Digital Pedagogy for Young Learners

CONTENTS

2  Introduction

4  The benefits of digital technologies to pre-primary and primary in ELT

6  Digital Pedagogies with VYLs (ages 3-5)

10  Digital Pedagogies in Key Stage 1 (ages 6-8)

14  Digital Pedagogies in Key Stage 2 (ages 9-12)

18  Key recommendations for teacher training

20  Key recommendations for material design

22  Conclusion

23  Bibliography
“The principle goal of education is to create people who are capable of doing new things – not simply repeating what other generations have done – people who are creative, inventive discoverers.” – Jean Piaget.

The words digital and pedagogy have become watchwords in the field of ELT (English language teaching). They are connected on a theoretical as well as a practical level, and, put together, the term ‘digital pedagogy’ has drawn the undivided attention of the ELT community. This increased interest is due to the fact that practitioners, teacher trainers and material writers are in the process of re-articulating an entire discipline in a new language learning context. With the outbreak of COVID-19, and the great disruption that followed, teachers’ digital agility and pedagogical approaches were put to the test as numerous practitioners transformed their material, content and teaching environment overnight. Through the process, voices were raised and the case pressed that pedagogy needed to change as the field of ELT came to experience a first-hand tumultuous relationship with digital technology. In the case of the Young Learner (YL), who is increasingly embedded in environments where digital technologies create new conditions for language learning and cognitive development (McKenney and Voogt, 2010), less is known about the type of pedagogy that is needed to support children’s learning with digital devices. In this paper, there will be a discussion of the term ‘digital pedagogy’ and how it relates to English language teaching for pre-primary and primary learners. More specifically, following the introduction to digital pedagogy, past research available on the following sections will be presented:

1. An overview of the benefits of Digital Technologies to pre-primary and primary in ELT
2. Digital Pedagogies with Very Young Learners (VYLs) (ages 3-5)
3. Digital Pedagogies in Key Stage 1 (KS1) (ages 6-8)
4. Digital Pedagogies in Key Stage 2 (KS2) (ages 9-12)

What is Digital Pedagogy for YLs?

Within the field of ELT, and education in general, there has been rigorous research to help reach an understanding of the relationship between teaching and learning. The term pedagogy refers to forms of social practice that shape and form cognitive, affective and moral development of children (Daniels, 2001). Through his work on pedagogy, Vygotsky’s (1978) has argued that the tools we use play an important role and serve education as auxiliary means. Much pedagogic practice involves the selection, alterations of content and age-appropriate teaching approaches, and one could argue that digital pedagogy could be the evolution of pedagogy, as the core of the discipline is the focus of the structure of teaching and learning, and the selection of tools that will benefit learners.
The presence of digital pedagogy has prompted the ELT community to re-articulate the discipline of pedagogy in an age of abundance of resources, opportunities and networks. However, it is important to emphasise that pedagogy still plays a key role and has set the foundation for the discipline of digital pedagogy; it is as much about using technology and digital tools as it is about deciding on when not to use them.

Digital pedagogy can be applied to online, hybrid (blended) or face-to-face (F2F) learning environments, and is a combination of beliefs and practices that include the use of digital technologies from a critical perspective. The focus is on the pedagogical impact these tools have on the YLs’ language learning and cognitive development, and guide children to actively construct or enrich their own knowledge by providing meaningful learning experiences.

It is worth mentioning that the critical components of the 21st century skills framework have not changed post COVID-19. These still include collaboration, communication, critical thinking and problem-solving, which capitalise on teachers’ appropriate use of technology and holds enormous promise to help children develop their critical thinking skills (Kewalramani, Arnott and Dardanou, 2020). Therefore, when it comes to YLs and digital pedagogy, the core principles underpin learner-centredness, learner-initiated learning and learner-led experience.
The benefits of digital technologies to pre-primary and primary in ELT

