Technology-enhanced Learning and Linguistic Diversity

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Technology-enhanced Learning and Linguistic Diversity: Strategies and Approaches to Teaching Students in a 2nd or 3rd Language

EDITED BY

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I wish to dedicate this book to my fellow Scholars-in-Residence at New York University's Faculty Resource Network, who helped me grow as a person and as a scholar over the past 10 years. Several of them contributed directly to this volume.

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About the Editor

Patrick-André Mather specializes in the study of language contact and diversity, including pidgins and creoles, sociophonetics, and language policy and planning. Trained at McGill University (Canada), the Université Paris 7 Denis-Diderot (France), and the University of Pittsburgh (USA), he conducted fieldwork in Moselle (France), where he studied French–German language contact, and more recently in New York City where he investigated the acquisition of English phonetics and phonology by Puerto Rican and Dominican immigrants. His current research focuses on the acquisition of phonetics by adult learners of French (with Vincent Chanethom, George Mason University) and on language policy and planning in Québec and Puerto Rico. He has published articles and book chapters in various edited volumes and peer-reviewed journals, including *Language Sciences*, the *Journal of English Linguistics*, *Studies in Language*, and the *Journal of Pidgin and Creole Languages*. In addition to his research projects, he has taught linguistics, translation, English and French at McGill University, the University of Ottawa, the University of Pittsburgh, the French Institute-Alliance Française, and the City University of New York. He was also Chair of the Graduate Program in Linguistics at the University of Puerto Rico (Rio Piedras) from 2006 to 2009 and in 2013–2014. In 2009–2010, he was a Visiting Scholar at New York University's Department of Linguistics. He is also a certified translator and currently teaches Linguistic Theory, Sociolinguistics and Phonetics at the University of Puerto Rico, where he is a Full Professor.

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Preface

The idea for this edited volume came to me in June 2019, when I was a scholar-in-residence at the Faculty Resource Network, New York University, NYU. The Network had invited Dr Anna Visvizi, a professor at the American College of Greece and former scholar-in-residence, to give a talk on Brexit and the European Union. After her talk, we all met at Weinstein Hall (NYU) for dinner and discussed, among other things, a book series that Anna was editing at Emerald Publishing. The series focused on higher education, innovation, and technology, and Anna was interested in hearing proposals from other NYU scholars on possible book topics for the series. Given that I am a linguist by training, and a foreign-language instructor in practice, I suggested a broad topic which included multilingualism in the classroom and technology-assisted learning in higher education. Having interacted with such a diverse group of visiting scholars at New York University over the past decade, I realized that many had developed unique strategies for an increasingly multilingual and multicultural student community at their home institutions, both in North America and in Europe. Following a series of e-mail exchanges, Dr Visvizi asked me to submit a formal book proposal and, as the saying goes, the rest is history.

The idea for this topic is rooted in my own experience over the past 20 years with a multilingual student population at various institutions in the United States and Canada, including McGill University (Montreal), the City University of New York, and the University of Puerto Rico (Rio Piedras Campus). In each country, I taught both language and content courses, and was often faced with the reality that students had different levels of competencies in English, French, and Spanish. I had to adapt my teaching, either by code-switching in the classroom, offering tailored advice during my office hours, providing reading material in different languages, or discussing material in a language other than the language it was written in. Obviously, online platforms, social media, and other technologies, if properly implemented, can be instrumental in dealing with some of the challenges of multilingualism in higher education. When I published the Call for Chapters in the fall of 2019, I realized that many scholars faced similar challenges, and that each had explored personal, innovative ways of dealing with these challenges, on both sides of the Atlantic. I thank all of them for their contributions, which have enhanced my understanding of these complex issues.

Patrick-André Mather, 4 May 2020, San Juan, Puerto Rico

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I would also like to thank the authors for their patience, and my fellow scholars-in-residence at the Faculty Resource Network (New York University), for their encouragement, in particular Anna Visvizi, Audrey Latourette, Richard Kido, as well as my colleague Madeleine Vala for her critical input.

