

Chapter 11

Teaching and Learning with Technology for Second and Foreign Languages

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✓ Learning Outcomes

After reading this chapter and completing the learning activities, you should be able to:

- 11.1 Identify implications for technology integration of each current issue faced by second language teachers. (ISTE Standards for Educators: 1—Learner; 2—Leader; 7—Analyst)
- 11.2 Identify implications for technology integration of each current issue faced by foreign language teachers. (ISTE Standards for Educators: 1—Learner; 4—Collaborator; 5—Designer)
- 11.3 Select technology integration strategies that can meet various needs for instruction in second or foreign language curricula. (ISTE Standards for Educators: 1—Learner; 2—Leader; 3—Citizen; 4—Collaborator; 5—Designer; 6—Facilitator; 7—Analyst)

Technology Integration In Action: Writing Blogs en Français

GRADE LEVELS: 9–12

CONTENT AREA/TOPIC: French, art

LENGTH OF TIME: One semester

PHASE 1 Analysis of Learning and Teaching Assets and Needs

Step 1: Analyze problems of practice (POPs)

Mr. Keplinger, a French teacher at Sabine High School, felt his students needed more practice writing in French. He had tried various kinds of writing assignments, but students always seemed to do the minimum required, and their

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writing fluency remained low. He wanted to create a project that had a greater purpose and a real audience to motivate the students.

Step 2: Assess technological resources of students, families, teachers, and the school

Mr. Keplinger, like the other French teachers at the school, typically used language labs and software for students to practice language subskills in the language computing center. Each teacher had assigned time in the lab each week, and teachers could decide how to use that time. While Mr. Keplinger had not used creative technologies, like creating videos, writing blogs, or posting/sharing on social media, he had observed his students using these tools in other subject areas, such as English, at the high school. Almost all the students had smartphones and because the school allowed educational uses of student-owned devices, Mr. Keplinger had observed students using the devices for language support, translation, pronunciation, and vocabulary in his classes. The students used their mobile devices almost all the time.

Step 3: Identify technological possibilities

While visiting another school for an afternoon professional development session, Mr. Keplinger heard about a project for Spanish language students in which the teachers held a Spanish art identification contest using an asynchronous online discussion board hosted via **learning management system (LMS)**. The teachers posted images of Spanish art, and students had to identify the pieces and discuss and describe the art en Español on the discussion board. The Spanish teachers said that the strategy worked well for students learning English as well. Also, the project exposed students to some important artwork from the Spanish-speaking countries that the students were learning about. Mr. Keplinger shared the idea with other French teachers during a team meeting, and they supported the project. He decided to implement the same project using blogs because students were already used to writing in blogs in their English class.

PHASE 2 Design of the Integration Framework

Step 4: Decide on learning objectives and assessments

Mr. Keplinger wanted to make sure that the expectations for the project were clear to students, so he developed the following objectives and assessment methods to measure students' performances:

Outcome: Write in blogs about French artworks.

- **Objective:** All students access the blogs and post all of the required descriptions.
- **Assessment:** A checklist of items that students are required to post about each artwork with points for each posting.

Outcome: High-quality descriptive writing in French.

- **Objective:** All students will demonstrate French writing skills by achieving a 90% rubric score.
- **Assessment:** A rubric to assess the quality and quantity of students' descriptive writing in French.

Outcome: Demonstrate knowledge of artworks visually and through written language.

- **Objective:** Each student must score at least 80% on a short-answer test on art from French-speaking countries.
- **Assessment:** An online test consisting of questions about the art discussed in the blogs.

Outcome: Demonstrate knowledge of artworks through oral language.

- **Objective:** Each student will create an oral description of a French artwork.
- **Assessment:** Students choose at least one piece of artwork to orally describe in French through video recording and posting on YouTube to create an "art opening."

Step 5: Design integration strategies and determine relative advantage

Mr. Keplinger designed the following sequence of activities to prepare for and carry out the French language art project:

December: Identify French artwork in the public domain, licensed with **Creative Commons**, or embeddable into a blog with code generated from the source website. Work with the IT specialist to create a class blog for the project linked from the French department's website. In class, start developing students' descriptive vocabulary related to art (e.g., *nature, morte, paysage, croquis, aquarelle, gravure, toile*), language to express their opinions about art (e.g., *J'aime vraiment cette peinture à l'huile*), and awareness of French art museum websites. Develop students' knowledge about the French-speaking countries and cultures from which the art originates.

January: Introduce the blogging, the art identification, appreciation/description tasks, and summative quiz and **vodcast** assessments. Remind students that they can see each other's postings and can contribute to the assignment requirements in the context of replying to classmates' posts.

February–April: Introduce one blog with ten French artworks each month. Monitor and provide feedback within the blogs each week, and host an artwork identification and description activity at the end of each month.

May: Assess students through the quiz and the vodcasts. Upload the vodcasts into the school's YouTube channel.

Relative Advantage

This project aimed to improve Mr. Keplinger's students' writing in French. After developing his idea for the art blog activity, he RATified the proposed project. Figure 11.1 shows the aspects of instruction, student learning, and curriculum that Mr. Keplinger felt would be impacted. He was pleased to identify so much transformation of instruction, learning, and the curriculum in the plan. It seemed that the blog, vodcasts, and web-based artwork had the potential to transform students' learning, so Mr. Keplinger felt there was relative advantage to implement the lesson.

Step 6: Prepare instructional environment and implement lesson

Mr. Keplinger tackled the following activities with support of the school's IT specialist:

- **Setting up class blog**—He obtained the required information about how to create blogs and set up one blog for each month. Each student would use his or her school log-in information to access the blogs, which were part of the LMS the school provided.
- **Preparing content for assignments**—Mr. Keplinger selected paintings, photographs, stained glass, sculptures, and other cultural products for each blog, making sure they represented the various French-speaking countries and cultures they had studied, such as France, Morocco, Gabon, and Martinique.
- **Preparing assessments and handouts**—Mr. Keplinger created the checklists and rubrics he would use to assess student progress. He also prepared a handout describing the project and instructions for accessing the system. Finally, he provided example posts and replies and discussed how the project could develop the students' written fluency in French.
- **Ensuring student access**—He confirmed that most students had Internet access at home. However, to make sure everyone had adequate time and access whenever they wanted it, he designated times when students could get online in the language lab.

PHASE 3 Post-Instruction Analysis and Revisions

Step 7: Analyze lesson results and impact

Mr. Keplinger observed that students posted increasingly faster with each blog and that most wrote more sentences each time. By having a clear purpose for writing that allowed for student choice, the project helped develop students' writing skills. Furthermore, he noticed that there was more interaction between students with each successive blog, which speaks to the benefits of having an interested audience when writing in a foreign language, even if this audience includes students' classmates in the school. The test on students' knowledge of art and culture in the final quiz

Figure 11.1 Mr. Keplinger's RATified Project

| Instruction | Learning | Curriculum |
|--|---|--|
| <p>Replacement Technology is different means to same end.</p> | | |
| <p>Amplification Technology increases or intensifies efficiency, productivity, access, capabilities, etc., but the tasks stay fundamentally the same.</p> | <ul style="list-style-type: none"> • Multiple ways (texts, audio, video) for students to show evidence of language development | |
| <p>Transformation Technology redefines, restructures, reorganizes, changes, and creates novel solutions.</p> | <ul style="list-style-type: none"> • Authentic, primary source artwork materials expand beyond French textbooks and learning laboratory activities • Students engage in written and oral descriptions of authentic cultural artifacts from French-speaking countries • Students build knowledge of French artwork collaboratively within blogs • Students share and receive feedback from authentic audiences outside the school with YouTube vodcast | <ul style="list-style-type: none"> • Interdisciplinary project includes French language learning, art, and multimedia development (vodcast) |

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and in the vodcasts showed that the students had learned a lot about art from the countries they were studying and could express this knowledge in French. He observed student enthusiasm for the project with a few exceptions. Some students wished they could choose artworks of their own for the blog.

Step 8: Make revisions based on results

Mr. Keplinger decided to designate more time in the computer lab so that all students would have ample access. He decided that the project had worked so well that he would expand it to include musical works by French-speaking musicians next time and work with students to curate the works. The vodcasts were an excellent assessment technique for oral fluency, but he wanted more exposure for them, so he decided to involve some art historians at a local college to be respondents to the vodcast "art opening."

Step 9: Share lessons, revisions, and outcomes with other peer teachers

Mr. Keplinger shared the results with his team at the high school. They were impressed with the project and the language outcomes of the students, and some decided to join the project. Mr. Keplinger tweeted out a link to the YouTube "art opening" collection with the school's hashtag and #efl and #ell.

