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ICT and Language Learning

BULLSMITH, Christofer
(Atomi University)

My goal here is to provide a short overview of ICT in language learning: past, current, and near future. Topics include (1) ICT's evolving role in enabling learner exposure to target language (TL) and how this has helped language learning; (2) problems with ICT in language learning; (3) recent developments including to what extent language learning is likely to become irrelevant; and (4) how widespread use of ICT is changing not only the methods but also the proper goals of language learning.

First, ICT's evolving role in enabling learner exposure to target language (TL).

- For canned (recorded) language, records and tapes allow learners to hear the TL. CDs (early 1980s) were more convenient but didn't change the character of language learning. The interesting change came from the mid-90s when audio/video compression formats made it possible to manage audio and video on a computer – for example, to show text and play the audio or video at the same time, let the student repeat as many times as they like, record a response, play both back, and so on. This was the birth of interactive multimedia, which when made well, can provide TL exposure at the pace and level appropriate to each learner, with instant scoring and feedback.
- Linking to another person through ICT was possible by text in the 80s (dial-up BBSs) and 90s (International Usenet via BBSs) and audio links (VoIP) became possible in the mid-90s. The interesting change came about when Skype VoIP launched (2003; video followed in 2005), providing reasonably stable and essentially free international calls. This was the birth of video conferences/classes, enabling class exchanges, digital pen pals, a global marketplace for language classes, and the remote classes that became suddenly mainstream during the COVID-19 pandemic.
- Chatting meaningfully with a computer using text started with basic chatbots in the early 2000s, with limited audio conversations becoming possible with advances in speech recognition and TextToSpeech in the early 2010s. The technology has improved in recent years with smart assistants like Alexa and Google Duplex, and deepfake technology in conjunction with an index of expressions means that realistic video of a face or person can be generated in realtime.

These and related ICT developments have caused massive changes outside the language classroom, increasing the volume and speed of international communication and eroding the old distinction between foreign language learning and second-language learning, since even isolated learners far from TL communities can join *virtual* TL communities if they have unfettered internet access. Joining TL communities increases language exposure and motivation, which is a particularly strong positive for English learning in Japan, since there are limited domestic TL communities.

Second, not all ICT developments have been so positive. Early analogue language labs were expensive, specialist, difficult to maintain, focussed on the technology, and isolating for students who engaged only with a tape deck. Digital replacements in the late 90s used PCs and were multi-use and easier to service, but the multimedia learning software packages installed were expensive and immediately out-of-date, and designed by programmers who failed to transfer best practice materials-design or classroom practice to the new instructional medium. Recently, learning software usually runs on devices that students already have (especially smartphones) and follows a subscription or Software as a service (SaaS) sales model, reducing up-front costs and making sure that vendors are motivated to keep the software up-to-date, supported, and either fun or noticeably effective (or, ideally, both).

Third, in terms of recent developments, machine translation is now often good enough for non-critical general translation tasks; it is basically instant and generally free. With voice recognition and text-to-speech, this also means that real-time interpreting is likewise 'often good enough'. For casual tourism, shallow business relationships, any situation where cultural knowledge is not expected, and particularly when dealing with regional languages that visitors cannot be expected to know, this means that language learning is largely irrelevant – we can get by with an app. However, when using an app, both parties are inevitably aware of the intermediary layer; learning a language shows investment / interest in the target culture, and good intercultural communication requires cultural knowledge that goes beyond translating utterances, so in other cases, language learning is still required. This is especially true with English learning, as English is the de facto global lingua franca.

Finally, the rapid pace of change – in ICT, and in the culture and practice connected with it – creates a problem for language education. Changes in classes (curricula, assessment goals, and so on) are slow – even if policy or learner needs change, teachers and teacher training and tests and textbooks and government goals and school curricula and stakeholder expectations all have inertia. It is relevant also that the senior academics, politicians, and teachers steering these tend to be at least middle-aged, since adoption of ICT and the language that goes with it varies with

generation (my parents phone, I email, millennials prefer apps, and so on). That is, the people steering language education are generally two or three generations behind what learners are encountering with their peers, let alone what learners will encounter within the next decade. This in-built conservatism was irrelevant when the pace of change was slow, but is increasingly problematic.

Already, a significant proportion of communication (especially enterprise relationships, doing things like ordering, complaining, getting or giving information) is managed without contacting a person, instead interacting with ICT systems ranging from interactive menus (text-based within social media apps, voice-based on a telephone line) to narrow AI chatbots. The use of smart assistants such as Alexa, Siri, and Google Duplex seems set to increase further. Communication support tools including online dictionaries and glossing functions, voice recognition, automated captioning, TextToSpeech, and automated translation are changing both how students can most effectively learn and what students need to learn in order to function in different contexts. Despite all this, the English education industry generally continues as if the paradigmatic English use case is dealing with a person … face-to-face, and without any communication support tools.