I also want to thank Debra Szybinski and Anne Ward, whose tireless efforts have enabled the Faculty Resource Network to grow and prosper over the past few decades. It is thanks to them that I met so many outstanding scholars at New York University. This book would not have been possible without their support.

And, last but not least, I thank members of the Editorial team at Emerald Publishing, who always responded to my queries in a timely fashion.

BCC

Educators in Europe and the Americas traditionally have little formal training in applied linguistics, and yet they are increasingly faced with a growing multilingual student base, propelled by programs such as Erasmus, or in settings such as the United States and Canada where both researchers and students are often from non-English speaking backgrounds. This book responds to the need to make the university community more aware of the unique experience of linguistically diverse students.

Breaking fresh ground, Patrick-André Mather suggests that rather than seeing bilingualism as an obstacle, researchers on both sides of the Atlantic should develop strategies that address and acknowledge the multilingualism of their students and use it to their advantage. Drawing on research and hands-on experience from both linguists and non-linguists who deal with students from different language backgrounds in their classroom, this book includes contributions from different theoretical perspectives, including linguistic research on second and third language acquisition, as well as case studies of specific challenges in teaching content courses in various disciplines, to offer a roadmap of how educators might facilitate the learning of their bilingual student cohort.

Combining issues that have been studied separately within the fields of theoretical linguistics, pedagogy, and information and communication technologies, the author presents a comprehensive overview across the areas of applied linguistics

and foreign language teaching methodologies and technological tools to address multilingualism within the classroom in university-level content courses, and ultimately equip educators to meet a critical demand.

Patrick-André Mather teaches Linguistic Theory, Sociolinguistics, French, and Quebec Literature at the University of Puerto Rico (Rio Piedras). He specializes in the study of language contact and diversity, including pidgins and creoles, sociophonetics, and language policy and planning.

Chapter 1

Higher Education and the Multilingual Classroom: How Applied Linguistics Research Can Help Design Effective Teaching Strategies

Patrick-André Mather

Multilingualism in the classroom and higher education is by no means a new phenomenon. Many developing nations such as India, China, Indonesia, and Nigeria, to mention only a few, have dealt with the coexistence of several languages within their societies and education systems since the borders carved out by European colonial powers between the seventeenth and nineteenth centuries rarely coincided with ethnolinguistic frontiers. Thus, many recently independent nations in Africa and Asia are multilingual, and indeed many of their citizens acquire two or more languages as children (see many examples in Wright, 2016). In addition, many developed nations have also been dealing with an increasingly multilingual student population over the past half-century or so, not only because of the greater recognition of national minorities such as the Catalan and Basque populations in Spain and French-speakers in Canada, for example, but also, and perhaps mostly, because of the waves of immigration following the decolonization of Africa and South and South-East Asia. Since the early 1960s, and in some cases earlier, many European countries have seen citizens from their former colonies resettle in France (e.g., Arabic speakers), in the United Kingdom (e.g., speakers of Hindi, Urdu, and other languages of the Indian subcontinent), in Belgium, etc. These demographic and linguistic changes are accelerating in the twenty-first century with the flow of migrants to Europe, and other Western nations like the United States and Canada, from war-torn regions in the Middle East and Africa.

The linguistic consequences of these population movements have shattered the myth that most Western nations are essentially monolingual, with bilingualism or even multilingualism often perceived with curiosity (in the best cases) or with suspicion (Abdelilah-Bauer, 2015). As Wright (2016, p. 40) points out, in most of Europe, nationalist movements between the eighteenth and twentieth centuries equated nationhood with a single, unifying national language:

> An early objective in the nationalist project was […] to achieve linguistic convergence within the group and to differentiate the national language from all allied dialects on the continuum. Nationalist campaigns therefore included language planning both pre- and post-independence.