SOURCE: Based on a concept from DeLuca, A., & Hoffman, B. (2003). *Vamos a darles algo a discutir* (Let's give 'em something to talk about). *Learning and Leading with Technology*, 30(5), 36–41.

Introduction

This chapter has three major sections. First, it reviews major issues in the second languages field that shape how technology can be integrated. Second, it reviews major issues in the foreign languages field that shape how technology can be integrated. Finally, it describes the technology integration strategies specific to helping English language learners and learners of foreign languages. This last section discusses how teachers can improve their skills in integrating technology in these areas in the future. Notice that this last section also provides a helpful rubric for self-assessment of knowledge growth in the issues/challenges in second and foreign languages, as well as planning and development of technology integration strategies to tackle these issues.

Technology has always played a key role in learning new languages. Language labs have been a staple in many schools, providing students practice in listening to and speaking their newly acquired words and phrases. But those one-way conversations are a far cry from today's in-person virtual experiences, where students can hold real live conversations online with native speakers and practice their writing skills by exchanging letters and working on products with their language co-learners. These virtual immersion experiences have dramatically changed the nature of language learning and offered considerable support for teachers trying to help students with widely varying needs and abilities. Now these online and computer-based strategies are as helpful to teachers and students as a language immersion experience or a trip to a foreign country.

Application Exercise 11.1 Determining Relative Advantage of Mr. Keplinger's Art and Blog Lesson

Issues and Challenges in Second Language Learning

There are two forms of language learning: second language learning and foreign language learning. This section focuses on **second language learning**, which involves **English learners (ELs)** in a classroom with an English-speaking environment. For these

learners, English is their second (or additional) language. Outside of the K–12 setting, the most widely used term is **English as a second language (ESL)**. In classrooms, ELs have ample opportunities for learning English because it is a majority language that is spoken all around them. This allows ELs to engage in field trips, assignments, and collaborations with native speakers in linguistically and culturally rich settings. They also have urgency to learn the language quickly because they need English for everyday tasks, employment, and educational purposes. This section reviews key issues and challenges within second language education.

EL Issue 1: Demands on Content Area Teachers

Content area teachers are required to meet the linguistic and content knowledge needs of a very diverse population of ELs. This section describes the characteristics of ELs and the responsibilities of content area teachers toward ELs' linguistic development.

CHARACTERISTICS OF ELS In the last decade, the population of ELs has been among the fastest-growing populations in U.S. public schools. During the 2013–2014 school year, 9.3% of students enrolled in the public school system nationwide were ELs (National Center for Education Statistics, 2016). ELs are a highly heterogeneous group of students with diverse gifts, languages, educational backgrounds, and learning objectives (National Council of Teachers of English, 2008). The most common native languages of ELs include Spanish, Arabic, Chinese, and Vietnamese (National Clearinghouse for English Language Acquisition, 2015). ELs also vary with respect to their length of time in the United States, experience in formal schooling, language status, exposure to English, ethnic heritage, and developmental characteristics (Heritage, Walqui, & Linqianti, 2015). Yet regardless of their individual differences, all ELs are confronted with the same challenge: They must learn content through a language of instruction (English) in which they are not yet familiar or that is new to them. It is critically important that content area teachers use appropriate resources and technology tools and acquire the teaching skills required to address the instructional needs of this highly diverse population so that the teachers can better support ELs' learning and academic success throughout their school years.

RESPONSIBILITIES FOR ACADEMIC LANGUAGE DEVELOPMENT BY CONTENT AREA TEACHERS Once ELs have moved beyond the emergent level of English proficiency and have exited ESL programs or services, further development of the academic uses of language becomes the responsibility of every teacher (Heritage, Walqui & Linqianti, 2015). The **Common Core State Standards** for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010b) set clear, high, and consistent grade-level expectations for all students, including ELs, in the areas of reading, writing, speaking, and listening. In response to the growing presence of ELs in K–12 schools, a number of publications have suggested ways to prepare all teachers to meet ELs' needs in content-area classrooms (Bunch, 2010; Gibbons, 2006, 2015; Lucas, Villegas, & Freedson-Gonzalez, 2008). However, despite the efforts of practitioners, researchers, and policymakers, ELs continue to face significant challenges and academic achievement gaps compared to their non-EL peers. In 2013–2014, the high school graduation rate for ELs was just 62.6 percent compared to 82.3 percent for all students (National Center for Education Statistics, 2016).

To meet the educational needs of ELs, content-area teachers need to recognize that language has to be taught along with the content and with stimulating and effective ways of doing so. Teachers should be able to address lexical, syntactic, and semantic features specific to their discipline (DiCerbo, Anstrom, Baker, & Rivera, 2014). In other words, in addition to content knowledge, teachers should have the linguistic knowledge necessary to select instructional resources and materials that support ELs to develop

increasingly sophisticated language skills. In fact, studies have shown that high-challenge and high-support classrooms benefit all children, and that ELs can achieve at higher levels and even perform at the level of their non-EL peers if and when they are efficiently supported (Hammond, 2008; Gibbons, 2008).

Technology tools give content-area teachers some of the support they need to meet the widely varying needs of ELs while still maintaining the high-challenge curriculum that benefits all children. For example, apps such as Quizlet and MyWordBook 2 can push students to spend time studying academic vocabulary words with flashcards. Explain Everything can help ELs explain their thinking. To make content more accessible to ELs, teachers can use Notability, an app that enables them to insert annotations (handwritten or typed), drawings, audio, and pictures in PDF documents and homework assignments. Write About This and WriteReader are helpful apps for generating writing ideas and inspiring young ELs to write a story. Such technology tools and resources abound and, when used effectively, they enhance the academic language learning that occurs in the classroom.

EL Issue 2: Academic and Language Needs and Assets of ELs

Typical grade-level content materials are generally above the reading proficiency levels of EL students (Echevarría, Vogt, & Short, 2013). Technology offers some helpful solutions to a common problem that K–12 teachers face: developing their students' academic language and background knowledge sufficiently for them to participate in mainstream classes. For example, a high school English language learner who has a low level of proficiency but much knowledge of current events can make use of multimedia content on websites of national and local newspapers; magazines from across the spectrum of pop culture, such as *Sports Illustrated* or *People*; television stations such as ESPN, CNN, BBC, PBS; and radio programs or stations, such as RadioLab and National Public Radio (NPR). On these websites, students can look at photos with short captions, listen to **podcasts**, and watch videos on topics of their choice. NPR also includes audio transcripts so that learners can both read and listen to the news simultaneously. In addition to lessening the reading load and building background knowledge, these highly visual options give learners with lower levels of proficiency access to authentic information on high-interest, current topics. Initially, students may need guidance in navigating these kinds of websites. They need to learn what the icons mean, how to use the headings, and how to recognize the key vocabulary words—that is, acquire the basic media literacy needed to benefit from the tools.

ELs bring with them valuable cultural and linguistic assets, including their home languages (Gibbons, 2015). The teacher can scaffold learning by tapping into these assets. For example, the teacher can help students to find media on a current event or story of interest first in their native language. The resulting background knowledge will be useful when tackling the new English vocabulary. Alternatively, the teacher can direct learners to websites with simplified language and interesting pictures and visuals, such as Desert USA, National Geographic, and National Geographic Kids. Another good resource is Newsela (website and app), which contains current event articles organized by topic, grade level, reading skill, language (English–Spanish), and format.

It is sometimes helpful for ELs to read text designed for native English speakers who are younger than they are, if the materials are not too childish and the task assigned is developmentally and age appropriate. Reading Rainbow is a useful resource for finding digital books and videos for young readers. Another good resource for finding books with relevant academic and cultural content for ELs is the International Children's Digital Library, a searchable, multilingual children's library. The listed books are appropriate for children from 3 to 13 years of age, but they can also work well for older English language learners, particularly the nonfiction books. Younger learners

can also find classics from Dr. Seuss to the Little Critters series at Oceanhouse Media. These **interactive storybook** apps allow students to read independently or listen as the books are read aloud. The latter has the added advantage that ELs can read along for practice and/or reflect on letter–sound relationships as they listen to the story. Another interesting and practical solution is News-O-Matic (website and app)—a daily newspaper for elementary school–age kids. Its high-quality and kid-friendly content makes current events accessible to older ELs with limited language proficiency.

These instructional technology resources and tools are most effective when they are adapted to the needs of individual students or classrooms and are scaffolded by the teacher. Technology adoption without appropriate support can widen learning gaps for ELs; thus, the ability of the teacher to design tasks and provide support and feedback is paramount. Guernsey and Levine (2016) emphasize that the teacher–learner relationship is of foremost importance and technology can amplify and scaffold learning through that relationship.

