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Roles of Languages and Technology in Teaching in Marginalised Communities: Perspectives and Practices

*Rola języków i technologii w nauczaniu w społecznościach
marginalizowanych: perspektywy i praktyki nauczania*

Abstract: Teachers in marginalised communities are known to face numerous challenges that may impact on their classroom practices. However, very little is known about their classroom practices in terms of their use of language and technology. Drawing on data collected in an international research project involving teachers and schoolchildren in several marginalised communities in Bangladesh, Nepal, Senegal and Sudan, the paper reports and reflects on the roles of languages and technology in education from the perspectives of teachers. The research data pertaining to teachers was collected through interviews and classroom observations and analysed through the lens of activity theory. Contradictions emerged between official languages used in class and the need to use local languages to support understanding, communication and discussion. Digital tools for teaching and learning were highly valued but scarce, consequently some teachers filled the gap by using their own digital and financial resources. Despite some challenges using English with students, teachers' attitudes towards English were positive due to the perceived value of English for employment, access to information and social status. The research contributes to renewed awareness of marginalization and inequity and to promoting inclusivity. It contributes insights directly from communities that have not been studied from the combined perspective of languages and technology use in education. We discuss the implications of the findings for the improvement of pedagogical practices in marginalised communities.

Keywords: marginalisation; digital technology; language diversity; teachers' experiences; secondary schools; low-resource contexts

Abstrakt: Nauczyciele w społecznościach marginalizowanych stoją przed licznymi wyzwaniami, które mogą mieć wpływ na ich praktyki nauczania. Jednak niewiele wiadomo na temat praktyk stosowanych w klasie, jeśli chodzi o wykorzystanie języków i technologii. Opierając się na danych zebranych w ramach międzynarodowego projektu badawczego z udziałem nauczycieli i uczniów z kilku marginalizowanych społeczności w Bangladeszu, Nepalu, Senegalu i Sudanie, autorzy przedstawiają i poddają refleksji rolę języków i technologii w edukacji z perspektywy nauczycieli. Dane badawcze dotyczące nauczycieli zebrano poprzez wywiady i obserwacje w klasie, a następnie przeanalizowano je przez pryzmat teorii działalności. Pojawiły się sprzeczności pomiędzy językami używanymi na zajęciach a potrzebą używania języków lokalnych w celu wsparcia, zrozumienia, porozumiewania się i dyskusji. Cyfrowe narzędzia do nauczania i uczenia się były wysoko cenione, ale brakowało ich, w związku z czym niektórzy nauczyciele wypełnili lukę, korzystając z własnych zasobów cyfrowych i finansowych. Pomimo pewnych wyzwań związanych ze stosowaniem języka angielskiego w pracy z uczniami, nastawienie nauczycieli do języka angielskiego było pozytywne ze względu na postrzeganą wartość języka angielskiego dla zatrudnienia, dostępu do informacji i statusu społecznego. Badanie przyczynia się do podnoszenia świadomości na temat marginalizacji i nierówności oraz do promowania włączenia społecznego. Dostarcza też wiedzy bezpośrednio od społeczności, które jak dotąd nie były badane pod kątem perspektywy wykorzystania zarówno języków, jak i technologii w edukacji. Autorzy omawiają również implikacje wyników badań dla poprawy praktyk nauczania w społecznościach marginalizowanych.

Słowa kluczowe: marginalizacja; technologie cyfrowe; różnorodność językowa; doświadczenia nauczycieli; szkoły średnie; kraje o niskich zasobach

INTRODUCTION

Teachers in marginalised communities face numerous challenges that impact negatively on their practices. The challenges include restricted or unequal access to resources, which, in turn, may determine how teaching and learning takes place in class. In this paper, we focus on two key resource challenges that teachers face in marginalised community schools in some of the least developed countries in South Asia and Sub-Saharan Africa. The first challenge concerns the languages of education, that is the languages used in class and in materials such as

books and digital media. English is often the official medium of instruction, but the teachers and students use local languages at home and in their communities, and they may use them sporadically in class (Erling et al., 2017). Languages are a resource that can support education but can also create barriers, and what space should be provided to the students' mother tongue in education is highly contested. The second challenge for teachers is the educational use of technology. Even in deprived communities, teachers are increasingly using, or would like to use, technology in their teaching. However, limited or uneven access to technology and a lack of digital literacy pose barriers for both teachers and students (Khan et al., 2020, 2022).