Historically,

> the variety that became de facto the dominant language on a territory did so principally through a protracted political process, developing with the political and economic strength of the speakers of that language and their influence. (Wright, 2016, p. 50)

In effect, language policies in Europe created largely monolingual nation-states, although some regional languages and dialects survived, albeit in a diglossic context. However, with the revival of regional languages and the influx of migrants and immigrants, the myth of the monolingual nation-state has been shattered in the early twenty-first century, as bilingual education programs are increasingly popular in many countries and host nations are forced to recognize the co-existence of several languages on their territory, and in particular their student population.

Another phenomenon that has increased the number of speakers of minority languages in schools and academic institutions Europe and North America is the so-called "brain-drain," whereby promising students and scientists from the entire world flock to developed countries in search of better study, research and work opportunities.

Finally, within the European Union, the Erasmus Program has fostered student exchanges at the university level between member states, thus creating a more diverse and multilingual student population throughout the continent. Between 1987 and 2011, some 2 million students have participated in such exchanges.

According to Rodriguez Gonzalez, Bustillo Mesanza, and Mariel (2011),

> "students may go abroad, not only to complement their studies in the host university, for academic reasons, but also to improve their knowledge of foreign languages, especially the most common languages" (p. 423). They add that "[i]n terms of the results in relation to language, it seems that ESM, instead of being discouraged by the lack of knowledge of foreign languages, is actually used by the mobile students as an opportunity to learn or improve a major spoken foreign language." (p. 427) (See also Chireac, Chapter 2, this volume.)

To summarize, linguistic diversity within the student population, especially in colleges and universities throughout the developed world, is a growing phenomenon, fueled not only by immigration and by the revival of indigenous minority languages, but also by the recognition that multilingualism is not only a challenge, but also an opportunity for instructors to draw on students' knowledge of other

languages to improve their teaching methodologies. This challenges exists whether we are dealing with the teaching of second or third languages, or with content courses where material can be made available in different languages and platforms.

This, of course, is where technology-enhanced learning and online teaching platforms such as Moodle, BlackBoard, Google Classroom, and the like can help provide additional resources to students from diverse linguistic and cultural backgrounds. Chapters 5 through 8 (this volume) deal with various ways in which technology can help deal with the issue of, and take advantage of, multilingualism in the classroom.

Before going into some of the theoretical and empirical issues examined in the following chapters, some background on the linguistic and pedagogical aspects of second and third (or additional) language acquisition is in order.

Generally, a third/additional language is acquired in a formal (school) setting, but it can also be acquired in an informal context, for example, outside the home in the wider community. It can be acquired simultaneously with the L2, or consecutively. The acquisition of a second/foreign language (L2) has been studied from different perspectives for decades, as linguistics tried to answer questions about the cognitive processes involved in acquiring an L1 or L2 as a child or as an adult, in a monolingual or bilingual context, and in naturalistic versus academic settings.

The acquisition of a third (L3) or additional language (as opposed to a second language) has been studied more in adults than in children. Also, several studies have suggested that bilingual speakers have a learning advantage in acquiring a third or additional language because they have developed metalinguistic awareness in acquiring their second language. In addition, learners who are already literate in their L1 have an advantage in learning an L2 and an L3 (Berubé & Marinova-Todd, 2012). Finally, third/additional language learners are often aware of cognates, and use them as a learning strategy, especially in closely related languages (see Oliva & Gomez, Chapter 4, this volume).

Historically, the acquisition of a third or additional language has been studied with the assumption that we are dealing with identical processes as for second language acquisition. It was not until the 1980s and 1990s that researchers began studying acquisition in multilingual learning environments (Aronin & Hufeisen, 2009). Since then, no consensus has yet been reached on how L1 transfer in an L2 may differ from L2 transfer in a third or additional language (Rothman & Amaro, 2010), but some interesting hypotheses have been put forth, as we will see below.

