1 | Language learning in the 21st century: current status and future directions

Betül Czerkawski[1] and Margherita Berti[2]

1.   Introduction

In today's interconnected world, higher education institutions are challenged with new realities: how to effectively assist students in advancing their professional development, gain skills for successful 21st century interactions, and start new careers. In the context of Foreign Language (FL) education, some have argued that language proficiency and oral communication have been favored, while the integration of higher-order and critical thinking skills with language learning has been peripheral especially in lower-level language courses (Correa, 2011; Garrett-Rucks, 2013; Yamada, 2010). The lack of meaningful activities that engage students beyond vocabulary and grammatical structures has become an issue in a world where students need to navigate complex realities and constantly evolving environments. Problem-solving, critical thinking, and digital literacy, which fall under the umbrella term of 21st-century skills, are only some examples of abilities necessary to succeed in today's rapidly changing global economy. In this chapter, 21st century skills are defined as the knowledge and skills necessary to enter and succeed in today's workforce. The 21st century skills have been emphasized by the American Council on the Teaching of Foreign Languages (ACTFL, 2011), which designed a 21st century skills map to provide educators, administrators, and policymakers with concrete examples of how to integrate such skills in language courses. Lifelong learning – that is,

1. University of Arizona, Tucson, Arizona, United States; bcozkan@email.arizona.edu; https://orcid.org/0000-0002-4189-4042

2. University of Arizona, Tucson, Arizona, United States; berti@email.arizona.edu; https://orcid.org/0000-0002-6572-921X

self-initiated education for either professional or personal reasons – is another important skill that should be instilled in language learners.

In 2009, the decline in the number of students enrolled in collegiate FL courses led to a reconsideration of the role and value of language education in the United States (Lomicka & Lord, 2018). In many cases, students abandon their language studies unless they choose to major in a language or literature program, which primarily consists of literary and cultural studies. According to the 2016 Modern Language Association (MLA) report (Looney & Lusin, 2018), undergraduate and graduate enrollments in languages other than English dropped by 9.2% between fall 2013 and fall 2016. At this point, universities assume an important role in assisting students while they undertake or continue learning a FL in the context of higher education. Since many beginning FL offerings continue to often privilege linguistic aspects of language learning over others, followed by more advanced courses with cultural emphasis oftentimes offered in English, the options for students to study a language for professional purposes, develop 21st century skills, and extend their chosen career options through developing linguistic knowledge are lacking. Furthermore, although the MLA explains that the causes of this trend are beyond the scope of their enrollments reports (Looney & Lusin, 2018), it is possible that one reason for the decrease is linked to the fact that grammar and vocabulary are still major learning foci in beginning FL courses. In other words, after a couple of semesters of courses with a grammar and vocabulary emphasis, students might lose interest in languages and choose to end their language-learning journey.

The purpose of this chapter is twofold. First, we will explore the status of FL learning in higher education institutions in the United States, including language learning for professional purposes, which historically concerns "helping students meet their immediate linguistic needs in professional contexts, as observed on a global scale in programs created to teach English for specific and academic purposes" (King de Ramírez & Lafford, 2018, p. 2). Today there is a need to go beyond just language and look at how language studies can help students in their future professions and in multicultural

settings. Second, the need for 21st century skills will be discussed, and pedagogical suggestions will be provided as solutions to the sole focus on linguistic structures and the transmission-oriented teaching model still present in FL teaching. Following that, recommendations for the integration of 21st century skills in FL courses with the aid of technology and Instructional Design (ID) guidelines for creating highly effective learning environments will be discussed. The chapter closes with a discussion of future directions for professional language learning considering developments in the fields of learning technologies and design.

2.   FL learning in higher education: current status in the United States

The need for an approach that emphasizes language from a critical and dynamic perspective in the context of FL education has been stressed by organizations and professional associations. For example, in 2007, a report published by the MLA Ad Hoc Committee on FLs highlighted translingual and transcultural competence as the primary goal of language education (MLA, 2007). This competence emphasizes students' abilities to operate between languages and cultures, while also being able to reflect on the world and themselves through a critical lens. In light of the decline of enrollments in collegiate FL courses in the United States (Lomicka & Lord, 2018) and the alarming survey reports published by the 2016 MLA (Looney & Lusin, 2018), scholars and language educators have called for changes in curricula to engage students with FLs and cultures in new and relevant ways (Pascual y Cabo & Prada, 2018; Pufahl & Rhodes, 2011). For example, Richards (2015) suggested the use of the Internet, technology, and the media to foster students' communicative skills. Blattner, Dalola, and Lomicka (2016) discussed how Twitter can be used to facilitate the cultural enrichment of beginner French learners, by enhancing sociopragmatic awareness and developing multiliteracy skills. Cox and Montgomery (2019) proposed project-based language learning for organizing curricular tasks that develop students' 21st century skills and enable engagement with authentic learning resources.

In 2017, the Commission on Language Learning created by the American Academy of Arts and Sciences (AAAS) published a report aimed at addressing questions related to the influence of language education on economic growth, cultural diplomacy, and the productivity of future generations (AAAS, 2017). The report states that the United States has neglected FL in educational curricula, and this oversight has had "adverse and often unforeseen consequences at home and abroad – in business and diplomacy, in civic life, and in the exchange of ideas" (AAAS, 2017, p. 1). The report has also found that K-12 schools have struggled to identify qualified language instructors that meet the current and future needs of multicultural societies within the United States. The Commission on Language Learning recommended better preparation of language teachers and pointed out that cultural understanding is key in language education. In fact, if language is often taught in terms of grammar and vocabulary, students might miss out on acquiring how to effectively function and communicate across cultures (Cutshall, 2012). Despite the numerous calls for changes in FL pedagogical practices, there still appears to be a lack of focus on 21st century skills in language education. Both reports published by the Commission on Language Learning (AAAS, 2017) and the MLA (2007) Ad Hoc Committee on Foreign Languages emphasize the importance of study abroad experiences to connect with other cultures and to learn how to appropriately interact in diverse environments. Although sojourns abroad are certainly valuable, they are not accessible to most college students.