In this paper we draw on data collected in our international research project which had as its focus the experiences of teachers and schoolchildren in marginalised communities in Bangladesh, Nepal, Senegal and Sudan. According to von Braun and Gatzweiler (2014), although global marginality has decreased to some extent, the most marginalised groups are now concentrated in the regions where these countries are located. Marginalisation is usually associated with a combination of factors such as indigeneity, minority, gender, displacement, location and poverty (Slee, 2013). In education, the concept implies a situation in which children and their teachers find themselves in an uncontrollable and involuntary position whereby socio-political, cultural, economic, ecological, and technological systems restrict their access to learning opportunities and resources. These limitations, in turn, affect their capabilities, causing them to remain on the margins or within the confines of marginality (Rosa, 2019; Cummins, 2021).

The research reported in this paper took place while the COVID-19 pandemic was having an immense impact on education, drawing attention to the role of digital technologies in sustaining education for those who had access, could afford to use them, and had the necessary skills. This time of crisis also showed how people coped in very difficult circumstances and what solutions they were able to find. The research has implications for educational practices in the above-mentioned countries and regions, but we believe the issues we highlight are also relevant to other countries and parts of the world facing similar challenges in terms of managing multiple languages and the use of technology in education. For example, increasingly European countries are having to take account of students from migrant and refugee backgrounds whose mother tongue is one in which teachers might only have limited competence. In the next section we review current literature on language and technology in education in relation to issues of marginalisation, and after that we present our research findings and their implications.

BACKGROUND

Starting with the languages-of-education challenge, most marginalised communities in the two continents are multilingual. Therefore, the biggest challenge the teachers face comes from multilingual classrooms (Giri, 2022). Giri (2022), in his study on the plurilingual approach to language education in multilingual contexts, found that most contexts have mother tongue or minority language-based language education policies in place; however, there is a dearth of suitably trained teachers who can manage the linguistic diversity in their classrooms. Therefore, despite the constitutional provisions for mother tongue based multilingual education (MTB-MLE), marginalised community schools have not managed the linguistic minorities well (Mohanty, 2017) for three reasons. Firstly, the plans for early MTB-MLE have not been effectively implemented, largely owing to unavailability of appropriate textbooks, inadequate teacher-training programs, and inefficient implementation strategies (Malone, 2018; Johnson & Zentella, 2017). Malone (2018), in her extensive study on how children's mother tongues are used in classrooms, found that MTB-MLE programmes have been increasingly adopted in the Asia-Pacific Region in recent years. However, schools in most countries in the Asian region continue to deliver education in a language that some children neither speak nor understand and "forcing them to learn in an unfamiliar language creates an educational handicap that many cannot overcome" (Malone, 2018, p. 3). Consequently, minority groups are forced to learn "other" languages, which creates a learning overload. Secondly, schools in remote locations often lack classroom facilities and teaching resources (Giri, 2019a), making teachers unable to manage the language expertise children bring into class. According to Singh et al. (2022), there is often a vast linguistic distance between the "standard" language the school systems expect children to master and those of their mother-tongue backgrounds. Thirdly, getting the right teachers is another major challenge (Mohanty, 2017). Adequately trained teachers can help children overcome linguistic barriers in the classroom by "using resources from the learners' whole linguistic repertoire" (Cenoz & Gorter, 2021, p. 1), but many teachers in disadvantaged areas are not sufficiently trained for this and they restrict their practices to using curricula to fix children's language "deficiencies" (Sosnowski, 2021).

These linguistic limitations and challenges have a tremendous impact on what happens in the classroom. Classrooms can be sites of empowering marginalised children. However, most teachers and schools adopt a deficit framework in which the language practices of minoritised children are seen as "a barrier to learning that needed to be systematically eradicated" (Flores, 2016, p. 2). In South Asian and Sub-Saharan contexts, minority language practices are considered inappropriate for academic tasks (Malone, 2018; Mohanty, Skutnabb-Kangas, 2022), and

the respective governmental language intervention programs monitor and control home-language practices in the classrooms. Mohanty and Skutnabb-Kangas (2022, p. 3) in their empirical study in South Asian and African contexts affirm that schools as social power instruments perpetuate inequality and discrimination and violate linguistic human rights of children by promoting linguistic homogenisation in the classrooms. In this way, schools often disempower children from marginalised backgrounds. In the name of fixing their perceived linguistic deficiencies, they marginalise them further (Roche, 2016). According to Sosnowski (2021), state and/or school language ideologies position students as linguistically deficient and their prior linguistic expertise in their mother tongue as a hindrance. The ideologies contribute to the development of a curricularised approach to language and literacy instruction which treats language and literacy as subjects to be taught rather than as communication practices, and this facilitates the marginalization of both students and teachers. In the classroom this is often reflected in teachers' monoglossic language ideology and monolingual pedagogical practices.

