



A DIGITAL LITERACY FRAMEWORK FOR LANGUAGE TEACHERS

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Abstract

With an abundance of technological devices (hardware) and applications (software) relevant to language learning available, keeping technologically up to date in such an overwhelming area is clearly problematic. In an effort to find a solution to this matter, a comparison between the difficulties of mapping technological know-how with the intricacies of language skills development is presented here. As a result of this comparison, an argument is made in favour of the applicability, in terms of digital literacy skills description, of a framework similar to that used by the Common European Framework of Reference (CEFR) to describe language skills. An example framework consisting of eighteen types of digital literacy skills relevant to English teachers is then detailed in perceived order of difficulty. This initial framework is offered as a base upon which to both critically revise and collaboratively build.

Keywords: Digital Literacy, Mobile Assisted Language Learning (MALL), Technology Enhanced Language Learning (TELL), Information and Communication Technology (ICT), Common European Framework of Reference (CEFR).

INTRODUCTION

In the future, people will make video calls where the two speakers can see each other on a screen as they speak.

When people read that statement, some may immediately connect to the time in their life when that concept sounded more like science-fiction than possibility. Others may struggle to understand when that statement would have seemed futuristic. Many language teachers fall into the first category. Many language learners fall into the second. We live in an age in which internet access and the use of technology have become the norm in all walks of life. This is also true for learning environments, with many modern classrooms equipped with an Interactive WhiteBoard (IWB), internet access, and very often a plethora of smartphones in the hands of the learners. As a result, the digital world has become a thorn in the side of many language teachers' professional development.

LITERATURE REVIEW

The Scale of the Challenge

A distinction between 'digital natives' and 'digital immigrants' was put forward by Marc Prensky (2001) in a groundbreaking piece that may, however, already be in need of updating. The distinction was based on the vast difference in technological experiences in the world around those growing up before the booming 1980s and the advent of mass internet access in the 1990s and those, born later, who grew up immersed in technology to such an extent that they may even have experienced changes in their brains due to the effects of being 'native speakers' of technology (Prensky, 2001). Subsequent research into these categories has produced mixed results, with some studies claiming to disprove the theory (see Margaryan, Littlejohn, & Vojt, 2008) and others producing supportive results (see Conole, Laat, Dillon, & Darby, 2006). Bennett, Maton, & Kervin (2008) likened the debate in this area to a 'moral panic' and called for the debate to shift to mapping through empirical research (Bennett et al, 2008).



Despite the appeal of a younger users versus older users model of technological capabilities, the effort individuals make to embrace technology also affects performance, with technophobes and techno-geeks terms that have been used to refer to those at either extreme (Brown, 2011). Clearly there are those who are comfortable with technology and are successful in its application, the techno-geeks of Brown's (2011) terms, far away from the technophobes at the other end of the continuum. It is with these descriptions in mind that a series of case studies which investigated the extent to which teachers embrace technology are now considered.

Various stakeholders in the primary and secondary school levels in the UK were the focus of a large scale qualitative study by David Morris (2010) commissioned by the British Educational Communications and Technology Agency (Becta). As Britain is at the higher end of nations in terms of technology in education (Morris, 2010) it is safe to assume that the findings of that study represent at least the norm if not a best case scenario in terms of the degree to which technology is used and embraced by school teachers. The study found that there was a great deal of training taking place in both educational levels, but that there were examples of teachers who were only capable of basic technological functions as well as examples of teachers who excelled in this skill area. One of the differences noted was that some teachers were only using a very limited amount of applications and the general consensus was that there was a tendency for the newer teachers to be more skilled and more confident in using technology for educational purposes (all participants agreed on this), although all participants provided examples of high performing teachers (with technology) who had been in teaching a long time (Morris, 2010). These findings support the idea that younger teachers are more comfortable and better able to incorporate technology into education, but that 'digital immigrants' who are highly motivated toward technology can also perform well.