According to another study conducted by Open Doors in 2017, in the 2016-2017 academic year, about 300,000 students, not exclusively enrolled in FL courses, traveled abroad to study, which represents only a fraction of students enrolled in collegiate courses. In fall 2016, 1,417,921 students were enrolled in higher education courses other than English (Looney & Lusin, 2018), meaning that universities cannot rely on study abroad to be the major vehicle to promote intercultural skills. Rather, it is fundamental to consider how FL teaching strategies as well as FL curricula need to evolve to foster 21st century skills and lifelong learning. The landscape of professional language learning, also called language for specific purposes, has begun to expand on these needs by proposing curricular innovations and meaningful learning

opportunities for students and their future professions. Research has explored how professional language learning might contribute to better preparing students for their future careers. Crouse (2013) claimed that professional language learning courses "offer students real-world opportunities to practice language and navigate culture in the context of a specific field" (p. 33). For example, Martinsen (2015) explored how student-centered teaching in a lower-division Spanish course could increase university language learners' motivation and willingness to communicate through reflections on personal goals and the identification of contexts in which students might use Spanish in their professional lives. Students also sought opportunities to foster their own language and culture learning in relation to their own future careers. Although a marginal increase in motivation to continue studying Spanish was reported, the author concluded that student-centered teaching and studying languages for specific purposes can be an effective means to fill students' unmet needs in their transition toward the workplace. In another study, López (2015) argued for community engagement and service learning in language studies for specific purposes to better meet the needs of students and society. Altstaedter (2016) described the development and improvement of students' perceptions of a Spanish for specific purposes course aimed at helping future healthcare professionals develop their linguistic proficiency and intercultural abilities. Connecting professions with language learning has now become of central importance, and higher education institutions should continue to further explore how students' professional and 21st century skills can be fostered in the collegiate setting.

Some universities have developed undergraduate majors, certificates, and courses that integrate language learning with other disciplines. For example, in 2019, Montclair State University launched a new major in language, business, and culture, to combine languages (i.e. Arabic, French, German, Italian, or Spanish) and culture studies with essential business skills with the aim of preparing students for careers in the United States and abroad. Similarly, Bentley University is to offer a language, culture, and business major with a concentration in Chinese, French, Italian, or Spanish starting fall 2020. Emmanuel College offers a Spanish for health care professionals certificate

for students planning a career in a health-related field, which guides them through an exploration of the culture of Latino communities in the United States. Another example is the establishment of a specific residence hall for Italian students at Mount Holyoke College with the objective of creating a community of language learners through extracurricular activities. These initiatives show an important turn in collegiate FL education in the United States. Nevertheless, although research trends suggest that there is a strong demand for employees with high levels of linguistic proficiency and cultural competence in a variety of fields (Cox & Montgomery, 2019; Damari et al., 2018), more needs to be done, especially in basic FL courses, to foster 21st century skills and engage students in meaningful lifelong learning practices. The examples described just above are only a handful, and most FL courses in the United States still rely on traditional language teaching and learning.

3.   Possible solutions

Language learning and teaching in the professional context is a complicated and multifaceted matter. There are various ways to improve current practices, although these ways change constantly in our ever-changing educational landscape. After conducting a comprehensive literature review, the authors propose the following solutions. These solutions should not be viewed as a complete list, as they are some of the highlights and outcomes arising from the literature.

We suggest that 21st century skills should be the main conceptual framework used to create up-to-date curricula so that learning goals can be aligned with the demands of the labor market. In addition, the use of ID practices is emphasized because, as a holistic field, ID can help create consistent, meaningful, and effective learning experiences while also utilizing important findings of learning sciences. Finally, the use of technology to support learning experiences and ways of taking advantage of nonformal learning experiences are discussed as complementary activities to 21st century skills and ID. Taken together, these solutions provide a solid effort to alleviate some of the major issues experienced today in the context of language education.

3.1.   21st century skills in education

In 2002, the Partnership for 21st century skills (P21) was founded by the National Education Association, the United States Department of Education, and other organizations interested in supporting schools, districts, and states in the integration of 21st century skills and technology into education, while also providing resources to facilitate such efforts. In 2008, the P21 proposed a framework[3] for 21st century learning to ensure student success in a constantly changing world. In this framework, it was argued that 21st century skills are an indispensable currency for participation, competitiveness, and achievement in today's global economy, and suggestions for promoting such skills were provided. First, the P21 proposes that students think critically (i.e. assessing accuracy, analyzing, and making reasoned decisions) about information in its various forms, whether it is presented on the web, at school, or anywhere else. Next, the framework suggests creative thinking and solving complex and multidisciplinary problems, which usually do not come in a multiple-choice format and do not have a single correct solution for fostering 21st century skills. Haley, Steeley, and Salahshoor (2013) provided an example of how teachers of Arabic and Chinese can be prepared to connect 21st century skills to instructional practices through specific training. In their study they explained that the teacher training, provided in the form of blended learning activities, better equipped and prepared students for a global community, as participants grasped the salient concepts and adapted them to their instructional practices. Takeda (2016) described a project-based learning course at the University of California San Diego called 'Japanese for professional purposes', in which students conduct research, develop a feasible project, and put it into action through the use of the Japanese language. McKeeman and Oviedo (2013) discussed the use of web 2.0 tools (i.e. VoiceThread, Poll Everywhere, Animoto, and Xtranormal) to foster 21st century skills, with a focus on communicative competence. In their action research project, they used individual and collaborative assignments to review, reinforce, and practice concepts integrating technology tools and incorporating 21st century skills. For example, with VoiceThread, students were asked to

---

3. https://files.eric.ed.gov/fulltext/ED519337.pdf

respond to a series of questions regarding the differences between their family and a Latino or Hispanic family based upon their interpretation of an embedded video. The collaborative nature of VoiceThread supported critical thinking, and students negotiated meaning and understanding from comments made by their classmates in the target language. Communicating and collaborating with people across language and cultural boundaries and making innovative use of knowledge can help learners become well-rounded global citizens. Although some courses for professional language learning, as described above, are contributing to the development of such skills, it is important to include the framework described above and related guidelines in the design of basic language courses where students can start engaging in higher-order and critical thinking practices.

