# 1. Online Translation and Interpreting Education

First, we want to acknowledge that this book was written during one of the worst health crises the world has ever experienced together, the COVID-19 pandemic. Like many others around the globe, our interactions with our family members, co-workers, friends and loved ones changed dramatically toward a more virtual experience. Like many other areas of life, education has been affected in major ways, with levels of disruption never seen before. In general, most colleges and universities were not prepared to transition to a fully online environment and the process evolved gradually, with instructional designers working in overdrive to provide support to teachers. We are not sure how this will influence online learning in the future, but one thing is certain: those who had never considered teaching online "were forced" to do so, and now have a more informed idea of the demands and realities of this type of educational space. Some of those who pivoted to remote teaching decided to try to emulate their in-person classes by requiring students to attend synchronous meetings, simply did not have time to learn online education best practices, or did not want to since we were all told the pandemic was temporary and that eventually we would all go back to "normal." All of this has led to a certain level of frustration among students who had to transition to a different educational environment, citing increased stress and negative consequences to their health and social life. However, it is not clear that education alone is the cause of such negative experiences since all aspects of our lives have been changed due to the forced isolation caused by the coronavirus pandemic. The fact is that there has been a tremendous increase in distance learning as a result from this health crisis and many of our colleagues, especially those who resisted this environment for a long time, were surprised by what instructors and students were able to successfully do online.

## 1.1 Distance Learning and T&I

Like any other technological development, online education has been met with skepticism since its inception, initially framed as "distance learning" in the late 1980s. It owes a lot to other forms of remote education that came before it, including correspondence programs offered by postal services and classes broadcast by public television and radio networks across the globe, fostering the idea that students could study from their homes, at their own pace. Distance learning has also been hailed as a way to democratize knowledge and education and improve literacy rates among adult populations in certain countries, including Brazil, which has had government-funded educational programs broadcast via radio and television since the 1920s (Barros Filho, 2018).

While the democratizing power of virtual learning cannot be underestimated, one needs to take into account the many challenges faced by online learners, including lack of access and cost of reliable Internet connections, computers/devices, and technology literacy levels. For example, a recent article on online T&I education efforts in some African countries because of the COVID-19 pandemic illustrates the stark differences between the Global North and Global South when it comes to access. Afolabi and Oyetonyan conducted qualitative research with T&I students and educators in the Republic of Benin, Cameroon, Nigeria, Senegal and Togo, to find out about their experience pivoting to virtual learning in 2020 and 2021. Even though the response rate was low (20 out of 150 individuals), the results reveal that the "transition to online teaching and learning has not been smooth, due to the economic challenges, insufficient technological infrastructure and skilled human resources" (2021, 327). Despite creative efforts from teachers and institutions, including using WhatsApp for group discussions, receiving/sending

assignments, and voice-recorded feedback, students listed poor or no Internet connection, electricity problems, and costly data plans as some of the challenges faced (341).

Moreover, professional and personal issues faced by many non-traditional students who seek online education, including working full-time while studying, raising families, and delayed pursuit of their education, also add to the complexities experienced by distance learners. However, according to Darby Flower, "these factors are the very reason many of our online students choose to take college classes online. They need a flexible option that accommodates their work and family obligations" (8), which are important considerations that should guide teachers and instructional designers when developing their courses. Nevertheless, online education has grown incredibly fast in the last few years. According to the report *Grade Increase: Tracking Distance Education in the United States*, "distance education enrollments increased for the fourteenth straight year, growing faster than they have for the past several years" (Seaman, 3).

Unlike many other disciplines, translation and interpreting have been late in joining virtual and distant learning, despite the fact that written translation, for example, has been practiced with the support of personal computers and the Internet in robust ways since the 1990s, and that interpreting has been offered via telephone since the 1970s. One finds sporadic research papers published on online translation and interpreting teaching with topics ranging from the challenges of such environment, the need for educational approaches to reflect current technological developments, different tools available such as blogs, various learning management systems, theoretical underpinnings and pedagogies, and synchronous and asynchronous modalities (Chen and Ko 2009; Aziznezha and Hashemi 2011; Sachtleben 2015; Gorozhanov, Kosichenko, Guseynova 2018; Bilić 2020; Pewrramon and Ugarte 2020).

