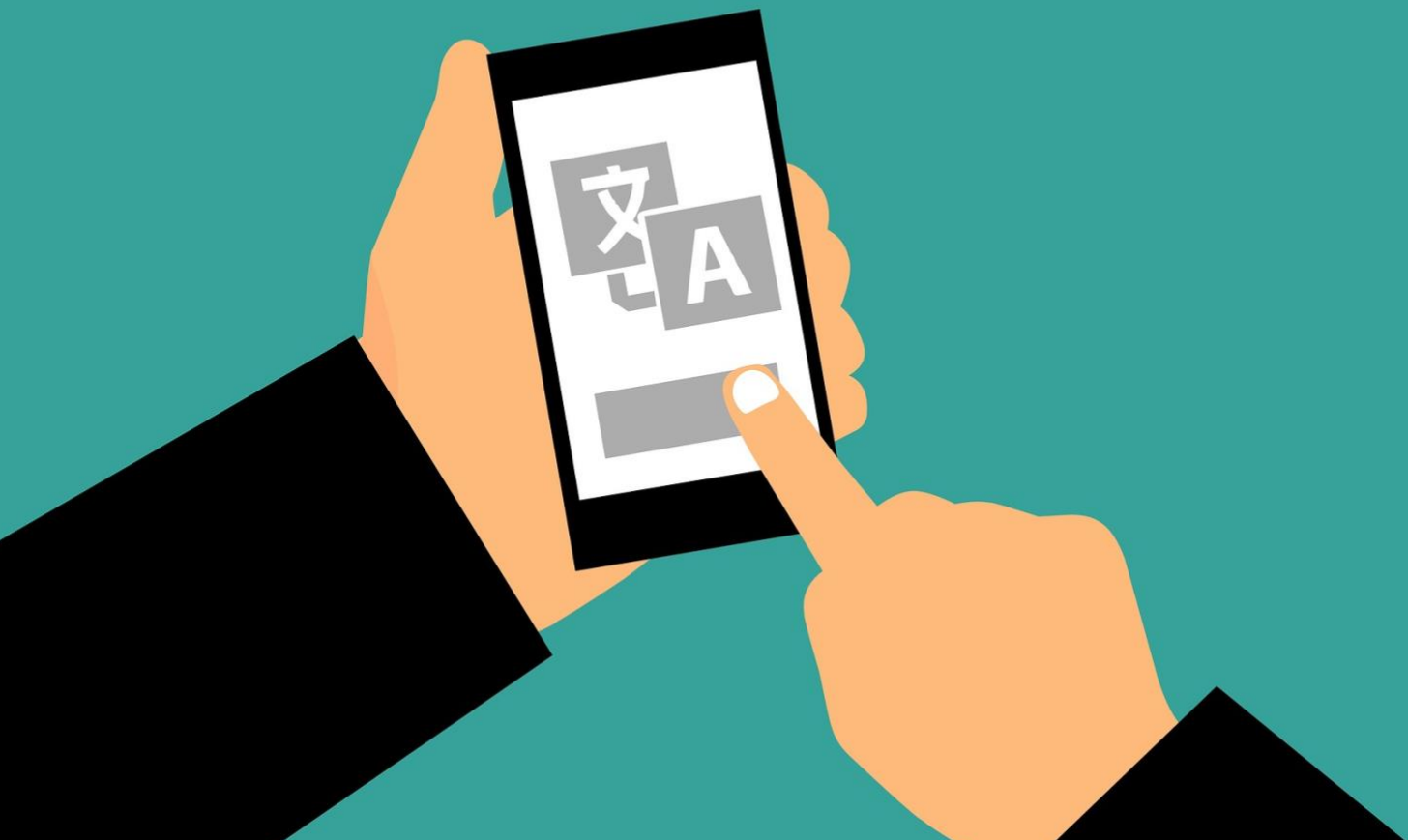# Educational Technology for English Language Learners

Introduction

The Department of Education encourages educational technology developers to take the needs of English learners and their educators into consideration in their technology design. As of the 2015–16 school year, there were over five million English learners, about 10 percent of all K–12 students. Many teachers, including those in small and rural districts, instruct one or more English learners—or soon will. Teachers often use technology designed for general education students when instructing their students who are English learners, so any educational technology you design will likely be used by English learners.

This toolkit provides guidance for educational technology developers on:

- The needs of English learners and their educators;
- Supports to consider including with your product that may be especially useful for English learners;
- Ways to communicate about products with districts and educators of English learners to facilitate adoption of your products; and
- The types of professional development and training activities that educators find most valuable.

This toolkit and a companion Educator's Toolkit are based on insights from the findings of the **National Study of English Learners and Digital Learning Resources** conducted by the U.S. Department of Education, Policy and Program Studies Service, on behalf of the Office of English Language Acquisition and the Office of Educational Technology. Both toolkits focus on software or "digital learning resources," that is, the apps, programs, or websites that engage students in learning activities and support students' learning goals. The toolkits do not focus on hardware (e.g., laptops, computers, tablets, or other devices), although you may find that some insights are applicable to the design and use of hardware devices.

The study provides the first national data on how educators across the country are using educational technology in instructing English learners. The study conducted surveys, case studies, and meetings with experts in the field, including educational technology publishers, researchers, and educators. To learn more about the study and the toolkits, you can read a brief description on page 20.

The study's final report describes how districts and teachers identify and use technology in instructing English learners, as well as related supports and barriers. This toolkit builds awareness of the role technology can play for English learners and notes areas where technology developers can improve their offerings for English learners, based on needs suggested by the study.

Understand what English learners and their educators need

The design of educational technology, especially for students who are English learners, requires designing for a diversity of educators, students, and instructional needs. Educators have differing roles but share responsibility for their students' success in learning both language and academic content. English learners have a wide range of backgrounds and use educational technology for a variety of instructional tasks. By identifying the needs of educators and students, you will be able to develop and design more effective products.

What to know

A variety of educators use and evaluate the usefulness of educational technologies, including:

○ English learner specialists, such as English as a Second Language or bilingual classroom teachers;

○ Classroom teachers who instruct English learners together with English-proficient students; and

○ District administrators and/or school technology coordinators who recommend and support educational technology use.

English learners from kindergarten through grade 12 (K–12) come from a variety of language and cultural backgrounds and have a wide range of needs related to academic readiness. For example, English learners who will use educational technology may:

○ Have had very different experiences before coming into their K–12 classrooms. Many will have been born in the United States, but others will have just entered the United States for the first time, perhaps after difficult experiences as refugees;

○ Have grade-level skills and knowledge based on a high-quality education in their country of origin but not yet have proficiency in English;

○ Have had little or no formal education, or some years of interrupted education, prior to entering schools in the United States;

○ Appear proficient in English based on their fluency in everyday conversations but not yet have the level of academic English proficiency they will need to succeed in learning academic content;

○ Differ in their level of acquisition and use of their home language, and some may not be literate in that language. This has implications for their path to English literacy;

○ Have had little or no experience using technology and so may not understand many of the basics about using computers or navigating in a website or software program;

○ Come from cultures with very different norms and expectations around education. For example, some may expect collaboration to be the norm, while others may expect that students work alone; and

○ Have disabilities, and some may require the use of assistive technology, including software to support their accessibility needs.