EL Issue 3: The Need to Differentiate Instruction

In many EL settings, teachers need to deliver instruction across a wide range of proficiency levels. Older ELs come with a range of print literacy skills in English and their native language as well as a wide range of prior formal schooling experiences (Heritage et al., 2015). It is common at the elementary level to collaborate with a grade-level teacher to deliver EL services; at the upper levels, students with different needs are sometimes served in stand-alone classes, sheltered content classes, and ESL classes (Echevarría et al., 2013).

Technology can help the teacher differentiate instruction through software that assists in tracking individual students and can offer ways for students to work independently on developing their reading, writing, speaking, and listening skills. For example, grammar-check online programs and apps, such as Grammar Flip, allow students to receive instant feedback from interactive practice exercises, and then apply the new knowledge through writing activities. Grammar Up provides answers to grammar questions. ReadWorks features a large library of nonfiction and literary articles with reading comprehension and vocabulary lessons that students can use for individualized practice. English Central contains a library of videos organized by topic, skills (grammar, pronunciation, test preparation, and useful expressions), and proficiency level (beginning, intermediate, and advanced). Mindsnacks introduces students to Tier 3, low-frequency, context-specific vocabulary words through games and high-quality graphics. These are just a few examples of resources that can offer much individual attention and learning support to ELs in a comfortable and engaging environment.

With multimedia programs and websites that include actual spoken models, ELs can practice their oral English language production by imitating the speech models. Websites such as BBC Learning English, Voice of America, ELT Podcast, and ESL Lounge are particularly useful because they feature simplified English audio with transcripts that ELs can use for read-aloud practice. While these resources allow only practice for imitation and memorization and cannot yet handle open-ended, creative use of language, their auditory input can provide useful feedback on how a word or sentence

Video Example 11.1 Using iPads to Differentiate Instruction

In this video, a third grade teacher describes how she uses iPads to differentiate instruction for the learners in her classroom.

https://youtu.be/x4odUJ73_wo

is pronounced. In addition to audio and transcripts, other websites include interactive activities in the form of listening comprehension exercises. Examples of websites of this kind include:

- Breaking News English
- EZ Slang
- English Listening Lab Online
- Agenda Web
- Audio English
- Randall's ESL Cyber Listening Lab
- English Club

Students can complete these interactive activities for homework or during class time while the teacher works with other students. The Adapting for Special Needs feature suggests other resources to help support teachers and students.

EL Issue 4: The Challenge of Integrating Students' Native Languages

Efforts to prepare students for mainstream classes in English often require building background knowledge in the content area so that they have a base on which to acquire new knowledge when they are confronted with grade-level content instruction (Gibbons, 2015). One of the easiest ways to do this is to build on the resources of students' native languages (National Council of Teachers of English, 2008). This serves a dual purpose: teachers facilitate the development of their students' native and English language skills, and students come to see that their native languages are valued as a resource at school. This practice creates a more welcoming learning environment for immigrant children and youth.

Technology can assist teachers in using the students' native languages even when the student speaks a less common native language. Many new programs allow teachers to create vocabulary lists specific to their lessons. These lists can help prepare students who have few other scaffolds to be more successful in participating in grade-level and content classrooms. Using a computer program, online websites or **mobile device** apps, to translate from one language to another, or **machine translation** can be helpful to teachers and students. In language programs where translation is acceptable as a tool for comprehension, sites with parallel texts that humans have translated can be

Box 11.1: Adapting for Special Needs

Resources for Second Language Learners

Students whose first language is not English sometimes participate rather slowly or do not respond to teacher questions because of the multilingual processing they must use. Teachers can support learning for these students by allowing them adequate time for cognitive processing and encouraging them to make connections between their first language and English. Here are some useful classroom resources for these students and support websites for teachers:

- **Larry Ferlazzo's Websites of the Day**—A classroom teacher of EL, ESL, and EFL searches the web to provide daily reports on the best resources he can find for busy teachers working with second language students.

- **Colorín Colorado**—This is a bilingual site for educators and families of ELs with access to many videos of classroom-based practices.
- **BookBox**—This is a site for listening to stories in a target language while viewing second language captions.
- **Simple English Wikipedia**—Articles are written explicitly in simple English to reduce the complexity and eliminate jargon. This feature is also found in the main Wikipedia as a language translation option called "Simple English" on the left column of the page along with other languages.

—Dave Edyburn

Video Example 11.2 Strategies for Working with English Language Learners and Their Families

In this video, a third grade teacher describes the value of providing classroom and home resources in students' native languages.



useful. These include multilingual websites and apps where users click on flag icons to select the language. For example, Linguee.es (or the Linguee app) is a translation tool that combines an editorial dictionary with a search engine for searching bilingual texts for words and expressions in many different languages. With this tool, learners can access more accurate translations of words and phrases in context than is possible with machine translation and can also see more conventional grammatical patterns in the language being learned. Although dictionaries are widely used in school classrooms today, research support for their use in K–12 classrooms is notably lacking.

Teachers can use tools such as Babylon Online Translation, Google Translate, Bing Translator, and World Lingo to look up key content words in the students' native languages or translate some simple instructions on a project. Although many of these tools offer translations only in common foreign languages (e.g., French, Spanish, Chinese, Korean, German, Arabic), some are beginning to include languages less commonly seen in U.S. classrooms (e.g., Hmong, Somali). For students, these tools function like bilingual dictionaries and help them unlock the meaning of a text at both the word and phrase levels.

Another way to bring students' native languages into the EL class is through web-based newspapers from around the world. It is possible to access newspapers in most languages found among ELs on the web as long as the computer is set up to read the fonts used in languages that do not use the Roman alphabet. Students can read about many topics relevant to their classes in newspapers in their native language.

EL Issue 5: Technology Standards for Language Learning

Technology tools and resources offer practical ideas and activities for extended practice in class and at home. Yet, for this practice to be effective, content area teachers must be able to select appropriate technology tools for content and language learning as well as be able to train ELs in using them effectively for learning.

In addition to the ISTE standards, teachers can seek guidance from a complementary set of technology standards specifically targeted to language teaching and learning released by Teachers of English to Speakers of Other Languages (TESOL) to support instruction and language development in appropriate ways. The TESOL Technology Standards for Teachers and Learners (TESOL, 2008) consists of two sets of standards:

14 for language teachers and 11 for language learners. The 14 standards for teachers are divided across four overarching goals related to (1) foundational technological skills, (2) integration of technology and language pedagogy, (3) feedback and assessment, and (4) communication and collaboration. The 11 learner standards similarly fall under three main goals: (1) foundational technological skills, (2) ethical and socially appropriate usage, and (3) effective use of technology for language learning. An expanded volume (Healey et al., 2011) provides additional examples along with advice for teachers and teacher educators. Both the 2008 framework document (TESOL, 2008) and the 2011 volume (Healey et al., 2011) include performance indicators for each standard, and the latter also has vignettes showing how each standard can be incorporated into an online or classroom situation consisting of high-, mid-, and low-technology-resource settings. The existence of learner standards is evidence of an important aspect of technology for language learning that is often overlooked: learner development. Despite assumptions that so-called **digital natives** know how to use technology, it is clear that (1) there is significant variation in students' technology skills and knowledge and (2) social uses of technology are not identical to their uses for learning.



Check Your Understanding 11.1

Shared Writing 11.1 Using Digital Translation Tools

Issues and Challenges in Foreign Language Learning

When the language being studied is spoken in other countries, it is referred to as **foreign language (FL) learning**. FL learners typically have fewer opportunities to practice the foreign language under study, and teachers often go to great lengths to find people and

Video Example 11.3 Learning Foreign Languages Online

In the video, a virtual school principal talks about how online courses make foreign language learning accessible for students who have no teachers available locally.



places with whom and where their students can use the target language. Technology is perhaps even more important for FL learners because it allows a great variety of connections to people, places, and authentic language outside of the local environment. FL learning is often seen as enrichment rather than a matter of crucial importance for academic success. In smaller districts, sometimes it is difficult to find foreign language teachers or funding to offer more foreign languages.

This section introduces two key issues and problems of practice for learning in FL settings that provide a context for understanding the benefits and challenges of using technology in FL classrooms.

