Second Language Acquisition and Digital Learning in Asia

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Abstract

This perspective article describes current situations, issues, and challenges on the second language education and digital learning, focusing on Asia. Twenty years have passed since the beginning of the 21st century. This century is projected to be the Asian century because of the growing status of politics, economy, and culture in the region which has become indispensable in the globalisation process. In this century, young students the world over are the digital generation, and undoubtedly it becomes increasingly essential for the educator to design an effective learning environment by incorporating digital resources to simultaneously take advantage of widely accepted findings in contemporary pedagogies and the second language (L2) theories. The present article discusses the theory-practice-evaluation link in language learning by highlighting some digital classroom practices such as e-tandem and e-movie production and explaining how to align the ensuring activities with pedagogical objectives. New technologies open up great potential for education, yet we need to overcome various challenges posed by the rapid pace of technological innovation as well as changes in the region's political and financial status.

Keywords

second language acquisition, digital learning, processability theory, language education, English as a second/foreign language

Introduction

Speaking another language in addition to one's native language provides many benefits. Firstly, exposing young people's exposure to other languages, cultures, and communities widens their view of the world and expands future opportunities. Secondly, foreign language education encourages mutual understanding among peoples and promotes peaceful and harmonious societies. As opposed to those who do not, students who study a second language show

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more positive attitudes towards the languages, cultures, and speakers (Donitsa-Schmidt et al. 222-225). Furthermore, learning another language and culture makes people more aware and knowledgeable of their own (D'Angiulli et al. 490-492).

Since the 1980s, language studies in the Asian region have developed and expanded in literature, linguistics, applied linguistics, bilingualism, sociolinguistics, and popular culture (Bolton et al. 4). Moreover, digital technologies have become a regular part of second language learning both inside and outside the classroom. However, technological availability, rather than pedagogical objectives, tends to dictate the choice of digital activities. Currently, a research gap persists in terms of aligning the use of digital technology in the classroom and language learning objectives. This paper broaches the current status of language learning in Asia endeavouring to address this gap focusing on English as a second language (ESL) and digital learning. It will, concurrently, interpret the use of digital resources from a second language acquisition (SLA) theoretical perspective (for example, Manfred Pienemann's Processability Theory, published in 1998). The next section canvasses language learning situations in the Asian region, followed by an overview of the current use of digital technologies in education. The fourth section discusses the theory-practice-evaluation links in language learning and presents examples of actual digital language practices followed by concluding remarks.

Second/foreign language learning in the world and Asia-Pacific region
Learning second/foreign languages has become more and more critical in the 21st century. This section describes the current language learning situation, focusing on ESL in Asia.

Roughly 7,000 different languages are spoken in the world today, and Mandarin Chinese, English, Spanish, and Hindi are the four languages with the most significant number of speakers in that order (Saville-Troike and Barto 9). Among them, Mandarin Chinese is the largest language in terms of their first (native) speakers in the world due to the large population of China (Native speakers 918,000,000; Other speakers 199,000,000). However, counting both native and other speakers (second, third language speakers), English is the world's largest language. Moreover, English speakers as a second language (L2) are double the number of those who speak it as a first language (L1) (Native speakers 379,000,000; Other speakers 753,000,000). English is the official language of more than fifty countries ("The 12 Most Important Languages To Learn For Success In 2020"). Hindi also has large populations with native speakers and other speakers (Native speakers 341,000,000; Other speakers 274,000,000). These demographics show the extent of second language acquisition globally.

In terms of language education at school, English is the most-studied language globally: it has more than a billion students. Education policies in most Asian countries make English available in their school system and often make it a compulsory subject (Kirkpatrick and Bui 9). The starting point of ESL (English as a second language) or EFL (English as a foreign language) is now moving earlier in children's lives in many Asian countries. Following research findings on the relationship between age-onset and success in language acquisition (e.g., Flege et al. 74-104; Johnson and Newport 60-99), many Asian countries are keen to introduce English language education early. However, Asia is the region with the broadest range of English proficiency levels according to the EPI (English Proficiency Index).[2] This finding may not be surprising given its size. The EPI classifies test takers' language abilities into five different levels established by the Common European Framework of Reference (CEFR). Among the 100 countries in the EPI 2020 results, European countries dominated the "very high" level (e.g., the Netherlands, Denmark, and Finland), as we could easily imagine. Singapore was the only Asian country in this category. Only one Asian country, that is, the Philippines, appeared in the "high" level. Many Asian countries are placed in "medium" (e.g., Malaysia and Hong Kong), "low" (e.g., Japan and Vietnam), and "very low" (e.g., Thailand and Myanmar) levels. The different status of English in the region brings different opportunities of using the language as incentives (e.g., career opportunities). All of these factors affect success in English education. Therefore, some countries whose official/administration/education language is English, such as Singapore, achieved high English skills. In contrast, those countries like Japan and Vietnam, where English is purely a foreign language, are not deemed to have achieved a high level of English proficiency (Glasgow and Paller 160-168).