Saavedra and Opfer (2012) argued that 21st century skills require 21st century teaching, calling for a definition and practical teaching guidelines. In an interconnected global ecosystem, they explain, the 'teaching as transmission' model (i.e. where the teacher transmits factual knowledge to students) has become outdated. From the transmission perspective, the role of the teacher is to prepare and transmit information to learners, while learners' role is to receive and store information (Tishman, Jay, & Perkins, 1993). Freire (1970) called this the "banking model" of education, where "knowledge is a gift bestowed by those who consider themselves knowledgeable upon those whom they consider to know nothing" (p. 72). Under this view, the teacher talks, and the students listen as passive receivers of knowledge with no creative power. This model is problematic since learners are not asked to think critically, but rather information is memorized for the purpose of being rehearsed to the teacher or repeated in a test, whereas opportunities to communicate in complex ways and apply what is learned to new and meaningful contexts are lacking. The transmission or banking model is not the most effective way to teach 21st century skills (Saavedra & Opfer, 2012). In today's world, skills sought by employers go beyond the memorization of basic information. Higher-order thinking skills, including creative thinking, decision-making, and problem-solving, are strongly valued capacities necessary to thrive in increasingly complex working environments and societies. Laurillard (2002) points out that academics have been arguing for a shift from the standard transmission model of university teaching to a reflective practicum, with the aim

of preparing students for their future professional careers. Yet, the transmission model, consisting of the lecture, the book, and the marked assignment, remains the dominant approach in the formal education landscape. Thus, learners are not developing 21st century skills since these skills are not being fostered (Schleicher, 2012).

Furthermore, since such skills are more difficult to assess compared to the repetition of knowledge as in the transmission model, educators may choose to continue with pedagogical practices that see students as 'empty containers' to be filled with 'prefabricated' knowledge.

On the other hand, meaningful learning views education "as knowledge construction in which students seek to make sense of their experiences" (Mayer, 2002, p. 227). From this constructivist perspective, students are engaged in active cognitive processes, such as organizing incoming information and integrating it with existing knowledge, and are able to move beyond factual knowledge. Constructivism refers to the idea that knowledge is built by the learner, rather than being transmitted from the teacher to the student (Schwienhorst, 2002). As opposed to behaviorist theories, which emphasize imitation and knowledge reproduction, constructivism is a cognitive theory that focuses on the combination of existing knowledge and novel information to develop new meaning and understanding through active, authentic, and reflective learning activities (Chen, 2009). Building on a constructivist approach, in the classroom setting, students can be regarded as individuals "with different experiences and prior knowledge, [diverse] cultural backgrounds, and different learning trajectories" (Mellis, Carvalho, & Thompson, 2013, p. 6). Bearing in mind that students are actual individuals who can construct their own understandings, the teacher's role shifts from preacher to facilitator. The teacher helps students connect their prior knowledge to the new knowledge and contributes to learning experiences that are long-lasting. From this constructivist perspective, 21st century skills can be developed as teachers and students participate in solving authentic and complex learning tasks that have real-life connections and offer opportunities to transfer what is learned in the formal instructional context to experiences beyond the classroom and authentic settings.

Concerning 21st century skills, learning scientists have proposed various guidelines for their development in educational contexts. For example, the curriculum needs to be relevant to the students, who should also be aware of the bigger picture and understand the value of the subject matter. Students should participate in lower-order as well as higher-order thinking exercises. While lower-order activities are common in existing curricula, higher-order thinking exercises are less common (Saavedra & Opfer, 2012), yet they are much needed to engage students in deeper learning. Other recommendations for the promotion of 21st century skills include encouraging students to apply skills and knowledge gained in one discipline to other areas of their lives, fostering creativity, and exploiting technology to support learning and collaboration. These types of activities can foster lifelong learning (Koper & Tattersall, 2004) and the acquisition of skills necessary to thrive in adult and professional contexts.

3.2.   Incorporating technology in FL education

The current need to prepare students for the 21st century has also led to the use of more technology in the classroom (Ruggiero & Mong, 2015). Technology is constantly changing, and while the literature on its affordances and limitations for language learning is extensive (e.g. Al-Ali, 2014; Borau, Ullrich, Feng, & Shen, 2009; Chang, Wu, & Ku, 2004; Golonka et al., 2014; Reinhardt & Ryu, 2014; Schmerbeck & Lucht, 2017), it is important to purposefully and effectively implement technology tools in educational contexts for best outcomes. It has also been argued that teachers should move "from singular use of the traditional classroom to a more blended or hybrid form of education that combines traditional classroom instruction with computer-based language learning" (Meurant, 2010, p. 229). Eaton (2010) explained that in addition to the technology tools that help foster learning outcomes, there are also technologies that facilitate student learning. These technologies can be synchronous (in real time), such as Skype, Moodle, chat-based platforms, or virtual live classes, or they can be asynchronous (not occurring in real time), such as podcasts, discussion boards, and blogs. Technology tools can be implemented in language education to connect students with users of the target language and help them engage in multimodal learning and learn how to express themselves through new

means. Eaton (2010) also posited that in the future, Mobile-Assisted Language Learning (MALL) will likely play a central role in educational contexts, and perhaps replace the traditional textbook. As mobile technologies become more and more ubiquitous, it is possible that language courses will see increasing use and integration of mobile devices.

