

# Language Learning and Teaching in Digital Environment

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## Abstract:

The impetus for this conceptual article was derived from the panel discussion on “Language Learning and Teaching in Digital Environment” in the 27th NELTA International Conference 2023 and the authors’ reflections on their experiences as teachers and teacher educators in Indonesia, particularly after the unprecedented lock-down. The recent school closure has offered lessons learned on the need for digital pedagogy and led to the new awareness of the challenges and opportunities in the inevitable digital environment. This article discusses some of the major contextual changes and the future directions of digital pedagogy for language learning

**Keywords:** *hybrid learning; blended learning; student engagement; digital literacy; TPACK; community of inquiry; future directions*

## Introduction

The sudden lock-down from the beginning of 2020 through 2022 due to the Covid-19 pandemic compelled all educational institutions to enact the emergency remote teaching (ERT) with hardly any preparation in terms of internet infrastructure, teacher technological capability, and home situation to welcome the learning-from-home mode. Since then, teachers have adapted to the new mode and the pandemic has accelerated the use of technology in language learning. Teachers are using digital tools such as video conferencing software, learning management systems, and digital learning resources to deliver instruction and facilitate learning (Barry et al.,

2021; Oliveira et al., 2021; Silva et al, 2022). Even when schools have resumed the onsite learning, some of the skills and tools teachers and students employed during the emergency remote teaching (ERT) have been retained and used to enrich the language learning in the classrooms (Lie et al., in press). Learning in schools has had a big shift after the COVID 19 pandemic. The pandemic has brought about significant changes in language learning and digital pedagogy in schools and universities across the world. This article focuses on some of the major contextual changes: the use of hybrid or blended learning, new challenges for teachers and students, and a need for digital literacy. The article concludes with the future directions of digital pedagogy for language learning

## Readiness for Hybrid and Blended Learning

With the closure of schools and universities due to the pandemic, there has been a massive shift towards emergency remote learning. Teachers and students have had to adapt to new digital tools and technologies for teaching and learning. In the case of teachers, their skill at integrating technology into teaching is commonly measured by the TPACK (Technological, Pedagogical, and Content Knowledge) framework (Mishra & Koehler, 2006). Briefly put, the framework gauges teachers' competence in 7 (seven) subdomains, namely Technological Knowledge (TK), Pedagogical Knowledge (PK), Content Knowledge (CK), as well as the resulting intersections of Technological Pedagogical Knowledge (TPK), Technological Content Knowledge (TCK), Pedagogical Content Knowledge (PCK), and Technological Pedagogical Content Knowledge (TPACK).

A case study of 18 teachers from different regions in Indonesia (Lie et al., 2020) revealed that irrespective of the teacher participants' previous experience with technology, the majority of them were able to quickly improve their Technological Knowledge (TK). This study identified an interaction between five interrelated factors of online learning processes and five engagement levels. These five factors consist of students, teachers' prior experience with online learning, technological knowledge, pedagogical knowledge, and the support system. The first one is the students factor while the last one is support system including internet data plan for teachers. The other three factors relate to teachers: prior exposure, technological knowledge, and pedagogical knowledge. All five factors affect the online learning engagement and reinforce one another either positively or

negatively. Given the growing awareness of the inadequacy of their remote teaching delivery, the study found that teachers may need to relearn their knowledge of pedagogical approaches, strategies, and methods, classroom management, and assessment, and re-adapt their PK in an effort to integrate technology with pedagogy and content knowledge, thereby making their teaching process more effective.

Two years after the sudden shift to remote learning, teachers in the previous study (Lie, et al., 2020) were re-contacted and invited to participate in a longitudinal case study aiming to explore teachers' progression and stagnation in their TPACK appropriation levels of online learning engagement against the five degrees of appropriation (Grossman et al., 1999). The recent study (Lie et al., in press) found that some teachers had, within a twenty-month period of ERT, appropriated their TPACK while some were still striving to transform their role. In addition, teachers demonstrated different levels of progression and readiness for hybrid or blended learning and of sustaining their TPACK skills. Progression is not narrowly measured by the number of technological tools they have used but by how they synergized the technology use with their contextual learning environments to support their pedagogy and content mastery. Teachers who showed growth had a consistent perception of their own abilities on both the cognitive and affective sides of incorporating technology into their classrooms. According to their students' feedback and the researchers' observations of their online classes, they implemented this optimistic attitude into their approaches for teaching online. Furthermore, compared to teachers who stayed at the same level, these teachers showed greater readiness to participate in hybrid learning. In short, teachers' development is correlated

with their capacity to maintain their TPACK competencies in hybrid learning.