Research questions in L3 acquisition revolve around whether syntactic transfer occurs from the L1, the L2 or both, and documenting any patterns. Three models have been proposed to explain L3 acquisition: the Cumulative Enhancement Model (Flynn, Foley, & Vinnitskaya, 2004), the L2 Status Factor (Bardel & Falk, 2007) and the Typological Primacy Model (Rothman & Amaro, 2010). The first model argues that the learner's previous experience in any other language facilitates the process of acquiring an additional language. By contrast, the L2 Status Factor claims that, during the initial phases of L3 acquisition, the L2 plays a dominant role and inhibits L1 transfer. Finally, the Typological Primacy Model emphasizes the role of typological similarities between languages when acquiring an L3.

All three models attempt to determine the most relevant factors in the grammatical transfer that occurs when learning a new language. As mentioned above, the Cumulative Enhancement Model (Flynn et al., 2004) states that language learning is cumulative, and that prior knowledge of an L2 or L3 may influence the acquisition of new languages either positively or have little or no effect. In this model, no negative effects are foreseen. To test this model, Flynn et al. (2004) conducted a study to examine the acquisition of three types of restrictive clauses in L3 English, by children and adults whose L1 and L2 were Kazakh and Russian respectively, using imitation tasks. The SOV structure of Kazakh is distinct from the SVO structure of both Russian and English, and the study suggests that the knowledge of an L2 (Russian) helps in acquiring an L3 (English), even though the L1 (Kazakh) is a head-final language.

By contrast, the L2 Status Factor model (Bardel & Falk, 2007) emphasizes that the L2 plays a significant role in morphosyntactic transfer, since the formal context in which an L2 is often acquired, in addition to age, learning strategies and metalinguistic knowledge, resembles the process of acquiring an L3/additional language, as opposed to the L1 which is acquired naturally and without explicit teaching. Bardel and Falk (2007) conducted a study to analyze the placement of negation in verb-second languages (where the finite verb comes second position) like Dutch and Swedish, in the acquisition of an L3. They examined two groups of learners. The first group included participants whose L1 was verb-second (Swedish and Dutch) and whose L2 was English. By contrast, in the second group, participants' L1 was not verb-second (English, Hungarian, Albanian, and Italian), while their L2 was (German and Dutch). The results showed that the group whose L2 was verb-second, outperformed the other group, thus demonstrating the positive role of the L2 in the acquisition of an additional language.

According to the Typological Primacy Model (TPM) (Rothman & Amaro, 2010) the main factor that conditions the transfer in the initial stages of L3 acquisition is structural similarity. Grammatical transfer can occur with both positive and negative results, but it is hypothesized that one of the grammars is completely transferred in the initial stages. Rothman (2011) studied data from 12 participants whose L1 was Italian, L2 English, and L3 Spanish, and compared them with 15 participants whose L1 was English, L2 Spanish, and L3 Brazilian Portuguese. Using a semantic interpretation task and a fill-in-the-blank adjective task, Rothman showed that both groups behaved similarly, that is, participants selected similar grammars, regardless of whether their L1 was English or Italian.

To summarize, the three models mentioned above make very different predictions about the role of transfer in the acquisition of an L3 or additional language. According to the Cumulative Enhancement Model (Flynn et al., 2004), subsequent linguistic systems acquired by a learner either assist in acquiring the L3 or have no effect. In theory, all the linguistic knowledge acquired is an integral part of the cumulative knowledge of L3 learners.

According to the Typological Primacy Model (Rothman & Amaro, 2010), the typology of the L3 versus other previously acquired linguistic systems may cause negative transfer between the L1, L2, and L3, contrary to the Cumulative Enhancement Model.

Finally, according to the L2 Status Factor (Bardel & Folk, 2007), the L2 has a determining role in the acquisition or learning of an L3, and particularly in the acquisition of L3 syntax, since it may act as a filter, preventing L1 transfer, contrary to Rothman's study mentioned above which states that it makes no difference.