Educators have identified gaps in the educational technology available to address the needs of English learners and their teachers. For example, they see gaps in:

○ Support for learning all academic content—currently much of the educational technology for English learners focuses on English language acquisition;

○ Resources that reflect students' different languages, cultures, and experiences;

○ Support for students in communicating and collaborating with their teachers and fellow students as active participants in learning activities;

○ Support in allowing parents to communicate with teachers to become more involved in their child's education; and

○ Materials that fit the needs of older beginner English learners while providing grade-level content and design that is appropriate for them as middle and high school students (i.e., not childish or simplistic in their activities and images).

Different forms of educational technology address different needs, and supports should be tailored to the specific educational technology being designed. A categorization of educational technology that may be useful is

found in the **[Digital Learning Resources Matrix](#)** (page 22). It shows three categories:

○ **Digital Academic Content Tools,** which offer academic content resources and/or engage students in activities to learn academic content or skills.

○ **Digital Productivity Tools**, which offer resources to plan, document, organize, and analyze content. They do not contain academic content.

○ **Digital Communication Tools,** which offer resources to communicate, collaborate, network, or share information. They do not contain academic content.

What to do

☐ **Identify your customers.** Who are the educators and English learners who will use and evaluate your product? What are their characteristics and needs?

☐ **Partner with teachers, schools, or districts to find design partners.** Involve target users in design to better understand their needs in serving English learners and possible solutions to meet those needs. These partners should be chosen carefully, as different feedback may be provided by teachers who actively integrate new forms of technology into their instruction as compared with teachers who are less comfortable with using technology in instruction.

☐ **Develop a set of scenarios (or "personas" or "use cases") to describe your users and their needs.** The scenarios below describe common situations for English learners and their teachers, highlighting their needs. An understanding of customer needs can be used as the basis for developing products. You can take these as a starting point but should develop your own based on the specifics of your technology and customer. By creating partnerships with districts or schools, you can create your own scenarios and learn how your materials can be improved to better meet the needs of your customers.

1

Maria is a middle school English learner who excelled in school in her country of origin and is at grade level in math and science achievement. She needs to learn new mathematics concepts, such as the relationship between slope and unit rate, while learning how to speak, read, and write English. Her math teacher is working with her English learner specialist, Mr. Kenny, to find ways to help Maria keep pace in her math learning as a beginning level English learner.

Mr. Kenny noted that Maria may benefit from interactive visual representations such as a mathematics-specific, digital academic content tool that offers dynamic graphs and motion simulations. These can help Maria learn the concepts, and the needed vocabulary can be introduced through features directly related to the visual representations. In addition, Maria can manipulate the representations to communicate her own ideas, allowing a richer form of communication than possible when using spoken or written English.

2

Malika is a high school student in Mr. Reilly's social studies class. She is a long-term English learner who is reading several levels below her grade. The class has been assigned a reading on the emergence of the industrial society, and Mr. Reilly has identified an alternate digital academic content resource for Malika that offers sets of texts on the topics they are studying, written at her fourth-grade reading level. Malika finds the resource child-like, both in content and in visual format, and is embarrassed to be using it. Mr. Reilly is frustrated that the resource does not address grade-level standards about this topic.

Malika may benefit from tools that offer simpler versions of the English language text on the same grade-level content and include multimodal support features such as visual

representations for understanding the academic terms and vocabulary. A resource that maintains a high school look-and-feel, while addressing high school standards, can better meet the needs of Malika and Mr. Reilly. This resource can also provide markup tools that allow Malika to make notes and possibly even submit assignments in a way that allows Malika to build academic English skills while learning the content.

Josef is an elementary school student in Ms. Lee's class, where they are studying plant structures. He is learning English and has missed two years of formal education due to years spent in a refugee camp, but he is eager to learn and work with others. Ms. Lee wants to be sure that Josef can collaborate with his peers as they learn about plant structures for reproduction and how these structures function. She also wants Josef to be able to contribute as the students put together group presentations to show what they've learned.

Josef may benefit from working with a digital storytelling or other template provided by a productivity tool as he learns about plant structures and contributes to the group project. This template can include ways for Josef to pull in images to convey key information. Josef may also benefit from a video-creation productivity tool that will allow him to review and revise his statements to the group (e.g., recording, replaying, and revising his statements before sharing them with others). These tools can allow Josef to engage with others and contribute to the group presentation.

What to ask

○ How do my current and target customers describe their roles and needs?

○ What do my customers report as the current contexts of use for my tool, how can they be supported in these different contexts, and what other contexts would they like to see supported?

○ What educator roles, student roles, and instructional context should I use to create a set of scenarios that can help me better understand my customers and how to support them?

Resources

○ For general advice on developing educational technology, see the *Ed Tech Developer's Guide.*

○ For an outline of educational technology categories and types, see the **Digital Learning Resources Matrix** (page 22). This matrix was used in the study as a summary overview of the types of resources available to educators.

Design by leveraging research and best practices

When designing and refining educational technology, decisions should be consistent with best practices relevant to your specific educational technology product. The Department of Education encourages developers to familiarize themselves with the research on instructional practices that help English learners gain proficiency in English and build understanding in the different content areas.

What to know

○ Understand what is known about promising and effective practices for instructing English learners. A recent summary of what we know from the research, *Promoting the Educational Success of Children and Youth Learning English: Promising Futures*, was developed by a committee of experts in the field. It includes an overview of instructional practices for English learners in grades Pre-K to 12, and is a free resource as a pdf.

○ The National Clearinghouse for English Language Acquisition (NCELA) is another resource. NCELA collects, coordinates, and shares a broad range of research and resources in support of high-quality education for English learners and includes a resource library.

○ The *Universal Design for Learning (UDL)* framework provides guidelines to improve and optimize teaching and learning for all people based on scientific insights into how humans learn. The guidelines were initially developed as a way to design technology for students with a wide variety of learning needs, including needs related to a student's disability, and many of the guidelines may be particularly effective for English learners, including English learners with disabilities. UDL is based on the premise that all students benefit when provided flexible learning environments that can

accommodate individual learning differences. These guidelines recommend providing:

- Multiple means of engagement;
- Multiple means of representation; and
- Multiple means of action and expression.

For example, technology that enables students to engage with content through auditory modes as well as visual modes can help many to learn new content. English learners can benefit from hearing text read to them when they are not yet fluent readers, and students with impaired vision can also benefit from a text-to-speech option in learning new material.

What to do

☐ **Base decisions on research.** Use the research on effective and promising practices for English learners to guide the design of your specific educational technology resource so that it can engage and support the English learners who work with your product.

☐ **Use existing guidelines relevant to your educational technology design.** Refer to frameworks such as UDL and others so that your product design is informed by what is currently known about research and best practices relevant to educational materials design generally and to technology solutions specifically.

☐ **Create designs that specifically address the users you have identified and their needs.** For example, ensure that the product design elements reflect promising practices that are appropriate to your targeted English learner students' age, accessibility and/or disability related needs, and/or grade level.

☐ **Inform sales and marketing of the research you are integrating into your product.** When you leverage research, let others in your product group know. Educators often will want to know the research basis of the resources they are considering. Make sure that your sales and marketing teams are aware of how your product is based on research, and how it meets the needs of your target customers.

What to ask

○ What is the research on promising and effective practices that most aligns with my product and will my product lead to strong solutions for the specific English learners and contexts we're targeting?

○ What are the changes I can make to my product that can better align it with best practices according to existing research and design guidelines?