Languages that marginalised students speak in South Asian and sub-Saharan African classrooms are generally excluded from the educational process and treated as inadequate and inappropriate. Most classroom practices are designed to maximise the use of dominant or standard languages and to minimise the use of non-standard languages. These approaches contribute to the eradication of the home language from the children's repertoire, making them lose their language altogether (Giri, 2019b) and causing significant stress and well-being issues in children (Devkota, 2018). Devkota's (2018) findings from a study on marginalised children in Nepal revealed that the unspoken policy to use the dominant languages in the classrooms in marginalised community schools not only caused significant dropouts of children from schools, but it also resulted in children increasingly adopting the dominant languages.

Turning now to the second focus of this paper, technological advancement has also impacted education in marginalised communities. Digital technologies are increasingly becoming indispensable in education (Shvay, 2019; Siemionow, 2022). Most available literature on technology in education in the target countries indicates a clear need for integration of technology into teaching and learning to help build required skills. UNESCO (2020), for example, emphasises that a core aim of education should be to prepare young generations to become future ready. An effective education system should help them to deal with the rapid development of technologies and vast amounts of new knowledge and information, while at the same time fostering critical thinking, sensemaking, creativity and collaboration skills to excel in digital contexts (Kukulska-Hulme et al., 2023; Shrestha, 2016). Writing about low-income countries – i.e. those which have the weakest economies according to the World Bank, based on their gross national income

per capita – Kukulska-Hulme et al. (2023) suggest that most of these countries aiming to improve students' inclusion and participation in the digital society seem to focus on developing their digital literacy right from the primary level. However, classroom uses and practices vary by country, ranging from developing students' ability to access digital media, being creative users of technologies, to becoming critical consumers of digital information.

For Marrone et al. (2021), there are two levels of digital divide: the first is inequality in access to technology and the second is inequality in terms of digital literacy and ability to use technology (p. 7). While most LICs have policy provisions for Internet access in schools, many disparities still exist around the second digital divide. Marginalised community schools are limited in technology use in the classroom. The key barrier is cost (Khan et al., 2021), though there are other contributing factors, including linguistic, social and cultural barriers (Mohanty, 2017). In these communities, schools, teachers and families are aware of how technology might improve children's education and they are enthusiastic to engage with tools that will make a difference (Laudari, 2021; Kukulska-Hulme et al., 2023), but they are also less likely to have disposable income to purchase technologies or mobile data plans. Furthermore, marginalised communities are more likely to live in remote and rural areas, or poorly connected urban areas (like informal settlements), and they are least likely to be reliably connected to digital networks (Siddique, Islam, 2020; Dawadi et al., 2020). This then contributes to institutionalising and reinforcing digital divides along existing lines of marginalisation. These divides were amplified during the enforced move to distance teaching during the COVID-19 pandemic "lockdown": "teachers were confronted with the need to adapt to online teaching" (Pediconi, 2021, p. 168), and those less familiar with technology, or having less access, were further disadvantaged (Magda-Adamowicz, 2022).

Teachers' competency in the use of technology is seen as desirable to overcome the divides in more disadvantaged contexts both in terms of technological and pedagogical development (Quaicoe, Pata, 2020; Siemionow, 2022). With increasing geographical mobility and use of English and digital technology, education embraces interactions across different groups of people, while classroom dynamics become more complex and diversified (Islam, Inan, 2021). Managing such diversity and complexity is the biggest challenge for teachers in marginalised community schools because, as Howarth and Andreouli (2016) point out, diversity and complexity need to be managed well in the classroom so that they become a source of mutual enrichment rather than conflict.

In summary, teachers are often discouraged from integrating technology into their classrooms because of the lack of infrastructure (Laudari, Maher, 2019) and training (Khan et al., 2022). Access to technology can be seen as the first level of digital divide, but the literature shows that further levels of inequality, such as

training and support to put training and access into practice, are significantly lacking. Thus, several barriers, challenges and limitations restrict the use of languages and technology in classrooms.