## 1.2 Multilingual vs. Language-Specific T&I Education

Until recently, most online translation and interpreting courses have been offered in language-specific classrooms and contexts. However, with increased migration trends, different language policies adopted by various wealthy nations around the world, and the growth of the field of community translation and interpreting, the demand and need for multilingual courses has increased tremendously. In the United States, for instance, more than 20% of US residents (66.6 million) do not speak English as a primary language at home and this number has doubled since 1990 and tripled since 1980. Those languages include Khmer, Hmong, Laotian, Punjabi, Urdu, Haitian Creole, and Vietnamese (Ester, 2018); not to mention emerging languages that are a result of different new immigration waves, such as is the case of Karen from Myanmar, or indigenous languages from Central America, such as Q'anjob'al, K'iché or Mam, as reported by The New York Times in an article about the dire need for interpreters in the US court system (Reefer 2019).

Multilingual translation and interpreting courses have diverse student populations in terms of their educational background and life experiences. Some of them are recent or late immigrants, many of whom have bachelor's degrees from their countries of origin in different areas; some have not completed their formal education in their native countries and languages, having achieved their high school diploma or GED in the new host country. Many of them are native English speakers who have pursued second language training and education; some have had

extensive formal education in the language, including a bachelor's or a master's degree; some have lived abroad for different lengths of time through study abroad programs. Some students are heritage speakers of their families' language, including Hmong, Spanish, Korean, Somali, Portuguese, Haitian Creole, Cape Verdean Creole, etc., with different levels of proficiency in their ancestors' native languages. Because of the fragmented status of translation/interpreting professionalization and education, many of them are working interpreters and translators who have little, some, or no formal translation and interpreter training. Some of them have attended short professional workshops (40 to 120 hours) designed to meet the growing demand for trained translators and interpreters in various countries, while some want to pursue further education.

## 1.3 Technology Literary

If online learning literacy is already an issue for native English speakers pursuing education in a wealthy nation such as the United States, imagine being a recent immigrant seeking to add new credentials, or finding a new career path, coming from a developing nation with little or no access to the Internet. According to a press release from the United Nations Conference on Trade and Development (UNCTD), "Almost half the world's population remains offline and excluded from the benefits of digitalization" (2019). Therefore, online multilingual translation and interpreting programs must meet these challenges if they are to succeed. For courses and training that are connected to a technical or community college or university, administrators should work closely with their institutions' available online support teams to make sure students have access to much-needed assistance in their first encounter with virtual learning, which ranges from video or written tutorials to 24/7 helpdesks with staff trained to interact with students whose first language is not the primary one spoken in the new host country. In some instances, administrators need to seek help from non-profit organizations and sometimes attempt hybrid models to help students overcome the initial hurdles of learning in an online environment.

This was the case, for example, for a large group of Karen students enrolled in a community college program in the state of Minnesota. In 2016, the Karen Organization of Minnesota (KOM), which was created to help integrate the new wave of immigration of more than 9,000 Karen and other refugees from Myanmar, partnered with a large community college, Century College, and the Roseville Adult Learning Center to apply for a grant from the Minnesota Department of Employment and Economic Development. The goal was to train Karen translators and interpreters to meet the dire and increasing need for cultural and language mediators across the state as the new immigrants tried to access public services in their journey settling in their new host country. The translation and interpreting courses were delivered online by the community college with additional in-person support from the Roseville Adult Learning Center. Once or twice a week, Karen students met in-person with instructors in classrooms at the KOM's office who helped them navigate the online learning environment. Thanks to the success of the multilingual program initiative, the organization invited speakers of other languages to join the classes, including Kinyarwanda, French, and Swahili (Karen Organization of Minnesota 2020). After taking one course with in-person assistance, students continued to pursue the additional online classes on their own.