The other dimension of technology use in language education is digital literacy. Digital literacy involves more than the ability to operate a digital device or use specific software; it includes a variety of complex skills (e.g. effective virtual communication and collaboration, ability to find and select information, cultural and social understanding) needed to function effectively in digital environments (Eshet, 2004). Digital literacy is now an essential ability for participation in digital spaces, and students should acquire these skills through practice in instructional contexts. Harris (2015) suggested addressing four aspects of digital literacy with adult language learners: using basic digital skills (i.e. those needed to operate digital devices), creating and communicating information, finding and evaluating information, and solving problems in technology-rich environments. According to Ollivier (2018), digital literacy results from the intertwining of three sets of competencies: technology literacy, meaning-making literacy, and interaction literacy. Lotherington and Jenson (2011) talked about multimodal and digital literacy and reported on innovative pedagogical approaches for language learners. They explained that language instruction "continues to resist digitized multimedia and multimodal literacy practices as optional or secondary to flat textual practices" (Lotherington & Jenson, 2011, p. 239). This resistance might be linked to the complexities of the educational system, teachers' professional expectations, and assessment paradigms. Thus, Lotherington and Jenson argued for wider use of MALL in teaching practices to enable a more agentive and participatory learning, digital storytelling to promote mode-switching activities (e.g. students translating textbook materials into comic strips), and digital games to move from the controlled spaces of the classroom to less controlled learning environments. Nevertheless, although multimodal and digital literacy-based learning can expand students' skills and experiences, more empirical evidence is needed to understand the "depth in which students develop their linguistic repertoire when moving across digital modes" (Ware, 2008, p. 49). Furthermore,

it is important to consider how digital literacy is being fostered in FL courses and how it can help students develop skills useful to their adult lives.

3.3.   ID to learning design

Designing effective professional learning and creating meaningful learning experiences are among the major functions of higher education institutions. In order to develop pedagogically sound learning, scholars use ID guidelines. In the broader sense of the word, the aim of ID is to "make the learning more efficient and effective" (Morrison, Ross, Kalman, & Kemp, 2011, p. 2) so learners will have fewer difficulties.

In recent years, many scholars have come to prefer the term *learning design* rather than ID in order to emphasize the importance of learner-centeredness of the design process. ID refers to a broader focus, such as designing courses, programs, assessments, and curriculum plans to test the overall consistency, coherence, and effectiveness of instructional processes and procedures. Learning design, on the other hand, is about the instructor or trainers' day-to-day efforts to create learning experiences for their students at the micro level. Learning design is more specific and purposeful in its attention to meet learner needs. To add to the confusion, a quick search on job forums will show that private businesses and higher education institutions are hiring 'learning experience designers', learning architects, and engineers. In the end, broad or specific, all these terms refer to the same activities and are used interchangeably.

Regardless of the level of instruction/training or the micro or macro levels of developing instruction, ID principles married with the most recent learning theories provide clarity about instructional or performance-related issues so that solutions can be offered while saving time and money. ID forces us to define the goals of our efforts as instructors while making us better equipped to create high-quality experiences for our students. Most modern ID models start with an analysis of the learners so that truly learner-centered training for students can be provided. In the context of professional language learning, such an approach can be beneficial for capturing the needs of learners, as they change over time.

Various ID models over the years have presented instructors with options depending on the focus of instruction. For instance, Keller's (1987) attention, relevance, confidence, and satisfaction model aims to increase motivation and participation in the learning environment; Gustafson and Branch's (2002) instructional system development model considers collaboration among development team members who are introducing a project management component. Wiggins and McTighe's (2005) understanding by design approach suggests a backward design approach while bringing attention to learning outcomes and learning transfer. Willis's (2009) reflective recursive design and development, or R2D2, provides an early example of an agile, flexible, and constructivist ID model. Allen's (2012) successive approximation model takes its inspiration from software design models and guides teachers through a more agile, purposeful, and prototype-based development model. As seen in these ID models, there is no single approach for developing instruction for language programs. Language instructors should consider the needs of students, their teaching methods, learning context, and available resources to select the best ID approach.

The literature is rich with such ID approaches, but it should be noted that there are also two major critiques of ID. First, the purposeful and pragmatic nature of ID practices is criticized, because their rigid approach to ID and development, lack of imagination in the design process, and use of prescribed and inflexible methods result in nonrealistic and inauthentic learning scenarios. Although such critiques may be justifiable for the early ID models of the 1970's that were linear and rigid, most modern ID models provide sound solutions to dominant learning and training issues of the 21st century, such as lack of learner participation, interaction and engagement, retention, multidisciplinarity, the transnational nature of academic disciplines, and technology's transforming role in societies.

The second critique of ID comes from the learning sciences field and from the friction between two fields that lasted for more than 50 years. This critique is so intense that ID is being turned inside out because of the emphasis on 21st century skills. Starting in the 1960's, educational researchers charted divergent paths because of their different views on instruction, the role of technology

in the learning process, and use of theory to support teaching strategies. One of these views led the way to the flourishing of the field called *educational technology*, and the other one led to the development of *educational psychology* or *learning sciences* (Gibbons, 2017). Gibbons (2017) argued that neither educational technology nor learning sciences became an independent discipline, since the nature of their content is applied and highly interdisciplinary. Over time, ID merged with educational technology, and in the 21st century it has become popular because of the increase in online learning and teaching practices. Learning sciences, on the other hand, merged alliances with cognitive scientists and information scientists, and it embraced technology, especially the newest developments in data and cognitive sciences as well as computer science (Kirby, Hoadley, & Carr-Chellman, 2005, as cited in Gibbons, 2017). While the whys and hows of this division between two fields are beyond the scope of this chapter, it is an important one to underline because ID (with its emphasis on the design process) and learning sciences (with its emphasis on pedagogy) should be used in conjunction with each other for meaningful learning experiences. For instance, in FL education, traditional approaches are stagnant and disconnected from real-life experiences, but both ID and learning sciences can offer significant improvements to current practices. In recent years, an encouraging new perspective has provided some hope for the future, *design thinking*, which provides a viable solution for designing meaningful and authentic learning opportunities in academia.