Morris' study also reported 'barriers', which were factors seen to negatively affect the incorporation of technology, namely restrictions, resistance from people, and availability of resources (Morris, 2010). The first two of these factors can be combined to make the assumption that understanding new technology takes time, which in turn increases resistance from people in a profession that is notorious for its time demands on individuals. The final barrier mentioned, resources, relates to money as new technology is expensive and budgetary restraints are obviously greater in some areas of the world than others. Britain, in which Morris' study was conducted saw a total investment of over £10 billion on technology in education between 1999 and 2008 (Becta, 2008a in Morris, 2010). It is suggested here that the budgetary differences mean that the global norm is a lack of proper training and a lack of resources in many contexts, and the inevitable lack of time in all contexts. However, even with a leader in the field, the UK, in terms of training and resources, it has been shown that teachers face a difficulty in developing their digital literacy skills (Morris, 2010) as the factors of age, experience, motivation, training, time, and resources combine to pose a stern challenge. Of course, even a young, highly motivated 'digital native' who has been through extensive training, who somehow finds spare time and works in a place with high investment in the latest resources, still faces a further problem; keeping up with technological advances.

As with the rising number of classifications that can be made in terms of technological know-how, so to exists an ever-growing abundance of technological devices (hardware) and applications (software) relevant to language learning. This can perhaps best be demonstrated with the shift in terminology from CALL (Computer Assisted Language Learning) to TELL (Technology Enhanced Language Learning) and MALL (Mobile Assisted Language Learning), and finally to the current term Information and Communication Technologies (ICT). These periods of development were concisely and informatively detailed by Gavin Dudeney and Nicky Hockly in 2012 and their article 'ICT in ELT: how did we get here and where are we going?' (Dudeney & Hockly, 2012) is recommended at this point for those who wish to delve further into the historical changes of the 1980s and 1990s and indeed through the period referring to what has become known as the Web 2.0. The most significant recent development has seen what Dudeney and Hockly (2012) referred to as the 'computerization' of the mobile phone, breaking new boundaries on an almost daily basis in terms of what can be done and,



importantly, what can be done affordably or free. With an ever-more-rapid technological world and the existence of a great variation in technical know-how, language teachers are fast approaching a precipice.

The time has come to provide a clear and practical solution to the modern language teacher's problem of keeping technologically up to date in an often overwhelming field. Gone are the days in which it was acceptable to ignore technological aids and tell students that languages can be learned perfectly well with a whiteboard and board marker. The modern language learner rightly expects, and it could be argued needs, some aspect of technology in their learning experience. It has become quite normal for the students to be more adept than the teacher in terms of technology (Dudeney & Hockly, 2007) and this is of course not only acceptable but inevitable. However, the size of the gap in technological adeptness cannot be allowed to widen to the point at which the learner loses faith in the teacher, for at that point a key aspect of the learner-teacher relationship is lost.

The CEFR as a Model

The Common European Framework of Reference (CEFR) for languages was first published in 2001 following a series of trials during the 1990s. The aim of the CEFR is to provide standardization in language learning in order to promote plurilingualism and pluriculturalism throughout the member states of the Council of Europe as part of a wider programme (Demirel, 2015). In the 16 years since its initial publication the CEFR has had great success and is used in many countries across Europe and further afield. The influence of the CEFR beyond Europe is illustrated by the contents of a 2012 book reporting on the global language policy changes as a result of the CEFR, with seven case studies from Asia-Pacific and the Americas (Byram & Parmenter, 2012). In fact, Michael Byram was a co-author of the CEFR.

The key to the success of the CEFR is the simplicity of the make up of the framework of reference with six levels of proficiency described ranging from A1 to C2. Each level is described with a series of 'can do' statements split into reading, writing, listening, speaking production, and speaking interaction, which have enabled language learners and language professionals to reassess the management of language learning in terms of curriculum design, assessment, and self-assessment. With grammar and vocabulary not specifically described in the CEFR document there is a clear shift from describing language to describing the use of language (Demirel, 2015). One of the most appealing factors of this document is its user-friendly style which means that not only language professionals but also language learners are able to use it for a variety of purposes.

As the terms 'digital literacy' and 'digital natives' suggest, there are similarities between technological know-how and language ability. As with language, the use of technology often involves some form of communication, reflected in the most recent term ICT, incorporating the communicative element of technology use. A further similarity is that there are some skills and functional requirements that users need in order to be able to claim a basic level of proficiency, such as being able to type. This is comparable to the survival language that many people begin with when they start learning a new language.

