EFFECTIVE APPS AND WEB-BASED TOOLS FOR INCREASING STUDENT ENGAGEMENT IN PROJECT-BASED LANGUAGE LEARNING

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ABSTRACT

This article investigates web-based tools and applications (apps) that have been demonstrated by research to be effective for Project-Based Learning (PBL) with English language learners. Also known as Project-Based Language Learning (PBLL), this language learning approach is effective at improving learners' language and content knowledge. Introducing these tools one-by-one, we will discuss some of their salient features, highlight classroom-based research that has been conducted and provide tips for using the tools in class. To answer the call in Beckett and Slater (2020), we will also suggest how each of these tools could be used in integrating the teaching of language form and function, embedding assessment throughout the timeline of a project, as well as how the tools meaningfully integrate technology into the PBLL context. Finally, we will highlight current work on PBLL-specific mobile apps and suggest ways PBLL teacher-researchers can contribute to this growing field.

INTRODUCTION

Project-Based Learning (PBL) is a learning approach in which students are exposed to curriculum through real-life contexts and technology (Edutopia, 2007). When designing projects for language learners, PBL can also be considered Project-Based *language* Learning (PBLL) "with content-based activities composed of a series of tasks for solving problems, thinking critically, making decisions, producing projects, and articulating the process and products" (Beckett, Slater, & Mohan, 2020, p. 6). In the past several decades, PBLL has grown into a diverse field with hundreds of studies, documenting its effectiveness with language learners in both second and foreign language contexts, with students of all ages and language levels (Beckett, Beck, Chen & Guhin, 2020).

In this article, we highlight seven engaging applications (apps) and web-based tools that can increase student engagement and autonomy in PBLL projects. For each tool, we will discuss its salient features, highlight research that speaks to the tool's effectiveness for PBLL, and give some tips for how these tools could be used for project work. Integrated into each section are suggestions for how these tools could help fill the gaps pinpointed in Beckett and Slater (2020) in integrating technology, language form and function instruction, and meaningful assessments into PBLL (pp. 7-10). To close, we will highlight current work in meeting these various needs through the creation of PBL-specific mobile-assisted language learning (MALL) programs, which we hope will be available for teachers and students in the near future.

SEVEN EFFECTIVE PBLL TOOLS

Flipgrid

To help enhance speaking skills, video recording platforms such as Flipgrid, may provide an engaging and helpful opportunity to encourage all students to speak out (Beck, 2019), collaborate, and practice their oral communication skills. Flipgrid is a video discussion platform where teachers may post questions and students can reply in video format. This platform allows teachers to reply to each student as well as for students to reply to each other's videos (Beck, 2019). Student-created videos have played an important role in language learning and can provide an excellent learning opportunity that is worth the students' and instructor's time and effort (Meyer & Forester, 2015).

This platform can be integrated into the PBLL classroom in numerous ways. Some ways Flipgrid can be used is to help students raise awareness of their own communication skills by focusing on form (targeted sub-constructs of speaking, such as pronunciation or fluency) and improving their presentation skills. This interactive platform can be used to scaffold the creation of students' presentations by integrating self-evaluation, reflections, peer-feedback, and/or teacher feedback. Following the teacher's prompt, students can use Flipgrid to record short videos of various parts of their presentation, share the video with peers, and then use a pre-created rubric to self-evaluate, reflect, and/or to evaluate each other. Peer responses and reflections may be posted in the form of a video too.

Peer and self-evaluation have been used by Dooly and Sadler (2013) in a telecollaborative project where they pointed out that participants appreciated the development of classroom activities that advance knowledge creation, ownership, responsibility, and innovation by use of technology. If the teacher engages the students in the creation of assessment rubric with clear sub-constructs in mind, the students may have clear expectations and focus on improving

the targeted skills. While there are a number of video-creating platforms available, Flipgrid

provides an engaging, simple, and user-friendly platform that allows various possibilities in the

PBLL classroom.

Grammarly

There is a growing interest in the application of Automatic Writing Evaluation (AWE) in

language teaching and pedagogy, which is useful in multiple educational contexts like PBLL.