Let us look at just some examples of English education in Asian countries. China views a high level of English proficiency as necessary for its continuing development and participation in globalisation (Gill 60). In China, the level of English education varies according to regions; in Shanghai and Beijing it starts in the primary school from Year 1, while in Guangzhou and Nanjing from Year 3. Hours of English classes per week also vary according to regions (Wakimoto 1-7). In recent years, the Chinese authorities are gradually downgrading English education in school, although English is still regarded as a critical foreign language. As stated by Gill, "China may reduce its emphasis on English language education

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[2] The EPI is based on English standardised test data from over two million adults worldwide and ranks them according to the countries/regions. EPI 2019 scores have been found to correlate strongly with TOEFL 2017 scores (r=0.80) and IELTS Academic Test 2017 scores (r=0.74). The EPI 2020 reports can be retrieved from https://www.ef-australia.com.au/epi/about-epi/executive-summary/ and
https://www.ef.com/assetscdn/WIBIwq6RdJvcD9bc8RMd/legacy/__/~/media/centralefcom/epi/downloads/full-reports/v10/ef-epi-2020-english.pdf

and focus instead on the use of Chinese and the promotion of Chinese language learning" (82).

In Japan, according to a historical overview of English education from the 1970s to early 2000s (Glasgow and Paller 158-168), a secondary school start in English was not entirely successful primarily due to the excessive focus of English exams on university entrance whereby English classes tended to concentrate mainly on formal knowledge over communicative competence. Consequently, even after six years of secondary study, English communication skills would not develop up to the expected level. In this increasingly globalised world, however, both grammatical knowledge and communicative skills are essential. In order to overcome this problem, the Japanese government introduced English in primary school (Years 5 and 6) from 2011 with the explicit objectives of promoting language acquisition itself, increasing awareness in languages and societies in the international context, and nourishing a positive attitude towards foreign language learning (not restricted to English). From 2020, Japanese children learn English from their Year 3 at primary school.

In Vietnam, English education starts in primary school from Year 3, and it is compulsory throughout secondary schools and universities. Despite this significant presence of English education through the school system, the current English achievement situation in Vietnam has not yet reached a desirable level, probably due to insufficient English input and opportunities of using the language. According to Nhan (147), 98% of high school students do not achieve the necessary English conversation skills. Only 0.1% of high school English teachers have advanced English levels, that is CEFR C2, according to Nguyen's report titled *Vietnam's National Foreign Language 2020 Project*. As well as English education the Vietnamese government also promotes the use of information technology in teaching as reflected on its policies. Thus, the Ministry of Education and Training of Vietnam issued a policy titled *Teaching and Learning Foreign Languages in the National Education System, Period 2008-2020* whose main goal was to improve the Vietnamese's English language ability. The government of Vietnam issued a further *Directive No. 117/QD-TTg* aiming at strengthening the use of information technology in teaching for the period 2016-20 in the belief that technological tools may help solve problems in English education (Pop 1189), especially in Vietnam, as explained in Dang's dissertation.

In Indonesia, "since 1994 the Ministry of Education has allowed elementary schools to offer English to their Year 4th-6th students, if the school can afford the cost" (Dardjowidjojo 26). So, according to Lie "(e)lementary schools may choose to include English as part of the local content or extra curriculum" (74). In other words, the English programme in Indonesia is not a compulsory subject in primary school. Thus, early English education may depend on the economic condition of the country.

Use of digital technologies in education and the impact of COVID-19

The development of digital inventions and mobile communication technologies has opened up a new era in education. Most people in the world use digital resources for gaining information and communicating with others in daily life. In particular, young students, who are said to be digital natives,[3] use digital devices for their study, entertainment, and other domains of life. In digital learning, second language education always takes the lead. The concept of CALL [4] (Computer Assisted Language Learning) emerged as early as in the 1960s, and second language (L2) educators started to design digital activities. CALL soon moved to mobile language learning, which does not require a computer but instead uses mobile devices such as smartphones, personal media players, and wireless laptops. Now communication technologies such as Zoom, social networking system (SNS), chat, and text messaging allow learners to access authentic communication with peer students, teachers, and native speakers instantly with minimum cost, and regardless of physical distance.