As a result of the similarities between language and digital literacy it would seem logical that language professionals, particularly foreign language teachers, would benefit from a system of organization and standardization that is familiar. The CEFR, with its success and widespread implementation, is a document that presents the measurement of language skills in a clear and concise manner. As a result, it follows that a framework of digital literacy skills for language teachers designed in a similar fashion to the CEFR would provide the familiar and valid tool necessary, while maintaining clarity and simplicity to a level that would encourage maximum use and collaboration. Indeed, the structure of the CEFR has been adopted for other contexts, including Japan with the CEFR-J (Negishi, Takada, & Tono, 2013) and Canada (Mison & Jang, 2011).

The framework proposed here uses the practicality of the 'can do' statements that form the reference in the CEFR and six levels from A1 to C2 as per that same document. Although the 'can do' statements of the CEFR are very concise, a basic statement is accompanied by a longer description here as there are often degrees of success and proficiency for each digital literacy skill due to potential variances in performance.

FRAMEWORK

A Framework of Reference of Digital Literacy for Language Teachers

The following examples can be considered a first draft upon which to add, edit, and adapt; the earliest version of the framework upon which to develop. As with the CEFR, six levels of proficiency are detailed in ascending order from basic proficiency (A1) to mastery (C2). Each level of proficiency is given a short definition as the true definition comes from the descriptors themselves.

A1

A language teacher whose digital literacy skills are at the most basic level necessary in which to function in the job. A teacher unable to perform in these areas is likely to face difficulties in their everyday performance of duties and as such these skill areas could be referred to as basic user, or survival ICT.

Can use word processing software

Word processing software replaced the typewriter with the rise of the personal computer in the 1980s, and is one of the most basic aspects of modern digital literacy. Although there are certainly variations in ability level in this skill, it is firmly situated at the lowest level of this framework.

Can prepare basic presentations using simple software (e.g. PowerPoint)

A language teacher armed with a memory stick or with access to a file saving programme in the classroom is able to effectively carry around with them a library of useful slides to support their learners. A simple presentation of a grammar point, a collection of image slides to support a vocabulary area, a short context-building presentation for use with common language classroom themes, a collection of revision questions or tasks, the list is endless in terms of what this simple skill allows. In a study of PowerPoint use by university teachers it was found that the highest rated instructors were more likely to incorporate a variety of visuals in addition to slides with text (Brock & Joglekar, 2011).

Can use language learning video and audio tasks

Audio-visual materials are a part of most modern language programmes to some extent. A basic requirement and of little challenge to the teacher, video and audio tasks that are specifically designed for language learners are a base level skill. However, it has been noted in the discourse that the organization of video integration is lacking and as such the use of video is largely limited to simply viewing and listening (McNulty & Lazarevic, 2012).

A2

Above the survival level, a language teacher with digital literacy skills equivalent to this level is able to carry out tasks that require a certain amount of technological know-how and also be able to react to any 'live' problems that may occur, although these skills are still limited in nature.

Can use an IWB or other technology enhanced classroom board

There are a few varieties of classroom set up currently in use, and the IWB represents the system that is designed specifically for classroom use. At their best, these systems allow for highly interactive, visual, stimulating, exciting, and challenging environments. However, the teacher that uses the IWB as a digital whiteboard in much the same way as the original whiteboard is clearly not using the equipment to its potential. The degree to which IWBs affect performance is perhaps best understood through Nicky Hockly's words:



"A direct causal relationship between IWBs and student attainment is extremely difficult to prove because of the many factors involved, for example the way teachers use the IWB, the classroom context, the amount of professional development received by the teacher, the materials used, students' motivation, and expectations and attitudes" (Hockly, 20139).

Can use chat rooms.

Chat rooms have been around for nearly as long as the internet itself. A chat room with students from other classes within the same school provides an opportunity for collaborative and communicative goals. However, the inclusion or entry to a chat room with strangers clearly presents serious security issues and is unlikely to be possible with children, although adults can benefit from such an experience. Learners should be warned about the possible nature of this experience however, as despite the expectation of mutual helping there was found to be a tendency for joking and ridicule between stranger non-native speakers (Jenks, 2012).