Grammarly, an AWE program, can identify over 300 types of writing errors and have numerous

benefits such as the following: a.) saving teachers' time (Bailey & Lee, 2020), b.) increasing

writing quality and engagement (Gauthier, 2013), c.) increasing students' motivation and

confidence (Potter & Fuller, 2008), d.) providing students with scaffolded feedback (Bailey &

Lee, 2020), and e.) reducing writing anxiety.

Grammarly can be implemented and integrated into English language PBLL classes in

different ways depending on students' needs. Word variation, sentence complexity, and error

frequency can be the major benefits of using Grammarly in language teaching classes. Students

can work in pairs or groups and receive immediate feedback before submitting their essay to the

instructor. Instructors can require students to use Grammarly as a prerequisite, before turning

their projects in, and can make activities out of this beneficial feature to enhance students'

vocabulary knowledge. Regarding teaching general or academic vocabulary words, Grammarly

can identify overused words in an essay and suggest synonyms. Another beneficial use of

Grammarly in language classrooms is to practice paraphrasing skills. For example, students can

be assigned to pairs or groups and work on a sample essay to practice paraphrasing using

Grammarly; they can upload the sample essay to Grammarly and work on the suggested sentences for paraphrasing.

English language teachers should consider implementing AWE technology such as Grammarly in their PBLL projects and writing classes. Obviously, human feedback is needed for global aspects related to meaning and cohesion, but local level of errors can be overwhelming for teachers to correct. Therefore, writing aid technologies like Grammarly can increase fluency, self-reliance, and language output (Bailey & Lee, 2020) as well as save teachers' time so that they can focus on the global aspect of students' writing and provide feedback.

Padlet

Padlet is an online web-based wall where ideas are collated via virtual posts from users (Shield, 2014). It has features that allow users to write, post, comment, upload files, browse, chat, record their voice, and save and download work. In addition to these features, Padlet is also equipped with a visually aesthetic interface. Users can change the wallpapers, fonts, and color schemes as well as adjust posting features such as the attributions, comments, reactions, and control the content filtering.

This platform has a great selection of a collaborative tool that extends beyond the classroom as it provides collaboration opportunities, information sharing, flexibility, student engagement, and learning autonomy. Moreover, the program works well with activities such as brainstorming, discussion, and project work (Stannard, 2015). Padlet is highly compatible with PBLL as it can function as a digital module repository where students can organize their work and also comment on each other's work. Teachers can also monitor student progress and provide feedback whenever necessary.

Padlet has been empirically evaluated in L2 learning contexts (i.e., Mohd, Noah, Affendi, & Yunus, 2020) and has been shown to improve writing ability in English, especially in drafting and getting feedback (Lestari, 2017) as well as in facilitating English speaking activities through its video sharing features (Syahrizal & Rahayu, 2020). Students' perceptions using Padlet have been documented too, with a majority of students agreeing that Padlet impacted their English learning due to its accessibility and features that they found motivating (Setiawati, 2020).

Padlet features and uses align with the affordances of student-centered learning approaches like PBLL, as PBLL is designed to engage students in language and content learning through planning, researching, analyzing/synthesizing data, and reflecting on the process and product (i.e., Beckett & Slater, 2018; Beckett & Slater, 2020). Therefore, Padlet as an online virtual pinboard supports web-based PBLL because it mediates student-centered learning and inquiry-oriented instructional approaches.

VoiceThread

VoiceThread is a tool that can be used either online, on an app, or through an LMS integration. It allows users to create multimodal presentations by uploading slides, images, videos, creating voice-overs, and allows for either text or multimodal comments to be left on the projects. When integrated into classrooms, VoiceThread has been shown to help students practice skills such as oral communication and speaking (Dugartsyrenova & Sardegna, 2017; Ghoneim & Elghmotmy, 2017; Hsieh, 2013).

Research on PBLL and VoiceThread has shown benefits in multiple L2 contexts. Hsieh (2012) used VoiceThread as a part of a PBLL approach in an EFL classroom in which students created presentations about real issues in the business world. In this study, students

shared their presentations with classmates and received peer feedback through VoiceThread, which aided in authentic assessment. Dugartsyrenova and Sardegna (2017) found that in terms of oral proficiency in a Russian as a foreign language class, students improved in vocabulary, pronunciation, accuracy, and fluency through use of VoiceThread. Additionally, the researchers found that receiving oral feedback from the teacher was another benefit, which students appreciated.

