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# Social Justice and Technology in Second Language Education

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## ABSTRACT

Second language education is a complex field that is continually evolving, shaped by the changes in teaching and learning contexts that have emerged over the past several decades. It would not be an exaggeration to say that these changes are predominantly driven by shifts in technology, shifts in educational approaches and philosophies, and shifts in societal and sociocultural perspectives, and each of them have brought with them different influences that have led second language education to where it is today. Amidst the numerous elements that contribute to its complexity, one factor that has become increasingly significant is social justice. This article provides an in-depth discussion on social justice in the context of second language teaching and learning, and how it has been impacted by technological developments, highlighting the affordances of technology and the importance of training to raise awareness of social justice issues in language education.

***Keywords:*** social justice; inclusion; diversity; equity; technology



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## Introduction

In order to lay the foundations for discussion on the use of technology in second language teaching and learning, it is first of all necessary to clearly define what social justice is as it currently applies to language education and how it has evolved to what it is today. This allows us to see the impact that technology has had on both causing social injustices as well as how technology also provides opportunities to move forward in overcoming some of these injustices. While it has become more salient in the literature in the past couple of years, there has been discussion for quite some time about the importance of facilitating social justice in second language education (Dover, 2015; UNESCO, 2016; Mitchell, 2017), where the term has been used to refer to the concept of teaching all students in a way that integrates fairness, respect, dignity, and inclusivity. Thus, it is about treating everyone with equality, regardless of their linguistic background or proficiency level, and ensuring that each individual student can achieve their full potential. Social justice is achieved through integrating practices focusing on inclusion, diversity, equity, respectful relationships, community building, and action against bias and injustice. Each of these is discussed in more detail below.

### *Inclusion*

Inclusion can be seen as an umbrella to the other concepts that follow in this discussion (Klimanova & Murphy-Judy, forthcoming), involving integrating all learners in the learning process, ensuring that they are encouraged to think critically and take action in the face of injustice, regardless of their language proficiency or cultural background. This principle is particularly crucial where a lack of language proficiency in some learners may restrict them from classroom participation if proper support is not provided. As a result, inclusion highlights the need to create a classroom atmosphere that makes learners feel comfortable to engage in learning activities and respected to speak their voice. As each learner will likely have their own individual learning goals and learning styles, teachers will need to employ various instructional strategies, resources, and differentiated approaches to accommodate for the diverse needs and learning styles of their learners.

### *Diversity*

Leading on from the point above, diversity in second language education refers to the acknowledgement of the rich linguistic and cultural backgrounds of students (see Piller, 2016, for a discussion). This means that language classrooms can be composed of learners from various countries, regions, and language backgrounds or varied in races, genders, and socioeconomic statuses. Embracing this diversity enhances the learning experience by fostering an environment where students feel valued and respected for their unique identities. Learning activities and materials are thoughtfully designed to appreciate these differences, promoting cross-cultural understanding and encouraging students to draw upon their linguistic and cultural experiences as valuable assets that enrich the entire learning process. Language learning has gone beyond acquiring linguistic knowledge. It can be seen as a powerful way to break down linguistic and cultural barriers, as understanding the other languages and cultures can empower students to appreciate the diverse landscape.

### *Equity*

Equity in second language education ensures that all learners have access to the necessary resources, support, and opportunities required to achieve their language learning goals. Teachers and educational institutions help reduce educational inequalities and provide fair and just treatment for every learner, recognizing that some learners may require additional support to

succeed. However, it should be noted that equity is not equality. Equality means providing the same resources or opportunities to everyone, which means that existing gaps between learners may still remain even if they are provided with the same amount of support. Equity, on the other hand, considers individual circumstances and allocates resources based on specific needs to achieve equal outcomes. By recognizing learners' individual differences and circumstances and providing what is required for each, it becomes possible to encourage a more level playing field where learners can stand on equal footing regardless of any pre-existing socioeconomic circumstances.