Resources

○ The Universal Design for Learning (UDL) framework is widely used, and districts may request or require that technology providers show how UDL was used in the design of their product.

○ For more on the design and development of educational technology resources generally, see the U.S. Department of Education, *Reimagining the Role of Technology in Education: 2017 National Education Technology Plan Update*. Note the discussion of Universal Design to meet the needs of all students including students with disabilities on pages 21-23.

○ The website for the *Promoting the Educational Success of Children and Youth Learning English: Promising Futures* includes additional resources, such as blogposts and webinars on several key topics. Scroll down to the list of "Resources at a Glance" to view the offerings. There is also an Online Toolkit - Promoting the Educational Success of Children and Youth Learning English. In this resource, the National Academies of Sciences, Engineering, and Medicine provide additional information related to the committee's report, including short videos from experts.

○ The National Clearinghouse for English Language Acquisition (NCELA), publishes *NCELA Nexus*, a semimonthly e-newsletter, to share new resources, upcoming events, and other announcements. It provides links to opportunities for jobs, education, and funding related to the education of English learners. Nexus subscribers may also receive occasional, time-sensitive announcements from the U.S. Department of Education's Office of English Language Acquisition and NCELA.

Include support features for English learners

Educational technologies can support learners in ways that go well beyond digitizing textbooks and worksheets. By embedding well-considered supports for English learners, your educational technology may stand out in the marketplace.

What to know

○ The field has identified several types of embedded supports that are applicable to different technologies and use cases. See a list of categories and types of supports identified thus far in the **Digital Support Features Matrix** (page 23).

○ The list of digital support features is meant to provide inspiration. As you dive deeply into your own technology, users, and product design framework, you may identify new innovative features that can better serve all English learners, including those with disabilities, and other students.

○ Developing software with text embedded in the code or with text embedded in images will make it very hard to provide many of the supports that are known to be effective for English learners. All user-facing text (including text associated with controls and images) should be in external resources that can be modified without modifying your code base. This will make it easier to add new languages to support a broader range of English learners.

What to do

☐ **Provide visual supports.** Visual support can take many forms, from providing simple images to sophisticated interactive visual displays. Different levels of visual support can be used depending on student needs, and traditional text can be faded in as students become more fluent. Visual supports can also be used to aid students in expressing themselves, for instance, by allowing them to use visualizations in addition to, or instead of, using text.

☐ **Increase access to content through interactive representations.** Interactive graphics can engage students in scientific experimentation and

simulations. Dynamic mathematics environments can allow students to interact directly with mathematical objects without the need for textual mediation. Social studies timelines and graphic displays can provide insights without the need for extensive text interpretation. By tracking student interaction with these representations, technology developers can better capture what students know and also provide students with a mode of communication other than traditional text.

☐ **Provide audio supports.** Text-to-speech or "read-aloud" supports are valuable because many English learners can comprehend the spoken word better than the written word. For many students, the combination of spoken and written words is particularly useful. In addition, technology can allow students to modify the speed at which speech plays, allowing for students to play text at a speed comfortable to them. Audio can also provide spoken translation or an audio clip of a sound that helps explain a vocabulary word or a phrase. Developers should be aware of the capabilities built into the hardware or operating system they are running. They should ensure that their technology can take advantage of these capabilities and/or be interoperable with supports enabled by assistive hardware a student might use.

☐ **Provide written text support.** Text support can include the ability for students to highlight, mark up, and annotate text. This can be used to scaffold understanding, as well as to allow students to demonstrate what they know.

☐ **Expand the languages your product supports.** While a wide variety of materials is available in Spanish, English learners come from many language backgrounds other than Spanish and can benefit from supports in their home language. For example, Arabic, Chinese, and Vietnamese are the next most common language backgrounds of English learners in public schools in the United States. The major English learner groups can be very different within an individual state or school district, so developers should determine the language backgrounds of English learners in their target schools and districts. Supporting languages beyond Spanish can open the marketplace to new schools and districts. Teachers and students can benefit from the broader range of supports for classroom instruction, and students may be able to receive additional support at home.

☐ **Allow students of all reading levels access to grade-level content.** Educational technology can provide simpler text in reading passages and introduce grade-level vocabulary just-in-time and in a way that relates to the specific content and context of the passages. This can provide English

learners who are not reading at grade level access to grade-level social studies, science, or math content.

☐ **Allow students multiple modes of expression.** To communicate in the different content areas, students must not only experience language generated by others but also have opportunities to produce language. The ability for students to record and play back their voices, possibly with guidance on how they could improve their language or pronunciation, is a common teacher request. Recording and playing back the sound gives English learners opportunities to practice and listen to their own speaking while being supported in a nonjudgmental manner.

☐ **Provide support for collaboration.** Providing opportunities for joint student work and discussion is an increasingly important part of academic content standards. For English learners, peer interactions also are opportunities to use language in meaningful ways and to make gains in English language proficiency. Teachers are looking to educational technology to provide supports for student-student and student-teacher collaboration.

☐ **Ensure that all supports are also accessible to and usable by students with disabilities.** Also, keep in mind that your supports should be interoperable with any assistive technology that students with disabilities may be using.

What to ask

○ How is my product used, and what supports can enhance that use for English learners?

○ Are there supports listed in the Digital Support Features Matrix that I can directly apply to my product?

○ Have I considered the need for general accessibility features in the design of the product?

○ How can I go beyond the digital support features listed in this toolkit when creating supports for English learners?

Resources

○ For a matrix that identifies an initial set of categories and types of support features, see the **Digital Support Features Matrix** (page 23).

Communicate with educators to increase product adoption to support the instruction of English learners

Developers should communicate how the use of their technology can have a positive impact on instruction, how the features found in their educational technology are beneficial to the instruction of English learners, how the educational technology is based on research, and what appropriate implementation looks like.

What to know

○ When determining what educational technology to use, many educators look for independent evidence of effectiveness, as well as an indication that specific features are based on the research literature.

○ Educators typically find recommendations for technology use from a wide variety of sources, and they oftentimes value the opinions of other educators in making decisions about educational technology.

○ Districts use a variety of ways to make decisions about purchases of educational technology, and some may have funding sources dedicated to purchasing resources primarily for use by English learners.

○ Many teachers are too busy to fully analyze all the software they use, and so they often don't know what support features are available in their technology resources. They may occasionally ask for a feature to support their English learners that is already present in a resource (a clear indication that you are not appropriately communicating your feature set to your customers).

○ While educators want to monitor individual student progress, they also have privacy concerns and want a better understanding of how student information is being protected.

What to do

☐ **Communicate the evidence base for your technology.** If evidence for the effectiveness of your technology exists, make it clear to educators and administrators. If it does not exist, consider options for generating such evidence, such as partnering with school districts, a university, or an independent research organization.

☐ **Ensure that you understand and support the district review and purchasing process.** Districts have different purchasing requirements, and some have funding sources specifically for technology or for resources for English learners or students with disabilities. Investigate the different sources that schools and districts can use to purchase your resources, understand the approval process, and make it as easy as possible for educators to prepare required documentation.

☐ **Listen to what educators are saying.** Talk directly to a sample of educators, and look for product reviews written by educators. Authentic, honest input is invaluable in the product development and improvement process.