To gain a deeper understanding of the role of languages and technologies, our research project collected first-hand accounts of the teaching experiences and classroom practices of teachers in harder-to-reach urban and rural settings, in four low-income countries in Africa and Asia. The main aim of the study was to understand educational practices in the target communities and to see how teachers, despite having to work within some restrictive socio-political, cultural, economic, ecological, and technological systems, use languages and technology to facilitate learning in their classrooms. The study was guided by the following research questions:

1. How do teachers in marginalised communities use languages in their teaching, including English?
2. How do teachers in marginalised communities use technology in their teaching?
3. What challenges do teachers face while using English and technology in their teaching in marginalised communities?
4. How do teachers perceive the roles of languages and technology in teaching in marginalised communities?

METHODOLOGY

Our research project, ReMaLIC (Reaching out to Marginalised Populations in Under-resourced Countries), collected first-hand accounts of the educational experiences and perspectives of marginalised young people aged 13–15, their parents and teachers in marginalised communities and harder-to-reach urban and rural settings in 2021–2022. In this paper we focus on the 32 teachers from 16 schools who took part in the project. Their views and experiences, collected through interviews, are supplemented by data from classroom observations.

The research took place in low-income, marginalised communities that were identified by local partners in our project. Various communities as well as urban and rural locations were discussed in terms of their potential suitability for the study and in respect of researchers' ability to travel to some remote and potentially risky locations during the pandemic. Chosen sites varied across the project and included locations with low literacy rates, low school enrolment and/or high dropout rates, as well as slum areas, squatter communities, areas with war-displaced people, nomads and ethnic communities that were locally known to experience marginalisation. In total, 32 teachers, 160 children, and 64 parents participated in the study.

Sixteen schools were involved; in each country two schools were in rural settings and two in urban settings. Their levels of digital capability were variable in terms of availability of computers as well as levels of awareness of how the technology could be used in teaching and learning. For example, in Bangladesh, children and teachers in “slum schools” (located in the metropolis of Dhaka, Korail Slum and Banani) were more knowledgeable and aware of the use of digital devices compared to those in schools in the Hill district. In Nepal, all the participating schools had some computers, but access to them was often limited or they were underused, while internet access could be unreliable. The linguistic situation in each country context is also complex and variable. In some cases, the official language of instruction is the national language, while in others it is English (or French). English is often a compulsory subject, but it may be taught through the medium of another language. Some children are from ethnic minority or tribal backgrounds and have limited familiarity with the national language or with English/French. Teachers may switch between languages when they are teaching, to make themselves better understood by different groups of children.

In each school, two teachers (one teaching English and another teaching other subjects) and ten students were purposively selected. Data collection in each school started with classroom observations, and participants were then asked to take part in follow-up interviews and focus group discussions (FGDs). In this paper, we draw on the classroom observation data (including field notes taken during visits to local sites), and the individual interviews with teachers. Interviews were conducted in several languages and were locally transcribed and locally translated into English for the analysis; along with the classroom observation notes, they were then coded into themes employing a semi-directed thematic analysis method (Braun, Clarke, 2021). Data coding started with some top-level codes taken from Activity Theory (Engeström, 1999) which included: access (to technology and English), community of practice, division of labour, rules (on using digital tools and the English language) and contradictions/challenges. Additional codes emerged through the analysis of data and were added, following an inductive coding process.

As thematic analysis is an iterative process (Braun, Clarke, 2021), multiple steps were followed and NVivo 12 was employed to aid the systematic organisation of themes emerging through the analysis. To minimise subjectivity of coding, 16 interviews/FGDs (nearly 10% of the data) were independently coded by a project team member and an independent researcher. The mean percentage agreement of 92.5% for the intercoder reliability showed a good reliability level. To ensure the project was conducted to the highest ethical standards, the British Educational Research Association ethical guidelines (BERA, 2018) were followed. Participants were informed that taking part in the study was voluntary and informed consent from each participant was obtained prior to collecting any data. All data was treated as confidential and promptly anonymised.

FINDINGS

This section presents the research findings in terms of teachers' use of languages, their use of technology, their perspectives on the roles of language and technology, and the challenges they face in using English, other languages and technology.