Online faculty members also play a major role in facilitating access to their courses to students with technology literacy issues. Because many first-time online instructors have never taken an online class themselves before, one great way to walk in our students' shoes is to enroll in one. If

cost is an issue, or funding is not available at their teaching institutions, there are many opportunities to take virtual classes free through Massive Open Online Courses (MOOCs) and other open source platforms, such as Coursera. At the same time, online faculty members should work closely with their institutions' online education staff and instructional designers to learn best teaching practices in the virtual environment.

Instructors should get to know their students well in their first week of classes and identify those who are not participating actively due to technology or online literacy issues, which can be done through various "introductory" exercises in online forums, or other rich media platforms that allow students to participate via a written comment, an audio, video, or other types of media. Faculty members should make every effort to reach out to those who are not participating to find out if one of the reasons is their inability to navigate technological challenges. Those efforts might include, but are not limited to, email correspondence, telephone, and texting applications such as WhatsApp. However, faculty members should work closely with school administrators and program directors for additional assistance in terms of policies and student privacy laws in different countries. In the United States, for instance, where the Family Education Rights and Privacy Act (FERPA) regulates the relationship between students and educational institutions, texting apps such as WhatsApp clash with the required privacy protections. A student's telephone number is considered "Personal Information Collected from Students" and may not be disclosed by instructors. However, there might be a workaround, but teachers must communicate with their institutions to find out alternative platforms or the possibility of students signing a waiver and allowing their numbers to be shared inside a specific classroom. Obviously, students can decide to share their personal contact information with classmates and instructors.

Some students with technology and online learning challenges will not always respond well to all different types of virtual resources available and might need to speak to a "real person" to solve their issues. That is when strong and robust institutional support is crucial. In the current online Certificate in Professional Translation and Interpreting at UMass Amherst, for example, despite all guideline documents, written and video tutorials, webpages, and different types of information available through different channels to help students understand registration and enrollment processes, academic pathways to completing the program, language proficiency requirements, etc., many students still want to speak to a "real person" on the phone or videoconference to clarify or simply to connect to a human being in their online education journey. Therefore, program directors, instructors and administrators should consider the investments that must be made so that there is a system in place to still offer additional "brickand-mortar" support to certain students, including advising. In the age of access and equity, if one is serious about serving all students equitably, structures need to be put in place to make sure all participants have an equitable experience in online learning. According to Mike Weiss, an expert in online adult education methodologies, one of the reasons for low completion rates in online education is that courses are not meeting students' expectations. He adds, "your students are disappointed because they registered with false ideas on what your course is like. Maybe they expected the lessons to cover a specific topic more or maybe they expected the format to be different" (Weiss, 2019). This clearly speaks to the importance of clear communication and information to students, including individual advising for certain students.

## 1.4 Culturally Responsive Pedagogy

Because of the many reasons mentioned earlier regarding diverse groups of students, accessibility and equity are particularly important concepts in multilingual translation and interpreting courses, and should be guiding forces in decisions faculty and program directors make when developing curricula. According to a report by the Association of College and University Educators (ACUE) in the United States, "achieving equity requires that we teach with practices that embrace the diversity of our students' backgrounds. We must also thoughtfully review our instructional approaches to identify— and change—any unintended practices that might limit student expectations and achievements" (2020). One of the author's first encounter with deeper discussions about diversity and inclusion in education took place through a one-year fellowship promoted by one of the institutions they taught at called "Culturally Responsive Pedagogy," which was offered to faculty members as a response by the department of education of that state to address the achievement gap between Black and white students. The work was grounded in a theoretical approach to education first proposed by Gloria Ladson-Billings in her article "Toward a Theory of Culturally Relevant Pedagogy," based on her empirical research on the success of eight teachers in a "small predominantly African American, low-income elementary school district in Northern California" (471). Wanting to challenge "deficit paradigms," in regard to previous studies that focused on the failure of students of color or lack of success of schools in addressing achievement gaps between Black and white students, Ladson-Billings set out to find out what were successful teachers doing right in guiding their students of color toward successful paths.