☐ **Review current or previous district requests for proposals.** Districts, especially large districts, often make clear what their current English language support requirements are in formal requests for proposals (RFPs). Even if you are not responding to a district RFP, reviewing a set of recent RFPs can provide insight into current district expectations and terminology.

☐ **Ensure that educators and students can readily find and use your embedded support features.** If your product's feature set is not easily discoverable or easy to use, educators may turn to alternative products whose features are more obvious and accessible. User tests with educators can provide information about how they find and describe your features.

☐ **Make your embedded support features publicly known.** Ensure that your website and other materials clearly describe the accessibility and support features you've included in your product, and inform your sales and marketing team of these support features. Administrators and teachers will look for these when considering what technology to use.

☐ **Ensure that your product adequately protects student data.** Review your product's operation to make sure that you only collect data that are required to achieve the sought-after benefits, and that there are strong protections in place for these data. The Future of Privacy Forum and the Software & Information Industry Association (SIIA) have introduced a student privacy pledge that is a good starting place for thinking about

student privacy. The U.S. Department of Education has a [website describing best practices for protecting student privacy](#), has a [site that includes confidentiality provisions for children with disabilities](#) under the Individuals with Disabilities Education Act (IDEA), and has created the [Privacy Technical Assistance Center (PTAC)](#).

What to ask

○ Does my product information clearly communicate the evidence that demonstrates its effectiveness with particular groups of students and particularly English learners?

○ Do I know the purchasing requirements and processes of my target customers? Is there publicly available information, such as RFPs, that I can review to gain insight into current purchasing requirements?

○ Are there common sets of feature descriptions that I (and other developers or publishers) can provide to educators to simplify the district review processes for them? Before naming a feature or type of support, have I looked at other products to determine if there is already a name that is commonly in use?

○ How can I work with others in the field, such as education technology associations, to provide a common language for the embedded supports provided in products? Could we communicate these more clearly with educators and other stakeholders that are looking to support English learners?

○ Do I provide clear and simple explanations of the student data the product collects, and of how these data are protected?

○ If my product is collecting student data, is the student data privacy policy clear and easy to find? Are there ways my product marketing and feature design can help educators and districts understand the benefits they gain from these data being collected?

Offer instruction-focused professional development

Teachers reported that vendor-provided professional development often did not meet their needs. Existing professional development often focuses on how to use technology features, but many teachers want to know how the features and content can improve their classroom instruction in meeting the needs of their English learners.

What to know

○ Many technology providers have a training model in which they train teachers how to use product features. However, teachers want to use educational technology to improve their classroom practice, and they do not want a "how to" guide that only describes product features.

○ To truly improve teacher practice, ongoing professional development is required. However, teachers have limited time and budget, and so they may be looking for non-traditional forms of professional development. These may include embedded video clips showing classroom examples of effective technology use to support English learners, short online modules, or online communities where they can share their successes and difficulties.

What to do

☐ **Gather teacher input on your professional development and training.** Teachers are the best judge of the usefulness of professional development sessions.

☐ **Have teachers help design and deliver your professional development whenever possible.** Teachers find professional development sessions run by educators to be most effective, especially when the sessions focus on ways that technology can improve their practice.

☐ **Have varied forms of professional development materials available, including embedded professional development.** Teachers are looking for video and other embedded resources to give them a better understanding of how classroom use of the technology can support their English learners.

☐ **Provide opportunities for teachers to learn from each other.** Teachers want to learn from other teachers, so consider structuring community forums or other collaborative spaces that enable teachers to share successes and difficulties with one another.

What to ask

○ Once teachers have completed our professional development courses, can they immediately apply what they have learned to their classroom instruction?

○ Does the professional development associated with my product make clear the improvement in instruction for English learners that will come from its use?

○ Do I provide follow-up professional development that allows teachers to come back and ask questions about their classroom experiences in using my technology with English learners?

Learn About the Study

The **National Study of English Learners and Digital Learning Resources** is a national descriptive study conducted in the 2016–17 school year by the U.S. Department of Education, Policy and Program Studies Service, on behalf of the Office of English Language Acquisition and the Office of Educational Technology under contract number ED-PEP-11-0-0088/TO27. The study included a nationally representative survey of districts, a survey of teachers, and six case studies, and meetings with experts to examine what digital learning resources are used in instructing English learners and how they are used. **The study provided findings that describe the use of digital learning resources in instructing English learners in grades K–12 in U.S. public schools.**

The study provided descriptive data to identify current uses of digital learning resources, needs for additional information and/or supports in their uses, professional development on use of technology in instructing English learners, and areas in which educators wished to see improvements in the digital learning resources available to them for instructing English learners.

The full study report will be posted to the Department's website at:
http://www2.ed.gov/about/offices/list/opepd/ppss/reports.html.

Disclaimer

Examples Are Not Endorsements

This document contains examples and resource materials that are provided for the user's convenience. The inclusion of any material is not intended to reflect its importance, nor is it intended to endorse any views expressed, or products or services offered. These materials may contain the views and recommendations of various subject matter experts as well as hypertext links, contact addresses, and websites to information created and maintained by other public and private organizations. The opinions expressed in any of these materials do not necessarily reflect the positions or policies of the U.S. Department of Education. The U.S. Department of Education does not control or guarantee the accuracy, relevance, timeliness, or completeness of any outside information included in these materials. **Mentions of specific programs or products in these examples are designed to provide clearer understanding and are not meant as endorsements.**

MATRIX 1: Digital Learning Resources

The term **Digital Learning Resources (DLRs)** refers to digital resources such as applications *(apps)*, software, programs, or websites that engage students in learning activities and support students' learning goals. There are three categories of DLRs: digital academic content tools, digital productivity tools, and digital communication tools. DLRs as defined here do not include the hardware or infrastructure needed to use the digital resources.