### *Respectful relationships*

Creating respectful relationships is another principle of social justice. In second language education, this involves fostering relationships that respect linguistic and cultural diversity rather than perpetuating stereotypes that can further broaden gaps between teachers and/or learners. For example, teachers can draw connections to learners' unique backgrounds, experiences, and prior learning to make learning meaningful and authentic and to recognise them as individuals rather than using them as a broad cultural reference. Teachers may also find themselves in a position where they are labelled based on their linguistic or cultural background. One of the most common examples of this is making judgements and decisions on the basis of race or first language, where a teacher may find that differential conditions are applied to them when seeking employment as a language teacher. So-called "native speakerism" (Llurda & Calvet-Terré, 2022) refers to a situation where an employer may require someone to be a "native speaker" of a particular language in order to be qualified to teach it, often based on raciolinguistic ideologies (Flores & Rosa, 2015). This has resulted in a situation where teachers who do not fit a particular racial or linguistic profile are discriminated against, even to the point of refusing employing someone based on their physical appearance or assumed linguistic proficiency. Recognising that a person's skill as a teacher is not related to their race, place of birth, or the timing of when they learned the language(s) that they speak (i.e., whether they learned them in childhood, in adolescence, or as an adult) is an essential step in achieving respectful relationships within an educational environment, particularly given the knock-on effect that this can have on learners' views of speakers of a language.

### *Action against bias and injustice*

The final principle in one sense brings together the previous issues in that it advocates not only the need for an understanding of social justice but taking action against bias and injustice. This involves critiquing and questioning the status quo and power imbalances, aiming for more equitable educational outcomes and the creation of teaching and learning environments that embrace the diversity of individuals rather than stereotyping it. Without action, even the best intentions fail to make any real difference, and this includes awareness raising and the creation of policies that promote mutual understanding and respect.

## The Role of Technology in Promoting Social Justice in Second Language Education

The above discussion has shown some examples of the complexities of social justice issues in educational contexts, and these are equally applicable to language teaching environments that include technology. While technology played a key role in many educational contexts before the COVID-19 pandemic, it has for the most part become even more prominent during and after the pandemic. It should be pointed out that technology has played—and continues to play—a wide range of roles in education that are not just limited to the distribution of learning content (see Stockwell & Wang, forthcoming). It has been used as a tool for supporting language learning, but

it has also been a means of facilitating communication between teachers, learners, and administrators as well as for monitoring learner progress, evaluation of learning outcomes, and distribution of grades. In informal contexts, technology has made it possible for learners to seek out their own resources more easily and to engage in interactive activities, often at the same time maintaining contact with a community of other learners. These diverse uses highlight the far-reaching effects that technology has had on virtually all aspects of education, and at the same time, that these developments in technology have brought with them new areas where social justice issues need to be carefully considered. This will be discussed in more detail below.

### *Fostering inclusion in language learning environments*

Technology has revolutionized language education by enhancing inclusive pedagogy, catering to learners regardless of geographical distance, economic background, language proficiency, or physical disabilities. All learners are given an opportunity to actively participate in the learning processes, fostering an inclusive educational landscape. For instance, during the COVID-19 pandemic, many learners faced difficulties in physically attending classrooms due to quarantine and travel restrictions. In such a context, online learning emerged as a crucial educational modality, allowing learners to continue their studies from home, overcoming barriers of distance and quarantine.

Moreover, the adoption of a hybrid language learning model, which integrates online and in-person instruction, offers learners flexibility and choice, leading to a more inclusive and adaptable language learning environment (e.g., Andujar & Nadif, 2022). Learners can select the learning mode that best fits their circumstances and preferences, thereby promoting autonomy and learner-centred pedagogy. Mobile learning, which means the use of smartphones and tablets for learning purposes, provides learners the opportunity to engage with language learning at their own pace, anytime, and anywhere. This access to contents, on-demand learning further democratizes education, rendering it accessible and inclusive.