Other scholars have taken the concept further, for example, H. Samy Alim and Django Paris in "What is Culturally Sustaining Pedagogy and Why Does it Matter?" argue that:

for too long, scholarship on 'access' and 'equity' has centered implicitly or explicitly around the White-gaze-centered question: How can 'we' get 'these' working-class kids of color to speak/write/be more like middle-class White ones (rather than critiquing the White gaze itself that sees, hears, and frames students of color in everywhichway as marginal and deficient? (3).

In multilingual translation and interpreting classes, issues of power and gaze come up all the time among students with diverse cultural backgrounds, especially when languages of power, i.e., English, French, Spanish, German, etc., are combined with minority, emerging, or languages of lesser diffusion; for instance, in the case of Australia, Dari, Tamil, Hazaragi, Nepali, Farsi/Persian (Hlavac, 2016). The most obvious power differential instructors and students are faced with include access to resources such as reputable dictionaries, research, online glossaries, etc. for minoritized and languages of lesser diffusion. The less obvious ones are assumptions and attitudes toward translation and interpreting strategies and as social practices.

# 1.5 Universal Design for Learning (UDL)

As part of the work toward equity, diversity, and inclusion, the concept of Universal Design for Learning (UDL) has been proposed, which can be succinctly described as an approach to curriculum that minimizes barriers and maximizes learning for all students. Its origins can be traced back to the Universal Design (UD) movement of the 1990s, created by architects who

wanted to make public buildings and city streets accessible. The concept found fertile ground in education, with pedagogues adopting UD "as a conceptual and philosophical foundation on which to build a model of teaching and learning that is inclusive, equitable, and guides the creation of accessible course materials" (18). Some of the main principles and questions that help guide instructors in the design of their online courses based on the inclusive design framework include,

- How do I make my course student-centered?
- Do I clarify the steps students need to follow in order to learn through my course? When it comes to diverse students,
  - How do I design my course with distinct learners in mind and provide multiple paths for learning and success?

Regarding communicating with students,

- Do I use inclusive language in my syllabus?
- Is my content culturally inclusive?
- Do I use resources other than white experts?
- Am I perpetuating cultural stereotypes in my translation and interpreting assignments? As to accessibility,
  - Is my course easy to navigate?
  - Are there many options to encounter content?
  - Are my links clear (hypertext)?

Such questions should illuminate the fact that what we include in our online courses reflects our values and conveys to students how we see them as learners and citizens in our classes. Particularly for multilingual translation and interpreting courses, instructors should consider if their course examples reflect a diverse society, ensure that they are using student-friendly language, guiding questions and offering key resources. Regarding the issue of perpetuating stereotypes mentioned above, educators must be careful when selecting authentic materials or using textbooks for T&I assignments. In particular, interpreting practice role-plays like the following examples must be interrogated and challenged in class, or replaced altogether: Limited English Proficient (LEP) immigrants always portrayed as criminals and witnesses describing suspects they saw as "tall black men" in legal settings; or a young Latino boy's dream in an educational dialogue being depicted as wanting to become a cashier at a fast-food chain after being praised for his math skills—as if he could not aspire to other things. Another important concept in this framework is including students as co-constructors of knowledge, which can be done by simply creating student surveys about course content and resources or taking it a step further, inviting our students to participate in the creation of assignments, rubrics and course content. For specific examples of how to apply UDL, see chapters 2 and 5.

# 1.6 Online Student Engagement

What does an engaged student look like to instructors? How does one build a learning community in their courses? For instructors of in-person classes, engagement might simply mean that students are not falling asleep in the middle of their classes; it might also mean students asking questions, participating, contributing to the classroom dynamics. In the virtual environment, such types of interaction will look a bit differently, for both synchronous and asynchronous instructions. Some online instructors will say that it translates into having "lively"

discussion boards; submitting assignments on time; responding to feedback from teachers, etc. Others might say that engaged students are those who are able to take away something from an online training and apply it to the workplace; those who are connecting content and knowledge with their own experience; or those who do research before asking questions, citing references, etc. Therefore, engagement looks different to various teachers and across courses because people have a diverse set of goals. Even if instructors are teaching the same class, it might look differently to each one of them.