DLR Category	Definition	Category	Types and Examples
Digital Academic Content Tools	Software, applications *(apps)*, programs, or websites that offer academic content resources and/or engage students in activities to learn academic content or skills, including, but not limited to, language and literacy content or skills.	**Designed learning activities**	• *Interactive tutorials or lessons (adaptive and other)* that guide students in learning and demonstrating new content or skills, such as an interactive lesson on the life cycle of a butterfly or a math tutorial on fractions. • *Practice and assessment tools that provide activities to review concepts and skills,* such as a math app that provides multiple opportunities to practice addition skills. • *Dynamic modeling or simulation tools,* such as a physics simulation that lets students manipulate virtual equipment, change parameters, and see the results. • *Virtual worlds* that immerse a student in a fully interactive environment, such as one that allows a student to roam in a period of past history or explore a desert environment.
		References/ resources	• *Dictionaries, encyclopedias, e-books, topic blogs, and/or topic-focused websites* that serve as information resources, such as an online encyclopedia that offers students pictures, facts, and videos about mammals or a digital dictionary. • *Visual and auditory topic-related resources* such as a *YouTube* video on earthquakes and plate tectonics.
		Language resource tools	• *Translation tools* that assist students by providing a translation to another language. • *Articulation tools* that assist a student to accurate production of a language, such as by showing images of how a sound should be produced and/or by letting a student record and listen to his/her own voice to compare with the model.
Digital Productivity Tools	Software, applications *(apps),* programs, or websites that students use to plan, document, organize, and analyze content. They do not contain academic content.	**Presentation tools**	• *Presentation and publication tools* that allow students to demonstrate what they have learned about a topic or to publish a digital story about a memorable day. These may include music, images, and/or video.
		Word processing tools	• *Word or text processing tools* that enable students to create, edit, and print documents such as in creating a newspaper based on topics from history class or reporting on a field trip.
		Information analysis tools	• *Spreadsheet and data analysis tools* that allow students to organize and analyze information, such as tracking local rainfall over time or analyzing and summarizing factors that led to the migration from the American Dust Bowl to the West in the 1930s.
		Information organization tools	• *Concept-mapping tools* that let students visually represent relationships among sets of information, such as creating a mindmap of the American Revolution or a concept map for the causes of the Civil War. • *Story templates* that assist students to communicate a narrative using text and/or images, as in retelling a story they have heard.
Digital Communication Tools	Software, applications *(apps),* programs, or websites that students use to communicate, collaborate, network, or present information. They do not contain academic content.	**Asynchronous/ synchronous text communications**	• *Discussion boards or forums* that provide platforms for students to post reactions and/or comments and share perspectives, such as in providing analyses of a novel they have read and sharing feedback on their peers' analyses. • *Emails, text messaging, chats*, for example, using a chat function to share peer feedback on a report.
		Reflection tools	• *Blogs or student journals* that allow students opportunities to share and/or reflect on their learning experiences, such as a student who uses a journal entry to reflect on her understanding of particular math concepts.
		Videoconferencing/ meeting tools	• *Videoconferencing or meeting tools that* provide a remote means of seeing and speaking with others in real time, such as in enabling a science class to see and talk with NASA experts, or allowing students in a Spanish dual-language class to see and share a geography game with Spanish-speaking peers in Mexico.
		Project collaboration tools	• *Document or project-sharing tools* that provide an online platform where students can work on products together, as in jointly editing a shared book report.

▼ Multiple individual DLRs can be combined in an Integrated DLR Set ▼

Integrated DLR Sets	A structured combination of individual DLRs to provide a complete core or supplemental curriculum. Often, DLR sets are licensed as a package by a school district.	***Core Curriculum Integrated DLR Set***	For example, a math program for grades 6–8 that combines visual lessons with embedded assessments, productivity tools, and flexible class management tools into one package.
		Supplemental Integrated DLR Set	For example, a math intervention for at-risk students in grades 6–12 that provides tutorials, practice activities, and progress monitoring tools to inform instruction.

Note: This summary matrix was adapted from Zehler, Annette M., Yilmazel-Sahin, Yesim, Massoud, Lindsey, Moore, Sarah C., Yin, Chengbin, and Kramer, Kat. (2012, April). *Technology-based resources in instruction of English learner students*. Poster presentation at the Annual Meeting of the American Educational Research Association, Vancouver, British Columbia.

Source: U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service. (2018). *National Study of English Learners and Digital Learning Resources.* Washington, DC: Author.

MATRIX 2: Digital Support Features

Digital Support Features are specific embedded features in digital learning resources (DLRs) that assist students in understanding or communicating the content and/or activities provided in the DLR. This is a preliminary list to prompt further discussion among developers and educators.

Support Feature Category	Definition	Category	Examples
Visual Support Features	Provide visual images or other visual supports to assist a student in understanding and/or communicating a concept or idea.	**Visual definition**	Links to a video or image(s) providing a visual definition of a concept or word.
		Interactive visual features	Manipulable visual representation of a concept, such as a graphing calculator feature integrated into a DLR, providing representations of concepts based upon information that a student enters.
		Closed captioning	Text shown on the video screen provides print as well as audio that is useful for English learners still developing their ability to understand spoken English.
Auditory Support Features	Provide speech or other use of sound to assist a student in understanding and/or communicating a concept or idea.	**Auditory definition**	Allows students to click on a word to hear a definition of a concept or word.
		Text-to-speech for text selection	Reads aloud text such as a selection on academic content, a story, directions for a lab experiment, or math questions; might include options to play, pause, adjust the volume, and/or control the speed at which the text is read. The language used may be English or another language, depending on the materials used.
		Text-to-speech for highlighted word	Allows readers to hear an individual word or phrase.
		Record and replay voice	Enables students to record their voice; replay it so that they can hear their own voice, perhaps make adjustments to and/or practice pronunciation, practice their part in a presentation, or save for sharing with others.
Translation Support Features	Provide embedded functions to translate from one language to the other, in either speech or print, and for either a word or limited text.	**Spoken word translation**	Enables a student to hear a spoken translation in his/her home language of an unfamiliar English word.
		Printed word translation	Enables a student to view a written translation in his/her home language of an unfamiliar English word.
		Spoken text translation	Enables a student to hear spoken statements in one language as spoken in another language.
		Printed text translation	Enables a student to view a section of text in one language as written in another language.
Collaboration Support Features	Embedded functions that students use to communicate, collaborate, work, or share information about academic content.	**Document sharing**	Allows multiple students to share a digital document and use annotation tools to add notes or comments.
		Collaboration based on proficiency level	Allows students to collaborate with peers according to their proficiency levels (e.g., peers at the same Lexile reading comprehension level).

Note: This matrix is a preliminary summary of supports created for the toolkits based on insights gained through the NSELD research.

Source: U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service. (2018). *National Study of English Learners and Digital Learning Resources.* Washington, DC: Author.

Contents

Introduction

U.S. Department of Education data show that English learners in grades K–12 in U.S. public schools in the 2015–16 school year numbered over five million students—about 10 percent of all enrolled students—and that roughly three-fourths of public school districts included students who are English learners. Many teachers, including those in small and rural districts, have one or more English learners in their classrooms—or soon will—and these teachers often use technology when instructing their English learners.

This toolkit is for all educators—including teachers and administrators—who want to use technology to help their English learners gain proficiency in English and meet academic goals. In choosing to use technology, educators should recognize the supports offered and the constraints of any technology in the context of their own students and their needs. The toolkit offers five guiding principles for educators to apply in exploring new ways of working with and supporting their English learners through technology, starting with recognizing their students' unique needs and thinking through to the best technologies to help meet those needs.

This toolkit and a companion Developer's Toolkit are based on insights from the findings of the **National Study of English Learners and Digital Learning Resources** conducted by the U.S. Department of Education, Policy and Program Studies Service, on behalf of the Office of English Language Acquisition and the Office of Educational Technology. Both toolkits focus on use of technology that is software or "digital learning resources," that is, the apps, programs, or websites that engage students in learning activities and support students' learning goals. The toolkits do not focus on the use of hardware (such as laptops, computers, tablets, or other devices).

The study provides the first national data on how districts and teachers of English learners (including general education teachers and English learner specialists) use educational technology in instructing English learners. The study conducted surveys, case studies, and meetings with experts in the field, including educational technology publishers, researchers, and educators. To learn more about the study and the toolkits, you can read a brief description on page 22.

The study's final report describes how districts and teachers identify and use technology in instructing English learners as well as related supports and barriers. This toolkit builds awareness of the role technology can play and notes areas where educators can improve the use of technology and related supports for their English learners, based on needs suggested by the study.

GUIDING PRINCIPLES FOR EDUCATORS

1. Understand what educational technology offers for instructing English learners

2. Discover the types of educational technology available

3. Maximize the supports that educational technology offers English learners

4. Seek out hands-on, instruction-focused professional development

5. Learn more about English learners and educational technology

Understand what educational technology offers for instructing English learners

As we've entered the 21st century, the landscape for students in kindergarten through grade 12 (K–12) has changed, and developments in the world of instruction and instructional resources continue. Key changes for educators in many schools and classrooms include enrollments of new English learners and rapid increases in educational technology use. The technology offers important new ways for English learners to access learning academic content and language.