Young children have a less complicated view of the world than adults do, however, this does not insinuate that teaching YLs is a simple task. YL teachers need to be highly skilled and well informed to reach into the child’s world and guide them to develop their understanding of more organised and extensive concepts (Cameron, 2001). Without a shred of doubt, a digital environment can assist teachers in offering many new learning opportunities to their YLs. Children are currently in a rapidly evolving digital context that demands increasing abilities and skills to use and adapt new technology tools and innovations (Knobel and Lankshear, 2010). In the field of ELT, new technologies are being used to improve programme quality and accessibility, and to encourage the balanced involvement of parents/caregivers. These also include online interactive activities and digital resources such as songs, videos and e-books that can motivate learning and stimulate curiosity from an early age. It is important to mention Carrier’s (2017) classification of digital and technological tools which helps contribute to the understanding of digital pedagogy. The categories are as follows:

**Digital & Technological Tool**

**Input technologies**
- New learning materials, e.g. IWBs, projectors and VR headsets

**Interactive technologies**
- Devices and software to encourage language production and interaction with material, e.g. online quizzes, videoconferencing

**Portable technologies**
- E.g. mobile phones and tablets

It is crucial for teachers to be well-versed in these technologies and to utilise them effectively to enhance the learning experience of their young learners.
The integration of digital pedagogy and age-appropriate tools can help children reach new heights in their language learning while also developing problem-solving skills, communication skills, collaboration, creativity as well as cultural and social awareness (see the Cambridge Life Competencies Framework for detailed information about these skills). These outcomes indicate that in order for the learner to enjoy the benefits of digital pedagogy, they need guidance into becoming active in the learning process, construct or make their own knowledge and determine their reality according to their experiences. This is known as constructivism (Elliott et al., 2000), where learning environments embed learning from multiple perspectives, in realistic contexts, encourage ownership, a voice in the learning process (student-centred learning), the social experience (collaboration), multiple modes of representation, and reflection and metacognition (Honebein, 1996). Studies have shown how improvements in such attainments can be achieved. Jewitt et al (2011) found that:

- Using digital resources provide YLs with more time for active learning in the classroom;
- Digital tools and resources provide children with more opportunities for active learning outside the classroom, including blogs and forums, and access to digital games with a learning benefit;
- Digital resources provide YLs with a wide choice of learning resources;
- The resources provide safer spaces for formative assessment, alternative assessment and feedback.

The constructivist paradigm sees the digital context in which learning occurs as central to learning, and this will prove to be useful for teaching and designing/developing programs supported by digital pedagogies.

   https://www.cambridge.org/gb/cambridgeenglish/better-learning-insights/cambridgelife-competencies-framework
Digital Pedagogies
with VYLs (ages 3–5)
Digital pedagogy allows for fruitful and beneficial learning experiences for all age groups, even for children as young as 3–5. Nonetheless, there is still some concern as to whether the specific age group should be exposed to technologies and what repercussions this exposure may have down the line. Specifically, several professional, public health organisations and child advocacy groups have shared their concerns regarding screen time and child development. These concerns have made teachers of many different contexts hesitant to integrate technology in their lessons. A recent study in Canada investigated the use of screen time with young children from 2,427 families. The results showed that children who participated in more than two hours of screen time daily, compared to those who participated for 30 minutes a day, were seven times more likely to meet the criteria for attention deficit hyperactivity disorder (ADHD), however, there was no significant association between screen time and aggressive behaviours (Tamara et al., 2019). This evidence shows that the amount of time children spend with technologies and digital tools is an important factor, and how they use it must be taken under serious consideration as well.

It is less likely that children will benefit from the use of technology or digital tools if they are to be used passively because this would lead to minimal learning; therefore, it is vital that children are involved, active and guided. In the case of the VYL, the impact is mediated by the teachers’ use of the same developmentally appropriate principles and practices that guide the use of non-digital materials and use of all other tools (Plowman and Stephen, 2007). It has been widely argued in the field of ELT that developmentally appropriate practices must inform the decision making process when it comes to whether teachers should use technology with VYLs or not. These practices need to align closely with play and child-centredness in order to ensure that technology serves as a complimentary resource and expand children’s learning to a wider context. According to Copple and Bredekamp (2009), appropriate digital tools and technology can enhance the use of materials, activities, and interactions among young children, making it a part of their daily routine.