Web-based programs like VoiceThread can be used for a number of language learning related projects for creating presentations or to have more creative components such as story-telling (e.g., Parker, 2020). Since projects are recorded, a VoiceThread project could be a beneficial method of assessment in PBLL, as teachers could create rubrics for oral projects with specific sub-constructs for students to work towards. While primarily used for improving speaking and oral communication skills, VoiceThread projects could be expanded to teach and assess other skills as well.

Wix

Wix and similar website builders provide natural contexts for language learners to collaborate in a target language to solve authentic problems. Teachers can take advantage of free website builders like Wix to create authentic and engaging learning opportunities within the classroom. Students learning English can create a series of blog posts to promote a school club or build a website to promote a local non-profit, which can focus on language form and function and be assessed in multiple stages. To further integrate critical thinking, students can take advantage of their website builder's analytics dashboard and track pageviews; strategizing about

increasing viewership through refining content could lead to the integration of other subjects too, such as marketing and math.

Several PBLL research studies on Wix have demonstrated the website builder's effectiveness in fostering engagement and autonomy. Kato, Spring, & Mori (2020) found that L1 English-speaking university students learning Japanese increased their oral proficiency and experienced high motivation when paired with L1 Japanese students, creating Wix websites while communicating over Skype. Because authentic, real-world contexts for language use are central to successful PBLL (Alan & Stoller, 2005), students were tasked with providing information about an exchange program for students at both universities. Compared to an earlier study in which Japanese and English students only interacted over Skype, co-creating a web page revealed much higher levels of motivation with students more likely to maintain contact with their group mates after the course's completion.

In a similarly structured study, Priego & Liaw (2017) matched Canadian French-as-a-second-language teachers with Taiwanese EFL students, tasking the groups to co-construct multilingual digital stories via Wix. While the researchers focused on tensions in working in telecollaborative environments and the strategies students used to overcome them, the study also evidenced participant growth through the project and overcoming challenges.

Numerous possibilities exist for incorporating website builders into PBLL classrooms. The use of website builders in conjunction with solving problems in authentic contexts can lead to increased student motivation and can strengthen language learning skills.

WhatsApp

WhatsApp is a freeware tool that allows users to send text and voice messages, make voice and video calls, as well as share images and locations. It can be used as an app on phones or online. A tool with much to offer, it has been used in education studies multiple times to explore its uses for education (e.g., Cetinkaya, 2017), for assessment (e.g., Güler, 2017) for distance learning (e.g., Gachago, Strydom, Hanekom, Simons, & Walters, 2015), and for language education (e.g., Mistar & Embi, 2016) to name a few.

WhatsApp has been implemented in PBLL as the selected technology to foster student-centered discussion in multiple studies (Demir Ayaz, Ozkardas, & Ozturan, 2018; Avci & Adiguzel, 2017; Saricaoglu-Geluso, 2020). In Saricaoglu and Geluso's (2020) cross-cultural study, WhatsApp was used as a communication tool between students in Turkey and students in the USA. Through group chats formed in WhatsApp, students corresponded with each other and worked on their projects collaboratively. Unlike Saricaoglu and Geluso's study, in which WhatsApp was one of several technology tools used, Demir Ayaz et al. (2018) specifically focused on the implementation of WhatsApp in group projects to assess its impact on English language learners' learning process. Results showed that students benefited immensely from the use of WhatsApp, especially when learning new vocabulary. Students reported that they found chances to practice the words they learned, including collocations. Avci & Adiguzel (2017) adopted a similar approach and assessed the effects of WhatsApp use on students' language improvement with positive results supporting the use of WhatsApp in language education.

WhatsApp can be used in PBLL to increase interaction between the group members outside of the classroom and act as an online collaboration platform. While Gasaymeh (2017) found that the use of WhatsApp is quite popular amongst the students for non-educational

purposes, findings from the same study indicate that its use for classroom practice is restricted.

However, with some careful consideration, WhatsApp can be effectively integrated into PBLL

and L2 classes providing opportunities for targeted language practice.

Youglish

Youglish is a website that uses Youtube videos to generate examples of how English

words are used by different speakers. The website aims to improve learners' English

pronunciation by providing authentic examples of how a target word is used in context (Barhen,

2019), which can be helpful when used in tandem with PBLL projects with oral components,

such as presentations.