What to know

English learners bring significant assets of language and culture to enrich their classrooms and schools, and their backgrounds and experiences will inform different instructional needs. For example, English learners who will use educational technology may:

○ Have had very different experiences before coming into their K–12 classrooms. Many will have been born in the United States, but others will have just entered the United States for the first time, perhaps after difficult experiences as refugees;

○ Have grade-level skills and knowledge based on a high-quality education in their country of origin but not yet have proficiency in English;

○ Have had little or no formal education, or some years of interrupted education, prior to entering schools in the United States;

○ Appear proficient in English based on their fluency in everyday conversations but not yet have the level of academic English proficiency they will need to succeed in learning academic content;

○ Differ in their level of acquisition and use of their home language, and some may not be literate in that language. This has implications for their path to English literacy;

○ Have had little or no experience using technology, and may not understand many of the basics about using computers or navigating in a website or software program;

○ Come from cultures with very different norms and expectations around education. For example, some may expect collaboration to be the norm, while others may expect that students work alone; and

○ Have disabilities, and some may require the use of assistive technology, including software to support their accessibility needs.

Educational technology opens up a new breadth and depth of resources for instruction and learning. These resources can be particularly valuable for supporting English learners' engagement in instruction and access to content in many ways. For example, technology resources can:

○ Offer multi-modal means of presenting information. Visual images, short videos, and interactive features can expand English learners' ability to understand academic content.

○ Present examples and images of events, daily life, and other cultural information from many countries and population groups. These can help students share languages, cultures, and experiences to understand one another's backgrounds.

○ Offer important supports to assist students to more fully participate in learning activities. Embedded support features, such as short videos or images used to define new vocabulary, can assist English learner (and other) students in understanding content. In addition to these supports, there are audio recordings and translation functions that can help English learners in communicating content as they collaborate with their peers. When such embedded support features comply with accessibility requirements, English learners with disabilities also may be able to benefit from these supports in addition to, or in conjunction with, any assistive technologies, including accessible software, that they may use.

○ Offer instruction that is differentiated to the English learner's level of proficiency and academic learning needs.

Many educators are using educational technology in their classrooms, but they are really just beginning to understand how best to use these new resources effectively with English learners.

What to do

☐ **Consider the needs of your English learners.** What are the instructional goals necessary to meet each student's needs? You'll want your choices of technology to always be based on these.

☐ **Learn about the range of English learners, their acquisition of a second language, and what we know about promising and effective instructional practices for English learners.** A recent summary developed by a committee of experts can guide you to understanding what we know thus far: *Promoting the Educational Success of Children and Youth Learning English: Promising Futures* (*https://www.nap.edu/catalog/24677/promoting-the-educational-success-of-children-and-youth-learning-english*). The summary includes an overview of what the field knows about promising and effective instructional practices for English learners in grades Pre-K to 12. Note that you don't need to purchase the book: You can read the whole book online or download a free pdf. Also, scroll down to the list of "Resources at a Glance," which includes blogposts and webinars on several key topics.

☐ **Explore visions for the future of educational technology in instruction, such as through the National Educational Technology Plan.** See: *Reimagining the Role of Technology in Education: National Educational Technology Plan* (*https://tech.ed.gov/netp/*). The plan includes discussions on several aspects of technology use that educators will find of interest and applicable to instructing all students, including English learners. Note that pages 21-23 focus on ways in which technology can support all learners, addressing their different needs, through a Universal Design for Learning (UDL) approach to designing new resources. While UDL initially focused on designing for accessibility for students with disabilities, it applies to resources for all students and their needs (e.g., see the box on page 23). This includes English learners, for whom multiple modes of understanding and communicating offer important supports.

What to ask

How can educational technology:

○ Help me engage and support English learners in learning grade-level academic content and academic language skills? In what ways does it assist in scaffolding language learning?

○ Assist English learners to collaborate and work with their peers, including English-proficient peers?

○ Help differentiate instruction to better meet English learners' needs?

○ How can our selection of educational technology resources best support English learners in learning academic content and making gains in English language proficiency?

○ What will best support our teachers in planning for and using educational technology in instructing English learners?

Resources

○ **Online Toolkit - Promoting the Educational Success of Children and Youth Learning English.** In this resource, the National Academies of Sciences, Engineering, and Medicine site provide additional information related to the committee's report, including short videos from experts and a number of webinars on the findings: http://sites.nationalacademies.org/dbasse/bcyf/educational-success-of-children-and-youth-learning-english/index.htm.

Discover the types of educational technology available

There are thousands of educational technology options. As an educator, you will want to know where to begin in determining which resources best fit your English learners' needs and your instructional goals for students.

What to know

Whether a teacher or an administrator, the challenge is the same: How do you begin to choose the right educational technology for your English learners from among the thousands available? To help you make those choices, it may help to first think about the following broad categories of technology resources available and to explore the different types within each.

- ○ **Digital Academic Content Tools** offer academic content resources or engage students in activities to learn academic content or skills including, but not limited to, language and literacy content or skills. Examples are a tutorial on a new math skill, a simulation of a physics concept, or visual resources such as a short video that describes a geographic formation.

- ○ **Digital Productivity Tools** offer resources to help students plan, document, organize, and analyze content. These tools don't contain academic content; examples include a slide presentation tool, a timeline tool, or a concept-mapping tool.

- ○ **Digital Communication Tools** offer resources students can use to communicate, collaborate, network, or share information. These tools don't contain academic content; examples include document-sharing tools to support joint work, or a journal or blog tool.

What to do

- ☐ **Explore the different types of educational technology within each of the three categories of resources.** These are outlined in the **Digital Learning Resources Matrix** (page 24), a summary matrix showing three categories

and types of technology resources that was developed for the study. Are you aware of the wide range of resources available?

☐ **Consider new types of resources to try with your English learners to meet their language and content goals.** Reflect on how you might use them in the future as part of your lesson plans to help English learners—as well as other students—meet their learning goals.

☐ **Share the Digital Learning Resources Matrix in discussions with other teachers.** Can the categories and types be useful as a common reference for talking about the technology resources you use?

☐ **Explore a wide range of educational technology.** Look online to sites that offer collections of educational technology and examine the reviews many offer, talk with other teachers, and look at publishers' websites.

☐ **Find examples of educational technology** that will help your individual English learners to gain English proficiency, learn grade-level academic content, and collaborate with peers on academic tasks. Consider whether these tools provide content and images that reflect your English learners' languages, backgrounds, and experiences.

☐ **Be alert to protecting student information, especially when you are selecting tools that help you tailor instruction to individual students.** Be aware of the individual student information that the resource gathers and ensure that it adequately protects students' personally identifiable information. You can learn more at: https://studentprivacy.ed.gov/Apps and at: https://www2.ed.gov/policy/gen/guid/ptac/pdf/idea-ferpa.pdf.

What to ask

As you explore the types of educational resources in the Digital Learning Resources Matrix, ask yourself the following questions:

GENERAL EDUCATION TEACHERS

○ Are English learners able to fully participate when the class uses educational technology during academic instruction?