Given the multiple scenarios possible with chat rooms they are placed above the lowest level of digital literacy in this initial version of the framework. Although often very simple to open or join, chat rooms require a combination of technological and classroom management skills as they can of course be misused and are therefore best introduced carefully.

Can use online video calls to teach.

Online teaching has boomed in recent years and video calls are used by many language learners and teachers alike. Opening up borders by providing a chance for learners who could not ordinarily hope to have lessons from native speaker teachers, video-call based lessons have provided an answer to the many students who feel they have a particular need for speaking practice.

However, there are some drawbacks, such as time differences, the lack of kinesic cues (body language) aside from those visible, internet connectivity and/or strength of signal issues, regulation of the profession, the possibilities for dangers from unvetted teachers/students, and even tax issues relating to in which country the service is perceived as being provided. Furthermore, recent research has suggested that the task of online teaching in this way needs to incorporate a dialogic approach (Redmond, 2011). For these reasons, video call teaching requires some skill requirements that are classed here as above the basic level.

B1

This skill level denotes a shift from the basic levels of digital literacy to the more creative and challenging. Despite this, skills of this level are perfectly achievable by even technophobic 'digital immigrants' given a short amount of learning/training.

Can create and maintain a blog

A blog is much like a personal website with the emphasis on entries known as posts. These posts often make up the bulk of a blog and successful blogs are regularly updated with new posts. The posts become similar to a journal over time and keeping a blog has been recommended as a good form of Continual Professional Development (CPD) in ELT for several years (Campbell, 2015). Creating a blog is much simpler than many people may realize, thanks largely to the user friendly websites competing for the market. The real challenge of blogs comes in creating something useful and in maintaining them effectively alongside the time limitations of teaching.

Can create a class wiki

A wiki consists of a website that can be edited by multiple users, with the classic example being wikipedia, and wikis can be a great way of using technology with language learners (Hockly, 2012). There are many platforms in which a wiki can be created for free, although wikispaces is a particularly well known example. Put simply, the wiki is created through a fairly simple and clearly guided process. Anyone wishing to edit the wiki (the learners in a class wiki) will need to be added/registered.

In reality, a wiki shares many similarities with a blog, with the obvious difference being the ongoing nature of a blog as opposed to there often being a goal, a finished product, with a class wiki.

Can create webquests

A webquest involves learners going on a journey around the internet in search of the information they need in order to complete the challenge set in the task. In fact, the aim of the webquest is to challenge the learners and as such merely finding information is insufficient, learners should have to use the information. Much like blogs, creating a webquest itself is not overly difficult, but creating a good webquest is a skill. A good webquest requires learners to be exposed to multiple authentic websites with specific tasks in order to put the pieces together and solve the problem (Dodge, 1995).

B2

At this level of digital literacy the language teacher is quite competent and may be called upon by colleagues for technical help. Skills of this level require a confidence in using technology live with the potential for mishaps being undaunting.

Can use authentic video and audio to create tasks

There is a big difference between using a video or audio task that has been prepared for English language learning, such as one found in the interactive version of a coursebook, and using authentic material such as a documentary or a radio show. Authentic video tasks can be very motivating, extremely effective (Woottipong, 2014), memorable, provide a real life connection, a springboard to other tasks, and above all they can show the students the end goal. In terms of the type of materials, songs are one that is widely used and can be audio or in the form of a video. News items and weather reports are often popular, as are fan websites like those of celebrities or sports teams. In a study that compared the degree to which using news, films, and cartoons are effective, cartoons were found to be most effective and news the least, with the researcher claiming that the effect of a good storyline being the reason for which cartoons and films were found to be better (Bahrani & Sim, 2012). Clearly then, the context chosen directly affects the degree of potential success and a good adage may be to select what the learners are interested in.