According to Ahukanna, Lund, and Gentile (1981), interference in the target language (L3) is much stronger in the area of semantics. This semantic interference increases with the number of languages learned, and factors that facilitate inference include the amount of experience with the target language (e.g., beginners show more interference), and languages most closely related to the target language show more interference.

Haim (2015) studies the issue of Academic Proficiency, and in particular the transfer of academic proficiencies from one language to the other. Here, "proficiency" means the ability to perform specific school tasks (essays, presentations, exercises, quizzes, etc.). He argues that academic proficiency is interdependent in the three languages, that is, it can be transferred from the L1, to the L2 and L3, and vice versa (see also Griessler, 2001).

Writing and reading abilities in the L1 predict academic proficiency in the L2 and L3, especially in the L2. Academic proficiency in the L2 is more directly transferrable to the L3 than proficiency in the L1, and this transfer of abilities can also occur in the opposite direction (from the L3 to the L2). However, L3 reading comprehension does not significantly predict L2 reading proficiency.

This volume proposes to investigate how educators in Europe and the Americas deal with a multilingual student base and seek to mitigate difficulties in acquiring and creating knowledge in a language that the students, and often the professors, have acquired as adults. This language is often English but, as mentioned above, within programs such as Erasmus in the European Union, students must often study and read complex material in a third language, such as French or Spanish, which they do not always master at a satisfactory level. This is also increasingly true in the United States and Canada, where both researchers and students are often from non-English speaking backgrounds.

Thus, researchers and educators on both sides of the Atlantic must develop strategies, including translanguaging in the classroom and technological/online resources, that address and acknowledge the bilingualism and multilingualism of their students, by improving their skills in the target language but also by providing material in other languages and using bilingualism to their advantage, rather than to see it as an obstacle to teaching complex topics at the university level.

The contributions in this volume build on the recognition that teaching and learning excellence must take into account linguistic diversity among both students and faculty at universities on both sides of the Atlantic. To achieve this goal, the volume includes contributions from different theoretical perspectives, including linguistic research on second and third language acquisition in the classroom (Part I), as well as case studies of specific challenges in teaching content courses in wide-ranging disciplines, to students whose first language is different from the language of instruction (Part II). As such, this volume strives to bridge research on second/third language acquisition and teaching methodologies in a multilingual world. It responds to a need to make the university community

more aware of the unique needs of students of different language backgrounds, especially educators who have little formal training in applied linguistics.

The contributions to this volume are organized in two sections. Part I deals with the use of technology in the teaching of second/additional languages in diverse university settings in the United States, Puerto Rico, Italy, and Spain. Part II focuses on the use of technology in the teaching of content courses to a multilingual student base on both sides of the Atlantic.

The following chapters seek to answer several key research questions, for example:

- How can language instructors draw on the bilingual and multilingual background of students to enhance the acquisition of a third/additional language?
- How can digital technology help support literacy in the L1 or heritage language of students, while facilitating the acquisition of an additional language?
- Can code switching and translanguaging in the second or foreign language classroom be beneficial to students, and is this feasible in classrooms where there are multiple L1s?
- Is it possible to simultaneously develop literacy, in particular reading comprehension skills, in several languages at once, for example, among closely related languages?
- How do students perceive the usefulness of social media like Twitter or Instagram in the second/foreign language classroom?
- How do students perceive their own experience in learning a third/additional language in their second language (e.g., English), as opposed to their first language?
- Can online teleconference platforms such as Skype or Zoom be used effectively in language exchanges between language learners, and are some topics more effective than others in improving students' conversational fluency?
- What are the linguistic barriers that multilingual students encounter in studying in a foreign language, and can technology-enhanced lesson plans and strategies help them overcome these obstacles?
- What kinds of field-specific oral and written genres can support students in their development of advanced target language skills, outside the L3 language classroom?