○ Are there digital resources that will help my English learners gain English proficiency while working on academic content with their English learner and English-proficient peers?

○ Are there types of educational technology that my English learners don't use but I should explore? What might these offer for them?

○ When I discuss educational technology with general education teachers, do we discuss ways we can use technology to support English learners in learning content and in using language to communicate about grade-level content?

○ Do our English learners use and benefit from the educational technology provided by the district? In what ways? How do we know?

○ Are there other types of educational technology that our district doesn't provide but could consider using to better support our English learners?

PRINCIPLE IN ACTION

1

*Mr. Ruiz, a high school math teacher, wants to be sure that all of his students, including his four English learners, understand 2D and 3D geometry concepts. To find the right resource for his lesson plan, he talks with other math teachers, who suggest various **digital academic content tools.** Mr. Ruiz goes online to check out the fit of the suggestions with his plan and searches technology sites he knows. He looks at what several tools offer and reads online reviews. He wants his students to understand the relationship between the 2D planes that result from different cuts through 3D objects. Realizing that his students will "get it" better if they can actively engage with a number of examples, he selects an open source **dynamic modeling geometry app** (e.g., GeoGebra, Geometer's Sketchpad).*

The day of the lesson, Mr. Ruiz begins non-digitally, showing a shoebox, first whole, and then cut through at an angle, showing the resulting 2D shapes. Next, he uses the app to show cuts through a cylinder, using different angles, and does the same with other 3D shapes, such as rectangular and triangular pyramids. Later, as they work in groups, all of the students, including the English learners, look fully

engaged as they predict and confirm the resulting 2D shapes.

*Ms. Shore's kindergarten class includes English learners from many different language backgrounds. She wants to plan a lesson where they talk about and retell a story they are reading. Her local English learner specialist helps with the lesson plan, suggesting that using **digital productivity tools** such as slides or videos could give the students chances to practice and improve their English. As they discuss, Ms. Shore also notes that students can use **digital communication tools** such as shared portfolios or workspaces to let one another know what they created.*

*In circle time, students make predictions as the teacher reads the story and they talk together about it. They are excited as they break into groups to draw pictures of the story: each group draws the first, middle, or last part. When they finish, Ms. Shore creates new groups of three to include students from all three story parts. The groups create **digital videos**, with each student in the group telling his or her part of the story, holding a drawing to illustrate. The groups view and redo their videos. They save the videos in **digital portfolios** (e.g., Seesaw, FreshGrade) and share with each other. Ms. Shore shares the videos with the students' families.*

Resources

○ The **Digital Learning Resources Matrix** (page 24) describes three categories of resources and lists several types of educational technology within each. You may find it useful as a tool for thinking about different types of technology or for organizing your thinking about technology you might use in instructing your English learners.

○ There are online sites that offer links to many different technology resources, and many offer the ability to filter for resources, for example, in specific subject areas or for English learners or other students. Two examples of sites that offer collections of educational technology are:

Common Sense Education (https://www.commonsense.org/education/), where you can navigate to the "EdTech Reviews and Resources" page and search for resources; and

The **EdSurge Product Index** (https://www.edsurge.com/), where you can scroll down to "Opportunities" and their EdTech Product Index.

○ For further information on protecting student privacy, you can access several webinars at: https://studentprivacy.ed.gov/content/recorded-webinars.

Maximize the supports that educational technology offers English learners

In the digital world, teachers and students have access to a range and number of supports that can mean important new opportunities for English learners in engaging with academic content.

What to know

Digital Support Features are specific embedded features in educational technology that assist students in understanding or communicating the content and/or activities presented in a resource. There are many types of Digital Supports, and you can see examples listed in the **Digital Support Features Matrix** at the end of this document (page 25). It includes four categories of support features that can be important for English learners in particular.

○ **Visual Support Features** provide visual images or other visual support to assist a student in understanding and/or communicating a concept or idea. The visual content replaces or lessens the language proficiency that would otherwise be required. Examples are images, graphics, or short videos to explain a concept to students.

○ **Auditory Support Features** provide speech and/or other use of sound to assist a student in understanding or communicating a concept or idea. Examples are a text-to-speech or "read-aloud" function and a record and playback function. These features allow students to hear text or hear their own speech played back to them for review before sharing the recording.

○ **Translation Support Features** provide embedded functions to translate from one language to provide a word, phrase, or longer text in another language, either spoken or in print. For example, an embedded translation function could let a student hear the Spanish version of a sentence in English.

○ **Collaboration Support Features** provide functions to help students communicate, collaborate, work, or share information about academic content. For example, collaboration support features might offer students functions that assist them in sharing and jointly working on a document or presentation.

What to do

☐ **Look for embedded support features in resources.** Determine if resources include supports to assist your English learners when you review any educational technology for possible use or purchase.

☐ **Ask vendors to provide information on the types of digital support features a resource includes that may be particularly helpful for English learners.** For example, does the resource include auditory supports such as text-to-speech ("read aloud") functions? Does it offer visual tutorials to help explain concepts?

☐ **Assess how easily students can access and use specific support features.** Keep in mind, some English learners may be just learning to use computers. For example, observe whether they have difficulty in following the navigational steps needed to access the features.

☐ **Plan how you will guide your students in using support features.** Plan ways to facilitate students' use of the support features so that they can use them productively—especially if they are working on their own.

What to ask

GENERAL EDUCATION TEACHERS AND ENGLISH LEARNER SPECIALISTS

○ What support features are there in the resources I already use? Are there any that I was not aware of but that may help my English learners to more fully participate in and benefit from instruction?

○ What languages do the resources I use offer? How well do these match with the languages of my English learners?

○ Are the supports such as those that provide images, content, or other examples appropriate to my English learners' backgrounds and experiences?

○ Can my English learners easily access and make use of the support features in the educational technology we use in class? Do they use the features productively and appropriately?

○ What support features does our district (or school) look for when we make educational technology purchase decisions? Do we consider our English learners, including those with disabilities, when we review the support features available?

○ Do we consider the languages, backgrounds, and experiences of our English learners as we review the supports provided?

○ Are the teachers in our district (or school) familiar with the support features in the resources they are using, and are they comfortable in using them in instructing English learners? Do we provide professional development to assist teachers in using and facilitating students' use of support features? Does the resource provide implementation support for teachers—perhaps as embedded modules on how to access and use the supports in instruction?

PRINCIPLE IN ACTION

1

Ms. Sayed's seventh-grade earth science class is studying geologic processes and learning about plate tectonics, earthquakes, and volcanoes. She assigns groups of students to research an earthquake or volcanic eruption that has occurred in the past 30 years, and to provide their explanation of factors leading to the event they have chosen. One group includes Monica, an English learner from a Spanish language background, who is a high beginner English learner. Ms. Sayed encourages Monica to make use of the support features in the research resource they use, which she introduced to Monica earlier.