FL Issue 1: The Need for Authentic Materials and Perspectives

Often FL teachers are nonnative speakers of the languages they teach and may have infrequent opportunities to spend extended periods of time in countries where their FL is spoken. Therefore, there is a need to find ways to expose students to both a range of native speakers of the FL, including varieties of the language not spoken by the teacher, and to up-to-date examples of how the language is currently used. Technologies are available to make these connections possible. Using websites and telecollaborative projects to connect students with speakers from around the world, students can also experience the cultural, political, and individual perspectives of those who speak the language of study. An increase in authentic perspectives and materials designed for native speakers of the language taps into high-quality teaching of culture using the standards set forth by the American Council on the Teaching of Foreign Languages: The World-Readiness Standards for Learning Languages (National Standards Collaborative Board, 2015). The standards integrate perspectives, products, and practices that teach culture and guide learners to develop competence to communicate effectively and interact with cultural competence in multilingual communities. These standards cover five goal areas: (1) communication, (2) cultures, (3) connections, (4) comparisons, and (5) communities. Technology can bring insider voices and authentic materials into the FL classroom to teach culture through perspectives, products, and practices within the five goal areas. It used to be a major challenge for language teachers to find authentic media for their students, but now such resources abound. For example, *ClicaBrasil* is a wonderful resource for learning the Portuguese language and culture by listening to Brazilian people talking about their life in that country.

FL Issue 2: The Need for Creating Audience and Purpose

Another common problem related to practice opportunities for FL teachers and their students is creating a broader repertoire of individuals to talk with and audiences that wish to read their writing. Technology-based projects can assist with the need to provide both the means and a reason to contact native language speakers. With online video and audio conferencing tools (e.g., Skype or Google Hangouts), students are now able to talk with peers in other countries and interact with presenters who visit their class via these inexpensive online tools (Bahrani, 2011). Discussion forums, blogging, and wiki functions also offer a platform for writing to classmates, students in other classrooms, or international partners. For example, students can engage in collaborative projects, review movies or music (Castleberry & Evers, 2010), discuss current events topics, and share cultural perspectives. When they participate in online collaborative spaces, language learners also have the opportunity to experience different language registers and learn about formal and informal rules and conventions for participation (Goodwin-Jones, 2015).

Furthermore, online publishing offers students an audience beyond their teachers and can give them an incentive to revise their work. There is a wide array of opportunities for sharing student writing with new audiences. For example, FL students can create **digital portfolios** with Bulb to showcase their work, share learning experiences and interests, and celebrate cultures. After publishing their work, students can reflect on their accomplishments and see their progress over one or multiple school years. Because Bulb has a shareable link, schools can showcase student creations on district social media pages, or students can send their own creations to partners in other schools or countries, their families, and friends. Students can also share their own video stories with movie-making software. If they want to combine text with imported pictures and videos and record their own voice, they can use Book Creator. Toontastic 3D is the preferred choice for creating animated stories with narration. For students with limited command of the foreign language or for classes where the focus is more on showing rather than telling a story, Pinterest and PicCollage may be better choices. These tools allow students to create and share posters that combine images on the screen, which they can then share on Instagram, Facebook, Twitter, email, and more. As a follow-up activity, students can use their posters as a springboard for talking or writing about themselves and their creations, or for vocabulary development.



Check Your Understanding 11.2

Technology Integration Strategies for EL and FL Instruction

Computer-assisted language learning (CALL), an accepted term for using computers in language testing, teaching, and learning, has made great strides in offering students new ways to enhance their speaking, writing, reading, and listening skills in and out of class. The flexibility that **mobile-assisted language learning (MALL)** offers to the learner has now expanded the possibilities for CALL. The prevalence of mobile devices such as tablets and smartphones is growing, and both EL and FL teachers need to be aware of both their strengths and limitations as learning devices. Although scant research exists on the uses of MALL in K–12 settings (see Burston, 2013, for an annotated bibliography of MALL studies), its potential to exceed that of nonmobile CALL is often highlighted in the literature (Ballance, 2012), and its use is rapidly expanding at all school levels (Chen, Carger, & Smith, 2017). Ahmed and Nasser (2015) argue that mobile apps help create effective learning environments through lessons and collaborative tools, fostering creativity and learner autonomy, and providing quick and easy access to resources. Yet, Hubbard (2013) argued that effectiveness depends on students having the technological skills and knowledge to work with them as well as teachers' pedagogical and strategic understanding of how to connect that knowledge to effective language learning. Both CALL and MALL tools make curriculum more accessible to students with diverse needs and provide opportunities for learning that are not possible through traditional methods.

This section presents seven technology integration strategies for EL and FL instruction for (1) authentic written and oral language practice, (2) virtual collaborations and conferences, (3) virtual field trips, (4) language subskills practice, (5) presentations, (6) production of oral and written texts, and (7) life-long professional growth. Some of these strategies are based on suggestions from Castleberry and Evers (2010), who offered 20 different ways to use technologies to support language learning. See Table 11.1 for the Top Ten Must-Have Technologies for Foreign and Second Languages.

Table 11.1 Top Ten Must-Have Technologies for Second and Foreign Languages

| Technology Name | Description |
|--------------------|---|
| WhatsApp Messenger | This app allows users to send text messages, photos, and video free without using their phone's short message service (SMS) system. It is handy for teachers who want to send and receive short communications and assignments, especially to groups. It is also useful for collaborative language learning projects across countries. |
| Google Translate | This app and website allow users to translate languages. The app can use voice, pictures (with camera), and text recognition. The photo translation option is particularly handy on field trips. |
| Skype | Skype allows audio and video communication for free between subscribers online using Wi-Fi at the same time anywhere in the world. Alternatives include Google Hangouts and Apple's FaceTime. |
| Duolingo | This free service offers basic language lessons in English, Spanish, French, German, Italian, Portuguese, Russian, and Turkish. It provides a variety of translation activities to help learners read and listen to language and translate words and phrases. It gives feedback to students. |
| Busuu | This app covers a wide range of topics through comprehensive vocabulary activities and interactive tests for languages such as English, Portuguese, French, Spanish, Italian, Chinese, and Japanese. Learners can take courses to practice reading, listening, writing, and speaking and can get their work corrected by native speakers. |
| Babbel | This mobile tutorial and practice software includes core vocabulary, listening exercises, and speaking activities employing speech recognition for Spanish, French, German, and a number of other languages. It is a good supplement and review for foreign language courses, but subscriptions are not free. |
| Voxy | This free app features news and stories in English on a variety of topics, games for language practice, and short quizzes to test comprehension. It also provides users an option to connect with native English speakers to learn English. |
| MyWordBook | Developed by British Council and Cambridge University Press, this app provides users vocabulary packs and flashcards that can be downloaded for later use. |
| Mindsnacks | This app introduces students to Tier 3, low-frequency, context-specific English vocabulary words through games. |
| Buncee for Edu | This free app features a tool for creating digital stories, presentations, and other projects. |

Support for Authentic Oral and Written Language Practice and Assessment

Several technologies are available to enhance and support a more authentic approach to language learning and assessment and provide the following learner benefits:

- Individual help for students' different language levels
- Opportunities for students to internalize word meanings
- Focused practice in using new words and following oral instructions
- Focused and authentic practice in reading, writing, listening, and speaking
- Increased oral and written competence.

E-BOOKS AND INTERACTIVE STORYBOOKS Many classroom textbooks and books of any genre or length are also available in digital form as e-books, and come with reader controls, such as the ability to resize images and text, and change the proportions of the screen, which make reading more attractive for young learners. Some e-books are read on proprietary eReader devices, such as Kindle Fire or Nook, but students can also read e-books on desktop computers, laptops, tablets, and smartphones by installing an app. When compared to print copies, e-books are sometimes preferred because they are quicker to obtain, cheaper, and more portable. eReader devices and eReader apps facilitate reading for language learners and allow teachers to individualize instruction for students' different language levels and needs through a number of additional features, such as conducting word searches, using online dictionaries, finding links to more information and related websites, accessing audio and video enhancements, and highlighting and writing notes. Some popular e-Book collections include:

- K12 Handheld eBooks—A free collection of upper elementary to middle school eBooks in the areas of language arts, math, social studies, and science.
- Read.gov—A collection of eBook resources for children.

- International Children's Digital Library—The largest digital collection of children's books in 54 languages.
- Children's Book Forever—Classic books for children in many languages, including English, Danish, Dutch, Finnish, French, German, Japanese, Spanish, and Swedish.
- Children's Storybooks Online—A collection of children's books, some with audio.

