets different requirements.

3.1 Requirements (Technical)

- Single Sign-on (SSO) for users
- Link to existing university systems
- Tracking of student usage and performance
- Learning Tools Interoperability (LTI)
- Push notifications
- Simple, easy and clear to use
- Leaderboard of top performing users
- Consideration of the user

Given the short time frame, a 'mobile first design' (Schmidt, 2010) might be used rather than a responsive or adaptive e-platform. SSO is a requirement so that users do not need to create an extra account. By using SSO it is also hoped that the platform can also be linked to other university systems. It is important to track student usage and performance to gather data analytics about the system and feedback to further enhancements. LTI is a method for a learning system to invoke and to communicate with external systems; this would allow us to host course content and tools provided by external, third-party systems on the platform. Push notifications would allow users to be 'pushed' or reminded to use the platform more with a simple, easy and clear to use design also meaning users are more likely to return. A leaderboard with top performing users is a possible requirement if we want the system to have a gamification element on the platform.

3.2 Requirements (Pedagogical)

- Adaptive materials based on users' performance
- Instant feedback
- Language can be taught in context (e.g. academic and workplace writing skills, workplace and daily communication)

The pedagogical requirements are also important. Adaptive release is a mature technology that allows content to be released after certain conditions are met, for example, a certain score achieved, or a time period has passed. Instant feedback is important to students, although to be instant, it needs to be automated. In addition, rather than having isolated exercises (e.g. fill in the blanks, matching), we would want the language to be taught in the context that it is used.

3.3 H5P

The project team recommended that activities on the platform are built using H5P (H5P Organisation, 2022). H5P is an open-source content collaboration framework based on JavaScript. H5P is an abbreviation for HTML5 Package, and aims to make it easy for the creation, sharing and reuse of interactive HTML5 content. Interactive videos, interactive presentations, quizzes, interactive timelines and other activities can be developed and shared using H5P. H5P content is also sustainable in the case of future changes in the LMS supported by the University. In order for the content to be shared via the LMS (e.g. Blackboard or MS Teams) a package needs to be purchased from Joubel (Joubel, 2022) so a budget must be available for this.

By using H5P, the university would have flexibility on using the materials created for language enhancement on a standalone e-platform or by integrating them into a LMS. The advantages of integrating into the existing LMS include students would already have access and that there are already data analytics built into the LMS. On the other hand, a standalone e-platform can be built and designed to meet the specific needs of PolyU students.

3.4 Online Survey

An online survey on Student Digital Media Use and Foreign Language Learning was conducted in November 2021. It aimed at finding out the digital media habits and preferences for learning languages by PolyU undergraduates. All undergraduate students at the PolyU were sent an email inviting them to participate in the survey. An incentive coupon of HK$20 (approximately US$ 2.5) was provided to the first 250 students to successfully complete the survey. The sample was self-selecting, but overall representative of the student body as a whole. There were 248 survey respondents who came from all the eight Faculties and Schools within the university, with around 80% being local Hong Kong students.

3.4.1 Key findings

- 75% of respondents have experience on using online platform for language learning, with Grammarly (55%) and Duolingo (28%) being the most popular platforms.
- The majority learned English (44%) as foreign language, followed by Cantonese (12%), Japanese (11%), Mandarin (10%) and Korean (10%).
- Mobile phone (43%) and notebook computer (31%) were the most often used electronic devices.
- Students spent 2-4 times (41%) to 5-7 times (21%) on accessing one online platform per week, whereas they only spent less than 15 minutes (24%) to 15 – 30 minutes (42%) per visit.
- Most students used the online platform for language learning when they were at home (52%), commuting (22%) or in the library (19%).
- Students liked the online platforms mostly because of practical/informative contents, user-friendly interface and useful feedback.
- For the interface design features of online platform (full scores: 5), students rated simplicity (4.24), instruction (4.22), flexibility (4.21), visibility (4.19) and adaptive learning (4.07) the most important.