Technology also offers powerful tools for supporting learners with physical disabilities (Cranmer, 2019; Hersh & Mouroutsou, 2019; Starcic & Bagon, 2013). Adaptive technologies can help learners with functional difficulties customize their learning experience, such as adjusting text size and colour or using specially designed keyboards or mouse. Moreover, features like Speech-to-Text (STT) and Text-to-Speech (TTS) aid learners with auditory or visual difficulties respectively, while speech input and eye-tracking technologies empower those with mobility difficulties (ADCET, 2023).

These technological features substantially enhance personalized learning approaches, ensuring learners of varying circumstances and needs are adequately catered to. This inclusive strategy underscores the critical role of technology in ensuring that no individual is left behind in the pursuit of education.

### *Facilitating diversity*

As the world has become more globalised, language education has come to involve immersing oneself in diverse cultural contexts, thereby fostering an appreciation for global diversity. The integration of technology in language learning environments enables this, allowing learners to explore and experience an array of language settings. One way is through virtual language exchange programs, which can connect learners from different linguistic backgrounds, using tools such as video conferencing for collaborative language learning and cross-cultural communication. Video conferencing, online discussion boards, and social media platforms can be used for peer-based telecollaboration, where learners discuss topics, share resources, and support one another in

their language learning journey (e.g., Fuchs, 2020; Kim, 2020; Thomas & Yamazaki, 2021). This helps in understanding the varying perspectives and background of each learner, fostering a sense of global community, and enhancing cross-cultural communication skills (Hampel, 2019), which can lead to development of respectful relationships.

Technologies that work to bring together real and virtual experiences can also play a role in enhancing diversity in language learning. Augmented reality (AR), for instance, provides an interactive experience by combining digital images and the learner's real world. In this way, learners can scan objects with their devices and instantly receive translations and contextual information in the target language. This can not only be used for vocabulary learning but also for other language skills/areas and cultural insights associated with the object, thereby enriching the learning experience (e.g., for supporting EFL writing see Lin et al., 2022, and for practicing L2 pronunciation see Zhu et al. 2022). Through emulating existing and fictional environments, virtual reality (VR) makes it possible for learners to visit various global locations, interacting with different languages and cultures without having to physically travel (Lege & Bonner, 2020). Another benefit of these types of technologies is that they can facilitate opportunities for interacting with others in a less threatening way and may be linked to lower levels of anxiety (Chen, 2022). For example, multi-user virtual environments (MUVEs) like Second Life (see Kruk, 2022; Wang et al., 2013) also make it possible for participants to take on a different persona in terms of their race, gender, age, identity, and/or appearance in a way that may help circumvent discrimination that may take place because of a lack of understanding of these individual characteristics.

***Enhancing equity***

Acknowledging that each learner is unique, with their own set of strengths, challenges, and learning styles, there has been a growing emphasis on catering to individual learner needs, interests, and abilities with educational technology to ensure no one is left behind. With the support of technology, educators can provide an environment where every learner feels valued and supported, and learners are allowed to engage in both formal and informal learning that suits their diverse needs. Due to individual differences in language aptitude, not every learner progresses at the same rate or benefits from the same teaching methods. Technology gives learners the opportunity to move away from a teacher-centred "one-size-fits-all" approach towards individualised learning where it is possible for learners to work through activities that are more suited to their own needs (see Chapelle, 2010, for a discussion). This personalization ensures that learners can engage in additional practice they need, promoting a more equitable learning environment.

One approach that makes individualisation possible is the integration of automatic feedback and AI-powered interactions (Weng & Chiu, 2023). These tools can be particularly beneficial for learners who require additional academic support. For example, instant feedback can correct mistakes in real time, thereby reinforcing learning more effectively (see Stockwell & Wang, forthcoming). AI can also simulate the benefits of one-on-one tutoring, thereby offering additional support to learners who might not otherwise receive it in traditional classrooms. Technology can also serve a role in reducing barriers throughout the learning process. For example, beginner learners can use translation and annotation technologies to support their learning contents which are beyond their comprehension level (Lee, 2023). In this way, technology can be used to bridge the gaps in individual needs of learners to provide equity that enables them to make the most of their learning environment.