Interactive storybooks also give students an opportunity to read and listen to English authentically in a less stressful environment as compared to a face-to-face environment. These books appear on the screen, and the student can set the program to read the book aloud as he or she follows along, giving him or her the chance to see the word and the illustrations and to hear the words pronounced. The reader also can opt to read the story unaided, touching a word with a stylus or finger when a prompt is needed. Many of these programs have additional learning games attached that use the vocabulary and illustrations from the storybook to help K–12 students internalize word meanings and to give additional practice in using the new words encountered in the storybooks. Popular digital interactive storybooks include:

- Reading Rainbow
- Oceanhouse Media
- Scholastic
- Oxford Owl
- Tumble Books
- Raz-Kids.com
- Storyline Online

LEARNING GAMES ON HANDHELD DEVICES Most handheld devices featuring educational games target kindergarten, elementary, and middle school students. For example, VTech MoviGo features games that reinforce logic, letter names, numbers, music/rhythm, and same/different pronunciations for children ages 3–7. LeapFrog has a series of handheld devices designed to give elementary school students practice in math, science, social studies, and languages using content from the most common text-

books across the country. Nintendo DS and 3DS XL support language development for elementary and middle school students through interactive games. Although these handheld devices are appropriate for young children, older ELs may find the educational content useful for their language skills development (see Figure 11.2).

LANGUAGE LABS Language labs, such as the SANS 21st Century Technology for Language Learning or the CAN-8 virtual language lab, have specific technology that enables interconnection and interaction between the students and teachers in the lab. Students are provided with an individual station with a computer, headset, video monitor, and interactive activities. The teacher's station typically is projected on a main

Figure 11.2 A Thai Student Learns English Through Educational Games

(Hi-Point/Shutterstock)



Video Example 11.4 Using a Language Lab to Learn German

In this video, a teacher describes her language lab and students share how they use the technology to learn German.



screen in the lab and, depending on the software and hardware, can allow control or monitoring of the student stations. Activities, such as recorded dialog journals in which students speak about an assigned topic or a topic of their choice, give the teacher an opportunity for monitoring, feedback, and authentic verbal interaction.

Listening instruction can be built into the lab setting by having students listen to oral instructions while building a project such as a paper airplane, Lego construction, or origami figure. Additional resources for building listening competence can be found at Randall's ESL Cyber Listening Lab. This site provides short (1–3 minute) and long (5–10 minute) listening exercises, as well as an array of other useful resources such as "culture videos." The English Language Listening Library Online (ELLO) offers over 2,500 free audio and video listening activities, including culturally rich examples of both native and nonnative English speakers, often interacting through interviews.

LANGUAGE SOFTWARE Software series for learning various languages are popular, particularly with older language learners. Companies that offer these series include Rosetta Stone, Transparent Language, Rocket Languages, Living Language, Pimsleur, Fluenz, and Berlitz Premier Language Learning. In addition to varying cost and effectiveness, these language software products differ with respect to the learning method, targeted languages and levels, teaching tools and materials, interface, technical and language support, availability and quality of speech recognition technology, and progress tracking. Learners complete these multimedia-based language learning courses by reading and listening to lessons, watching videos, and completing exercises and quizzes to improve their reading and listening skills, increase their vocabulary and knowledge of the target culture, and improve their pronunciation through imitation. Berlitz also offers conversation practice through speech recognition software. Many of these companies, such as Rosetta Stone, Living Language, and Transparent Language, also offer a mobile app.

RADIO AND TELEVISION CONTENT For more advanced students, web-based radio and television provide both news and drama from which teachers can create motivational activities to give the learner practice in oral and written language. Multilingual Books Online provides links to radio stations in multiple languages around the world. CNN Student News has a 10-minute online program of news highlights for students

on weekdays with a transcript that can be valuable for ELs for both comprehension and vocabulary development. Other popular stations include:

- National Public Radio
- Foreign Internet Radio
- Online News Radio
- Voice of America

PODCASTS OR VODCASTS Teachers can create their own **podcasts** for listening instruction and practice, but an even more innovative use for podcasts is assessment. Using Audacity or other tools, such as Flipgrid that has a seamless video recording interface, teachers can gather oral language samples from students. This use of podcasts or **vodcasts** gives teachers greater ease in assessing students' individual speaking skills by using a rubric or checklist they design specifically for the task. Student-produced digital files can be stored in a digital portfolio, such as Flipgrid, to assess progress over time and for students' reflection on their own progress. Alternatively, students can listen to podcasts or vodcasts to practice their listening comprehension skills. Examples of podcast content for ELs are:

- ELT Podcast
- Culips ESL Podcast
- Breaking News English
- ESL Lounge

TRANSLATION WEBSITES AND HANDHELD TRANSLATION DEVICES A variety of websites and devices are available to aid translation from one language to another. All these aids are considered forms of machine translation. **Handheld technologies** make translation more accessible. For example, the Penpower WorldPenScan X is a text scanner that is integrated with Babylon dictionary and translation software. Using this pen, students scan a word or phrase and get a spoken or written translation on a mobile device. The Lingo Talking Translators are another handheld device that provides translation of word or phrases.

Mobile apps, such as Google Translate's app for Android devices, are also pocket size translators with voice, picture, text, and handwritten translation, and it interfaces with other device apps (see Figure 11.3). Google Translate is built into Google's Chrome web browser,

Figure 11.3 The Google Translate App on a Smartphone
(Hadrian/Shutterstock)

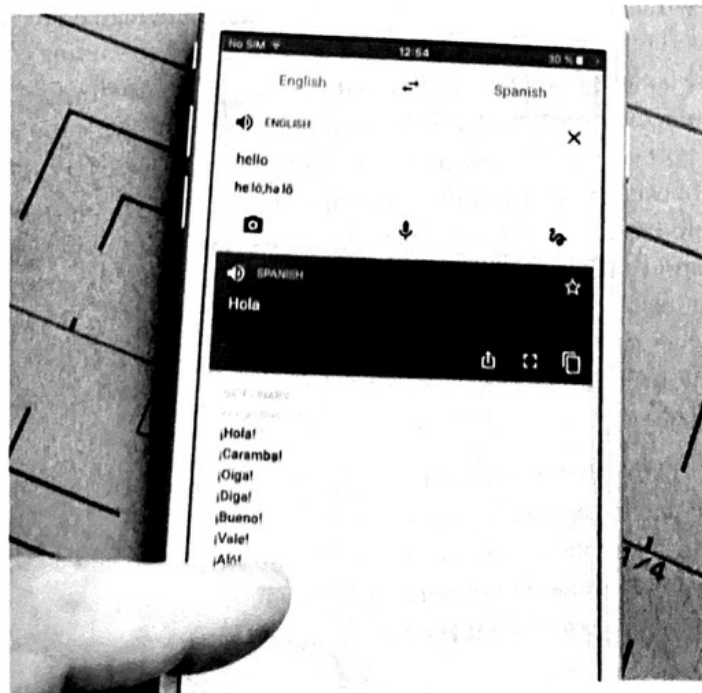
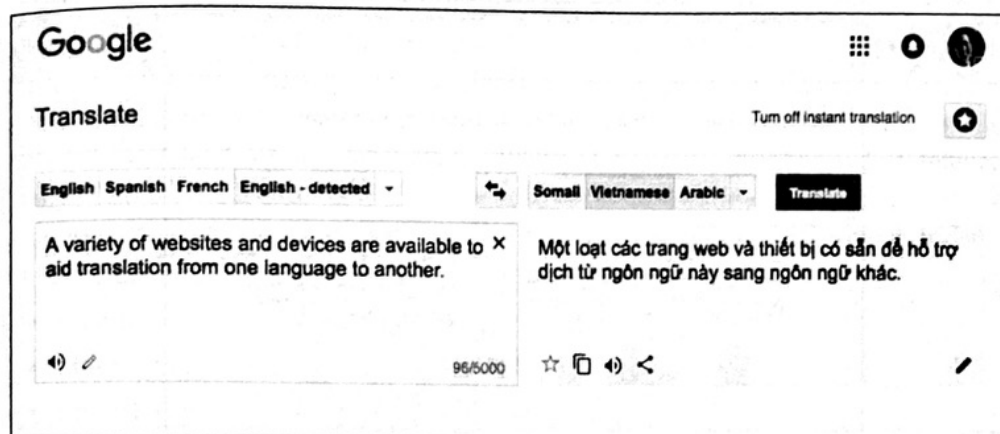


Figure 11.4 Google Translate

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Used with permission.



allowing users to view and read any webpage content in their preferred language. Google Translate is also available on any web browser (see Figure 11.4). The resulting translation can be copied, saved into a personal phrasebook, heard, and shared. Other common online translation websites include Babylon Online Translation, Bing Translator, World Lingo, and Linguee.es.

