

## A: Understanding learning technologies

Using learning technologies effectively involves being able to answer some of the big questions. Asking ourselves why we should use them, whether they support learning, and how to choose the best ones, is a good place to start.

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## 1

## Do learning technologies work?

A question that teachers often ask me is, 'Does technology work?' This is an excellent question, but it's not easy to answer.

When teachers ask me if technology works, they are really asking whether learning technologies help their students learn English better. This is probably the most important question to ask. Luckily, there is plenty of research for us to look at, stretching back several decades. The short answer to whether learning technologies help students learn English is, it depends. It's very difficult to make comparisons across research studies that investigate different tools, with different groups of learners and in different contexts. The research studies themselves have different aims, use different teaching materials and tasks, and reflect different research methodologies.

One way to try and answer our question is to look at *meta studies*, that is, papers that review several studies on a topic, and attempt to synthesise the results. Let's look at two meta studies, one on **interactive whiteboards (IWBs)** and the other on **Web 2.0** tools. These summaries are necessarily brief, and the interested reader is encouraged to read the originals for more detail.

**Study 1** (Higgins, Beauchamp and Miller, 2007): This meta study reviewed the evidence on the effectiveness of IWBs. It focused especially on the impact of IWBs on teaching, and it reviewed the evidence on how IWBs affect learning and achievement for learners. The researchers concluded that, 'although the IWB may alter the way that learning takes place, and that the motivation of teachers and pupils may be increased, yet this may have no significant or measurable impact on achievement' (ibid: 221). This meta study was carried out in 2007, but there has been no significant evidence to contradict these findings to date.

**Study 2** (Reinhardt, 2019): This meta study reviewed the research into the use of **blogs**, **wikis** and social networking sites in English language teaching and learning. The evidence on blogs is largely positive, although certain issues (for example, task design and audience) are key to their successful implementation. The evidence on wikis is mixed: they do not automatically lead to improved learner accuracy, but they can support cooperation between learners. Teacher guidance and feedback, and authentic task design, are key to their success. The research into the effect of using social networking sites to support language learning is also largely positive. Learner community and learner autonomy can be enhanced when these sites are used alongside language classes; however, some learners may be resistant to using social networking sites for learning, or they may resent teacher-imposed activities.

Where does this leave us? Study 1 shows no clear positive results. So, can we say with confidence that IWBs help students learn English better? Based on the evidence, probably not, although they make teachers' jobs easier. On the other hand, Study 2 finds mainly positive evidence for the use of specific Web 2.0 tools, with some caveats. So, can we conclude that blogs, wikis and social networking sites help learners improve their English? The answer in this case is a tentative yes, but keeping in mind the issues and caveats that are highlighted in the meta study.

It's worth bearing in mind that the findings in meta studies may not be generalisable to all contexts. After all, a meta study is a synthesis of lots of smaller studies, and these are often very context-specific. Nevertheless, meta studies are a good place to start if you'd like to get an overview of how effective a specific learning technology is – or isn't. Looking at the research shows us that we need to be critical users of learning technologies, and critical readers of the research. The research shows that some technologies seem to work better than others. Based on this, we need to take an evidence-based approach to choosing and using learning technologies with our own learners.

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Higgins, S., Beauchamp, G. and Miller, D. (2007). 'Reviewing the literature on interactive whiteboards', *Learning, Media and Technology*, 32, 3, 213–225.

Reinhardt, J. (2019). 'Social media in second and foreign language teaching and learning: Blogs, wikis, and social networking', *Language Teaching*, 52, 1, 1–39.

## 2 The shift to online teaching

**The COVID-19 pandemic led to school closures and an unprecedented move to online teaching and learning across the globe.**

UNESCO estimates that at the height of the COVID-19 pandemic in 2020, school closures meant that 1.6 billion children in 195 countries were out of school. Many schools and higher education institutions introduced online learning strategies during this time, including the use of digital textbooks and resources, online learning platforms, live video classes, and emailing learners work for them to do at home.

But of course, not all countries or learner populations had the necessary infrastructure or means to move online. If anything, digital inequality was brought into even starker relief by the pandemic. For many learners, online learning was simply not an option. In some low resource contexts with experience of remote non-digital delivery of learning, a combination of television, radio and take-home paper-based learning materials was deployed instead. However, some writers pointed out the pandemic foregrounded the need to provide equitable access to online learning globally, so that the disadvantaged are not even more disadvantaged when unable to physically attend school.