In Chapter 2, Francesca D'Angelo proposes an alternative methodological approach that looks at the whole linguistic repertoire of students is needed to exploit the benefits of multilingual education, going beyond linguistic similarities and differences. After a detailed analysis of the literature on Metalinguistic Awareness (MLA) which she identifies as the most important factor enhancing bilinguals in additional language learning, D'Angelo explores its implications and usefulness for a multilingual didactic approach.

In Chapter 3, Silvia-Maria Chireac discusses the role of Spanish as the language of instruction in a multilingual classroom with Erasmus students at the University of Valencia. She explores the use of digital technology as a means of expression and defense of the linguistic rights of minority languages. In particular,

she argues that collective linguistic production and the use of different languages within a group of students furthers the aim of helping students gradually master curriculum content and linguistic skills in an additional language.

In Chapter 4, Maria Teresa Martínez-García and Patricia Arnold discuss the work done in a university MA classroom that teaches Spanish-as-a-foreign language school, high school, and university teachers how to improve their teaching methods by including real literature examples. They illustrate how, in a multilingual classroom, group participation, and willingness to work with differentiated materials are all strategies that instructors and students may use to make translanguaging effective.

In Chapter 5, Cedric Joseph Oliva and Alan Gómez Larriva describe the recent implementation of a multilingual course on the intercomprehension of Romance languages, which offers bilingual/multilingual students the tools to develop skills geared toward language learning in a continuous effort to appraise, nurture, and upraise the ever-growing linguistic diversity present among students and faculty members in universities across the United States. They also explore how this innovative approach favors the development of multilingualism among students.

In Chapter 6, Sven-Ole Andersen discusses survey-based findings of students' perceptions concerning the acquisition of a third language supported by modern technologies at the university level. He shows that the use of social media and technology either contributes to the learning experience and/or ease students' anxiety. The latter point, lowering the Affective Filter, is, according to Stephen Krashen's theory, an important factor for the acquisition and retention of languages.

In Chapter 7, Chesla Ann Lenkaitis, Shannon M. Hilliker, and Luis Y. Castañeda examine international students' perceptions of their third language (L3) learning experience in their second language (L2) English context. Their data reveal that technology is an integral part of international students' L3 learning process, but that additional support is needed. The authors also discuss strategies, including technology-enhanced language learning, which assist international students in their L3 learning.

In Chapter 8, Vincent Chanethom describes a telecollaborative project in an upper-level French language course at an American university from the students' perspectives. The project involved synchronous computer-mediated communications via the online videoconference platform Skype between US-based French language learners and French native speakers in France. The study calls for more data and an in-depth analysis of the student's discourse, especially concerning potential differences in pragmatic strategies used for addressing sensitive versus less sensitive topics in the target language during virtual exchanges with native speakers.

In Chapter 9, Anna Moni explores the specific linguistic barriers that multilingual students encounter in this context, which relate to several elements of communicative competence in the language of instruction, while investigating empirical studies on instructional strategies for multilingual classes. She also discusses the use of Merrill's (2013) first principles of instruction as the main framework in the design of technology-enhanced lesson plans and the selection implementation of technology-nested instructional strategies.

In Chapter 10, Carlos M. Cervantes and Langston Clark present empirical findings from an ethnographic study of a historically Black urban Physical Education Teacher Education (PETE) program with a large native Spanish-speaking population. They focus on the concepts of cultural sustainment and code switching as strategies used by teacher educators to promote bilingual and biculturalism. To achieve this, they highlight the relationship among institutional, programmatic, and classroom cultures for the cultural sustainment and development of pre-service physical educators.

Finally, in Chapter 11, Robb Mark McCollum describes how the original curriculum, which was developed for intensive English and first-year composition classrooms (Eckstein, Chariton, & McCollum, 2011; McCollum, 2012), has been adapted for use in wider academic contexts. The curriculum combines techniques from English for Specific Purposes course design with a student-centered, collaborative classroom environment. Course developers identify field-specific oral and written genres and then support students in their development of advanced target language as they analyze case studies. This cumulative model honors the diverse linguistic backgrounds of students in multilingual classrooms.

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