In addition to the selection of course content, the way instructors structure their courses and the opportunities they provide for students to communicate (including the channels available) with each other and with the teacher will affect how everyone builds relationships and forms a learning community. Moreover, the way students get to know each other—not only as students but as human beings—is important for them to succeed and fully participate in the course. This speaks to the idea of "social presence," which involves "open communication, affective expression, and group cohesion," as proposed by Community of Inquiry (CoI) framework, a social constructivist model of online and hybrid learning processes (Purdue Repository for Online Teaching and Learning 2020, 1). Such relationships take time to build and involve trust, communication, and creating spaces and opportunity. In both synchronous and asynchronous courses, one thing is certain: engagement is having positive and frequent interactions with course content, peers, and instructors, who function as the facilitator. Moreover, when engaging with content, students should be internalizing, critically analyzing it, and then applying somewhere, demonstrating that they on a pathway to achieving mastery.

#### 1.6.1 Synchronous

There are several tools and platforms available for live meetings with students that instructors can use to deliver content while inviting students to work on different assignments individually or as a group. Teleconferencing platforms have quickly become very resourceful tools with different features that foster engagement. Icebreakers in a synchronous meeting, for example, contribute to the human and affective connection discussed above. Some suggestions include asking students to turn on their cameras and inviting them to demonstrate how they feel by making facial gestures or through body movement. Afterward, all other students are encouraged to mimic the same gestures and movements. Instructors can model the icebreaker by being the first to express how they feel and then urging students to mimic them. The ideas and possible use of icebreakers in videoconference meetings are numerous and easily found online. T&I instructors can, for example, ask students to express how they feel by uttering a short sentence in another language and then asking another student who shares the same language pair to interpret it into the pivot language of the class. Icebreakers can also be done using the chat function of many of the platforms, by asking students to type a quick response or use one of the emoji available to express their reaction to some prompt.

If instructors are delivering content live on video, some engaging activities include polling, chat, and external platforms such as Google docs where students can work on projects or different activities. Moreover, breakout rooms in teleconferencing platforms such as Zoom work really well for translation and interpreting exercises in groups or pairs. Synchronous meetings also lend

themselves extremely well to final interpreting exams, and to skills building practice in the growing field of remote interpreting (RS).

#### 1.6.2 Asynchronous

For courses and activities that require students to engage with content or each other at different times, pre-recorded lectures work really well for introduction of content. There are many video/screen recording platforms available, including freeware (screencast-o-matic), which can be used to record lectures. Echo360 and other similar systems also currently allow instructors to insert quizzes into recorded content, thus increasing student engagement. Students can only move on to the next segment of the video after they have answered the question and received pre-set feedback from the instructor. VoiceThread, a rich media interaction tool (discussed further in chapter 3), is also a very resourceful platform to introduce concepts and engage the class around different topics, with students and instructors being able to make comments using text, audio, video, and different types of media. The same tool can be used for online discussions of articles and for asynchronous translation and interpreting practice.

Another way to increase engagement in nonsynchronous courses is to offer optional live meetings, which can include office hours, guest speakers, Q&As, etc. Since they are not required, such encounters should be recorded and made available to students who were not able to attend due to emergencies, time difference, illnesses, or any personal or professional commitments.

### 1.6.3 Challenges with Regards to Engagement

Some of the challenges instructors usually indicate include getting students to effectively work with each other; monitoring and reviewing asynchronous comments in discussion boards in large classes; having to repeat ideas and information multiple times; reaching out to students who are missing or not participating; etc. Some challenges, such as getting students to participate, can be addressed, for example, by making it a requirement. A solution to the challenge of giving feedback to discussion boards is not to respond to each and every single entry by students, but rather highlighting some of the excellent comments or common themes discussed by students, thus inserting oneself in the conversation when needed. For additional engagement in a discussion form (either traditional written ones or newer versions such as VoiceThread), instructors could add an introductory video, sharing information about themselves, expectations for the course, goals, etc., which, in turn, might motivate students to participate. Moreover, a good idea for such short video or textual insertions is for instructors to include some information about what students will be doing in the following module or unit, thus introducing the next topics and making connections that students do not usually make on their own. Moreover,