Using Youglish, learners can select between three major dialects: American, British, and

Australian, and can control the speed of the video to help them comprehend the oral input (Dos

Santos et al., 2018). It does not offer a direct definition of the target words as many traditional

dictionaries do; instead, the example videos generated by Youglish start a few seconds prior to

the target word for context.

Youglish has gained popularity among English language learners and teachers in recent

years. Fu and Yang (2019) found that learners significantly improved in pronunciation,

intonation, and word usage after using Youglish. Likewise, in a study combining the use of

Twitter and Youglish, Kartal & Korucu-Kis (2020) found that Youglish strengthened students'

pronunciation and pronunciation instruction. Although Youglish has the potential to immerse

learners in real examples of word usages from the target context, it has not been discussed in

PBLL literature. As autonomy is essential in teaching approaches that promote student-centered

teaching such as PBLL (Yuliani & Lengkanawati, 2017), we think Youglish could support PBLL

quite well. In PBLL classrooms, teachers can encourage students to practice new words using Youglish individually or as a whole class, practicing and writing the examples down. Students can review their word list weekly in pairs or individually before their presentation, allowing them to prepare for presentations, which could be assessed by teachers.

One of the strengths in PBLL is helping learners expedite their educational growth in an authentic environment (Stoller, 2006). Youglish resonates with this fundamental goal of PBLL and facilitates learners' access to real world context. The website supports autonomous learning and thus learners can independently find a plethora of examples where the word is used by different speakers instead of always asking the teacher.

PBLL-FOCUSED MALL TOOLS

Pedagogical practices that involve project-based language learning (PBLL) exhibit a common characteristic: that is, students' freedom in voice and choice. Since students have ownership of their own learning within PBLL, their practices can require more ubiquity. In current times, accessibility to technological devices has become more attainable (Paule-Ruiz et al., 2017). Therefore, the popularity of mobile devices has inspired the utilization of such tools into language learning, also known as mobile-assisted language learning (MALL). Beckett and Slater (2018) add that the ubiquity of technology brings PBLL and technology closer. However, teachers' selection of multiple mobile apps for project work could create inconveniences for students and teachers alike. This is because students' navigation of several apps to perform certain project components could eliminate the practicality of PBLL and perhaps lead to feelings of frustration.

As a result, the MALL app design that Beckett and Slater (2020) call for is the next logical step forward in meeting the needs of PBLL learners. In response, two teams of researchers at Iowa State University are in the process of building and fine-tuning all-inclusive apps to facilitate PBLL. The development of such PBLL MALL apps can facilitate teachers' planning of projects and the assessment of students' language learning and content knowledge. Additionally, PBLL-focused apps enable direct communication between teachers and students, leading to the establishment of interactive, scaffolded learning environments. These apps will provide learners with numerous opportunities for collaboration, exchange of reflections, and feedback. Because both of these apps will provide teachers with accessibility to a variety of effective project-related affordances that aim at fostering learning through projects, students could potentially implement projects organically and grow a sense of autonomous learning.

In many ways MALL tools represent the future for PBLL. While many current apps can be used effectively with PBLL, some of which are described in this article, the deliverables of PBLL-specific mobile apps could create uniquely effective learning environments for students and enhance teachers' implementation of PBLL.

CONCLUSION

Integrating targeted apps or web-based tools into the classroom is a great way to engage students and set them up for success in their project work. Whether the app or tool is the main focus of a project or a supplementary resource, modeling the use of the app and establishing clear guidelines for students will help students stay on task and work autonomously, whether they are working individually or in groups.

In reviewing these various web-based tools and apps, there were big discrepancies between how much focus researchers have given them, both in terms of PBLL research and more broadly in language learning. While we have personal experience seeing or using these apps in L2 contexts, they have nonetheless not been incorporated into empirical studies. Moving forward, teacher-researchers might take note of tools like Flipgrid and Youglish, thinking of innovative ways to integrate them into a PBLL study.

To conclude, we hope these web-based tools, apps, and our tips will help teachers discover new ideas to integrate into the classroom as well as provided useful references to current research on their use. If educators have never tried PBLL in their language learning classrooms, we hope we have encouraged them to try it out moving forward!