Furthermore, another study involving 137 language (English and Bahasa Indonesia) teachers from various parts of Indonesia revealed that the teachers considered themselves to improve in all aspects of the TPACK domains after about a year of online learning. The quantitative data exhibited the greatest rise in the Technological Knowledge (TK) domain and the smallest in the Content Knowledge (CK). Besides, the participants were also asked to rate themselves in the skills of incorporating critical thinking into their classes. As mandated by the Indonesian Ministry of Education, teachers are expected to instill critical thinking as embodied by the Higher Order Thinking Skills (HOTS), understood as the students' ability to analyze, evaluate, and create in the subject of the course (Krathwohl, 2002). In this study, the teachers perceived a rise in their HOTS after implementing online learning), and the interview result manifested their general belief that the TPACK skill is instrumental in infusing HOTS in their lessons. (Gozali et al., 2023)

## **New Challenges for Teachers and Students**

The shift to language learning in digital environment has brought new challenges for both teachers and students. Digital pedagogy involves the use of technology and digital tools to support teaching and learning. Online learning has brought more flexibility in learning. Teachers can exercise more autonomy and creativity in designing and delivering their lessons while students can access course materials at their own pace and at times that suit them. They can also attend

classes from anywhere, as long as they have access to a computer and internet. While digital pedagogy offers several benefits, it also presents some challenges for both teachers and students. Teachers have had to learn new digital skills and adjust their teaching strategies to suit the online environment. Students have had to adapt to new modes of learning and cope with limited access to technology and internet connectivity.

Challenges for teachers in digital language learning include adaptation to new technologies, student engagement, and balance of online and onsite instruction. The first challenge for teachers involves technical issues such as software malfunctions, internet connectivity problems, and hardware issues that may disrupt the learning process. Teachers need to adapt to new technologies and tools, which may require additional training and support. Furthermore, teachers also need to ensure that all students have equal access to digital technologies and resources, regardless of their socio-economic status. The recent pandemic crisis has increased awareness of the importance of technological connectivity. Different levels of professional development opportunities and consequently Technological Pedagogical Content Knowledge (TPACK) exist in numerous nations for educators. The learn-at-home mandate has served as a touchstone revealing instructors' varying levels of competence and unequal learning opportunities for students of all socioeconomic backgrounds. Overall, the disruption caused by the pandemic has uncovered the digital chasm, which will have severe consequences for human capital development. On the other hand, the digital learning environment can be a window of opportunity for countries to pioneer a new education paradigm and movement that would eliminate the prevalent quality disparities in many nations.

The second challenge is maintaining student engagement: Teachers need to find ways to keep students engaged in the learning process, despite the potential distractions of digital devices and online platforms. In online learning, students and teachers may not have the same level of face-to-face interaction as in traditional classrooms. This can make it difficult for teachers to read students' body language and respond to their needs. Therefore, teachers may have limited opportunities to know students' needs and provide feedback, which can leave students feeling unsupported. Moreover, students may become distracted by the technology they are using, such as social media, email, or messaging apps, which can divert their attention away from the learning content. Online learning may limit opportunities for students to collaborate with their peers on group projects, which can make learning feel impersonal and isolating. In brief, online learning may not cater to all students' learning styles and preferences, making it challenging for teachers to keep all students engaged.

The last challenge is balancing online and offline instruction. Teachers need to find the right balance between online and offline instruction and ensure that both modes of learning are integrated effectively. Providing interactive and multimedia learning materials, such as videos, animations, and interactive simulations through learning management systems and video-conferences should be combined with designing peer-to-peer interaction and group work in offline learning activities. Creating a supportive online learning community requires that teachers foster a sense of belonging among students, show sincere concern, and build a community of inquiry (Gozali et al., 2022). Prijambodo and Lie (2022) investigated 116 Indonesian students from two private high schools to

examine their readiness and motivation to learn English through synchronous video conferences as viewed through the Community of Inquiry (CoI) framework (Garrison et al., 1999; Garrison et al., 2010). The study discovered that Teacher Presence is essential in augmenting Cognitive Presence and helping students experience Social Presence. Consequently, the roles of teachers in designing and providing meaningful learning activities, serving as a model to engage students in online and offline discussion, employing effective strategies to engage students, providing regular feedback and promptly responding to students' questions, and managing class, must be fulfilled in full. Briefly, online learning can be effective if instructors improve their technical and pedagogical skills.

### **Need for Digital Literacy**

The pandemic has highlighted the importance of digital literacy for both teachers and students. In general, teachers need to be proficient in using digital tools and technologies to deliver effective instruction. Students need to be able to navigate digital platforms and resources to facilitate their learning. In the field of language learning, the use of digital tools and technologies presents both issues and opportunities for teachers and students. Issues include authenticity of language input, challenge in establishing the Community of Inquiry, technical challenges, and pedagogical challenge.

