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Embedding academic research in EdTech designed to support second language learning

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Collaborations between academia and industry bring important benefits to all parties involved. This case study highlights the need to establish collaborations between language learning researchers and EdTech companies based on the recognition of mutual benefits. It also describes how such successful collaborations can be implemented.

There have been calls for collaboration between EdTech companies and learning scientists. These partnerships bring clear benefits to EdTech, as the expertise of learning scientists is important to ensure its educational validity. However, the benefits that these collaborations bring to learning scientists are often overlooked. Researchers in second language learning have long argued that research findings do not always feed into the design of learning materials and EdTech. It is through close collaboration with EdTech developers that researchers can ensure that the latest research findings have the desired impact on learners.

We believe that the benefits of the collaborations between researchers and EdTech companies can be maximised when mutual interests are recognised and pursued. This case study illustrates how such collaboration was implemented and developed to support language learning.

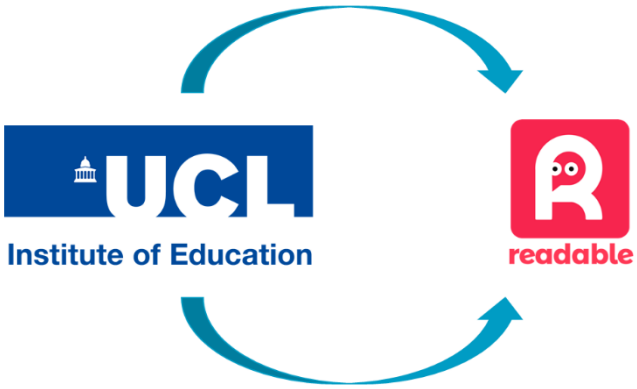

Figure 1. The mutually beneficial nature of academia-EdTech collaborations

BACKGROUND TO THE COLLABORATION

This case study describes the collaboration between Readable and Dr Ana Pellicer-Sánchez, a second language acquisition researcher at the UCL Institute of Education, specialised in vocabulary learning. Ana's research focuses on examining the effectiveness of different methods to expand second language learners' vocabulary knowledge, with a particular focus on learning from reading. Among the many vocabulary learning apps available for autonomous language learning, Readable offers a unique opportunity to combine different approaches for vocabulary learning. It provides learners with a range of fun news and stories that are engaging and adapted to their level, alongside an opportunity to learn the new vocabulary that they encounter in the texts through the Word Trainer functionality. Readable provides learners with the opportunity to learn each of the words that make up the texts, with flashcards developed for each word. It also tailors their learning to their own needs and preferences. Learners can choose what they want to read, how much they want to read, and which particular words they want to learn from the texts on offer.

Technology-supported learning plays a key role in second language learning. Advances in technology and digital language learning have led to the design of countless language learning apps, most of which include a vocabulary learning component. However, the principles guiding the design of many of these apps are unclear. Unfortunately, there has been a lack of direct communication between vocabulary learning researchers and developers - research findings do not always feed into the design of language learning materials and EdTech. Researchers have voiced this problem and claimed that language learning materials and EdTech "are the essential conduit for research to influence practice. It is time to find out why this influence has been so meagre to date, and to think of ways of redressing the problem" (Schmitt, 2019, p. 266). In addition, vocabulary learning research is often conducted in laboratory settings and tightly controlled classroom environments. Thus, findings generated from these learning conditions cannot always be generalised to the digital environment. It is only through close collaboration with EdTech developers that vocabulary learning researchers can explore the generalisability of their research findings to support digital language learning.

The current case study illustrates an attempt to bring EdTech and vocabulary research closer, allowing us to explore the affordances of EdTech for vocabulary development from reading and working together to maximise users' vocabulary learning.

HOW DID WE IMPLEMENT THE COLLABORATION?

Having worked together for a year, we can now look back and reflect on how we went about starting and developing this collaboration that we consider both successful and sustainable. We have identified three crucial steps:

1) **Establishing a relationship:** Identifying mutual interests, benefits, and aims
2) **Developing the relationship:** Working towards meeting the identified aims
3) **Sustaining collaboration**: Determine long-term goals and future plans

Figure 2. Steps in establishing a successful research-EdTech collaboration

ESTABLISHING A RELATIONSHIP

We first found each other through the EDUCATE programme, the UK's leading research accelerator programme for EdTech. It was devised and directed by Professor Rose Luckin to bridge the gap between academia and smaller EdTech enterprises. It brings academic researchers and EdTech developers together to enable more research-informed and impactful products for learners and teachers. Its 6-month accelerator programme is designed to enable the enterprises to achieve research mastery (detailed in Cukurova, Luckin & Clark-Wilson, 2019). Dr Alison Clark-Wilson, Principal Research Lead for the EDUCATE Project (2017-19), put us in touch because of the close alignment between Pellicer-Sánchez' research expertise and the aims of the product developed by Readable. This initial contact was followed by two meetings. The aim of these meetings was to understand how we could support each other and how our experience and expertise could be best used not only to inform the development of the product but also to expand second language vocabulary and reading research. We identified specific aims that we would pursue in the following months: 1) to provide feedback on the research proposal developed for EDUCATE (see below), 2) reach a better understanding of what could be done to maximise vocabulary learning and reading development using Readable. We identified mutual interests and brainstormed about what we could do to achieve our aims. Establishing this relationship was possible due to our shared value set about the importance of reading for language learning, the common drive to accomplish Readable's mission (i.e., to make stories easy-to-read and free for every English learner), as well as our mutual trust.

We were lucky to be put in contact through the EDUCATE programme but, if this initial contact does not exist, the database of EdTech work in EETN is also very helpful in identifying potential collaborators and partners (https://eetn.eu/). Anyone

can add their profile and search the database to identify EdTech developers and researchers with similar interests.

DEVELOPING THE RELATIONSHIP

After establishing the relationship and identifying mutual interests and aims, subsequent meetings and communication focused on developing that relationship. Participants in the Educate project were asked to create a research proposal which would inform the ongoing development of their EdTech product. Thus, one of the main activities of our collaboration was to read and provide feedback on a draft proposal. Working on this proposal allowed us to identify other potential projects that we wanted to work on beyond the EDUCATE programme. It was a fantastic opportunity to further confirm our mutual interests and refine our ideas.

SUSTAINING COLLABORATION

Having achieved the two aims initially identified, subsequent conversations and communication aimed at identifying next steps and long-term goals to ensure that the collaboration was not only successful but also sustainable. A logical way to sustain this type of relationships is through grant capture. We decided that the next step would be to work on a grant proposal to examine the vocabulary learning potential of Readable and to develop the functionality necessary to track learners' individual engagement with the vocabulary in the texts they read. This would further support the development of the product and provide research validity, while at the same time it would contribute to advance research in vocabulary development.
We are committed to maintain our relationship to both inform the development of the product and advance research in vocabulary and reading development. It is through this type of meaningful, mutually beneficial collaborations that we can ensure that research and EdTech develop hand in hand.

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