In its broadest sense, design thinking is about solving problems while considering users' concerns, needs, and tendencies (Denning, 2013; Huq & Gilbert, 2017). The intellectual leader for design-thinking scholars is considered Stanford University's Design Center, where three main considerations in the design process were proposed: *many eyes* refers to the interdisciplinary nature of the design process with experts in various fields, *customer viewpoint* is about users and the ways they perform certain tasks, and *tangibility* is about creating user experiences around prototypes. All of these processes of design thinking are reminiscent of learner-centered constructivist ID models of the late 20th century, but they go much further than constructivism by shifting from an *information age* focus to a *data age* focus (Gobble, 2014). The realistic and user-oriented

nature of design thinking with concrete learning scenarios is a quick, team-based, creative, need-oriented strategy for instructional development. Additionally, in order to solve the problems of those individuals who are at the center of the design process, design thinking brings expertise from a wide range of disciplines.

In the context of FL instruction and professional language learning, design thinking can help identify the problem areas where today's higher education falls short. Currently, it seems like most language course offerings neglect the wide-ranging needs of learners living in the 21st century. Design thinking provides opportunities for scholars to be creative in solving learners' needs and future career-related demands.

3.4.   Integrating ID principles and heutagogy into FL learning

Although there is an abundance of research in FL when it comes to the use of technology, instructional, and assessment strategies, the integration of sound ID principles as a whole is a less common practice. A few studies (Ibanez et al., 2011; Wu, Wang, & Chen, 2015) have suggested that the use of Technology-Enhanced Language Learning (TELL) is the best response for integrating ID guidelines into the design of language content. However, TELL only considers how various technologies are integrated into learning and misses the bigger picture. For instance, what learning objectives and goals should guide professional FL learning? What learning theories best address learners' needs? What teaching and learning strategies could be employed to foster meaningful learning? What assessment strategies are suitable and complement learning? All these questions and more can be answered with the application of an ID strategy.

In the professional FL context, adult learning theories and especially *heutagogy*, where learners determine their own learning goals, should accompany an ID model of choice. Heutagogy is a nonlinear form of self-directed learning, which fits the needs of lifelong learners beyond formal education programs (Hase & Kenyon, 2007). Along with an ID model, heutagogy can directly address professional language learning needs because "heutagogy progresses adult learning to become an integrated process related to contexts and situations"

(Rogerson & Rossetto, 2018, p. 413) that can differentiate professional language learning from linguistic-oriented learning. Focusing on contexts and real-life situations, with the assistance of learners who determine their own goals, has true potential to transform FL instruction.

3.5. Formal versus nonformal learning in FL instruction

Higher education institutions with their planned curricula, accredited programs, and academic content and disciplines are the best examples of formal education. Learners who pursue a formal program of study attain a certificate, degree, or diploma. Nonformal education, on the other hand, refers to an organized curriculum outside of formal venues. The purpose is not to gain a credential, but rather a skill or personal enrichment. Nonformal learning is usually short term, practical, personalized, process oriented, participatory, and flexible (Civis Plus, 2017).

In the context of FL learning, nonformal experiences may provide targeted and highly enriching experiences to students. For instance, adult language classes offered in community centers, online webinars, online resources, and assessment sites developed by organizations to target a certain language skill, professional conferences, and other professional development activities are good examples of nonformal learning. With its close ties to lifelong learning, nonformal education can be used within higher education to provide language training to those who need short-term training. When the restrictions of the formal academic curriculum could limit an instructor's ability to respond to learners' needs, in the nonformal setting, the needs of the language learner determine the process. Nonformal learning exists outside of academia, but both formal and nonformal language learning can complement each other by using each other's strengths (Vetter, 2014). While in the European context nonformal education has been recognized as a means of lifelong learning by the Organization for Economic Co-operation and Development (OECD, 1996), regrettably this is not the case in the United States. For instance, the immigration and refugee programs in Europe usually include language-training activities for all age groups so newcomers can be better integrated into society, but in the United States, such programs and activities are not common. In the American system, nonformal education

overlaps with the continuing education programs within higher education. Furthermore, nonformal language education is not seen as complementary to formal language instruction. Better engagement with community centers, professional organizations, and nonprofit organizations could help build links between formal and nonformal education.

4. Conclusions

The collegiate FL landscape is in strong need of new perspectives and fresh approaches. In this chapter, after reviewing the status of FL education and FL learning for professional purposes in the United States, a shift in language education toward the development of 21st century skills and the use of technology along with new concepts, models, and approaches relevant to language learning has been suggested. Moreover, use of ID principles that guide the development of language curriculum, in formal or nonformal settings, is recommended. Regardless of the approach used, all ID models require analysis of learner needs, identification of learning goals, and development of implementation, delivery, and assessment plans. In other words, ID is about systematic development of instructional processes from beginning to end. FL in general and professional language learning in specific are in dire need of such a systematic approach to design, development, and delivery of consistent programs.

Transformation in professional language learning starts with a new approach to curriculum development using best practices in the learning design field, where learners and their needs guide the curriculum development process. Learning sciences and concepts such as heutagogy can be used to devise teaching and learning strategies that are in line with learners' desire to select their own goals and offer strategies to reach those goals. Design thinking, as a curriculum development strategy, can identify the major problems and issues existing in FL learning and guide instructors toward a curriculum that better aligns not only with individuals' needs but also societal needs. Nonformal language learning can help reimagine formal language curriculum practices to create better learning processes. Concerning the content of FL courses, instructors can go

beyond a curriculum that often privileges linguistic aspects of language and canonical texts and imagine one informed by a practical perspective wherein experiential, authentic, interdisciplinary concepts are incorporated. A better link between formal and nonformal education practices can be established to foster individuals' lifelong learning skills. European countries have established many viable strategies in the last two decades in this regard, but the United States is lagging far behind. Finally, learning technologies present many powerful tools to support instructors and can be used in every stage of language training, whether formal or nonformal, linguistics or professional.