In their homes and community, children learn through manipulating digital as well as print-based tools. Therefore, there is no reason not to integrate technology in the VYL learning environment, and establish that all other material, creativity, play and interactive activities, will not be replaced, but enhanced. Moreover, since technology and digital tools have a place in the child’s community, they should have a place in their early language education, in a setting where opportunities for the critical components of the 21st skills framework, which include cognitive, social emotional and linguistic development, can be optimised.

Teachers and learners have access to various tools that can help children during their early English language learning developmental stages. Table 1 indicates child development and a sample of digital tools that could enhance the stages and skills, depending on what the teacher would like to focus on.

It has been widely argued in the field of ELT that developmentally appropriate practices must inform the decision making process when it comes to whether teachers should use technology with VYLs or not.
<table>
<thead>
<tr>
<th>CHILD DEVELOPMENT</th>
<th>SKILLS</th>
<th>TECHNOLOGICAL TOOLS</th>
<th>CONTENT WITHIN THE TOOL</th>
<th>MATERIAL CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive and Physical Development</td>
<td>Understanding of symbolic representation</td>
<td>Online platforms; IWBs; Smart devices</td>
<td>Online platforms with visual representations; Materials for interactive activities on IWBs; Games on touch screen; Apps; Simple drawing software; Videos/short clips</td>
<td>Highlight patterns; Highly interactive media; Repetition of vocabulary, themes, concepts; Double tap, horizontal swipe, shaking or vertical swipe</td>
</tr>
<tr>
<td></td>
<td>Sorts, arranges and describes objects on basic concepts (colour, size, shape)</td>
<td>IWBs; Smart Devices</td>
<td>Audio activities/drills with visuals; Video songs (singing &amp; movement); Games on touch screen</td>
<td>Repetition of vocabulary and images; Visual memory games; Task should make connections; Vivid colours</td>
</tr>
<tr>
<td></td>
<td>Enhancement of memory capacity and extension of attention span</td>
<td>Games on touch screen; Simple drawing software; Apps</td>
<td></td>
<td>Double tap, horizontal swipe, shaking or vertical swipe; Applying the right amount of pressure to complete tasks</td>
</tr>
<tr>
<td></td>
<td>Development of motors skills</td>
<td>IWBs</td>
<td>Video songs (singing &amp; movement); Materials for interactive activities on IWBs</td>
<td>Multiple signals available to use the one which is most suitable for the task; Different sensory-motor signals and feedback; Sound associated with task/movement</td>
</tr>
<tr>
<td></td>
<td>Multisensory and kinaesthetic approaches</td>
<td>Smart devices; IWBs; Interactive drawing software</td>
<td>Materials for interactive activities on IWBs; Interactive drawing; Video songs (singing &amp; movement); Short storytelling clips; Games on touch screen</td>
<td>Guided interaction by adults; Simple language; Connections of language and visuals; Connections of language and audio</td>
</tr>
<tr>
<td>Communication and Language</td>
<td>Likely to learn L2 in a similar way to their L1</td>
<td>Smart devices; IWBs; Interactive drawing software</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language is learnt more through acquisition than explicit learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-literate</td>
<td>Online platforms; Smart devices; IWBs; Interactive drawing software</td>
<td>Materials for interactive activities on IWBs; Games on touch screen; Apps; Interactive drawing; Online platforms with visual representations</td>
<td>Shared activities with peers and/or teachers; On-screen writing/tracing activities; Guided pre-writing by adults</td>
</tr>
<tr>
<td></td>
<td>Writing is mainly based on tracing or copying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Responses are non-verbal or mainly limited to one or two words</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1: Child Development & Digital Tools (ages 3-5)