Examples have also started to appear in the literature of projects that provide assistance for migrant populations. The MASELTOV project (Kukulska-Hulme et al., 2018) and the LiMe

project (Rico et al., 2019), for instance, were designed to enhance social inclusion of immigrants through the provision of freely available online linguistic, cultural, and social support resources. Initiatives such as these facilitate equity by enabling migrants to settle into their new environments so that they could become a part of the society rather than remaining on the peripheries

***Expanding accessibility***

Beyond formal classroom settings, access also encompasses the importance of extracurricular language learning activities. Language clubs, cultural events, and language exchange programs foster an immersive experience, allowing learners to apply their language skills in real-life situations and connect with speakers of the target language. For example, Learning Management Systems (LMS) like Moodle, Google Classroom, and Blackboard, to name a few, offer learners with a more flexible platform to access learning materials and forums for discussion (e.g., Fageeh, 2015). The asynchronous nature of an LMS breaks down barriers of time and location, empowering learners the freedom to engage in language learning activities at a time and place that suits them best.

Some movements that have also been directed towards enhancing accessibility are advancements in Open Educational Resources (OERs) and Massive Open Online Courses (MOOCs). OERs have emerged to make resources freely available for teachers and learners in less developed regions if they have an internet connection (Johnson & Brine, 2012; Pulker & Kukulska-Hulme, 2020). It often entails the use of existing resources, such as online corpora (Vyatkina, 2020), but it can also include using other technological tools to use other public domain materials such as Natural Language Processing Technologies (NLPT) that can be adapted for teaching purposes (Pérez-Paredes et al., 2018). MOOCs appeared in late 2011 as a means of providing (generally) free courses that can be accessed by large numbers of students to get a fundamental understanding of the course of study on offer, although they do follow different models and pedagogies (Jitpaisarnwattana et al., 2019). Accessibility to resources enables learners to supplement their formal education and extracurricular activities with additional self-directed learning, irrespective of their geographical location or financial status (Lambert & Czerniewicz, 2020). Such access ensures that every learner, irrespective of their circumstances, can avail themselves of high-quality language education.

Another form of accessibility that has been attributed to technological developments is ubiquity. Ubiquitous learning has significant implications for informal learning in that language learning can happen anywhere and at any time (Ogata et al., 2009). Through mobile apps, podcasts, or social media, these tools can be accessed while commuting or other small gaps in time, enabling an integration of learning into everyday life (Stockwell, 2022). The accessibility of such resources democratizes informal learning, providing opportunities for people who may not have the time, money, or other resources for more traditional language learning settings. This way, ubiquitous learning transforms every moment into a potential learning opportunity, making the idea of learning anywhere, anytime practical.

***Critical intercultural communication***

Critical intercultural communication posits that all communication is intricately intertwined with power dynamics, asserting that there is no level playing field across cultures (Halualani & Nakayama, 2010). This framework underscores the presence of power imbalances in communication, particularly across cultural and linguistic differences and highlights the need to remove the focus on "us" and "them" in teacher education programs, and rather to "explore how seemingly universal aspects of communication (e.g., politeness) can be conceptualised and

linguistically constructed in very different ways across languages and cultures" (Koutlaki & Eslami, 2018, p. 105). There can be no doubt that technology has an impact—or has even reinforced—social inequality, particularly in communication facilitated by social networking services such as Facebook and Twitter (Nakayama, 2020).

Technology can, however, also have a positive mediating effect on critical intercultural issues as well. Access to a broader range of information than the mainstream media can allow teachers and learners to challenge stereotypes which can lead to a broader understanding through self-reflexivity and dialogue with others (Atay, 2018; see also Brown, 2019). This can enable people to get to know one another as people rather than as broad cultural stereotypes, which can contribute to a reduction in intercultural overgeneralisations and segregation.