Can use pre-prepared augmented reality tasks (e.g. ARM cubes)

Augmented Reality (AR), the addition (augmentation) of digital information to the real world, creates a reality that blends the real with the 'augmented' and therefore opens up a vast world of options in relation to language learning. 2016 saw the release of PokeMon Go, a mobile application that involved users finding augmented characters of the game in locations in the real world and had over 65 million users within a week of its launch in 2016 (Serino, Cordrey, McLaughlin, & Milanaik, 2016). Although not particularly useful or related to language learning itself, the outstanding success of the game demonstrates the potential for AR as the wow factor alone is memorable.

ARM (Augmented Reality Media) cubes, which were nominated for the 2015 ELTon awards for digital innovation and are the product of multiple nominee Paul Driver (<https://englishagenda.britishcouncil.org/events/eltons/previous-eltons/2015-winners>), are a good example of a pre-prepared AR task. ARM cubes involve learners working in groups with AR enhanced cubes to create a context for creative work such as speaking or writing tasks. Other tasks can be found on applications such as Aurasma, although as at the moment of writing the number of pre-prepared AR language tasks is minimal.

One difficulty teachers may have with AR tasks is that the pedagogical justification for using them must be carefully considered as otherwise the wow factor of AR may cloud the materials selection process. A clear way to avoid this is to select tasks that have been prepared by such leaders in the field of ICT in language learning as Paul Driver, with a good place to start being his blog at (<http://digitaldebris.info/>).



Can use online teaching software

Teaching online ranges in format, with possibly the most challenging technologically being the Virtual Learning Environment (VLE) used by many members of the online teaching community. VLEs can provide for one to one instruction or classes with multiple learners. Often incorporating video call software, VLEs can also include chat boxes, collaborative boards, videos, images, file sharing and just about anything else for which the internet can be used. To this end, a useful discussion on the balance between teaching and technical skills development in online language teaching is provided by Walker & White (2013). With the many considerations online teachers have, one interesting finding of a recent study was that learners preferred to interact with one another in a chat box during instruction (equivalent to the chatters in the corner of the language classroom) when using a virtual classroom and in fact when in class (Vu & Fadde, 2013).

C1

At this level of proficiency in digital literacy skills for language teachers the teacher is considered a very strong user of ICT in education and is very likely to be a part of the ICT development in the language learning department of their respective institution.

Can create, upload, and implement videos for 'Flipped' classrooms

The 'Flipped Classroom' is a fairly recent phenomenon in education that involves the reversal of traditional interaction and learning patterns, and language teaching is not immune to this trend. The presentation of knowledge or information is done via video to be watched at home first and the completion of tasks takes place in the classroom, as opposed to 'learn in class and go home and practice for homework'. As such it presents an opportunity for more interactive time in the classroom (Basal, 2015). Another objective of this style of education is for the learners to learn at their own pace as the slower learner can pause, restart, repeat, or check with other sources.

Crucially, the quality of the video must be high and the information presented in an interesting and concise manner in order for it to succeed (Peachey, 2013).

Can prepare interactive multimedia presentations using complex software (e.g. Prezi)

There are presentations and there are *presentations*. Prezi is just one of the new generation of complex presentation software programmes that allow fully interactive multimedia presentations. In addition to the basic features of images and text based slides, such presentations include video, animations, audio effects, special effects, and a transition style that is smooth and fluid. Learners reported a preference for this type of imagery ahead of simple slides with bullet points, stating that prezi can be used to present in a way more similar to mind mapping (Conboy, Fletcher, Russell, & Wilson, 2012).

Although slides can be imported from more basic programmes, there is still a sharp learning curve for teachers who wish to produce top level multimedia presentations. The time consuming nature of preparing prezis is a limitation (Conboy et al, 2012).

Can enhance materials with augmented reality

"Take an image in a textbook, perhaps an illustration of a historical figure and a student can see video and hear commentary about that figure from their mobile device" (Hawkinson, 2014).