- Students agreed to a large extent that online platforms could stimulate their interests in language learning (3.92) and enhance their ability in self-learning (4.06).
- Students were most eager to get help with their English and Chinese in the areas of writing essays, job interviews, writing CVs and presentations.
- The respondents self-rated their language proficiency (full scores: 10) in both English and Chinese. The scores were relatively higher in listening and reading (Chinse reading: 7.45; Chinese listening: 7.82; English reading: 6.60; English listening 6.52) but lower in writing and vocabulary (Chinese writing: 6.77; English writing: 6.16; English vocabulary: 5.93).
- Respondents preferred watching movies, using online platforms and chatting with friends when learning languages outside classroom.

3.5 Problems Encountered and Anticipated

3.5.1 Recruitment Issues

The first issue encountered was being unable to hire a suitable technical staff member to help build the e-platform. This was likely due to a number of reasons including: (i) a general shortage of qualified web developers in Hong Kong (Westbrook, 2021), (ii) the relatively short time frame of the contract, and (iii) the unclear job title and description which did not fully represent the job nature. The project team decided that while it would be possible to re-advertise with a more suitable job advert, the focus should be instead to build pilot materials using H5P and launch them through the LMS in the next academic year.

3.5.2 Attracting Users

While it is relatively straightforward to build content using H5P and launch on a LMS, there is no guarantee that students will come to the course site to use the content. As already noted, senior management intend that students should improve their language skills through the "informal curriculum", and this means that no time, and no credits would be given to students who complete different activities on the platform. It is perhaps expected that students will be using intrinsic (e.g. an internal desire to improve their language skills) or extrinsic (e.g. improving language skills to do better in language tests) motivation if they are to use the proposed e-platform (Lamb, 2017), as there will be no requirement to use it.

In terms of attracting the users, and mixture of traditional, proven methods, and more out of the box ideas will be used. Traditional methods include sending mass emails, distributing posters advertising the platform around campus, producing short videos promoting the e-platform, and asking teachers to promote the e-platform to their students – a personal recommendation. The last method has been found to be more effective in the past, with emails unread, posters unseen, and videos unwatched. We plan to expand the 'personal recommendation' by employing 'student ambassadors' from different departments with a strong social presence (Haenlein et al. 2020). These ambassadors would be initially paid to use the platform and then post their progress on their social media platforms. If the ambassadors are able to attract more student users from their department to use the platform, then they would receive a bonus payment as recompense.

3.5.3 University and Faculty Expectations

The project team has experience of developing a range of elearning applications related to language learning including web-based materials, LMS modules, instructional videos, MOOCs, chatbots and VR applications (Forrester & Chan, 2021). These have all been created with the student end user foremost in mind and while we have attempted to incorporate advanced features, we would be more cautious if they features had not been proven to be stable. There is pressure from the university and faulty for the e-platform to include more advanced features, (e.g. AI elements, natural language processing, VR/AR) and be a standalone platform not linked to a LMS. The project team has already taken the decision to launch initially on the LMS in order to gather feedback on the student experience. It is envisaged that expectations will need to be managed given the timeframe and budget, and technological capabilities of the moment.

3.5.4 Next Steps

During summer 2022 material writers will be recruited to start building language activities using H5P. It is envisioned that these activities will follow a learning sequence in which students will follow a number of different steps. This is in contrast to traditional computer graded quizzes such as multiple-choice questions or matching exercises. These learning sequences will be piloted with a small number of staff and students before

their launch on the LMS in the next academic year (September 2022). Learning analytics data will be collected form the students using the 'e-platform' in the third quarter of 2022, as well as their being focus group interviews with users. This data will be further analysed in the fourth quarter 2022, with a plan to start developing a standalone e-platform in early 2023.

4. CONCLUSION

There is clearly a need for different initiatives to help students improve their language skills. An e-platform could provide one element that can help students. However, past experience tells us that an e-platform by itself is not enough to significantly improve the language skills of students. Instead, a multifaceted approach is needed including e-learning, face-to-face learning and commitment from those controlling timetable space and credits, if there is to be a significant improvement in language skills. The team members behind this e-platform are experienced and creative enough to ensure that it will be built. However, if it is to be a success, it needs university commitment in other areas.

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