Understanding VYLs’ developmental stages and how the process can be supported by digital pedagogy is an under-researched area. With the little findings we have at our disposal, it is evident that we need to adopt a critical perspective towards the use of digital tools in the VYLs’ learning environment and a nuanced evaluative approach. Digital pedagogies can offer new participation dimensions, extensive positive social interaction and prompt children to help their peers when working together on a computer screen or playing a game on a touch screen. These instances offer opportunities for increasing levels of spoken communication as on-screen activities and can become effective in stimulating vocalisation, help children make sense of images and symbols, as well as manipulating language (Makin et al., 1999). It is important to mention here that face-to-face and physical interaction is still key at this age, which has implications for the type of interactions/uses learners have with digital materials.

Finally, by developing the above skills with the integration of digital pedagogy, VYLs prepare for primary school with confidence and higher order thinking.
Digital Pedagogies in Key Stage 1 (ages 6–8)
These early primary years are pivotal in setting children on a positive and promising learning trajectory. YLs at this age have been observed to be more mature and imaginative in their way of thinking, and demonstrate a genuine enthusiasm when presented with the foreign language compared to their younger and older peers. More specifically, research has shown that KS1 students gain experience from the world, which helps them develop their memory and call upon encoding and recalling information (Goswami and Bryant, 2007). At this stage, children also develop phonological awareness and skills that help them reflect upon sound patterns of words. YLs become aware of syllables and rhymes that develop prior to literacy (Ziegler and Goswami, 2005). Throughout this development, children develop self-confidence and the necessary skills to understand the world around them and the purpose of foreign language learning.

Children’s needs gradually grow in KS1, and the application of Digital Pedagogies can prompt YLs to use skills, develop critical thinking and the abilities to use relevant digital tools. The cognitive, physical, communicative and emotional development of children of the age of 6–8 allow for an increase in learning opportunities if digital tools and technologies are integrated properly. Digital devices with colourful graphics and vivid sounds can be intrinsically compelling to the YL. The specific age group invites digital tools and technologies where material is delivered in an engaging way, and where children can enjoy variety and be rewarded for their efforts and accomplishments (such as with digital badges).

It has been observed that the evident characteristics of 6–8 years old language learners are that they appear to be more motivated and develop their literacy skills at a more rapid pace. Pearman (2008) found significant differences among children who are at a level where they recognise symbols or read short electronic texts – the study indicated that children were more engaged with the material. However, this is not to suggest an over-dependence on e-books or other forms of e-texts, as it could result in children ceasing to decode words on their own (Lefever-Davis and Pearman, 2005). Additionally, children in early primary become more active in the listening process, and digital tools can prompt them to select and interpret information that comes from auditory and visual clues that help them define what message the speakers are trying to convey. This helps children connect the spoken language with gestures and facial expressions, which makes it more meaningful. It also advances comprehension as “the process of relating language to concepts in one’s memory and to the references of the real world” (Rost, 2002, p. 59).

Early primary ELT teachers and their learners have access to even more tools that can assist children during their English language learning developmental stages. Table 2 shows the stages of child development at Key Stage 1 and a sample of digital tools that could enhance the stages and skills when learning English, depending on what the teacher would like to focus on.