Virtual Collaborations and Conferencing Tandem

Many teachers have found student collaborations to be effective in motivating students to use their emerging language skills. **Computer-mediated-communication (CMC)** tools, such as blogs, wikis, online chats, videoconferencing, and voice- and text-based discussion forums, enable various kinds of communication, interaction, and collaboration between or among people (i.e., learners in and outside the classroom or speakers of the target language anywhere in the world). These strategies provide the following benefits:

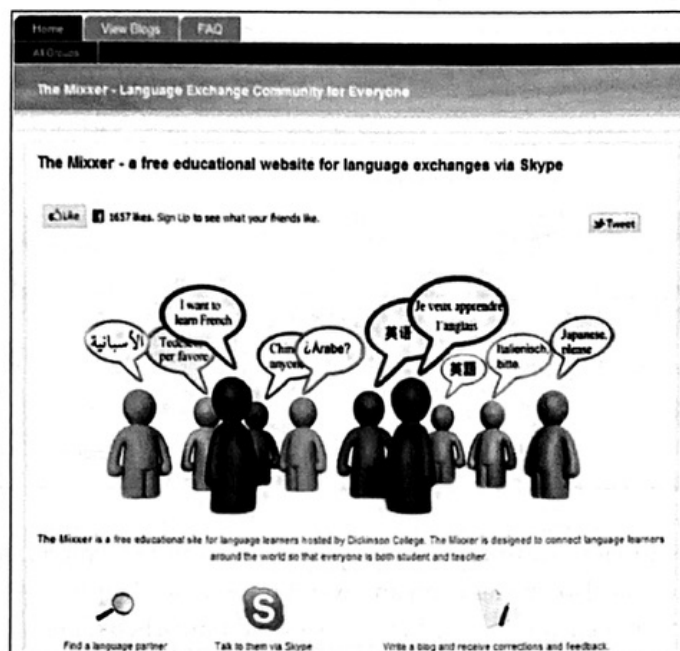
- Increased motivation to use new language skills
- Increased cultural awareness and knowledge about the languages they are learning
- Authentic practice in conversations with native speakers of other languages

VIRTUAL COLLABORATIVE PROJECTS Virtual collaborations developed by partner teachers in collaborating schools enable students to work with peers from other cultures to provide authentic writing, cultural, and research experiences. These collaborations can be divided into three categories:

1. **Information exchange tasks**—Learners provide information about their personal biographies or aspects of their home cultures to their long-distance partners.
2. **Comparison and analysis tasks**—In addition to requiring learners to exchange information, they also carry out comparisons or critical analyses of cultural products from each culture (e.g., books, surveys, films, and newspaper articles).
3. **Collaborative tasks**—Learners are required to work together to produce a joint product or conclusion.

According to O'Dowd (2011), these collaborative exchanges emphasize developing both better cultural awareness and greater linguistic competence. These collaborations are made possible when two teachers establish a partnership. Websites dedicated to helping form these collaborations include:

- ePals Global Community
- Global SchoolNet

Figure 11.5 The Mixxer WebsiteSOURCE: Reprinted by permission of Todd Bryant, Dickinson College. <http://www.language-exchanges.org>.

- My Language Exchange
- Global Friends Coalition
- The Mixxer (see Figure 11.5)

Some of these sites are better suited for school-age EL students. For example, ePals provides a dedicated, secure platform with support materials for projects linked to Common Core State Standards, making it easier to justify the class and preparation time spent. Teachers can also create their own collaborations using generic tools for collaboration, such as:

- Wikis (e.g., PBwiki, Wikispaces)
- Text-based discussion forums (e.g., ProBoards)
- Voice-based discussion forums (e.g., Voxopop, WhatsApp Messenger)
- Videoconferencing (e.g. Skype, Google Hangouts)
- Blogs (e.g., Blogger, WordPress)

This approach will require more planning and technological setup than using language collaboration websites.

VIRTUAL CONFERENCING TANDEM Another way to immerse students in authentic language learning is to pair students in one country with native speakers of the same proficiency level in another country, and work together via videoconferencing or other collaborative technologies to learn each other's native language (Perez-Hernandez, 2014). Some websites that facilitate this include:

- Teletandem Brazil
- Tandem Partners
- Vocabulix

Abreu-Ellis et al. (2013) found success in these experiences with structured communication requirements, an array of ways to communicate, and a high degree of social presence, primarily between peers. **Social presence** is the perception of "connectedness" or actually being with someone in a virtual environment. On the other hand, factors that detracted from the experience were technical problems and failures

in communication systems. Thus, Abreu-Ellis et al. argue for technical preparation and backup plans.

SOCIAL NETWORKING SITES FOR LANGUAGE LEARNING (SNSLL) There are also language learning communities where users can meet and connect with friends around the world, share media and interests online, upload content and ask for feedback, correct and evaluate posts, ask and answer questions, and join chat rooms. Due to the social nature of these websites, these online communities are referred to as **social networking sites for language learning (SNSLL)**. Liu et al. (2016) provide a detailed analysis of the affordances of many of these sites. Because these sites require users to be autonomous in their learning, they are generally more suitable for high school students or older learners. Example SNSLL technologies include:

- Busuu
- Livemocha
- English Café
- LingQ
- Lang-8
- Italki
- Polyglotclub

Virtual Field Trips for Modified Language Immersion Experience

Virtual field trips offer a wealth of opportunities for language acquisition by visiting places that would be impossible due to location, expense, or safety (Castleberry & Evers, 2010). There are several kinds of virtual field trips, including virtual tours and WebQuests.

VIRTUAL TOURS There are professionally produced virtual-reality field trips that can be used alongside an existing curriculum. These **virtual tours** are collections of 3-D images or video, often annotated with details, points of interest, and questions that teachers can use for content, language, and culture learning. Many of the world's outstanding art museums have virtual tours of this kind. As with any field trip, students should be prepared ahead of time for their experience by building background knowledge, vocabulary, and expectations. When the virtual field trips do not offer learning materials, such as objectives for the trip and problem-based instructions, the teacher should provide them in order to ensure a successful learning experience for the students. The virtual field trip should also be followed by activities that encourage students to use their experiences and to practice their oral and written language. Google Expeditions is a popular virtual tour source among language learners and teachers because it offers a library of virtual trips to culturally rich sites, such as the Great Wall of China, which are ideal for learning about a culture's products without having to leave the classroom.

Another kind of virtual field trip involves the teacher or a member of the class who takes a vacation, records video, takes photos, or makes other media representations and then adds a running commentary to share with the class. The narrator strives to make sure that there is a good match between what is being viewed and what is being said. Depending on the language level, the narration can be in either English or the target language. Students and teachers can make these tours using software such as iMovie, MovieMaker, and VoiceThread.

WEBQUESTS Another approach to a virtual field trip is a **WebQuest** format that has students visit websites, answer questions, and produce a product of some kind in the target language, such as a poster, brochure, or menu (see Technology Integration Example 11.1). A recent review of the literature that examined WebQuests as language

Technology Integration

Example 11.1

TITLE: A Visit to My Favorite Museum!

CONTENT AREA/TOPIC: EL or any major foreign language

GRADE LEVELS: 7–12

ISTE STANDARDS•S: Standard 1—Empowered Learner; Standard 3—Knowledge Constructor; Standard 4—Innovative Designer; Standard 5—Computational Thinker; Standard 6—Creative Communicator; Standard 7—Global Communicator

CCSS: CCSS.MATH.PRACTICE.MP5, CCSS.MATH.CONTENT.7.RP.A.2, CCSS.MATH.CONTENT.HSN.Q.A.1, CCSS.MATH.CONTENT.HSN.Q.A.3, CCSS.MATH.CONTENT.8.EE.C.7

WORLD-READINESS STANDARDS FOR LEARNING LANGUAGES: Communication (Interpretive); Cultures (Relating Cultural Products to Perspectives)

DESCRIPTION: Students choose a target museum to “visit” in a country in which a national language is the target language they want to learn. They answer questions about the museum of their choice, including its name, telephone number, hours of operation, entrance fees, and some of the major artwork that can be found there. Students can also use Google Maps or Google Earth to develop a sense of the area surrounding the museum. Using word processing software, they create a poster or brochure for the museum that illustrates an itinerary for a day visiting the museum and the surrounding area (use the *New York Times* Travel Section *36 Hours in ...* feature as an example). In the target language, students use information they have collected, identify nearby sites or restaurants to include in the itinerary, and use images available for reuse (Creative Commons licensed or public domain). Students identify the country’s currency, use an exchange rate website to determine the cost of the visit in U.S. dollars, and include that information in the poster or brochure.