TEACHERS' USE OF LANGUAGES

The teachers sometimes reported that they used two or three languages in the classroom. A teacher with decade-long experience explained:

I mostly use English and Nepali, but sometimes I use Tharu when I feel my students need some more explanation in their own language. I simply translate the new concept in their home language. (Teacher in Nepal)

A teacher in Nepal who speaks Tharu and Nepali can support both Tharu-speaking and Nepali-speaking students, while other teachers may use Nepali alongside English. One of them explained:

I tried to teach in English medium first. But the students responded that they could not understand the contents delivered in English. So, I started using English and Nepali both. Although we call our school English-medium, I use English and Nepali languages both. I first teach the contents in English, and then explain in Nepali. (Teacher in Nepal)

A pattern of appreciating the national-official languages and international languages such as English resonates in the classrooms of Bangladesh as well. A female teacher at a public school reported:

I mostly use English, but I need to use the Bengali to make my students learn what I teach. If I use English only, they do not understand. I use Bangla. (Teacher in Bangladesh)

In Senegal, teachers often use multiple languages within a single class. French, English and local languages are used concurrently to facilitate classroom communication and promote learning. One of the teachers explained:

Besides French and English, I use the local language like Wolof to facilitate communication in a class. (Teacher in Senegal)

In Sudan teachers need to use English and Arabic. Students expect teachers to use Arabic when animating classroom discussions:

The lesson was written in standard Arabic, but sometimes the teacher used colloquial Arabic to explain the lesson and to interact with the students. Students also spoke in colloquial Arabic but attempted their classwork in standard Arabic. They didn't face

a problem in switching between the two varieties. In English class, teachers and students used English for reading the lesson, and Arabic in discussion. (Fieldnote)

Overall, these narratives show that teachers predominantly used English and official languages which were preferred in their national contexts. Yet they also used local languages to facilitate understanding, communication and discussion.

TEACHERS' USE OF TECHNOLOGY

The research showed that there is limited use of technologies in the classrooms in all four countries. However, teachers also reported that they had some experience of using technology during COVID-19. Some teachers continued using it even after COVID-19. An English language teacher in Nepal who continued using technologies in his own learning and when teaching students said:

I use e-library and other internet resources to improve my English, I also watch videos to see how native speakers speak. This is important for me to teach my students well. I motivate them to search things online so that they can learn themselves. (Teacher in Nepal)

In Bangladesh teachers also often reported that the use of technology had made them smarter in their teaching. One of them explained:

The use of technology has made us a lot smarter. We feel easier to have a lot of information we get from the internet which we did not get before. So of course, there is a need. (Teacher in Bangladesh)

Class observations in Senegal showed that some teachers used smartphones while teaching English. In one class, a teacher displayed images related to family and family trees and asked students to interpret the images. Another teacher used his smartphone to engage students in recognizing different professions based on the images. However, these teachers were concerned about the irregular Internet access and costly data packages:

We always buy our mobile data ourselves. As you could see a while ago in my class some students did not have internet connection, so I was obliged to share (my mobile data) my connection with them. (Teacher in Senegal)

The teachers in Sudan reported that they had very limited opportunities to use the Internet in school. One of the teachers said:

I use technology outside the school for educational purposes; I face some challenges in using it simply because I have not received enough experience in using it. (Teacher in Sudan)

Similarly, another teacher said:

Yes, I use my mobile phone for internet at home; there is no such kind of technology at the school. I prepare my lessons at home and deliver my lesson at school. (Teacher in Sudan)

Overall, the research shows that the teachers in all four countries had limited knowledge of how to use technologies in the classroom, and limited access to the Internet and to digital devices. Despite these barriers, teachers were making some use of technology in the classroom as well as at home.

TEACHERS' PERSPECTIVES ON THE ROLE OF LANGUAGES AND TECHNOLOGY

Teachers in the marginalised communities in all four countries seem to have favourable attitudes towards the English language. The positive attitudes towards English are primarily guided by practical or utilitarian purposes, such as getting a job, access to learning materials and achieving higher social status:

It is very important to know English. Without English, there is no job. It is also a self-smartness for anyone. If you want to be smart, you need to know English. If anyone speaks any English word or anything in English in his friend circle, he becomes a hero to his friend. (Teacher in Bangladesh)

Many teachers highlighted the role of English in using technology and even expressed concerns that they are in a disadvantaged position in using technology because of their low proficiency in English:

Having no knowledge of the English language represents a huge challenge for me when it comes to the use of technology. (Teacher in Sudan)