Throughout this development, children develop self-confidence and the necessary skills to understand the world around them and the purpose of foreign language learning.
<table>
<thead>
<tr>
<th>Child Development</th>
<th>Skills</th>
<th>Technological Tools</th>
<th>Content Within the Tool</th>
<th>Material Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive and Physical Development</td>
<td>Starting to use logic</td>
<td>Online platforms</td>
<td>Online platforms with visual representations</td>
<td>Highlight patterns;</td>
</tr>
<tr>
<td></td>
<td>Starting to combine / separate ideas</td>
<td>IWBs; SMART tables; Videos/short clips;</td>
<td>Materials for interactive activities on IWBs and Smart devices</td>
<td>Highly interactive media; Developing concepts; Narratives and interaction with material; Organising, drag and drop activities, memory cards/games</td>
</tr>
<tr>
<td></td>
<td>Gaining abilities of number, area, volume, orientation</td>
<td>Audio activities with visuals; Video songs (singing &amp; movement)</td>
<td>Games on touch screen</td>
<td>Games on touch screen; Writing activities; Simple drawing tasks; Videos/short clips of stories</td>
</tr>
<tr>
<td></td>
<td>Developing classification and ordering skills</td>
<td>Tablets; Simple drawing software; Apps</td>
<td>Games on touch screen; Writing activities; Simple drawing tasks; Videos/short clips of stories</td>
<td>Organising, drag and drop activities, memory cards/games; Digital writing tools/smart pens</td>
</tr>
<tr>
<td></td>
<td>Improving handwriting skills</td>
<td>Tablets; Simple drawing software; Apps</td>
<td>Games on touch screen; Writing activities; Simple drawing tasks; Videos/short clips of stories</td>
<td>Organising, drag and drop activities, memory cards/games; Digital writing tools/smart pens</td>
</tr>
<tr>
<td>Communication and Language</td>
<td>Starting to understand more complex grammatical structures</td>
<td>Smart mobile devices</td>
<td>Interactive video communication</td>
<td>Guided interaction by adults; Grammar checkers</td>
</tr>
<tr>
<td></td>
<td>Literary skills developing – initial reading and decoding</td>
<td>IWBs</td>
<td>Materials for interactive activities on IWBs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Writing is limited to sentences or possibly short paragraphs</td>
<td>Audio activities with visuals</td>
<td>Video songs (singing &amp; movement)</td>
<td>Authentic discourse; Connections of language and visuals; Connections of language and audio;</td>
</tr>
<tr>
<td></td>
<td>Can reproduce chunks of language</td>
<td>Touch screen</td>
<td>Games on touch screen; Short storytelling clips</td>
<td>Problem-based learning tasks</td>
</tr>
<tr>
<td></td>
<td>Starting to make word associations</td>
<td>E-books</td>
<td>Creation of e-books; Online platforms with visual representations</td>
<td>On-screen writing; Guided writing by adults; Shared activities with peers and/or teachers</td>
</tr>
</tbody>
</table>
### Table 2: Child Development & Digital Tools (ages 6-8)

Digital pedagogies in KS1 embrace the child’s milestones, their growing sense of responsibility and their developing understanding of the world around them. There are tools available that can help YLs connect the dots and help them understand the meaning of foreign language learning and the benefits their language education has. To them, at this early stage, it offers creativity, imagination, entertainment, exploring and interaction. Students become more comfortable and responsible to use technology slightly longer than their pre-primary peers, come across and imitate more complex use of the L2, and make sense of it in a context they understand and can relate to.
Digital Pedagogies in Key Stage 2 (ages 9–12)
Jean Piaget has identified the age group of children in KS2 as the stage of concrete operations. During this period, children develop the ability to apply logical thought, and their experiences help them have more complex concepts and ideas. The use of language as a medium of communication becomes an integral part of their lives, even more so than in earlier stages, as 9–12 years olds become more social than egocentric. At this stage, children are more mature and open to different experiences where they become intrigued to work with new information about other countries and cultures. At this point, children have a more concrete approach to language learning, however, they continue to need to be hands-on and active in the process.

Due to the cognitive, physical, communicative and emotional development of the KS2 language learner, there are more benefits regarding the implementation of digital pedagogy. According to the literature, with the integration of digital tools and new technologies, and their appropriate use, children become more independent (Chou, 2013), more cooperative (Kucirnova, Messer and Sheely, 2014) more social and more expressive of their emotions (Tanyel and Knopf, 2011). Students of this age are also known to enjoy using e-books and online stories, which give them the opportunity to develop their vocabulary rapidly and imitate the sounds they hear. YLs of KS2 increase their visual reasoning skills because, by this age, they have become more accustomed to high definition videos/ clips, they can watch music clips, and play online games that are developed in a more realistic form. Additionally, with educational online games, children develop their problem-solving skills, as they think through the steps they take and the impact their actions will have on the outcome of the game.