Information communication technologies (ICT) became a key instrument during the COVID-19 pandemic in 2020. Millions of people contracted the virus, and movements even within one's own neighbourhood were severely restricted. Many countries adopted a total lockdown for an extended period. Then the pandemic hit the world economy and international stock market tremendously. The pandemic not only caused fiscal damages but also hit the education sectors drastically. Soon after the breakout of COVID-19, schools and universities in many countries closed their campuses to avoid the spread. What followed was the shutdown of international borders, and prospective overseas students could not travel across countries to pursue studies overseas. Educators worldwide realised the indispensable nature of digital technologies in education since their teaching had to go online on short notice regardless of their own former digital experiences or willingness to change. Students had to join the classes remotely via information technology platforms regardless of their social affordability, such as Wi-Fi availability, space at home, and family support. The pandemic forced the educators and students to deal with hurdles and challenges that they might have never encountered previously. Some educators were successful in this transition period from on-campus, face-to-face teaching to off-campus e-learning, but others experienced difficulties coping with the situation.

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[3] Marc Prensky, in his 2001 article entitled "Digital Natives, Digital Immigrants", used the term "digital natives" to describe today's young students.

[4] CALL originates in the 1960s PLATO (Programmed Logic for Automatic Teaching Operations) project at the University of Illinois, which first explored generalised computer-assisted instruction system (see Marty's "reflections on the use of computer in second language acquisition").

One crucial factor in achieving a successful and smooth transition was digital resources' readiness. Low digital environments caused problems and delays in this shift, especially during the initial stages of the pandemic.

Let us glance now at the 2018 PISA international academic achievement survey results on digital learning in primary and secondary schools (OECD 2020).[5] Among the 37 countries that participated in this specific survey, Denmark achieved the top rank in digital use at school: their classroom use of digital technologies was 87.7 % in the language class and 85.2% in the mathematics. The country promotes a borderless, international society and supports digital use in schools. In Denmark, most schools provide Wi-Fi and computers for all pupils. The teacher uses the smartboard in the classroom that is connected to the Internet. In Denmark, digital education starts in Year 1, and children learn how to use the keyboard. At Year 2, they learn how to use the Internet and engage in classroom activities involving various digital apps, drills, and games. Other regions listed as high in the PISA results are northern Europe, America, and Oceania: Sweden No. 2 (82.5%), New Zealand No. 3 (82.3%), Australia No. 4 (77.3), The United States No. 5 (68.6%), Iceland No. 6 (61.3%), and Finland No. 7 (61%). Australia incorporates a wide range of ICT in teaching and learning as part of a substantial federal government initiative to build digital infrastructure and invested A$ 2.1 billion in a digital education revolution policy to increase in-school access to ICT facilities (Australian Government 2011 report). In Asian countries, the classroom has not fully implemented digital apps (see Ho). Japan is a world-leading, high-tech country, and people may believe the country uses state-of-the-art digital technology in education. Contrary to this belief, Japan's digital use at school ranked the 31st; only 14% in the language classroom and 7.8% in the mathematics classroom. According to Zenimoto's analysis of the PISA 2018 results, titled *Danish digital education: what should Japan learn,* Japan had a wake-up call about digital use in school and one of the Japanese government's immediate reforms was the establishment of the Digital Agency. The digitisation of Japanese education, which has been pointed out as lagging behind, has finally begun in earnest.

Thus, while the COVID-19 pandemic drastically hit fiscal and educational sectors, it also brought unprecedented digital education opportunities supported by world organisations, governments, educational institutions, and

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[5] The OECD (Organisation for Economic Co-operation and Development) is an organisation for economic cooperation and development founded in 1961 to stimulate economic progress and world trade. The 37 countries participating in the OECD at the time of the survey are Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States.

schools. Human/social incentives and physical/infrastructure supports are both necessary inputs to incorporate digital technologies in the classroom.