### *The multilingual turn*

A factor that has been considered a significant predictor of understanding of the relationship between language and culture is plurilingual awareness (Eren, 2022). In other words, individuals with knowledge of more than one language are more likely to have a higher degree of intercultural communicative competence, which can lead to a reduction in cultural stereotyping or misunderstanding. In recent years, there has been a shift in focus from the native/non-native speaker dichotomy towards an appreciation of the competencies of bi/multilingual learners, which has come to be referred to as the "multilingual turn" (e.g., May, 2014, p. 1). This perspective views language learning as an integrated process that capitalizes on the strengths and capacities of multilingual learners (García & Wei, 2014), although the concept of multilingualism is both complex and even controversial, with undertones of social bias and stereotyping (see Ortega, 2019, on equitable multilingualism). There have been calls for researchers using technology in language teaching and learning to consider the relationship between multilingualism and social justice, such as Ortega (2017), who has argued for the need to develop digital literacies that enable users to make the most of their multilingual capacities.

Technology has been shown to be widely used in extramural language study such as playing digital games, watching videos, listening to audio, and engaging in technology-enhanced socialisation (Zhang et al., 2021). In many cases, multilingual practices in these extramural activities take place at a subconscious level, where learners are using their full range of linguistic resources in order to communicate and to make sense of input as a part of their translanguaging practices (e.g., Yilmaz & de Jong, 2020). This is a practice seen broadly in migrants (Benson et al., 2018) and refugees (Van Viegen, 2020), and encouraging technology use for people who have moved to environments where they are expected to interact in the target language can afford extra opportunities for learning that might not have been available without technology.

## Challenges in Promoting Social Justice in Technology-Enhanced Second Language Education

Despite the clear benefits of integrating technology into social justice principles and second language education, a number of challenges persist. In particular, barriers to adopting/adapting technology became more apparent during the COVID-19 crisis (see Stockwell & Wang, 2023, for a discussion) as institutions scrambled to switch to online teaching to promote education with minimal interruption. It became apparent, however, that while technology made it possible for language education to continue to take place, social justice issues also arose that are worthy of mentioning here, as is described below.

### *The digital divide*

One of the primary challenges to emerge during the COVID-19 pandemic was both an emergence of and a widening of the digital divide. This refers to the gap between individuals who have access to modern information and communication technology, and those who do not. The digital divide can exacerbate educational disparities, particularly for learners from lower socioeconomic backgrounds who may lack access to necessary technological resources. For instance, learners from lower-income families often lack the digital resources such as a computer, tablet, or even a stable internet connection, but they are required to participate fully in a technology-enhanced curriculum. Their inability to complete online assignments, participate in virtual classroom discussions, or access supplementary online resources can put them at a significant disadvantage compared to their peers who have ample technological access. Another critical issue arises when educators make assumptions about learners' technological capabilities. It is easy to presume that in this digital age, every learner owns a smartphone or has ready access to a computer and the Internet. This presumption can lead to unfair practices, where educators may set assignments or tasks that are difficult for underprivileged learners to complete.

Also, Bring Your Own Device (BYOD) policies, intended to ease the integration of technology in educational settings, can inadvertently act as agents of inequality (Katherine et al., 2021). When learners bring their own devices to class, the varying quality and capabilities of these devices can unintentionally showcase their socioeconomic background. For instance, a learner who brings a high-end laptop may inadvertently highlight their higher socioeconomic status as compared to a peer who brings a less capable or older device. These visible differences can undermine the sense of equality and social justice within the educational environment. It should also be noted that the digital divide has also been evident in the selection of digital educational resources when suitable OER are not available. Paid applications and premium versions of online educational platforms usually offer a range of benefits over their free versions, including comprehensive features, adds free (without distractions), and more extensive and specialized contents, and superior customer support (e.g., Natusch, 2004). This raises a significant equity concern: those who can afford these premium educational resources often have a considerable advantage in the learning process. Additionally, the content quality can differ widely between free and paid resources. Paid versions usually offer content that is curated, expert-verified, and regularly updated. This not only enriches the learning experience but also may lead to better academic outcomes. On the other hand, learners who cannot afford upgraded versions are deprived of the benefits, and the limitations of free versions can result in an incomplete or less effective learning experience.