These features of technology help children develop attention to detail and hand-eye coordination, and because of the multisensory involvement, YLs rapidly develop an intuitive ability to comprehend the world of computer-based systems. Finally, it has been observed that children in KS2 who had higher media literacy had more empathy and tolerance towards diversity (Huda et al., 2017). This is an important trait for any learner, of any context.
<table>
<thead>
<tr>
<th>Child Development</th>
<th>Skills</th>
<th>Technological Tools</th>
<th>Content Within the Tool</th>
<th>Material Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive and Physical Development</td>
<td>Starting to think hypothetically or abstractly</td>
<td>Apps; Online platforms</td>
<td>Reading Apps</td>
<td>Annotate online/on-screen texts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note-taking apps/virtual sticky notes</td>
<td>Highlight patterns/texts</td>
</tr>
<tr>
<td></td>
<td>Starting to think scientifically</td>
<td>Mind-mapping software</td>
<td>Task-based learning</td>
<td>Developing concepts via texts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Narratives and interaction with material</td>
</tr>
<tr>
<td></td>
<td>Developing reasoning ability</td>
<td>IWBs; SMART Tables; Video and audio;</td>
<td>Materials for interactive activities on IWBs and</td>
<td>Note-taking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Voiceover videos; Smart mobile devices;</td>
<td>smart devices; Videos of stories (longer versions);</td>
<td>Hyperlinked text (e.g. extended vocabulary assistance)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drawing software; Games on touch</td>
<td>Digital storytelling or creating digital stories;</td>
<td>Creative narrative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>screens and IWBs; E-books</td>
<td>Writing apps;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Simple drawing software; Games on touch screen;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Creating e-book features</td>
<td></td>
</tr>
<tr>
<td>Communication and Language</td>
<td>Can understand more complex grammatical</td>
<td>Interactive video communication;</td>
<td>Interactive video communication; Materials for</td>
<td>Guided interaction by adults;</td>
</tr>
<tr>
<td></td>
<td>structures and compare with L1</td>
<td>Smart mobile devices; IWBs</td>
<td>interactive activities on IWBs</td>
<td>Grammar checkers;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Video songs (singing &amp; movement)</td>
<td>Phonetic highlights;</td>
</tr>
<tr>
<td></td>
<td>Increased metalinguistic awareness</td>
<td>Audio activities with visuals; Online platforms</td>
<td>Games on touch screen/game-based learning</td>
<td>Authentic discourse;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>platforms; Audio-voice forum</td>
<td>Connections of language and visuals</td>
</tr>
<tr>
<td></td>
<td>Literacy skills developed—reading to learn</td>
<td>Video-conferencing software; E-books;</td>
<td>Video-conferencing with other classes/schools;</td>
<td>Problem-based learning tasks;</td>
</tr>
<tr>
<td></td>
<td>new information</td>
<td>Blogs</td>
<td>Creation of e-books; Online platforms with visual representations</td>
<td>On-screen writing/reading;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Guided writing by adults;</td>
</tr>
<tr>
<td></td>
<td>Can start to take longer turns and speak</td>
<td>Video-conferencing software; E-books;</td>
<td>Listening and recording options; Communication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>more extensively with fluency</td>
<td>Blogs</td>
<td>activities; Shared projects; Discussions/themes;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Shared activities with peers and/or teachers</td>
</tr>
</tbody>
</table>
Digital Pedagogies in Key Stage 2 (ages 9-12)

Table 3: Child Development & Digital Tools (ages 9-12)