Second language research and digital technologies

Digital technologies open up countless potentials and opportunities. Many studies suggest that the group of students who studied L2 using digital technologies outperformed the group without them (Jafarian et al.; Payne and Whitney). However, many of these studies treat the learners as a group, and individual learners' performance is barely considered. Nevertheless, understanding individual achievement is essential, especially in digital learning, given that the learner has control over how far they will go with digital activities. Caution needs to be applied in the use of digital activities in the educational setting as several studies report that students often get lost in the information waves without achieving the desired objectives, despite spending much time online (Miyamoto "evaluation of multimedia language learning resources"). Another risk related to digital learning is that technological novelty and availability, rather than pedagogical objectives, may determine digital activities in the L2 classroom. Furthermore, despite the advancement in language education policy, language teachers are often left to their own devices in their daily teaching practice to achieve overall pedagogical goals (Glasgow and Paller 169-170). So, the teacher ends up being the one responsible for determining the details of the syllabus. SLA theories can help educators to maximise their language teaching. Research in SLA also offers practical indications for language learning and teaching that can be useful in the context of digital technologies.

Here I introduce a well-known SLA theory, i.e., Processability Theory (PT), proposed by Pienemann in 1998 and further developed by Bettoni and Di Biase in 2015. PT has a strong commitment to the theory-practice-evaluation link. PT is based on the widely accepted Levelt's model of speech production (published in 1989) as well as on Lexical-Functional Grammar (LFG), originally proposed by Joan Bresnan in 1982 followed by a more comprehensive version in 2001, a typologically plausible formal grammar. PT adopts processing prerequisites; that is, the learner builds up additional speech processing resources to process the L2 and gradually deploys them in an automatic way. PT predicts that second language development follows a certain order: Lemma > Category Procedure > Phrasal Procedure > Sentence Procedure > S' Procedure. This hierarchy is related to the requirements of the specific procedural skills needed for the target language (any L2). The grammatical content of these procedures will be different for different languages but always ordered in the same sequence. Pienemann demonstrated, with his Teachability Hypothesis experiments in his 1984 and 1989 studies that language teaching is most effective for learning a second language when it follows the natural language development path. More recently, Di Biase, in his 2002 and 2008 studies, proposed Developmentally

Moderated Focus-on-Form (DMFonF). DMFonF is an instructional approach that combines Pienemann's teachability hypothesis and developmental approach to language learning and teaching with Long's Focus on Form feedback ("Focus on Form in Task-Based Language Teaching"). Di Biase shows the efficacy of form-focused instruction/feedback in L2 teaching when the grammatical item to be focused on is decided based on the learner's developmental stage. DMFonF promotes L2 acquisition more effectively in terms of rule applications, acquisition speed, and grammatical accuracy. Thus, Di Biase added a new perspective of pro-active practice on language teaching and learning. PT's theoretical basis and its practical implication have been widely used in the Asia-Pacific region in recent years (for example, quasi-experimental studies by Hardini et al, "The effect of developmentally moderated focus on form instruction", and Mohamed Salleh et al). L2 stages in PT provide a platform to describe and measure language development and achievement, and PT's concept can be easily applied to digital learning (see below).

The theory-practice-evaluation link in language acquisition using digital technologies aligned with pedagogical objectives (Kawaguchi and Di Biase 287) are illustrated in the following sections. These examples include a language learning mobile app, such as *LexiFun*, e-tandem learning using text messaging, social networking systems (SNS), and an e-movie project project which the present author utilised her Japanese L2 classes.

Language learning mobile app, LexiFun
Since most young people play e-games regularly, there is a rapidly growing interest in exploring the potential of e-games in education to motivate and inspire young students (Kawaguchi and Watkins 11). *LexiFun*, a mobile L2 learning app, was designed at Western Sydney University to maximise individualised learning outcomes. The app's design is based on the developmental sequence proposed by Pienemann's Processability Theory (PT), a theory of second language acquisition that was discussed earlier. *LexiFun* includes language games for vocabulary and grammar learning, emphasising listening comprehension and its connection with writing. As described in Kawaguchi et al. (4-6), the student can play the app individually and with classmates (e.g., competing on speed for completing tasks and scores for the correct answers). *LexiFun*'s learning sequence and games are sequential and clearly defined in line with PT stages (see Kawaguchi's chapter on the development of Japanese as a second language); level 1 is vocabulary learning, level 2 noun phrases and verb phrases, level 3 noun modifications and basic sentence constructions, and level 4 more advanced sentence constructions such as passive forms and sentential noun modifications. Each level consists of a learning module, quizzes, and exercises (in the form of games). This staging is an essential key to learning given the inevitable individual

variability in L2 listening skills (Vandergrift 4-7) and language knowledge. Individuals can also easily choose to move horizontally (within a level) or vertically (across levels). Thus, *LexiFun* promotes autonomous learning, and it is educationally advantageous.