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REFERENCES

Alan, B., & Stoller, F. L. (2005). Maximizing the benefits of project work in foreign language classrooms. *English Teaching Forum, 43*(4), 10-21.

Avci, H. & Adiguzel, T. (2017). A case study on mobile-blended collaborative learning in an English as a foreign language (EFL) context. *International Review of Research in Open and Distanced Learning*, *18*(7), 45-58.

Bailey, D., & Lee, A. R. (2020). An exploratory study of Grammarly in the language learning context: An analysis of test-based, textbook-based and Facebook corpora. *TESOL International Journal*, *15*(2), 4-27.

Barhen, D. (2019). Youglish. *TESL-EJ*, *23*(2). https://www.tesl-ej.org/wordpress/issues/volume23/ej90/ej90m1/

Beck, J. (2019). Flipgrid for the ESL Classroom. *MIDTESOL Weekly Feature.* https://midtesol.org/flipgrid-for-the-esl-classroom/.

Beckett, G. H., Beck, J., Chen, M. & Guhin, J. (2020, Oct. 2). *Empowerment with project-based language teaching and research*. TESOL Arabia, Online. https://www.youtube.com/watch?v=Nxs230VI7a0

Beckett, G. H. & Slater, T. (2018). Project-based learning and technology. In J. I. Liontas (ed.) *The TESOL Encyclopedia of English Language Teaching* (pp.1-7). John Wiley & Sons.

Beckett, G. H., Slater, T. & Mohan, B. A. (2020). *Philosophical foundation, theoretical approach, and gaps in the literature.* In G. H. Beckett and T. Slater (eds.), Global perspectives on project-based language learning, teaching, and assessment (pp. 3-22). Routledge.

Beckett, G. H. & Slater, T. (Eds.) (2020). Global perspectives on project-based language learning, teaching, and assessment: Key approaches, technology tools, and frameworks. NY: Routledge.

Cetinkaya, L. (2017). The impact of WhatsApp use on success in education process. *International Review of Research in Open and Distributed Learning*, *18*(7), 59-73. https://doi.org/10.19173/irrodl.v18i7.3279

Demir Ayaz, A., Ozkardas, S., & Ozturan, T. (2018). Challenges of English language teaching in high schools in Turkey and possible suggestions to overcome them. *Eurasian Journal of Applied Linguistics*, *5*(1), 41-55. https://doi.org/10.32601/ejal.543778

Dooly, M., & Sadler, R. (2013). Filling in the gaps: Linking theory and practice through telecollaboration in teacher education. *ReCALL, 25*(1), 4. https://doi.org/10.1017/S0958344012000237

Dos Santos, L. S., Becker, K., Muhammad, A., Hegelheimer, V., & Kochem, T. (2018). Technology integration and pedagogical practice in English language teaching: Lessons learnt. European Journal of Applied Linguistics and TEFL, *7*(2), 25-51.

Dugartsyrenova, V. A., & Sardegna, V. G. (2017). Developing oral proficiency with VoiceThread: Learners' strategic uses and views. *ReCALL, 29*(1), 59-79. https://doi.org/10.1017/S0958344016000161

Edutopia. (2007). *Why is Project-based learning important? The many merits of using project-based learning in the classroom.* https://www.edutopia.org/project-based-learning-guide-importance

Fu, J. S., & Yang, S.-H. (2019). Exploring how YouGlish facilitates EFL learners' speaking competence. *Educational Technology & Society*, *22*(4), 47-58.

Gachago, D., Strydom, S., Hanekom, P., Simons, S., & Walters, S. (2015). Crossing boundaries: Lectures' perspectives on the use of WhatsApp to support teaching and learning in higher education. *Progressio*, *37*(1), 172-187.

Gasaymeh, A. M. M. (2017). University students use of WhatsApp and their perceptions regarding its possible integration into their education. *Global Journal of Computer Science and Technology*, *17*(1), 1-10.

Gauthier, M. (2013). Anglophone high school boys' engagement and achievement in editing their French writing using the Bon Patron Pro. *Journal of Classroom Research in Literacy*, *6*, 24-35. https://jcrl.library.utoronto.ca/index.php/jcrl/article/view/16093

Ghoneim, N. M. M., & Elghotmy, H. E. A. (2016). Using Voice Thread to develop pre-service teachers' speaking skills. *International Journal of English Language Teaching, 4*(6), 13-31.