Telling students why they are doing something is a very good strategy to engage them and to get them involved with their own learning. Whatever engaging elements instructors decide to use, they need to make sure activities are aligned with learning objectives and support learning goals (discussed further in chapter 5). Another suggestion is to use a variety of tools—ideally located inside the LMS—to keep them engaged and interested, but not too many since long learning curves might cause frustration among the group. Finally, educators need to make sure technologies are equitable and accessible and think about alternatives in case something or some technology does not work.

### 1.7 Does Online Teaching Make Us Better Teachers?

The authors of this book want to turn now to something that is very personal as a result of their journey from teaching face-to-face in the beginning of my career as an instructor to moving to mostly online a few years later. In an article published in the Chronicle of Higher Education in 2019, Kevin Gannon recounts how teaching in the online environment has made him, and other faculty members, better teachers. "We've found that elements of online pedagogy not only help us become better instructors in a fully digital learning space, but better at the craft of teaching in general" (Gannon 2019). He focuses on three aspects in the article, namely improved course design and assessment, enhanced student engagement, and learning to explain things better to students. When teaching in the physical world, instructors assume a lot of things as self-evident, or as he points out, "it's on the syllabus!" The same thing has happened to us over time; teaching online has made us take a closer look at the courses that we still teach in-person and revisit our assumptions about many things we thought were very clear. "It wasn't until my foray into online teaching that I stopped assuming that students would 'get' the point behind my practices and started explaining the why," adds Gannon when challenging the way he used to do things in class simply because he had done it before for so long. He concludes that teaching online demands the type of critical reflective practice that can make us all better teachers.

Moreover, in the in-person environment, there are norms, rules, and behaviors that pertain to classroom education that all students are already familiarized with by the time they get to the university. For example, students expect that they can clarify and ask questions to the instructor after the class is over; or they might be reminded of an assignment they had forgotten because they suddenly saw their professor in the hallway; or how much do students rely on their social networks with other classmates to guide them in understanding course content, instructions, etc. Such physical social interactions are no longer available in the virtual environment, or are available in different ways, making it crucial that instructors spend a considerable amount of time designing their online courses, testing their ideas, coming up with plans B, C, and D in case some technical issue happens.

## 1.8 Time-Consuming Development Phase

New faculty members embarking in online teaching should have an understanding about how much time goes into the development phase—a lot of times unpaid, sadly— and the importance of preparing for different kinds of scenarios. In terms of online course design, one of the things that has been helpful in the US context is to replicate one's syllabus in the Learning Management System. Most faculty members at colleges and universities are very familiar with designing their own syllabi or using the syllabi of other professors and instructors, which are, in general, detailed documents about course delivery. Syllabi also serve a legal purpose in US higher education for situations when students and instructors have disagreements about course load and expectations. Overall, US syllabi are composed of six overarching areas: relationship with instructor (office hours, communications, etc.); course description and goals; content (textbook, articles, videos, different types of materials); learning outcomes; grading system (assessments, assignments, rubrics); university resources; and policies. This type of information is a good roadmap for instructors working on developing their remote classes, for example, if one has a clear idea of all the assignments students will be required to complete, when and how much they are worth in the

grading scheme, the inclusion of those items in one's course shell will be much easier. Likewise, if all articles for reading assignments (discussion forums, VoiceThread or other types of online discussion tools) are selected and scheduled clearly on one's syllabus, the process of transferring those items to the LMS can be very seamless, as well as how they will be made available in the course shell. One piece of advice here is to make those items available in different ways and places; for example, one can have all the articles compiled by the university's digital library resources in one major list accessed by a link, i.e. "Course Materials," but also make them accessible via different links under the weeks they are expected to be discussed, with clear metadata, including bibliographic information.