E-tandem learning

E-tandem learning has grown in the field of SLA in recent years. Lewis et al. described the advantages of E-tandem learning in online exchanges across two different countries for language and culture learning. With E-tandem learning, one group of L2 students in one country can engage in learning interactions with a peer group of students in another country, who are native speakers of that language. These, in turn, are also learners of the L2, which is the native language of the first group. So, each group is, alternatively learning from, or teaching, the other group, as Lewis and Walker's book titled *Autonomous Language Learning in Tandem* (2003) indicates. For example, in the e-tandem project conducted by Bower and Kawaguchi, English and Japanese learners exchanged chat texts in each language over the semester. Thus, each student played two roles: as an L2 learner for one segment and a language tutor in the other segment. As a way to orient learning, a topic was given to the students for each session so that guided learning might provide opportunities for them to go beyond their current level of L2 skills. The difficulty and complexity of the topics given to students (e.g., about myself, university life, and then cultural issues) are gradually increased. Additionally, students sent their partner's friendly language corrections and suggestions after the chat session. Bower's and Kawaguchi's analysis of the e-tandem project strongly suggests that corrective feedback and negotiation of meaning during the e-tandem session positively affects language learning.

Payne and Whitney point out many advantages of Internet chat text over face-to-face communication in SLA. Chat text reduces the burden on language processing. This is due to (i) slower speed of information exchange (roughly between two and three words per second in ordinary speech, but three to four content words per second in writing) and (ii) availability of previous messages (context) as steady visual representation (9-14). Therefore, due to reduced cognitive demands with text chat compared to speech, the learner can employ more attentional resources on L2 lexicon and forms while maintaining the same level of interaction. Reading and writing text in chat is especially beneficial for shyer and linguistically weaker students who tend to be unable to respond using L2 speech immediately in the classroom. Kawaguchi and Di Biase (298-300) observed that lexical production while performing text-based chat varied enormously among the students: the difference in both the number of tokens and types produced was, remarkably, over 1:5. Also, the learners' morphological and syntactic development defined by PT over the activity period varied substantially.

Therefore, monitoring learner language performance in digital activities by using a reliable developmental measure such as PT is critically important.

Social Networking System (SNS)

Since their introduction, different SNSs such as *Facebook, WhatsApp* and so on have attracted millions of users, and many young students have integrated them into their daily practices. Socio-cultural theorists like Young claim that SNSs have excellent potential for educational purposes, yet their effect impact on language learning is understudied (e.g., Morofushi and Pasfield-Neofitwo 68). Fukui and Kawaguchi (116) incorporated SNS in their Japanese L2 teaching. They chose *Bebo* because this platform is educationally protected and secure, and users can upload short video clips with sound and pictures as well as text. Thanks to its various functions, it is not difficult to align L2 activities with pedagogical objectives while sheltering these activities from unwanted and aggressive intrusion and publicity. Table 1 below displays examples of activities aligned with teaching objectives and implemented with *Bebo*. For instance, when the lesson topic is *talking about yourself, your family, and friends* with a grammatical focus on adjectival inflections, *Bebo* activities involve uploading a personal profile about the topic. The student had to use various adjectives and their inflective forms for polite and connective forms to carry out this task.

Table 1. Aligning teaching objectives with online activities using *Bebo* (excerpt)

Teaching objectives	*Bebo* activities
Talk about yourself, family and friends. Adjective inflection	Upload your profile describing yourself, using various adjectives.
Comparing two or more objects. Expressing *better than~* and *best among~*.	Set up an opinion poll (e.g., favourite food) and write the poll result.
Expressing your opinions. *I think~, it may be~,* and *it must be~*.	Send friendly peer corrections of your classmates' grammatical errors on their *Bebo* site.

According to the survey on the effectiveness and usability of SNS activities, many students mentioned that SNS suits their lifestyle because they can choose time and place for carrying out the tasks. For example, the students can access *Bebo* while waiting for the bus and on the move. They can also browse and message friends' sites to "relax" when getting tired of their studies. They pointed out that they would not open a textbook to study on such occasions. Another advantage of *Bebo* is that students can design an attractive SNS site both visually

and audibly by choosing their background wallpaper and their favourite music. Students also mentioned that SNS increases motivation. Some of their reasons include interacting with peer students beyond classrooms, practicing language skills using various functions that *Bebo* has, and reviewing them any number of times. Some learners also touched on the advantages of asynchronous (i.e., off-line) interaction, such as searching vocabulary and grammatical items at their own pace without time pressure. SNS activities, like chat texts, are especially beneficial for linguistically weak or shy students who tend to miss opportunities to speak out and interact immediately in the classroom. There are, however, things that need to improve. For example, some students said that it is difficult to get immediate feedback from the teacher. It may also be difficult to obtain technical support when problems occur. These are essential issues to be considered for the future design of learning activities using SNS.