In those places where a move online was feasible, online learning measures had to be introduced with very little preparation, often overnight. You yourself may suddenly have found yourself teaching online – possibly from one day to the next! Some writers characterised this sudden transition as ‘remote emergency teaching’ rather than ‘online teaching’ in any principled sense. This was because, in most cases, teachers received little or no training for the shift to online teaching. But many teachers managed exceptionally well, showing extraordinary resilience and resourcefulness, and although they faced considerable challenges, they also reported triumphs.

Challenges, unsurprisingly, included their school or university's lack of preparedness to move online, and a lack of support. Of course, learners too were unprepared for the sudden move online, and in some cases, simply finding a quiet place in the home from which to teach or learn was a challenge during lockdowns. Parents of young learners often had to juggle home-schooling with teleworking, and not all families had access to sufficient hardware. But there were many triumphs. For example, despite a very steep learning curve for some teachers, many soon became proficient at delivering live classes via video-conferencing. Teachers reported that managing young learner classes was often easier online, and that many shy learners blossomed, contributing much more in virtual breakout rooms than they had ever done in the physical classroom. A further positive to emerge was that teachers were able to experiment, learn and grow professionally – I heard many reports from English language teachers that although challenging, the move online provided them with a tremendous professional development opportunity. At the time of writing this book (2021), the dust has not yet settled on the COVID-19 pandemic, and the long term effects on English language teaching remain to be seen. What has emerged though, is that schools and universities are looking at online and blended learning more seriously than before. Through personal experience, teachers have realised that online learning doesn't have to replace the bricks and mortar classroom, but it can enhance and support what we do in the classroom, and when necessary, entirely replace it.

Overall, there has been a global awakening to the potential and challenges of digital and online learning. The COVID-19 epidemic may have been unprecedented in its effect on education globally, but localised school shutdowns due to epidemics, natural disasters, political turmoil or war are, sadly, nothing new. More than ever before, governments are aware that investment in the infrastructure, resources, teacher training, and learner and parental support for effective online learning are needed to avoid the loss of educational opportunity for learners in times of such crises. Online learning in ELT has, it seems, become mainstream.

### 3 Teaching with technology in low resource contexts

The technologies used to support English language learning in low resource contexts are often a mix of older established technologies such as radio and television, and more recent mobile-based technologies such as group messaging apps.

The *digital divide* is often cited as a barrier to the use of technologies in low resource contexts. The digital divide is most commonly understood as the division between developed countries, who, it is argued, have good access to digital technologies, and developing countries who do not. But the digital divide can exist *within* countries, where those living in urban areas may have good access to technologies, while those living in remote and rural areas may not. It can exist within individual classrooms, where some learners may have access to computers or the internet at home, while others may not. A digital divide can also exist based on gender, age, and levels of education and income – even in high resource contexts. We may see digital divides among teachers, based on skill and access to training, where some teachers may have the necessary skills to use digital technologies to support their learners' learning more effectively than others. This more nuanced understanding of the digital divide reminds us that teachers in high resource contexts may find themselves teaching in resource-poor schools or classrooms; teachers in low resource contexts may find themselves teaching in high resource urban environments.

The key to the effective use of learning technologies in low resource contexts centres around the use of the appropriate technologies for that context, the cultural appropriacy of materials and teaching/learning approaches, cost-effectiveness, and sustainability. This sounds like a tall order. It can be useful to look outside the field of ELT for effective educational projects that manage to achieve this. In my view, one particularly effective and interesting initiative that ticks all of these

boxes is an online training course developed by MIT (the Massachusetts Institute of Technology) and a South African NGO called 'Grassroot'. The online training course aimed to develop leadership skills for community organisers, but course delivery had to be low tech, given high data costs in South Africa and a significant rural/urban digital divide. The project team developed an approach that delivered real time lessons/tasks via the group messaging app WhatsApp, during which facilitators and participants interacted by using text, images/photos, emoticons, and audio notes. This project took advantage of technologies that course participants already had (in this case, WhatsApp and **feature phones**), and designed effective, engaging and media rich learning tasks around that. Within the field of ELT, there have been projects to teach English in low resource contexts by sending regular SMS or instant group messages to learners, with items of vocabulary or idioms for them to learn.

English language teachers in low resource contexts can take ideas and inspiration from such projects. If your learners already use group messaging apps such as WhatsApp, Telegram or similar, you can set regular short language-related tasks for them to complete in the messaging app. For example, you could set your learners a weekly audio dictation via an audio or voice note. Or you could choose a lexical set, and ask learners to each post a photo and description of an item related to the lexical set to the group. Design short simple tasks that use the full range of features of a messaging app, and that can be carried out on a **feature phone**, rather than a smartphone. You could hold regular WhatsApp/Telegram classes in real time, for example, for an hour a week, in which learners can discuss a topic via text or voice note messages.