Digital pedagogies in KS2 offer various and exciting language learning opportunities for YLs. Children are equipped with more academic and life experiences that help them make sense of their environment, their community and their responsibilities as learners and as human beings. They are exposed to a plethora of information about different countries, cultures, science, history, and the list goes on. If all this is used wisely, it could widen children’s horizons of the world around them. Children are at a stage where they make the effort to be more creative and become digitally literate. This makes them feel more independent and empowered. If YLs can dive in and become productive with technology now, they will be in a better position to keep progressing and achieving in the future. Due to their maturity and experience of digital tools and technologies, YLs cease to perceive them as toys, and see their pedagogic and educational purpose. This is a major milestone, as it could benefit children, help them learn from an additional knowledge source and prepare them for language learning in KS3. Finally, it is important to bear in mind the issue of the amount of time children are exposed to digital tools. Even though children are older in KS2, it is safe to take the ‘Goldilocks’ approach – not too much, not too little – and focus more on what children are doing rather than how much time they are spending on a device or online (Unicef, 2017).
Key recommendations for teacher training

Digital pedagogy has brought about new means of teaching and learning a foreign language, which results in teachers needing to be adaptable to digital tools available to them. Therefore, it is essential that teachers are literate in the use of technologies, digital tools and the digital environment. This means that ELT pre-primary and primary teachers are able to navigate perspectives, cultures and textualities in technology-mediated contexts, and evaluate the quality, credibility and validity of sources. Since students’ digital literacy does not always align with academic literacy, teachers need to play a key role in shaping YLs’ attitudes and practices via a purposeful selection and use of digital tools and environments (Hauck and Kurek, 2017).

A digitally literate teacher can help students excel, however, in order for teachers to accomplish this it is important to encourage teacher education programmes to revamp their aims and include digital literacy (Giannikas, 2020). Teacher educators can then assist ELT teachers in thinking deeply about their attitudes and positions toward technology, specifically at a time when digital tools are occupying a substantial part of language education, and when newer ones are expected to emerge at high speed (Chao, 2015). Furthermore, teacher education programmes can guide teachers on how to coach their students, so that VYLs and YLs can grow into digital literate users. It is vital that digital literacy becomes a pillar of children’s education, as it will help them understand the expectations and learning environment, whether it is online or in a technology-enhanced language.
classroom. For this to be accomplished, teacher training needs to focus on the following four core skills:

1. **Collaboration:** the ability to work with others in a digital environment and develop strong team-related skills.

2. **Creativity:** the ability to identify and take advantage of opportunities and generate new ideas inspired by digital resources and devices.

3. **Critical thinking:** the ability to evaluate the resources, information and arguments found online or made in a synchronous/asynchronous learning environment; then identify patterns and abstract knowledge.

4. **Communication:** being able to communicate effectively within a digital learning environment, via a variety of tools and methods.

Online safety is also a part of digital literacy and with the development of digital technologies and online tools, this matter has become a very serious issue among parents and educators. Since there is extensive use of VYLs using technology, the risks increase when it comes to internet use and complicates the use of security. While pre-primary and primary school children benefit from their use of digital devices and online tools, they are also at the risk of being exposed to large amounts of offensive and inappropriate online content, invasive programs (pop-ups, etc.), extreme material, abusive images, registering with inappropriate websites and cyberbullying (Giannikas, 2019). As this has become an issue of great concern in the field of ELT, teachers should be provided with material that can be used to assist in warning students about online dangers in an age-appropriate manner and should be selected according to context and relatability. This should include advice on the importance of protecting personal information, and distribution of photographs. Finally, teaching digital literacy involves an ethical understanding. Children need to comprehend what it means to behave well online and how to act in online environments.
Key recommendations for material design

Digital pedagogy and the use of new technologies has made a significant impact on ELT material design. Material writers and publishers are now on an exciting quest to be even more innovative, creative and pedagogically valid. Technology can now help improve the quality of language input, make L2 communication more authentic, and provide YLs with immediate feedback, which means that the field of material design has much more to work with, including interactive and portable technologies. VYLs and YLs can enjoy a larger variety of materials, however, there is a combination of materials and devices/media that have proven to be quite effective and it is important to summarise some key recommendations according to the literature (more tools can be seen in Tables 1, 2 and 3).