Güler, Ç. (2017). Use of WhatsApp in higher education: What's up with assessing peers anonymously? *Journal of Educational Computing Research*, *55*(2), 272-289. https://doi.org/10.1177/0735633116667359

Hsieh, L. W. K. (2012). *Technology-supported project-based learning in a Taiwanese university oral communication course: A case study* (Publication no. 3540242) [Doctoral dissertation, Alliant International University]. ProQuest Dissertations Publishing.

Kartal, G., & Korucu-Kis, S. (2020). The use of Twitter and Youglish for the learning and retention of commonly mispronounced English words. *Education and Information Technologies*, *25*(1), 193-221. http://dx.doi.org/10.1007/s10639-019-09970-8

Kato, F., Spring, R., & Mori, C. (2020). Incorporating project-based language learning into distance learning: Creating a homepage during computer-mediated learning sessions. *Language Teaching Research*. 1-21. https://doi.org/10.1177/1362168820954454

Lestari, S. (2017). Implementing Padlet application to improve writing ability in English writing skill for non English Department Students. *LET: Linguistics, Literature and English Teaching Journal, 7(1),* 1-16. http://dx.doi.org/10.18592/let.v7i1.1640

Meyer, E. & Forester, L. (2015). Implementing student-produced video projects in language courses. *Unterrichtspraxis, 48*(2), 192.

Mistar, I. B., & Embi, M. A. (2016). Students' perception on the use of WhatsApp as a learning tool in ESL classroom. *Journal of Education and Social Sciences*, *4*, 96-104.

Mohd, F. K. M., Noah, J. B., Affendi, F. R., & Yunus, M. M. (2020). Paddle your way into writing: Integrating Padlet for ESL learners. *International Journal of Scientific & Technology Research, 9*(3), 5407-5410.

Parker, J. L. (2020). Students' attitudes toward project-based learning in an intermediate Spanish course. *International Journal of Curriculum and Instruction, 12*(1), 80-97.

Paule-Ruiz, M., Álvarez-García, V., Pérez-Pérez, J. R., Álvarez-Sierra, M., & Trespalacios-Menéndez, F. (2017). Music learning in preschool with mobile devices. *Behaviour & Information Technology*, *36*(1), 95-111. https://doi.org/10.1080/0144929X.2016.1198 421.

Potter, R., & Fuller, D. (2008). My new teaching partner? Using the grammar checker in writing instruction. *English Journal*, *98*(1), 36-41.

Priego, S. & Liaw, M. (2017). Understanding different levels of group functionality: Active systems analysis of an intercultural telecollaborative multilingual digital storytelling project. *Computer Assisted Language Learning*, *30*(5), 368-389. https://doi.org/10.1080/09588221.2017.1306567

Saricaoğlu, A. & Geluso, J. (2020). *Students co-learning linguistics through PBL: A cross-cultural telecollaborative implementation.* In G. H. Beckett and T. Slater (eds.), Global perspectives on Project-Based Language Learning, teaching, and assessment (pp.104-125). Routledge.

Setiawati (2020). Student perception of using Padlet in learning English. *Al-Islah Journal Pendidikan, 12(1)*, https://doi.org/10.35445/alishlah.v12i1.187.

Shield, J. (2014). Virtual Toolkit. *Screen Education*, *75*, pp. 92-93.

Stannard, R. (2015). Webwatcher: Padlet. *English Teaching Professional*, 97, p. 67.

Stoller, F. (2006). *Establishing a theoretical foundation for Project-Based Learning in second and foreign language contexts*. In G. H. Beckett, & P. C. Miller (Eds.), Project-Based second and foreign language education: Past, present, and future (pp. 19-40). Greenwich, CT: Information Age.

Syahrizal T., & Rahayu, S. (2020). Padlet for English speaking activity: A case study of pros and cons on ICT. *Indonesian EFL Journal, 6(2)*, 149-156, https://doi.org/10.25134/iefjl.v6i2.3383

Yuliani, Y., & Lengkanawati, N. S. (2017). Project-based learning in promoting learner autonomy in an EFL classroom. *Indonesian Journal of Applied Linguistics*, 7(2), 285-293. https://doi.org/10.17509/ijal.v7i2.8131