For the success of FL learning, these suggestions and others are worth considering; however, they are also not sufficient. To create a viable solution to the problems of FL education, more research is needed to combine learning design, learning sciences, learning technologies, and other pedagogical approaches in a holistic and coherent fashion. The current problems of language education in the United States and elsewhere cannot be fixed with a single technology or approach. A new framework that takes into account a wide range of perspectives to address the complex needs of the 21st century language learner is required.

5.   Future research directions

Although our suggestions present a comprehensive starting point, there are also other ideas to be explored in the future. These ideas could be grouped under two areas: emerging technologies and teachers' roles in language classrooms. First, emerging learning technologies and concepts such as augmented reality, virtual reality, Artificial Intelligence (AI), and adaptive learning present new areas of opportunity and exploration for scholars in the area of language education. For instance, new augmented and virtual reality tools are providing truly immersive experiences that seem to be effective, with considerable implications, such as motivation, learning transfer, and engagement (Barrett et al., 2018; Birt & Cowling, 2017; Quint, Sebastian, & Gorecky, 2015). Advancements in AI technologies present new ways to customize learner preferences, reduce the workload of instructors, and assist with the analysis of large data sets, which

results in better personalized instruction (Horizon Report, 2019). According to Johnson (2019), because of AI technologies, "instructors will be able to focus and adapt instruction based on the progress of each learner. This will help make teaching more data-driven and more responsive to individual learner needs" (p. 455). Adaptive learning environments, where needs of the language learners are considered and resources are brought to them depending on individual differences, should be further explored as a means of nonformal learning.

The second area of exploration is about changing instructor roles in professional language learning. Professional language learning may require more customization of instructional content and materials than traditional language teaching, as we see it today. This constant customization of the curriculum and teaching strategies requires flexibility on the instructor's part as well as at the department level. Collegiate language departments should seek interdisciplinary collaborations enabling language teachers to collaborate with experts in various disciplines and create learning opportunities for students that fit their needs. For example, a student majoring in business taking an FL course could create a business plan in the target language, and this plan could turn useful once the student graduates. Another student could use emerging technologies to create podcast episodes in the target language and make such resources available to the wider public. These learning opportunities give students the opportunity to target 21st century skills and lifelong learning. Nevertheless, teacher and curricula flexibility become of central importance so that students can focus on what is relevant to them and their own future. All in all, more research is needed to better understand how teachers can adapt to the new circumstances and how the language curriculum can be customized to fit the needs of the 21st century.

References

AAAS. (2017). *America's languages: investing in language education for the 21st century. Commission on Language Learning*. American Academy of Arts & Sciences. http://www.amacad.org/multimedia/pdfs/publications/researchpapersmonographs/language/Commission-on-Language-Learning_Americas-Languages.pdf

ACTFL. (2011). *The 21st century skills map*. American Council on the Teaching of Foreign Languages.

Al-Ali, S. (2014). Embracing the selfie craze: exploring the possible use of Instagram as a language mLearning tool. *Issues and Trends in Educational Technology, 2*(2). https://doi.org/10.2458/azu_itet_v2i2_ai-ali

Allen, M. (2012). *Leaving ADDIE for SAM: an agile model for developing the best learning experiences*. The American Society for Training and Development.

Altstaedter, L. L. (2016). Developing a Spanish for health professions course: a preliminary mixed-methods study. *Foreign Language Annals, 50*(1), 38-56. https://doi.org/10.1111/flan.12221

Barrett, R., Gandhi, H. A., Naganathan, A., Daniels, D., Zhang, Y., Onwunaka, C., Luehmann, A., & White, A. D. (2018). Social and tactile mixed reality increases student engagement in undergraduate lab activities. *Journal of Chemical Education*, *95*(10), 1755-1762. https://doi.org/10.1021/acs.jchemed.8b00212

Birt, J., & Cowling, M. (2017). Toward future "mixed reality" learning spaces for STEAM education. *International Journal of Innovation in Science and Mathematics Education, 25*(4), 1-16.

Blattner, G., Dalola, A., & Lomicka, L. (2016). Twitter in foreign language classes: Initiating learners into contemporary language variation. In V. Wang (Ed.), *Handbook of research on learning outcomes and opportunities in the digital age* (pp. 769-797). IGI Global. https://doi.org/10.4018/978-1-4666-9577-1.ch034

Borau, K., Ullrich, C., Feng, J., & Shen, R. (2009). Microblogging for language learning: using Twitter to train communicative and cultural competence. In M. Spaniol, Q. Li, R. Klamma & R. W. H. Lau (Eds), *Advances in Web Based Learning–ICWL, 2009* (pp. 78-87). Springer. https://doi.org/10.1007/978-3-642-03426-8_10

Chang, Y., Wu, C., & Ku, H. (2004). The introduction of electronic portfolios to teach and assess English as a foreign language in Taiwan. *TechTrends, 49*(1), 30-35. https://doi.org/10.1007/bf02784902

Chen, C. J. (2009). Theoretical bases for using virtual reality in education. *Themes in Science and Technology Education, 2*(1-2), 71-90.

Civis Plus. (2017). *Non formal pathways in language teaching: a booklet for educators active in adult immigrants' language learning*. Erasmus+ Programme of the European Union. https://irp-cdn.multiscreensite.com/0e4f7d89/files/uploaded/Booklet-final.pdf

Correa, M. (2011). Advocating for critical pedagogical approaches to teaching Spanish as a heritage language: some considerations. *Foreign Language Annals*, *44*(2), 308-320. https://doi.org/10.1111/j.1944-9720.2011.01132.x

Cox, C. B., & Montgomery, C. (2019). A study of 21st-century skills and engagement in a university Spanish foreign language classroom. *Foreign Language Annals, 52,* 822-849. https://doi.org/10.1111/flan.12426

Crouse, D. (2013). Languages for specific purposes in the 21st century. *The Language Educator, 8*, 32-35.