Teachers highlighted that there are four major benefits of using technology: First, it facilitates and/or improves learning:

It is easy to learn English after I use my mobile or laptop because I learned many things with the help of them. (Teacher in Nepal)

Second, it creates jobs and better life opportunities:

The opportunities now in the world in technology are immense, you find people who found job opportunities through websites. You won't be able to find those jobs if you didn't know how to use technology. (Teacher in Sudan)

Third, it facilitates teaching in the classroom:

The use of new technologies must be systematized in the teaching system because their contribution is undeniable and valuable from a pedagogical point of view. (Teacher in Senegal)

Fourth, it enhances people's access to learning resources:

If they know how to use technology their knowledge will increase and later on in the practical life. (Teacher in Sudan)

Nevertheless, some teachers seem to have negative attitudes towards the use of technology for pedagogical purposes:

If we use technology to teach each and every class, it is difficult to complete the course on time. (Teacher in Nepal)

CHALLENGES TEACHERS FACE IN USING ENGLISH/LANGUAGES AND TECHNOLOGY

Findings suggest that teachers face some challenges in using English in their teaching. For instance, because of students' low proficiency in English, using English sometimes becomes time consuming as teachers must use different techniques, including translation, to make students understand:

After having tried to explain things in English many times using gestures and drawing on the board, if they don't understand, I then resort to French to make them understand. (Teacher in Senegal)

The cases of Senegal and Nepal are complex. We found that teachers in those countries sometimes use a combination of three or more languages:

In class, we use French most of the time but sometimes in courses like history and geography the teacher uses Wolof to explain certain terms. In French class, the teacher forbids us to speak Wolof. English is only used in English class. (Student in Senegal)

Findings further indicate that some teachers do not have high proficiency in English:

I feel a little hesitation while speaking, (smiles), but in my class I want to engage my students more. (Teacher in Nepal)

Similarly, teachers face several challenges in using technology. First, there is little school provided technology in most contexts:

At this school, we do not have technology; we primarily rely on textbooks only. (Teacher in Sudan)

Some teachers have reliable access to the internet neither at home nor at school. Some schools have internet access only in their computer lab and office rooms, but not in classrooms. In other schools, there are computers but no internet connection:

At school there are computers but there is no connection. (Teacher in Senegal)

Second, many teachers have low digital literacy. In some schools, we found that teachers were unable to use devices available in the schools because of a lack of training or skill to use them:

There are computers in the school, but we aren't trained to use them to teach the students. (Teacher in Sudan)

Third, costs associated with the use of technology are very high:

The connection packages are expensive and do not last very long. (Teacher in Sudan)

We even found that some teachers were paying out of their own pockets to enable technology enhanced learning in schools, as internet access was only possible via their personal phones.

DISCUSSION AND IMPLICATIONS

In the marginalised communities we have investigated, English and technology play key roles in the education process for many teachers. To educate their students, teachers working in marginalised communities must shift between languages to support students, sometimes using several languages in the same lesson. There is a tension between the languages in which teachers and students have high levels of competency, and institutional and national expectations of what languages are used to deliver curriculum. Teachers take pragmatic approaches, moving between languages during lessons to support knowledge creation and adopting the practices of translanguaging (Cenoz, Gorter, 2021).

National languages may serve political purposes (e.g. privileging one or other regional or ethnic group; underpinning cultural, national or religious identity), yet access to English may shift power dynamics, with teachers and marginalised students recognising its international power, status and as a means to access future employment opportunities. Our study highlights the importance of teachers acknowledging and accounting for students' multilingual requirements. This is not only true

of our reported contexts, but in many other global settings, including where populations migrate and seek refugee elsewhere, such as in the recent Ukrainian crisis.

Teachers in the studied localities use technology in many similar ways to teachers elsewhere in the world: for lesson planning, research, activity preparation, lesson delivery and personal professional development. They encourage students to engage with digital and online tools to increase their access to knowledge and to improve their digital skills. What differs is the teachers' recognition that both their students and they themselves are operating in highly resource-limited education systems and home environments, and that there is a greater pressure on teachers to bridge that gap, often at their own expense, to overcome inequalities felt most acutely by marginalised students. Furthermore, what constitutes "technology" to support teaching must be approached with an open mind: in our contexts, this includes highly effective yet more established tools such as television, radio, and SMS text messaging. The use of a wide ecology of tools by teachers during the COVID-19 pandemic bridged educational divides and teacher-led innovative practices have had lasting impact on teaching practices. Policy makers should consider where and how teachers in such localities use technologies, but also what technologies need supporting (Loh, Chib, 2021).