While the OER movement has made it possible for teachers and learners to have easier access to materials, there are still significant gaps in what is available for teachers depending on the context in which they are teaching, and the use of these resources is only possible if teachers have suitable technologies to utilise them. Teachers may find that they are required to spend a significant proportion of their wages on internet connectivity and/or that they lack suitable technology literacy skills, but freely available tools such as WhatsApp do make it possible to carry out a range of tasks even with devices with lower functionality (see Ivone & Robb, forthcoming). This may to a certain extent compensate for the disparity in access to learning resources that can be used on less sophisticated technological devices, but it does not have any lasting effect on bridging the digital divide that exists between socioeconomically different educational environments.

### *Gender and racial divide*

Two areas that have received increased attention over the past several years are the problems of gender and racial bias, although both have been manifested in different ways. Gender stereotypes are deeply entrenched societal constructs that propose oversimplified beliefs about the roles,

characteristics, and abilities tied to one's gender. Among these are the preconceptions that men are naturally better at using technology (Pérez-Sabater & Pérez-Sabater, 2013) while women are inherently better at learning languages. There is some evidence to suggest that females may possess some characteristics that are linked to advantages in learning a language such as stronger verbal/linguistic intelligence and a higher tolerance of ambiguity (Hou & Hou, 2017). Such biases can subtly infiltrate classroom dynamics in various ways, from biased classroom interactions to the design and content of educational materials that unknowingly favour a certain gender's perspective (Brown, 2023). Coupled with stereotypical portrayals in the media, these biased images ultimately lead to societal inequalities that may even be detrimental to women's position even in the workforce. For example, while there have been improvements, many women still feel threatened when working in the IT industry (e.g., see the discussion of ICT Gender Equality Paradox, UNESCO, 2019), which can lead to the propagation of the gender polarisation in the industry.

Racial bias is also an ongoing issue in language education, in terms of the stereotypical view of certain races as "better" speakers of a language than others (see the discussion on native speakerism above) and, like gender, in the way that people of different ethnic and racial backgrounds are portrayed in teaching materials (Bowen & Hopper, 2022). Policies have been put in place that are designed to reduce racial discrimination in many countries such as the US, but these have often served to further marginalise those that they set out to protect by giving an illusion of inclusion rather than realising it (Bryan et al., 2022). This has included tokenism, where those who do not fit the racial (or gender) majority in a given environment are given preferential treatment as means of giving the impression of treating people equally. Needless to say, this can have a very negative effect on those who are the recipients of these benefits, in that they themselves feel they were benefitted on racial grounds and that they may be openly or discreetly prejudiced against due to this treatment. It is not unexpected that racial bias is also evident in online learning environments, and there is evidence to suggest that a number of popular online teaching platforms include affordances such as customer ratings and algorithms that can act to disadvantage non-White teachers (Curran, 2023).

The rapid rise of AI technology has also raised concerns regarding the reinforcement of gender and racial biases. Not only does the commonly used female image of AI personal assistants can deepen stereotypes about traditional gender roles (UNESCO, 2019), but a report by UNESCO in 2021 pointed out that the algorithms used to train AI data may subsequently bolster underlying assumptions and biases about gender, as they are based on data that are initially biased. Not surprisingly, AI training has also been shown to be racially biased as well, with English linguistic corpora, excluding the register of speech used by African Americans (Bella et al., 2023). Thus, even with the massive developments we have seen with technology, it is still hindered by underlying stereotypes and assumptions that are found in the information on which it is based.

***Research access divide***

It is not only in teaching that we can see problems of inequality in language education, but research is also affected by social justice issues. We use the term "research access divide" to refer to the gaps that exist between people from differential sociocultural backgrounds in accessing and publishing research. A look through the research published in the so-called top tier journals that explore the use of technology in language teaching and learning will reveal that there is a bias towards academics based in higher socioeconomic regions, with far less representation from academics based in less developed regions. The commercial publishing of academic research has long attracted criticism due to the socioeconomic gaps that it enforces, and the massive profits made for profit publishers (see Batterbury, 2017, for a discussion). Subscriptions can be prohibitive to many institutions in these less developed regions, and while this model does not incur a cost for authors to publish, academics in these institutions are less likely to have access to

the latest studies on which to base their own research, which can in turn greatly impact upon their ability to publish in these top-tier journals.