Cutshall, S. (2012). More than a decade of standards: Integrating "cultures" in your language instruction. *The Language Educator, 7*(3), 32-37.

Damari, R. R., Rivers, W. P., Brecht, R. D., Gardner, P., Pulupa, C., & Robinson, J. (2018). The demand for multilingual human capital in the U.S. labor market. *Foreign Language Annals, 50*, 13-37. https://doi.org/10.1111/flan.12241

Denning, P. J. (2013, December). The profession of IT design thinking. *Communications of the ACM, 56*(12), 29-31.

Eaton, S. E. (2010). *Global trends in language learning in the twenty-first century.* Onate Press.

Eshet, Y. (2004). Digital literacy: a conceptual framework for survival skills in the digital era. *Journal of Educational Multimedia and Hypermedia, 13*(1), 93-106.

Freire, P. (1970). *Pedagogy of the oppressed*. Continuum.

Garrett-Rucks, P. (2013). A discussion-based online approach to fostering deep cultural inquiry in an introductory language course. *Foreign Language Annals, 46*(2), 191-212. https://doi.org/10.1111/flan.12026

Gibbons, A. S. (2017). Points of contact: educational technology and the learning sciences. In A. A. Carr-Chellman & G. Rowland (Eds), *Issues in technology, learning, and instructional design: classic and contemporary dialogues* (pp. 183-193). Routledge.

Gobble, M. M. (2014) Design thinking. *Research-Technology Management, 57*(3), 59-62.

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2014). Technologies for foreign language learning: a review of technology types and their effectiveness. *Computer Assisted Language Learning, 27*(1), 70-105. https://doi.org/10.1080/09588221.2012.700315

Gustafson, K. L., & Branch, R. M. (2002). *Survey of instructional design models* (ED477517). ERIC. https://files.eric.ed.gov/fulltext/ED477517.pdf

Haley, M. H., Steeley, S. L., & Salahshoor, M. (2013). Connecting twenty-first century skills and world language practices: a case study with teachers of critical need languages. *Theory and Practice in Language Studies*, *3*(6), 865-876. https://doi.org/10.4304/tpls.3.6.865-876

Harris, K. (2015). Integrating digital literacy into English language instruction: issue brief. https://lincs.ed.gov/sites/default/files/ELL_Digital_Literacy_508.pdf

Hase, S., & Kenyon, C. (2007). Heutagogy: a child of complexity theory. *Complicity: An International Journal of Complexity and Education*, *4*(1), 111-118. https://doi.org/10.29173/cmplct8766

Horizon Report. (2019). *EDUCAUSE horizon report*. Higher education edition. https://library.educause.edu/-/media/files/library/2019/4/2019horizonreport.pdf?la=en&hash=C8E8D444AF372E705FA1BF9D4FF0DD4CC6F0FDD1

Huq, A., & Gilbert, D. (2017). All the world's a stage: transforming entrepreneurship education through design thinking. *Education + Training, 59*(2), 155-170. https://doi.org/10.1108/et-12-2015-0111

Ibanez, M. B., Garcia, J. J., Galan, S., Maroto, D., Morillo, D., & Kloos, C. D. (2011). Design and implementation of a 3D multi-user virtual world for language learning. *Educational Technology & Society*, *14*(4), 2-10.

Johnson, L. W. (2019, August). Data driven development and evaluation of Enskill English. *International Journal of Artificial Intelligence in Education*, *29*(3), 425-457. https://doi.org/10.1007/s40593-019-00182-2

Keller, J. M. (1987). Development and use of the ARCS Model of instructional design. *Journal of Instructional Development, 10*(3), 2-10. https://doi.org/10.1007/bf02905780

King de Ramírez, C., & Lafford, B. (2018). *Transferable skills for the 21st century. Preparing students for the workplace through world languages for specific purposes.* Sabio Books.

Kirby, J., Hoadley, C. M., & Carr-Chellman, A. A. (2005). Instructional systems design and the learning sciences: a citation analysis. *Educational Technology Research and Development, 53*(1), 37-47. https://doi.org/10.1007/bf02504856

Koper, R., & Tattersall, C. (2004). New directions for lifelong learning using network technologies. *British Journal of Educational Technology, 35*(6), 689-700. https://doi.org/10.1111/j.1467-8535.2004.00427.x

Laurillard, D. (2002). Rethinking teaching for the knowledge society. *EDUCAUSE Review, 37*, 16-27.

Lomicka, G., & Lord, G. (2018). Ten years after the MLA report: what has changed in foreign language departments? *ADFL Bulletin, 44*(2), 116-120. https://doi.org/10.1632/adfl.44.2.116

Looney, D., & Lusin, N. (2018). *Enrollments in languages other than English in United States institutions of higher education, summer 2016 and fall 2016: preliminary report*. Modern Language Association of America. https://www.mla.org/content/download/83540/2197676/2016-Enrollments-Short-Report.pdf

López, L. S. (2015). An analysis of the integration of service learning in undergraduate Spanish for specific purposes programs in higher education in the United States. *Cuadernos de ALDEEU, 28*(1), 155-170.

Lotherington, H., & Jenson, J. (2011). Teaching multimodal and digital literacy in L2 settings: new literacies, new basics, new pedagogies. *Annual Review of Applied Linguistics, 31*, 226-246. https://doi.org/10.1017/s0267190511000110

Martinsen, R. A. (2015). Spanish for you: student-centered and languages for specific purposes methods in lower-division Spanish. *L2 Journal, 7*(4), 42-62. https://doi.org/10.5070/l27418426

Mayer, R. E. (2002). Rote versus meaningful learning. *Theory Into Practice, 41*(4), 226-232. https://doi.org/10.1207/s15430421tip4104_4

McKeeman, L., & Oviedo, B. (2013). Enhancing communicative competence through integrating 21st-century skills and tools. In S. Dhonau (Ed.), *2013 CSCTFL Report* (pp. 39-54). Robert M. Terry.