## 4

## Choosing appropriate learning technologies

If you plan to use learning technologies with your learners, it's important to choose wisely and well. There is no point in using technology for its own sake. Technology needs to be integrated into teaching and learning in a *principled* way.

Technology needs to bring something to the language learning experience, not just in individual lessons (whether online or in the physical classroom), but throughout the course. With so many tools and technologies available, many of them for free, teachers can feel overwhelmed by choice. Here are four key areas to consider, to help you decide whether a certain technology or tool is useful or not.

- 1 Availability and appropriacy:** What technologies are already available to you and your learners (e.g. mobile phones; internet access at school and at home, etc.)? What technologies are appropriate for the context and age of your learners? For example, if you'd like your learners to use their mobile devices to support their language learning, expensive data plans may make their use for homework or self-study unrealistic; the use of mobile phones in the classroom may be restricted in your school; parents may be resistant to the use of mobiles with younger learners because they do not see them as serious study tools; the content of a learning app you'd like your learners to use may not be culturally appropriate. What is *available* is not necessarily *appropriate*, so this is the first area to consider.
- 2 Value for learning:** How does your chosen technology or tool support and enhance your students' learning? How does it support learning outcomes? Learning outcomes may relate to language skills (e.g. vocabulary, grammar, pronunciation and the four skills), but they can also include important non-linguistic skills (e.g. digital literacies, critical thinking, creativity, intercultural communication, etc.). Also, ask yourself what added value the technology or tool



brings to the activity. For example, does it increase your learners' motivation and engagement with the learning materials? If so, will they spend more time working with the materials out of school? Motivation and engagement, which can lead to additional exposure to the language, can improve learning outcomes too.

- 3 **Time and effort:** How long will it take for you and your learners to learn how to use a certain tool or technology effectively? How much effort is involved? Some tools are easy to set up and use (e.g. quiz apps), but others can take much more time and planning (e.g. a **blog** or a **VLE**). However, it's not necessarily a case of the simpler the better. You need to consider how long you and your learners will actually use the tool for, both in and out of class. Let's take a blog as an example of a slightly more complex tool. It may take some time to set up a class blog, and it may take careful planning and time for your learners to use it regularly, but this is a tool that you can use over a period of time (e.g. a term or semester), and with appropriate tasks, your learners can produce a significant amount of writing and multimedia. In this particular case, the time and effort involved in setting up the tool, teaching your learners how to use it, and designing appropriate tasks, can be worth it.
- 4 **Digital skills:** What digital literacy skills do you and your learners need to be able to use the technology or tool effectively? These skills may be technological (e.g. how to create a blog post or a Word document; how to add an image or a **hyperlink** to a document), but they can also be skills related to the appropriate use of technologies in social contexts (see 6). For example, your learners may know how to add an online image to a blog post, but do they know that they need to respect copyright, and that they can use Creative Commons licensed images (see 35)? Do they know about various types of plagiarism, how to avoid it, and how to attribute their online sources correctly (see 36)?

## 5

## Using learning technologies to support special educational needs (SEN)

Assistive technologies can help learners with a range of special educational needs in the English language classroom. Let's examine how.

There are different terms used to talk about learners with unique learning needs. You may have come across the term *special educational needs*, or SEN for short. You may also have come across the term *neurodiversity*. Neurodiversity is often used to refer to those learners who may face cognitive or learning challenges such as **dyslexia** or autism, behavioural challenges like ADHD (attention deficit hyperactivity disorder), or social or emotional difficulties. Some learners may face physical challenges such as sight or hearing impairment, or restricted movement and limited motor skills; in these cases, the term SEN may be considered more appropriate. In this chapter I use the term SEN because technology can provide effective support for learners with a range of needs, from cognitive, emotional and behavioural to physical.

Many classrooms today support inclusive practices. This means that learners with special educational needs are included in classrooms rather than being taught in separate classes or schools. Within inclusive classrooms, mobile technologies and especially tablet computers, have been enthusiastically taken up by teachers working with SEN learners because of their assistive features. For example, a written text in English can be listened to by activating a tablet's text to speech capability. This provides support for dyslexic learners, who may find the act of reading challenging; it can also provide audio access to written text for the partially sighted or blind. Tablets also have speech to text capability; in this case, a learner with partial or full hearing impairment can have audio content transcribed into text, for example, by activating closed captions (subtitles) on videos. Learners can also change the font and size of subtitles for ease of viewing. Other assistive features for learners