SOURCE: Based on a concept in the Museums, Museums, Museums! lesson plan by Carol Parris and Julie Pinzás, previously online at the California Language Teachers’ Association’s (CLTA) website, <http://www.clta.net/lessons>.

learning tools revealed that their use improves interaction, communication, critical thinking, knowledge application, social skills, scaffolded learning, higher order thinking skills, problem-solving skills, reading skills, and vocabulary knowledge (Aydin, 2016). The Center of Advanced Research on Language Acquisition (CARLA) lists a number of sample WebQuests for learning languages, including Arabic, Chinese, ESL, French, German, Hebrew, Italian, Japanese, Korean, Russian, and Spanish.

Support for Practice in Language Subskills

Many websites, software, and apps provide intense practice in specific language subskills, such as listening, reading, writing, and speaking skills. This practice provides the following benefits for both EL and FL learners:

- Intense, targeted, and interactive practice in specific language subskills and vocabulary sets
- Immediate feedback to correct common oral and written errors that students make
- Current vocabulary of specific classroom lessons
- Leveled readings and practice exercises

One value of these types of technologies is that the exercises provide models of activities that can be used by teachers to create similar activities to correct common errors being made by the students or to incorporate vocabulary currently being studied in class. Teachers can have students read exercises aloud after completing them to promote the connection between written and oral modalities to help balance skill development. Resources for practice that enhance ELs’ language subskill learning not mentioned elsewhere in the chapter include:

- English Zone—Interactive and printable grammar, reading, and pronunciation exercises
- English Banana—Worksheets, books, podcasts, videos, and learning materials
- English Online—Interactive grammar, reading, and vocabulary exercises
- ESL Lounge—Lesson plans, printable materials, flashcards, quizzes, and guides
- Activities for ESL (a4esl)—Quizzes, tests, exercises and puzzles to help ELs develop their grammar and vocabulary skills
- MyGrammarLab—Downloadable grammar practice exercises in three levels: elementary, intermediate, and advanced
- SpeakingPal—Talk to and receive feedback from a virtual character
- Voxy—Video and audio recordings of real-life situations and news stories

Additional support websites, software, and apps for FL students include:

- Pinyin Practice—Practice with Chinese tones
- Kanji Practice—Practice reading and writing Japanese kanji
- Learnspanish.com—Spanish lessons and quizzes, including cultural notes
- Chinesepod.com—Mandarin Chinese lessons in five educational skill levels, an app to access the lessons on the go, and access to tutors for live instruction
- Mondly—Conversation practice in 33 languages
- Lingua.ly—A smart dictionary where learners can access new words as they come across them and add these words to their Lingua.ly account and review them later via quizzes
- Mosalingua—Practice languages using visual and audio memory techniques
- Open Culture Foreign Language Collection—Free downloadable lessons in 40 languages
- Ma France—24 video lessons in French
- Info Junior—A French online journal for kids with stories and games

Presentation Tools

Both teachers and students can use a range of presentation tools to support oral and aural expressions of language and vocabulary and grammar learning.

FILMS Teachers can display films and television shows in the target language or developed in the target culture with or without subtitles. These media help students link words they are hearing and reading to visual presentations of actions and objects.

PRESENTATION SOFTWARE OR APPS Oral presentations can be supported using PowerPoint, Prezi, or Keynote software or videos. Visuals support the concepts being presented and focus presentation content. Storyboard That and PowToon support animated presentations or stories for display and oral discussion. The Buncee app allows students to create digital stories or make short presentations that explain the meaning of a word with pictures and audio. Interactive whiteboard websites provide teachers downloadable lessons. Within the foreign language classroom in particular, it is important that presentation assignments be designed so that the learner engages frequently with the target language. Spending hours selecting and arranging graphics for a presentation at the expense of linguistic and cultural learning should be avoided.

DIGITAL IMAGERY Digital imagery can easily be imported into presentations or shown during classroom lessons. Students and teachers can create their own images with cameras or use the web to search for photographs and other images with Creative Commons licenses. Teaching students the search strategies described in Chapter 6 will

Video Example 11.5 Teaching Vocabulary with Digital Cameras

In this video, the teacher describes how her students use digital cameras to support vocabulary learning for ELs.

<https://youtu.be/3k2XVxyVFUQ>

streamline the search processes. Wong, Chin, Tan, and Liu's (2010) research indicated that learning was enhanced for 40 eleven-year-old learners of Chinese when they took photos illustrating Chinese idioms and shared their photos and comments with the class through a wiki.

Students can also enhance vocabulary learning through tools such as Fotobabble and ThingLink. For example, students can upload a photo to Fotobabble; record a definition, description, or explanation; and then share it with a friend. ThingLink allows users to place tags on different parts of an image. These tags can connect to multimedia content, such as web links, video clips, audio recordings, or text. Students can either create their own vocabulary posters or tap on an image posted by the teacher to hear the definition of a word, read a sentence using the word, or see a video featuring the word in context.

Support for Production of Written and Oral Texts

In FL learning, students need experience reading and writing the new language. Most standard word processing programs, such as Microsoft Word, offer support for producing and/or proofreading text in languages other than English. These programs also allow symbols to be inserted (e.g., unlauded letters in German or accented letters in French). In addition to the authentic use of language in creating journals, descriptions of experiences, oral reports, and research projects, word processing programs support correct usage with grammar checks and correct spelling (spell-checks) when the language setting is changed to the target language. Computer hardware allows changing the language and region and a new keyboard layout for different languages. See Technology Integration Example 11.2 for a sample lesson in which students build both oral and written texts.

Spell-checks and grammar checks are not foolproof in any language, and this is especially true for second language writers. Grammar-checking software is programmed primarily to recognize native speaker errors rather than those of language learners. Students should always be encouraged to read their writing aloud and to listen for clues that corrections or refinements should be made. Peer review is also a good strategy because students might notice errors and omissions in others' work more readily than in their own. The use of word processors allows the student/author to revise easily without rewriting by hand. Working toward a complete, printed copy of text can be motivational to the writer.

A number of apps support the writing process for ELs. Among these, the most popular are:

- Write About This—Generates images and writing prompts for young ELs
- Popplet—Allows students to create collaborative mind maps that can organize thoughts, brainstorm ideas, create images, and build relationships between facts and images
- Book Creator—Allows students to embed text, pictures, video, and audio files
- Scribble Press—Creates booklets or brochures; ideal for young learners

A valuable addition to the writing process is inviting student authors to read their writing aloud to a small group and answer their questions. ELs can also develop an

Technology Integration

Example 11.2

TITLE: The ABCs of Story Book Learning in a Language

CONTENT AREA/TOPIC: EL or any foreign language with an alphabetic writing system

GRADE LEVELS: 5–8

ISTE STANDARDS•S: Standard 1—Empowered Learner; Standard 3—Knowledge Constructor; Standard 6—Creative Communicator; Standard 7—Global Collaborator

WORLD-READINESS STANDARDS FOR LEARNING LANGUAGES: Communication (Interpersonal, Interpretive); Communities (School and Global Communities)

DESCRIPTION: Students work individually or in pairs to create an alphabet story book in the target language. The goal is to build a story book that introduces each letter with a word that builds the storyline. Using a word processor or multimedia software, each page of the story includes an oversized image of the letter, the word that begins with the letter, an image that represents the word, and a few sentences of story narrative that includes the word. Students can use vocabulary or thesaurus sites for support in identifying words. Students can also record themselves narrating the book upon completion. The books can be displayed through print, on a school website, or through YouTube (as applicable).

SOURCE: Based on a concept in the lesson plan by Joan Diez at the Lesson Plans Page website: <http://www.lessonplanspage.com>.

audio/podcast file, with a program like Audacity, to be posted online. These tasks provide opportunities for oral and listening practice while also giving authors some ideas for revisions. Other alternatives for voice recording include:

- Flipgrid—Video record responses and discuss content with teacher or peers
- Audiopal or Chirbit—Record your voice and then get a widget via email that you can embed in your blog, wiki, or website
- Cinch—Share audio, text, and photo updates in social media to which people can reply
- Voicethread—Build conversations around images, videos, and documents
- Voxopop—Create asynchronous conversations threads

Video Example 11.6 Using Audio to Support Text Production

In this video, the teacher shares how she helps English learners to audio record descriptions in KidPix software to support their text production.



Application Exercise 11.2 Technology Integration Strategies for English Learners and Foreign Language Learners

Teacher Growth in Technology Integration Strategies as Second and Foreign Language Teachers

This chapter has introduced the issues, challenges, and strategies for integrating technology for second and foreign languages. In the future, teachers should begin to expand and strengthen their capabilities to understand emerging issues, generate possible solutions, and address technology integration. Review the rubric in Table 11.2 for measuring second and foreign language teachers' growth in technology integration strategies.