Technology has meant that research can be made available online without the need for subscribing to paper-based journals, and this accessibility has led to alleviating the problem to a certain degree. However, copyrighted material is often shared without permission from the publishers, leading to legal and ethical dilemmas. The open access publishing model, where published research is freely available to anyone without any subscription or other costs being incurred by the reader, has become more widespread in recent years, but numerous problems have emerged as well. Major commercial publishers who seek means to recover the income that would have been through subscriptions tend to charge high article processing charges (APCs) that can be beyond the reach of many academics without institutional support, and it is not uncommon for their institutions to be unable to afford these fees either. This has led to a pushback against the commercial publishers and a demand for research to be completely "free," but it is important to note that even when information is freely accessible, the costs associated with producing and publishing do not simply disappear. While initiatives such as Publons (also proprietary) aim to give reviewers recognition for their work, copyeditors and typesetters are coming to be expected to do their work without compensation in a model that is unlikely to be sustainable. Given the ease with which manuscripts can be transferred around the world as a result of the digital tools available to us, it is often those in lesser developed regions who end up being asked to do these duties at a lower cost, with the result of creating new types of socioeconomic discrepancies.

## Technology and Social Justice for Language Teachers

The issues above paint a rather grim picture of the problems of social justice in language education, and the role that technology has played in creating and sustaining these problems. The discussion that follows seeks to explore how technology can be used to assist teachers in facing and even solving issues related to social justice in language education.

### *Digital literacy and professional development*

Teachers need to have access not only to appropriate resources but also to adequate training and support to be able to use them effectively in language teaching (Stockwell, 2009). Professional development is a foundational aspect of facilitating social justice among teachers in their use of technology in their language teaching and learning contexts. Herein lies a twofold problem—on the one hand, many teachers lack training in using technologies in less-advantaged language teaching and learning environments (Tafazoli & Picard, 2023), and on the other, the training that is provided needs to encompass both how to use educational technologies as well as to equip teachers with the knowledge and skills to address and confront the biases, discrimination, and inequality that technology can bring about (Anwaruddin, 2019). This has large policy implications, in that the concept of what it means to provide training needs to encompass the very elements of social justice that were described at the beginning of this article, that is, inclusion, diversity, equity, respectful relationships, and action against bias and injustice.

Furthermore, professional development cannot be a one-size-fits-all model, however, and it needs to be designed to suit the needs of both teachers and learners within their given context (Kohnke, 2021). That is to say, a professional development course presented about a teaching environment with access to sophisticated technologies and (often expensive) commercial resources are unlikely to be meaningful to a teacher who does not have such access, meaning that courses or training need to be developed such that they can be applicable to a wide range of contexts. With limited

funding, time, and resources, however, this can be a very difficult undertaking, and as such, it becomes essential for teachers to be able to learn how to search, select, adapt, critically evaluate, and even create new resources for classroom based on what is available to them. Achieving this is highly dependent upon teachers having sufficient literacies (Ivone & Robb, forthcoming; Johnson & Brine, 2012), so it would be suggested that in order to be broadly relevant, professional development courses need to focus less on specific tools and resources, and more on the literacies needed to comprehend and utilise those that are immediately accessible to teachers. Understanding that social justice issues are key to effective use of technology can go a long way towards ensuring that appropriate decisions about technology use are made.

***Embracing teaching diversity with technology***

There are several deep-rooted biases that persist within educational settings that need addressing, such as native-speakerism, views of women and technology, and even culturally related power relationships that can hinder diversity in language teaching. The title of this section may be interpreted in two ways; firstly, it can refer to how to enhance diversity in teaching that uses technology; and secondly, it can mean how technology can be used to embrace teaching diversity. Each of these are important yet intertwined issues, and as a result, the discussion in this section deals with both of these perspectives concurrently.