## 1.9 The Role of AI in Online Courses

We would be remiss not to discuss the role and place of Artificial Intelligence in online courses and, in particular, translation and interpreting classes. AI is a formidable technology to increase accessibility. Screen readers for visually impaired students, with several tool suggestions offered by the American Foundation for the Blind, and other software such as Read&Write, which offers literacy support including text to speech technology, have revolutionized accessibility in education. Speech recognition (or dictation) tools, which are now embedded in common software such as Microsoft programs, help students for whom writing represents a barrier to learning. Of course, making courses accessible to people with learning or physical limitations goes beyond the use of AI. Most institutions in the United States offer guidance in terms of course design for enhancing accessibility. Guidance in that regard is also provided by instructional designers or content accessibility specialists (Lynch 2020) and can be found online.

AI has also vastly transformed the translation and interpreting industry, as large language service providers have very early on identified AI, especially Machine Translation (MT) as a way to drastically reduce their costs. Vast numbers of translation projects are now pre-translated with an MT program and many translators have turned into "editors" or "post-editors," which are unfortunate misnomers but go beyond the scope of this chapter. Professional MT tools are also used by some translators as a productivity tool for certain types of texts. It is helpful to consider the place of MT in the translation curriculum as a series of questions. When and how should instructors introduce MT to students? At one specific point in the curriculum? In an iterative manner, considered under different angles, introduced by different instructors? Should it be only introduced in a translation technology course? Should MT be part of an ethics course? Should MT be integrated in all translation courses, as a specific module including ethical questions and practical applications? Recent research shows that the cognitive effort needed to edit an MT-translated text can, for certain types of texts, be higher than the effort needed to translate from scratch. Should instructors cover cognitive aspects as well? And since the standard per word rate is also impacted by the advent of MT, should MT be part of a career development course? These questions, among many others, need to be carefully examined in the design or redesign of any translation curriculum.

The impact of AI in the T&I industry is not limited to MT: speech recognition software, such as Dragon Naturally Speaking (which dates back to the late '90s), currently owned by Nuance, a Microsoft company, or the embedded speech recognition tool in Microsoft itself, is increasingly favored by translators who, for various reasons including the prevention of repetitive stress injury, wish to type less and dictate their translations instead. It can also be advantageously

implemented in a sight translation activity, and more specifically used by students to check their elocution, for instance. New applications of AI in the interpretation industry are currently being experimented as we write these lines. When discussing what he calls the "Upcoming Technological Turn" in interpreting, Fantiuoli mentions Computer Assisted Interpreting (CAI), Remote Interpreting (RI), and Machine Interpreting (MI). CAI includes tools to create glossaries and integrating terminology resources, automatic terminology extraction; key topics identification, summarization, and automatic speech recognition. RI "refers to forms of interpreter-mediated communication delivered by means of information and communication technology" (2019, 4). MI involves automatic speech translation, automatic interpreting, speechto-speech interpreting, which make use of the following technologies: automatic speech recognition (ASR), machine translation (MT), and speech-to-text synthesis (STT) to generate an audible version in the target language. Fantinuoli reminds us that the latter is still not able to "work—as yet-- with cotext and context or to translate all the information that is not explicitly coded verbally, such as speaker's attitude, world references, etc." (2019, 6). These applications will need to be evaluated and, should they be durably implemented as interpreting tools, introduced to students. Instructors will need to formulate questions similar to the ones regarding MT (see above) so that students are fully equipped to evaluate these tools under every possible facet.

Finally, because this book is about online education, the authors recognize that by the time this manuscript goes to print, some of the tools and platforms mentioned herein might have changed, products and companies been bought out, acquired a different brand name, or even disappeared from the virtual space altogether. The ever-changing nature of distance learning creates a situation in which educators are currently being bombarded with new remote learning tools, devices, platforms, research, conferences, etc., which should be seen as good news. However, the authors would like to point out that sometimes this feels exhausting and every so often, we as instructors feel we will not ever be able to catch up. However, we trust that the ideas, concepts, insights presented herein can be replicated in new environments and even improved as new technologies become available.

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