For continued growth, teachers should review and monitor the standards at the American Council on the Teaching of Foreign Languages (ACTFL) and the TESOL Technology Standards for Teachers and Learners. Both provide professional development resources. To grapple with the enormous range of resources on the web for EL and FL, teachers must continue learning. For example, the Intercultural Development Research Association and the Center for Applied Linguistics (CAL) offer a number of teaching resources and professional development opportunities for language teachers. WIDA, Reading Rockets, and Colorín Colorado offer an extensive collection of resources for EL teachers, including research briefs and reports, reading guides and resources, classroom materials, professional development webcasts and blogs, and links to other resources on the web. Foreign language associations, such as the American Association of Teachers of French, allow FL teachers to network and share ideas and concerns in communities of practice or professional learning networks. Also, 16 national foreign language resource centers (NFLRC) create language learning and teaching materials, share K–12 initiatives, conduct research, and offer professional development activities for FL teachers. Many of these centers concentrate on language learning in general, such as Center for Advanced Research in Language Acquisition (CARLA), Language Acquisition Resource Center (LARC), Center for Advanced Language Proficiency Education and Research (CALPER), Center for Language Education and Research (CLEAR), National Foreign Language Resource Center (NFLRC), and Center for Open Educational Resources and Language Learning (COERLL). Other NFLRCs are dedicated to specific languages, such as the National East Asian Languages Resource Center (NEALRC), or specific language areas, such as Center for Educational Resources in Culture, Language and Literacy (CERCLL). A web portal maintained by COERLL gives access to the 16 centers and their resources. Finally, teachers can participate in professional learning by following specific Twitter hashtags:

- #tesol
- #efl
- #ell or #ellchat
- #esl
- #langchat

Table 11.2 Rubric to Measure Teacher Growth in Second and Foreign Language Technology Integration

| Part I: Teachers Knowledge of Second Language Issues and Challenges | | | |
|---|--|---|---|
| | Basic Knowledge (1-2 points) | Intermediate Knowledge (3-4 points) | Advanced Knowledge (5-6 points) |
| | I can articulate the nature of the issue/challenge. | I can both articulate the nature of the issue/challenge and identify some of the possible ways to address it. | I can articulate and implement my own plan for addressing the issues/challenges in my own teaching. |
| Demands on content area teachers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Academic and language needs and assets of ELLs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The need to differentiate instruction | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Challenges of integrating the students' native languages | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Technology standards for language learning | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Part II: Teachers Knowledge of Foreign Language Issues and Challenges | | | |
| | Basic Knowledge (1-2 points) | Intermediate Knowledge (3-4 points) | Advanced Knowledge (5-6 points) |
| | I can articulate the nature of the issue/challenge. | I can both articulate the nature of the issue/challenge and identify some of the possible ways to address it. | I can articulate and implement my own plan for addressing the issues/challenges in my own teaching. |
| Need for authentic materials and perspectives | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Need for creating audience and purpose | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Part III: Teachers' Technology Integration Strategies for Second and Foreign language Learning | | | |
| | Basic Knowledge (1-2 points) | Intermediate Knowledge (3-4 points) | Advanced Knowledge (5-6 points) |
| | I can describe the strategies and identify technologies to carry them out. | I have designed at least two activities based on these strategies to enhance my teaching and my students' learning. | I have designed and implemented my own plan for integrating these strategies throughout my curriculum to enhance my teaching and my students' learning. |
| Support for authentic oral language practice and assessment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Virtual collaborations and conferencing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Virtual field trips for modified language immersion experience | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Support for practice in language subskills | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Presentation tools | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Support for production of written and oral texts in different languages | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Teacher growth in integration strategies | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Total Points | _____ of 84 possible points | | |



Check Your Understanding 11.3

Chapter 11 Summary

The following is a summary of the main points covered in this chapter.

1. **Issues and Challenges in Second Language Learning**—Each of these current issues has implications for how teachers can and should integrate technologies in second language instruction.
 - Demands on content area teachers
 - Academic and language needs and assets of ELs
 - The need to differentiate instruction
 - Challenges of integrating the students' native languages
 - Technology standards for language learning
2. **Issues and Challenges in Foreign Language Learning**—Each of these current issues has implications for how teachers can and should integrate technologies in foreign language instruction.
 - Need for authentic materials and perspectives
 - Need for creating audience and purpose
3. **Technology Integration Strategies for EL and FL Instruction**—Technology integration strategies include the following activities to address language learning needs:
 - **Support for authentic oral language practice and assessment:** Through interactive storybooks,

- e-books, learning games on handheld devices, language labs, language software, radio and TV content, vodcasts or podcasts, and translation websites and handheld translation devices
- **Virtual collaborations and conferencing:** With virtual collaborative projects, virtual conferencing, and social networking sites for language learning (SNSLL)
- **Virtual field trips for modified language immersion experience:** With tours, live trips, and WebQuests
- **Support for practice in language subskills:** To provide intense practice and immediate feedback
- **Presentation tools:** Including films, presentation software, and digital imagery to help students link words they are hearing and reading to visual representations of actions and objects.
- **Support for production of written and oral texts in different languages:** To increase students' experiences reading and writing the new language through word processing, grammar and spellchecking, and video or audio recording.
- **Continued teacher growth in integration strategies:** Through professional associations and developing PLNs

Technology Integration Workshop

1. Apply What You Learned

In this chapter, you learned about teaching and learning with technology for second and foreign languages. Now apply your understanding of these concepts by doing the following activities:

- Reread Mr. Keplinger's lesson *Writing Blogs en Français* in the Technology Integration in Action scenario at the beginning of this chapter. Pay close attention to Step 3 of the TTIPP when Mr. Keplinger identifies the technological possibilities for the problem of practice to motivate students to write in French more often. Using your knowledge about technology integration strategies for second and foreign languages introduced in this chapter, generate at least one new technological possibility for targeting this problem of practice.
- Review how the teacher RATified the project in Step 5 of the TTIPP as represented in Figure 11.1. Use the

RAT Matrix to analyze the role(s) and relative advantage that your new technological possibilities (identified in the last step) would play in the lesson. You must reflect on the roles that your identified technological possibilities play as replacement, amplification, and/or transformation of instruction, student learning, and/or curriculum. Do you feel your proposed technology would provide a relative advantage?

2. Technology Integration Lesson Planning: Evaluating Lesson Plans

Complete the following exercise using the Technology Integration Examples 11.1-11.2, any lesson plan you find on the web, or one provided by your instructor.

- a. **Locate lesson ideas**—Identify three lesson plans that focus on any of the EL and FL technology integration strategies you learned about in this chapter, for example:

- Videoconferencing
 - Interactive or electronic storybooks
 - Learning games on handheld devices
 - Use of language labs
 - Radio and TV broadcasts and podcasts
 - Use of translation websites
 - Handheld translation devices
 - Virtual collaborations
 - Virtual field trips
- b. Evaluate the lessons—Use the Technology Lesson Plan Evaluation Checklist and the RAT Matrix to evaluate each of the lessons you found. Based on the evaluation and your RATification of the lessons, would you adopt these lessons in the future? Why or why not?
- ### 3. Technology Integration Lesson Planning: Creating Lesson Plans with the TTIPP Model
- Review how to implement the TTIPP model (see Figure 2.6) for technology integration planning and use the Technology Integration in Action scenario *Writing Blogs en Français* in this chapter as a model. Create your own technology-supported lesson that uses technologies to support instruction or learning for EL or FL learners by doing the following activities:
- a. Describe Phase 1—Analysis of Learning and Teaching Assets and Needs:
- What is the problem of practice or main content topic in your lesson?
 - What are the technology resources your students, their families, you, and your school could bring as assets for the lesson?
- b. Describe Phase 2—Design of the Integration Framework:
- What are the objectives of the lesson plan?
 - How will you assess your students' accomplishment of the objectives?
 - What integration strategies are used in this lesson plan?
 - What is the relative advantage of using the technology(ies) in this lesson?
 - How would you prepare the learning environment?
- c. Describe Phase 3—Post-Instruction Analysis and Revisions:
- What strategies and/or instruments would you use to evaluate the success of this lesson in your classroom in order to determine revision needs?
 - Add lesson descriptors—Create descriptors for your new lesson (e.g., grade-level, content, and topic areas; technologies used; ISTE standards; 21st-century learning standards).
 - Save and share your new lesson—Save your lesson plan with all its descriptors and TTIPP model notes and share it with your peers and teachers if not others.

When you use your new lesson with students, be sure to assess it using the Technology Impact Checklist.