Three key challenges are faced by teachers when using English and technology in their teaching in marginalised communities: resources; competency; and managing cultural and organisational expectations. Resource limitations impact possibilities (Shreshta et al., 2022). Schools often have limited technology, while teachers, often restricted by finances themselves, feel pressurised to bridge the gap and provide what they can to support their teaching practices.

Teachers' limited competencies, or lack of confidence, can also impact how technology and the English language can be deployed to enhance educational practices, with opportunities for training often limited. The availability of technology where the user interface is only in English or other widely spoken languages can further reinforce the global hegemony of English and delegitimise use of other languages in the classroom, undermining attempts by teachers to show their students that they value minority mother tongues. Teachers face a confluence of pressures, not only to improve their mastery of English to support their students' language learning, but also to support the use of technology in the classroom, as technologies often assume English competency. This is exacerbated by having to know the specific technical terms in English (e.g. buffering, web, saving) as "these words do not have a whole semantic cloud (the set of meanings, ideas and related concepts) which makes them easy to understand and remember" (Terzoli et al., 2005, p. 1489).

Cultural and organisational expectations force teachers to deliver the curriculum in languages that students from marginalised communities may be weak

in, while school rules may prohibit use of technologies in classrooms (e.g. smartphones) even when teachers can see value in their educational use. Furthermore, teachers themselves may also have expectations and concerns that can challenge the use of technologies, such as the fear of misuse by students or their exposure to unwanted global influences.

In summary, teachers in the schools and communities that were part of this research are generally positive about the use of technologies and English as tools to enhance their teaching practices and improve student' education, though they face many challenges. The research literature suggests that tools such as smartphones can be used both in and beyond institutional settings, and "when combined with an ability to use the English language, can facilitate access to learning resources, thereby helping to support young people's education where the school facilities and local teaching resources are often insufficient and may reinforce existing inequalities" (Kukulska-Hulme et al., 2023). However, costs and the lack of digital skills are ongoing challenges. Schools should consider alternative approaches to enabling training and increasing competency and professional development: for example, using low cost networked technologies that can work independently of the Internet and allow school-based teacher professional development in areas without reliable internet or even without reliable electrical supplies (Woodward et al., 2022; Cristol et al., 2019).

CONCLUSIONS

This research has investigated two crucial resource challenges, namely the use of languages and technology in education, as reported by teachers and observed in marginalised community classrooms in Bangladesh, Nepal, Senegal and Sudan. The home languages (local languages) students speak in these communities are often perceived as non-standard and a deficit to be rectified, but our research shows the value of a plurilingual approach. Our findings show that teachers use a combination of languages to get the lesson message across to students and students also like teachers to use their mother tongue and sometimes their local dialect alongside English or other official language, to ensure clarity and to support communication. Teachers have limited opportunities to use technology due to lack of access to the Internet, high costs and other constraints, but despite the obstacles they often managed to use some form of technology even during the COVID-19 pandemic. They projected favourable attitudes towards use of English and technology as they realised that English and technology are gateways for prestige, progress and prosperity.

The findings may be globally applicable, as many teachers around the world have the daunting task of accommodating students from diverse language backgrounds and at the same time integrating technology into their classrooms. This paper has contributed to renewed awareness of opportunities and challenges around the use of English and technology by drawing attention to the use of multiple languages in the classroom for reducing marginalization and inequity and to cater to diverse student needs, which can contribute to meeting the target of inclusivity. The research also highlights the growing need for integration of technology in education for teachers' professional development.

The perceptions and attitudes of the participants and the challenges identified from this study may be regarded as important considerations for making policy decisions about the roles of languages and technology in school settings. Implications may be drawn regarding the need to accommodate and use a combination of languages in the classroom. It is also crucial to bridge all levels of the digital divide to reduce inequality and ease technology use for pedagogical purposes. Therefore, there is a need for teacher training courses to improve the digital literacy levels of both teachers and students. The role of school leaders also needs to be explored as their contribution and support is necessary for achieving desired outcomes. Arguably, a systemic and holistic change in policy and practice is required to accommodate national and local languages along with English, which will ease the existing tensions that surround the accommodation of language use and technology integration in the classroom.

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