AR has actually been around for many years in basic forms such as the augmented score on the sports match on TV, but the standard of augmentation now possible makes the inclusion of AR in more and more areas of language teaching and life in general an inevitability. AR's more famous cousin, Virtual Reality (VR), has been the subject of much interest and excitement for decades and is now coming into its time with the availability of VR headsets at very affordable prices with products such as Google Cardboard. However, while VR promises an escape from the real world, the beauty of AR is the very fact it supplements instead of replacing that world. Language tasks can and are designed for VR, but the possibilities of AR are far more numerous due to the integration with the



environment. AR can be instantly collaborative (e.g. ARM cubes) and the limits of uses by both educators and learners are limited only by imagination. Existing materials can be enhanced in many ways using AR, such as a role play video made by students augmented to the page it relates to in the coursebook, images to aid vocabulary problems in reading tasks, simple vocabulary support (Godwin-Jones, 2016), or teacher examples recorded as an audio file and augmented to the language point in the materials.

C2

The highest level of this framework allows for the language teacher who has completely mastered the use of ICT in education and is seen as a leading figure to others in their context. Not only can these teachers use existing ICT effectively, they embrace new developments and are always at the cutting edge of the field.

Can create applications (apps) for use by language learners

The apps a person has installed on their phone say a lot about them, and the number of apps that a teacher can recommend to language learners grows by the day. As apps can aid autonomous learning, educators should help learners find and select their own apps (Godwin-Jones, 2012).

Although there are, as with most software nowadays, programmes that aim at simplifying the process, in this case of app-building, most language teachers would likely balk at the idea of trying to create their own app. A simple app could be built by a motivated and hardworking individual, although to produce a good quality app that is pedagogically useful and aesthetically pleasing enough to appeal to learners and budget controllers a great deal of time and effort is needed.

Can create original augmented reality tasks

As detailed earlier, AR is a fast growing and inevitable part of the future of everyday life and of language learning, and creating AR tasks is the most demanding form of using this technology in education. While using pre-prepared tasks and enhancing existing materials are no simple undertaking, creating original tasks using AR involves a combination of skills that exceed the demands of those two other forms. Jolly and Bolitho (1998) put forward a framework of materials development which details seven stages (identification of need for materials, exploration of the need, contextual realisation of the materials, pedagogical realisation of materials, production of materials, student interaction, and evaluation of materials against agreed objectives (IBID). To create effective materials using AR and in line with that process it can be seen that the increased areas of difficulty come in the latter stages with the production of materials, student interaction, and evaluation.

Producing AR tasks that do justice to the technology in terms of visual realisation while ensuring pedagogical and contextual requirements are adhered to is a demanding endeavour, which may prove too limiting for some in terms of challenge and time (Godwin-Jones, 2016). There are a number of technical design challenges to be overcome in order to successfully create AR tasks (Hawkinson, 2014).

Can foster autonomous data-driven learning through corpus study

Data-driven learning is a term first coined back in 1991 to describe the use of corpora by language learners to aid their learning (Johns, 1991). In data-driven learning the learner takes the role of detective, encouraged to look for patterns, rules, and noteworthy incidences within the language found in a corpus (Johns, 1991) and therefore a degree of training is necessary before they can be left to autonomously investigate. With the infinite possibilities language analysis brings, the teacher is stretched and may often find themselves out of their comfort zone. Allowing learning to become investigative in nature and viewing language in a way in which the answer may not be written anywhere certainly makes this form of using technology challenging.



CONCLUSION

This paper has set out the initial suggested framework of reference for proficiency in digital literacy skills of language learners in the shadow of the CEFR. The aim here is to provide for those who may categorize themselves as 'digital immigrants' (Prensky, 2001) or technophobes (Brown, 2011), as well as cater for those from the other extremes of those distinctions. Basic skills are described in the A1 and A2 brackets and the digital literacy skills that language teachers can work towards are described in the C1 and C2 level.

However, although this framework is designed to be simple and usable it is only given as an example at this stage due to the fact that a successful framework will require the collaboration of those figures involved in developing and using ICT in language learning. The success of the CEFR was in part due to the involvement of language teachers in the writing process. There are many specialists in ICT in education, and indeed there are many authors, bloggers, and pioneers pushing forward the development of language teaching ICT, but for a framework to really work it must also include those that are not so tech savvy. Therefore interested teachers who want to contribute to the framework are invited to contact the author in the first instance in order to collaborate on a full version through triangulated research.

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