First, digital tools and technologies may not always provide appropriate and authentic language input. Therefore, teachers need to invest their time and energy by curating and selecting digital resources to ensure that they provide relevant and accurate language input. Second, the lack of personal interaction in online learning may hamper the Teacher

Presence, Social Presence and hence the Cognitive Presence as modelled in the Community of Inquiry (Garrison et al., 1999; Garrison et al., 2010). The use of digital tools and technologies can limit personal interaction between teachers and students, which may be essential for language learning. Teachers need to carefully design activities that promote personal interaction and language practice. Third, the use of digital tools and technologies can be challenging for some teachers and students who may not be techno-savvy. Technical issues such as software malfunctions, internet connectivity problems, and hardware issues can disrupt the learning process. Finally, the use of digital tools and technologies requires teachers to adapt their pedagogical approaches. Teachers need to develop new skills and strategies to effectively integrate digital tools and technologies into their teaching.

Despite the issues, the use of digital tools and technologies offers several opportunities for teachers and learners of languages. First, digital tools and technologies provide teachers and students with access to a plethora of authentic language input, such as videos, audio recordings, and online language resources. Second, digital learning provides personalization of learning. Digital tools and technologies can facilitate personalized language learning experiences, allowing teachers to design differentiated language instruction to meet individual students' needs and preferences. Third, digital tools and technologies enable teachers and students to collaborate and communicate with each other more easily, regardless of their location. This can facilitate language practice and cultural exchange between students from different countries. Fourth, digital tools and technologies offer greater flexibility in terms of when, where, and how language learning

takes place. Finally, the use of digital tools and technologies can trigger teachers to be more creative through new possibilities for teaching and learning, such as gamification, virtual and augmented reality, and adaptive learning.

## **Future Directions of Digital Pedagogy for Language Learning**

Teachers, course designers, and curriculum-materials developers of language learning should gain insights from lessons learned out of the recent swift changes in digital learning environment and anticipate further possibilities to prepare for the unprecedented future. Overall, the future of digital pedagogy for language learning is likely to involve the integration of new technologies and approaches that enhance differentiated instruction and personalized learning experiences, increase engagement and motivation, and facilitate language practice and cultural exchange. Teachers will need to adapt their approaches, modify teaching strategies, and acquire new skills to effectively incorporate these technologies in their language classrooms.

The future directions of digital pedagogy for language learning are likely to focus on the following areas:

1. Social media and online communities have been widely used for social interactions. They can further provide opportunities for language learners to interact with other learners around the world. Instagram, Facebook, and Tik Tok have been used to facilitate language practices and cultural exchanges.
2. The widespread use of mobile devices presents opportunities for language

- learning outside the traditional classroom setting. Mobile apps and platforms can provide language learners with www (whatever, whenever, wherever) access to learning resources and opportunities for practice on-the-go. Resources such as digital library <https://literacycloud.org/> offer opportunities for extensive reading.
3. Language learners are able to learn and practice language skills in a more enjoyable manner through virtual and augmented reality technologies, which allow for immersive experience that mirrors situations in the real world and environment. Museum virtual tours <https://museumnasional.ih heritage-virtual.id/> can provide learners with learning experiences beyond the classrooms.
  4. Gamification is popular particularly among young people. The use of game-based learning can increase engagement and motivation among language learners. Gamification strategies can be used to create interactive and engaging language learning activities. Games such as Kahoot and Wordwall are very popular among teachers.
  5. The use of digital tools and technologies can enhance learning management systems. In addition, it can facilitate more efficient and effective language course design, assessment and feedback. Digital tools can provide automated feedback on language performance, and teachers can use digital tools to track student progress and provide individualized feedback. Moodle, Schoology, and Microsoft Teams have continued to be used even after schools have resumed their onsite learning post-pandemic.
  6. Recently, educators have been caught up in the frenzy of artificial intelligence such as ChatGPT. Rather than avoiding its use, teachers may as well capitalize on artificial intelligence (AI) and machine learning (ML) to facilitate personalized language learning experiences by adapting instruction to the individual needs and abilities of each learner.

Overall, digital pedagogy for language learning is likely to become even more advanced and personalized in the next 10 years. Advancements in AI and ML will allow for more engaging, sophisticated, and adaptive learning technologies that can provide personalized instruction to individual learners based on their needs, abilities and progress levels. These innovations will hopefully increase engagement and motivation, and provide learners with opportunities for authentic language practices and cultural exchanges.

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