Teachers may choose to use different technologies to support their teaching depending on their own individual needs, and this can also refer to their skills and background in using the target language, where they may compensate for any deficiencies in proficiency in the target language using technological resources. Despite this, unfounded bias based on racial or linguistic factors can lead to discriminatory hiring processes and can underestimate teachers from a variety of linguistic backgrounds who are technologically proficient and pedagogically innovative. The problem is not only at the administrative level, but also at a student level. Zhen et al. (2023) found that participants in online courses were more likely to choose White English L1 teachers over Black teachers, and that they were more likely to choose teachers whose L1 was English over teachers with an L1 other than English, irrespective of teaching experience or qualifications.

Another issue is gender equality in tech-enhanced leadership. In particular, the male-dominated leadership in the workplace, is a key bias of social justice among teachers. While many language educators are female, the majority of leadership roles in tech-driven educational initiatives, similar to other fields, are often held by men (see Tarbutton, 2019). This imbalance can not only limit opportunities for female teachers and reinforce harmful gender stereotypes, but also influence the types of technologies that are adopted with a bias towards those technologies that might be deemed more appropriate by males.

It is possible that the stereotypical roles presented in language teaching resources are playing a role in perpetuating these perspectives, but there is also a need for those teachers who are in a "superior" position to be aware of the difficulties faced by their colleagues and to help to alleviate discrimination. It is here that technology has the potential to enhance diversity in teaching and learning in a way so as to broaden awareness of issues of race and gender. One example of this is the use of multi-user virtual environments (MUVEs) such as Second Life which can allow participants to take on a different persona with an avatar, and by doing so be able to experience life as a different gender or race to raise awareness of the challenges faced by others (Hein et al., 2021). Experiencing diversity can play a positive role in allowing both teachers and learners to see what it feels like to be in a different position from their everyday life situations, which can in turn encourage a broader acceptance of diversity with a deeper understanding. This type of awareness raising can also contribute to avoiding tokenistic decisions (Boruah, 2022) that ultimately have a negative impact on all involved.

Social hierarchies in the workplace also play a significant role in social justice among teachers. As found in Wang's (2021) study, although junior teachers were willing to try new teaching methods with technology or had different opinions on language teaching, they found it uncomfortable to address their thoughts in the workplace. These hierarchies, based on factors like seniority, role, and power can create imbalances and contribute to a culture that hampers collaboration and discourages input from early-career teachers and lower-ranking employees. Diversity can be negatively impacted by these types of environments that can stifle creativity and innovation. Encouraging teachers and administrators at all levels to have an open mind is the only way to overcome these challenges.

## Conclusion

Many of the technology and social justice issues discussed in this paper have long existed but remained relatively unnoticed until COVID-19 pandemic that made them apparent. Although most teaching and learning environments are on their way to return to "normal," it does not mean a return to old practices and unseeing the biases. It is a difficult task to bring together the broad range of open ends that currently comprise social justice with regards to the use of technology in second language teaching and learning as has been discussed in this paper. What is evident, however, is that promoting social justice in the midst of these myriad factors is a complex but necessary task. It involves integrating principles of inclusion and diversity, maintaining equity and respectful relationships, and taking action against bias and injustice into teaching practices. While challenges such as the digital divide, gender and racial inequality, and access to resources, professional development opportunities, and even research persist, it is crucial that educators and policy makers are aware of the need to continue to strive for more equitable and inclusive second language education.

One of the key means through which social justice issues can be addressed is to open dialogue between learners, teachers, and school leadership in a way that it enables reflection on current practices and perspectives. This needs to be linked to training that can help to raise consciousness of individual biases that we may not even be aware of. The journey to embrace teaching diversity is ongoing. Again, regular training and professional development opportunities focused on technology and inclusive education practices will ensure teachers remain equipped to cater to all of their learners regardless of the context.

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