Mobile devices and apps have proven to be quite practical in pre-primary and primary education. They are affordable, intriguing and easy for a child to use. Building ELT materials on an app gives the teacher and the learner all the functionality and interactivity the specific age group needs. These apps could include audio, video and automatic feedback, and can be updated regularly and easily.

Online or digital games can be displayed on mobile/ smart devices. They present a combination of consistent, educational and playful elements that can highly motivate the young child. YLs can learn from games, either synchronously or asynchronously, and research has shown that learners can consolidate more input in less time (Sandberg, Maris and Hoogendoorn, 2014).

Games and interactive digital material are equipped with automated feedback, which is a computer-supported corrective feedback. It needs to be child-friendly, and allow children to explore options and try again. While it is a smart and convenient tool, especially when the child is working asynchronously from home, generic feedback needs mental-effort expenditure, which may not be supported with automated feedback (Ranalli, 2018). Automated feedback is of a one-size-fits-all nature, therefore digital material writers should use with caution.

VYLs and YLs can also enjoy videos, which can be a vivid learning medium and have proven to be most effective in children’s language learning environments. They are particularly helpful, since they not only provide a visual, but also display a variety of communicative strategies, increase listening comprehension and advance vocabulary. Additionally, audio materials with visuals provide VYLs and YLs with model language with richer and easier input. This means that the learner is given the opportunity to recognise objects, sizes, shapes and colour, which makes it easier to associate the audio-visual representation to key vocabulary.

E-books have also been known to compile exciting and accessible materials for primary language learners. They provide a wide range of language and literacy skills for YLs, and studies have shown that they can facilitate children’s story comprehension and word learning (Takacs, Swart and Bus, 2014). Children can create their own e-books as well, which can help enhance their creativity and L2 literacy.
Digital storytelling can also help children develop their L2 literacy and is mostly used with primary language learners, and can be considered an all-embracing learning medium as it encourages the development of basic oral, written, and digital skills, plus content comprehension. Digital storytelling attracts YLs’ attention as it includes spoken narrative, visuals, a soundtrack and new technologies and it is also possible for YLs to create their own digital stories and share them with their teacher and peers.

Finally, there are important considerations when creating materials for pre-primary and primary language learners of the digital age, and it is important that material writers and publishers conduct a thorough needs analysis in order to prepare tools and materials that are motivating and age-appropriate, and work closely with IT/software developers in order to create sound pedagogical and digital material.
Conclusion

Current developments have changed the role of the pre-primary and primary ELT teacher, and it is important to move on henceforth with a different mindset. The sudden changes we have all experienced in the field due to COVID-19 could be seen as an opportunity to turn a new leaf and attempt to see and act differently in our field of work. Just like in any new situation or sudden change, there is a learning curve and it is important for teachers, teacher trainers and material writers to make adjustments, be creative and work together towards a new age for ELT that includes digital pedagogy.

Suggestions for further reading:


This paper aims to investigate educators’ perceptions of social media tools and digital literacy in school environments. The findings showed that by the end of the semester, students were writing lengthy sentences, had fewer spelling and grammatical mistakes, were more motivated and independent and displayed a more positive attitude towards learning EFL.


The book examines contemporary issues in the design and delivery of effective learning via a theoretical and professional perspective informing current digital education practice.


This book is ideal for English language teachers and learners of all age groups and levels, academics and students researching digital literacies, and anyone looking to expand their understanding of digital literacies within a teaching framework.


Christina Nicole Giannikas is an education and research consultant and holds a PhD in the field of Applied Linguistics. She has worked with publishers, Ministries of Education and educational institutions worldwide. Christina also works in Higher Education where she lectures courses in Applied Linguistics and is an experienced teacher trainer of pre-service and in-service teacher education programs in Cyprus, Greece and the UK. She specializes in the areas of early language learning, age-appropriate digital pedagogies, digital literacies, assessment, and Teacher Education. For the last four years, Christina has been serving as Chair of the EuroCALL Teacher Education SIG and recently became the EuroCALL National Contact for Greece.

To cite this paper:


Available at cambridge.org/pedagogy