Mellis, S., Carvalho, L., & Thompson, K. (2013). Applying 21st century constructivist learning theory to stage 4 design projects [Paper session]. *2013 International Conference of the Australian Association for Research in Education (AARE), Deakin, ACT. Australian Association for Research in Education (AARE)*. https://www.aare.edu.au/data/publications/2013/Mellis13.pdf

Meurant, R. C. (2010). The iPad and EFL digital literacy. In S. K. Pal, W. I. Grosky, N. Pissinou, T. K. Shih & D. Slezak (Eds), *Signal processing and multimedia* (pp. 224-234). Springer.

MLA. (2007). Foreign languages and higher education: new structures for a changed world. *Profession, 2007*(12), 234-245. https://doi.org/10.1632/prof.2007.2007.1.234

Morrison, G. R., Ross, S. M., Kalman, H. K., & Kemp, J. E. (2011). *Designing effective instruction*. John Wiley & Sons, Inc.

OECD. (1996). *Recognition of non-formal and informal learning*. http://www.oecd.org/education/skills-beyond-school/recognitionofnon-formalandinformallearning-home.htm

Ollivier, C. (2018). *Towards a socio-interactional approach to foster autonomy in language learners and users.* eLANG Project—Digital literacy for the teaching and learning of language. https://www.ecml.at/Portals/1/5MTP/Ollivier/e-lang%20EN.pdf

Pascual y Cabo, D., & Prada, J. (2018). Redefining Spanish teaching and learning in the United States. *Foreign Language Annals, 51*(3), 533-547. https://doi.org/10.1111/flan.12355

Pufahl, I., & Rhodes, N. C. (2011). Foreign language instruction in US schools: results of a national survey of elementary and secondary schools. *Foreign Language Annals, 44*(2), 258-288. https://doi.org/10.1111/j.1944-9720.2011.01130.x

Quint, F., Sebastian, K, & Gorecky, D. (2015). A mixed-reality learning environment. 2015 International Conference on Virtual and Augmented Reality in Education. *Procedia Computer Science, 75*, 43-48. https://doi.org/10.1016/j.procs.2015.12.199

Reinhardt, J., & Ryu, J. (2014). Using social network-mediated bridging activities to develop socio-pragmatic awareness in elementary Korean. In Information Resources Management Association (Ed.), *Computational linguistics: concepts, methodologies, tools, and applications* (pp. 561-577). IGI Global. https://doi.org/10.4018/978-1-4666-6042-7.ch026

Richards, J. C. (2015). The changing face of language learning: learning beyond the classroom. *RELC Journal, 46*(1), 5-22. https://doi.org/10.1177/0033688214561621

Rogerson, A. M., & Rossetto, L. C. (2018). Accommodating student diversity and different learning backgrounds. *Journal of Intercultural Communication Research, 47*(5), 411-420. https://doi.org/10.1080/17475759.2018.1475293

Ruggiero, D., & Mong, C. J. (2015). The teacher technology integration experience: practice and reflection in the classroom. *Journal of Information Technology Education: Research, 14*, 161-178. https://doi.org/10.28945/2227

Saavedra, A. R., & Opfer, V. D. (2012). Learning 21st-century skills requires 21st-century teaching. *Phi Delta Kappan, 94*(2), 8-13. https://doi.org/10.1177/003172171209400203

Schleicher, A. (2012). *Preparing teachers and developing school leaders for the 21st century: lessons from around the world.* OECD Publishing.

Schmerbeck, N., & Lucht, F. (2017). Creating meaning through multimodality: multiliteracies assessment and photo projects for online portfolios. *Die Unterrichtspraxis/Teaching German, 50*(1), 32-44. https://doi.org/10.1111/tger.12020

Schwienhorst, K. (2002). Why virtual, why environments? Implementing virtual reality concepts in computer-assisted language learning. *Simulation & Gaming, 33*(2), 196-209.

Takeda, I. (2016). Report: project-based learning with 21st century skills for the Japanese language classroom. *Journal of Integrated Creative Studies*, *20,* 1-7.

Tishman, S., Jay, E., & Perkins, D. N. (1993). Teaching thinking dispositions: from transmission to enculturation. *Theory Into Practice, 32*(3), 147-153. https://doi.org/10.1080/00405849309543590

Vetter, E. (2014). Combining formal and nonformal foreign language learning: first insights into a German-Spanish experiment at university level. *Studies in Applied Linguistics*, *2,* 39-50. https://www.infona.pl/resource/bwmeta1.element.desklight-59fc0f9f-6ac5-4ff1-bce1-e56f4d6957a2

Ware, P. (2008). Language learners and multimedia: literacy in and after school. *Pedagogies: An International Journal, 3*, 37-51.

Wiggins, G., & McTighe, J. (2005). *Understanding by design*. ASCD Publications.

Willis, J. (2009). *Constructivist instructional design (C-ID). Foundations, models and examples*. Information Age Publishing.

Wu, W.-V., Wang, R.-W., & Chen, N.-C. (2015). Instructional design using an in-house built teaching assistant robot to enhance elementary school English as-a-foreign-language learning. *Interactive Learning Environments, 23*(6), 696-714. https://doi.org/10.1080/10494820.2013.792844

Yamada, E. (2010). Reflection to the development of criticality: an empirical study of beginners' Japanese language courses as a British university. *Intercultural Communication Studies*, *19*(2), 253-264.

Language learning and professionalization in higher education: pathways to preparing learners and teachers in/for the 21st century
Edited by Béatrice Dupuy and Muriel Grosbois