E-movies: Project-based L2 learning
E-movie creation exemplifies project-based, collaborative L2 learning activities. The project includes various components such as investigating culture, writing a short playscript, rehearsing collaboratively, and final shooting. In Kawaguchi and Di Biase (294), for example, one group created a movie on the social problem of bullying, with a thorough investigation of teenage culture. Another example is organising a cooking competition where the students demonstrated on camera how to prepare traditional or contemporary Japanese cooking, and then the judges (other students) tried out the food and commented on the competing dishes. Finally, the judges announced the winner.

The advantages of incorporating project-based learning in L2 contexts are widely recognised (Long "A role for instruction in second language acquisition"; Gibbes and Carson 172-173; Hayes and Itani-Adams 117; Stoller 19). Firstly, the project involves content learning, problem-solving abilities, and critical thinking skills resulting from students' involvement in the task process: planning, designing, practicing the language to improve performance, repeating difficult takes till achieving the final film product. Secondly, learner centredness, where students are given control over their learning as they chose their goals, emphases, designs, processes, and products, is characteristic of project-based learning, which "has the potential to narrow the gap between traditional classrooms and more learner- and learning-oriented settings" (Stoller 33). Besides, this type of digital activity sustains the students' learning over time because it involves three major factors contributing to learning and retaining new items in a second language: the degree of need, degree of search, and degree of evaluation (Laufer and Hulstijn 1). Newly learned items are best remembered and retained when the involvement load of the above three factors' is high.

Also, project-based learning promotes student motivation, autonomy, and collaboration. Furthermore, it enhances self-confidence and self-concept,

and it also increases interest in the target language and culture mainly due to students' intimate engagement and participation in its development and realisation. While the students are guided to go beyond their current abilities, project-based learning also promotes the development of expertise. As shown above, digital technology's multifunctional potential allows educators to build an effective learning environment.

Conclusion

Foreign language learning is becoming increasingly important in our ever more globalised world and learning English, the most widespread international language, is essential for young students today. This paper described current situations, issues and challenges of language learning. The use of digital technologies has become a necessary part of education both inside and outside the classroom. Moreover, digital technologies accommodate young students' lifestyles and stimulate collaborative learning and strengthen their motivation in learning L2. This paper reviewed digital language learning focusing on selected countries in the Asian region. In many Asian countries, digital learning lagged behind but has improved substantially during the COVID-19 pandemic. Although the digitalisation was forced by the new virus, there are in fact, many advantages following this move: a more widespread WiFi-environment, online classes, and multimedia resources. With the increasing importance of digital technologies, educators cannot help but create a more learner-centred and collaborative learning environment. This paper emphasised, further, the importance of the theory-practice-evaluation link in implementing digital language learning. Choice and design of digital activities backed up by SLA theories such as the Processability Theory lend support to achieving the pedagogical objectives instead of leaving language education at the mercy of rapidly changing technical affordances. Thus, SLA theories point towards significant new directions for educational online activity design, feedback, and assessment.

Lastly, there are challenges, such as economic, political, and health situations worldwide affecting the education system (e.g., Li et al. 141-142, Kawaguchi and Watkins 20-21). The subsidy and support from national and local governments, schools, and teachers play an increasingly pivotal role in improving the digital environment and making the most of it in education. Environmental concerns worldwide also encourage paperless societies, and the use of digital resources is now becoming ever more common. Thus, digital learning has a great future perspective in promoting L2 learning from pedagogical and environmental perspectives. The spread of COVID-19 restricted our physical movement, and it consequently may have promoted mental divisions such as anti-globalisation and new nationalist aspirations. However, it has also demonstrated the critical role of

international cooperation. In the post-COVID world, it will become even more critical for nations to cooperate and show solidarity throughout the world. We recognise from this paper that language learning will contribute to reconstructing human connections, promoting mutual understanding across cultures, and maintaining diversity. This will help explore possibilities for solidarity and cooperation rather than division and isolation.

Acknowledgement

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