*As the students do their research, Monica does her part, too, working with her English-proficient peers to search within an online science curriculum resource their class uses. She joins them in identifying information about the earthquake they have selected. She finds and clicks on an **embedded video tutorial** that accompanies the text they are reading to understand the event overall. The text about the earthquake is still a bit difficult for her, and so when she returns to reading it, she sometimes accesses the **translation feature***

*that shows her the Spanish word or definition of an English term she doesn't recognize. As the group works, they use an **embedded document-sharing function,** and she and the other students edit and mark up the group product.*

*__Mr. Sato__ is eager to give his third-grade English learners more independence in reading about their social studies topics. He finds an academic content resource that includes digital texts on several topics aligned with the curriculum. He is glad to see several support features that his English learners can use. There are **definitions** of key terms that are both **visual** and **in text,** so that the students can understand visually and connect with the new terms. There is an **auditory, text-to-speech feature** that lets them hear the new vocabulary so they can connect the sounds with the written words and phrases. This will help them to build their reading skills. When he introduces the resource, he shows students how the features can work and gives guidelines for using them.*

In the lesson, the English learners read in pairs and look engaged as they access the supports. But Mr. Sato also notices that some who are new to working with computers are having trouble with the multi-step navigation needed to use the support features. The students keep losing their place. Mr. Sato plans to work more individually to guide them in using the supports. He makes a mental note to look for resources with more direct interfaces for his students.

Resources

○ The **Digital Support Features Matrix** (page 25) describes the four categories of supports: visual, auditory, translation, and collaboration supports. It also lists and describes examples of the different types of supports within each category.

Seek out hands-on, instruction-focused professional development

You'll want to be sure that professional development leads to appropriate choices of educational technology and that it helps to build capacity to use technology in instructing English learners as well as other students.

What to know

○ Many teachers—English learner specialists in particular—receive very little professional development (PD) related to educational technology.

○ Teachers request PD that shows them examples of instructional practice with English learners and not just the descriptions of the "nuts and bolts" of a resource.

○ Teachers often turn to local *technology leaders*—that is, other teachers whom they view as experts in technology and who are willing to share what they know. Teachers value these *technology leaders* because they are embedded in the local context and so they give very practical suggestions that fit the teachers' goals and their students' needs.

○ Both formal and informal collaboration are important to teachers in learning how to use educational technology. Collaboration gives ongoing support in trying new resources and practices.

What to do

GENERAL EDUCATION TEACHERS AND ENGLISH LEARNER SPECIALISTS

☐ **Request PD sessions on educational technology** that are hands-on and relevant to your classroom instruction.

☐ **Let administrators know that you want to receive information on all PD on educational technology that the district offers.** This may be especially important if you are an English learner specialist.

☐ **Ask about embedded supports for English learners and how to use them effectively** whenever you participate in PD on a specific resource. For example, ask what **visual** or **auditory** supports are located within the resource that will assist English learners. Are these appropriate to the languages, cultures, and experiences of your students? Ask whether it includes **translation supports** in the languages of your students and/or if there are other functions that will help English learners to **collaborate** in their work.

☐ **Reach out to other teachers.** Work as a pair with another teacher and/or work with a group of teachers. Meet face to face with others in your school, or collaborate remotely with teachers in other schools or districts. Share with one another examples of how you are using educational technology with your English learners.

☐ **Join online communities of practice that can connect you with a wide range of other teachers of English learners.** Use social media to find other teachers who are using technology outside of your local community. Share your approach to identifying and using technology and learn from their experiences. Online communities of practice can bring you in contact with many teachers and opportunities that will align with your interests and challenges.

☐ **Be sure to connect with other teachers who work with your same English learners.** It is particularly important for general education teachers and English learner specialists of the same English learners to collaborate on instruction and the use of technology.

ADMINISTRATORS

☐ **Provide support for *all* teachers of English learners to collaborate** in discussing their planning, selection, and use of educational technology in instructional activities with their students.

☐ **When providing PD on specific technology resources, ensure that it goes beyond the "nuts and bolts."** Teachers want guidance on instructional use and best practices for English learners, as well as opportunities for ongoing support for using the technology with their English learners.

☐ **Be aware of the local *technology leaders* to whom teachers turn for guidance.** However, recognize that these technology leaders—whether formally designated technology specialists or teachers recognized by their peers as having technology expertise—may not be aware of English

learners' needs. It will be important to ensure that they receive ongoing PD on promising and effective practices for English learners.

What to ask

○ Do I talk with other teachers to share what we've learned in using technology with our English learners?

○ Have I explored connecting with teachers in online communities of practice to draw upon the experiences of participants from other regions and with similar challenges and goals?

○ When I participate in PD on a specific technology resource, do I ask about how it can contribute to supporting my English learners?

○ Are teachers receiving PD that will guide them in using technology so that their English learners participate in and benefit from instruction?

○ Do I ensure that English learner specialists, including those who are itinerant across schools, receive information about and participate in PD on using educational technology?

Resources

○ You can find information on online communities of practice on the U.S. Department of Education, Office of Educational Technology (OET) website: https://tech.ed.gov/futureready/professional-learning/future-ready-district/.

Learn more about English learners and educational technology

Educators can visit a number of online resource sites to learn more about English learners and the use of educational technology in instruction—and to find educational technology for instructing their English learners. Explore these sites to learn more.

What to know

○ **The National Clearinghouse on English Language Acquisition (NCELA) disseminates information on education of English learner students.** NCELA disseminates data on the numbers and language backgrounds of English learners nationally and by state. It also provides links to information and publications on English learners published through the U.S. Department of Education, Office of English Language Acquisition, and maintains a resource library of over 20,000 items on English learners. For example, searching on the term "digital" will pull up documents that describe use of digital technology relevant to English learners.

○ **There are several online sites that offer collections of educational technology.** Many include descriptions and reviews of resources by teachers and/or site reviewers. In several of these sites, there is a filtering function that allows users to search by keywords, including terms such as *English learner* and *English language learner*. (However, note that the sites may vary in how the site defines and manages criteria for search keywords and for English learner-related keywords.) You may also be able to search by content area and/or grade levels, depending on the site.

What to do

☐ **Explore online sites** that offer descriptions of educational technology products and resources, and try out searches for those that will meet your English learners' needs. Be aware, however, that these resources may vary in their value for your English learners.

☐ **Read reviews of specific educational technology products** and look for discussions of actual instructional practice using these with English learners.

What to ask

○ Am I keeping the needs of English learners in mind as I seek out and explore educational technology, including searches focused on resources for general education instruction? For example, do I ask whether the resource will support the specific languages of my English learners or their levels of English language proficiency? Are the resources culturally appropriate?

Resources for Searches of Educational Technology

There are a number of educational technology collection sites to explore. The list below includes the two sites presented earlier and some additional sites. All provide access to many different resources. Several include Open Educational Resources (OER), which are free, openly licensed resources that you can use, reuse, adapt, and share. Some offer user and/or expert reviews. The lists provide collections of available resources and are not lists of research-based resources. Also, they offer a wide range of resources that are not specific to English learners.

The sites vary in how users are able to search. Some allow several different filters; others have less functionality. As you use the filters to search, be aware that the criteria for meeting the definition of a resource that is for English learners will vary.

○ **Common Sense Education**
https://www.commonsense.org/education/

The Common Sense Education product review site allows browsing of educational technology products, using filters to sort by grade level, subject, platform, and more. In-depth editorial reviews by educators provide detailed information on educational apps and teaching tips to help educators decide what is best for their students.

○ **My Digital Chalkboard**
https://www.mydigitalchalkboard.org/

My Digital Chalkboard is an interactive online environment that allows educators to search for teaching resources and participate in an online community of teaching professionals.

○ **OER Commons**
https://www.oercommons.org/

OER Commons is a public digital library of open educational resources. It is a site where educators from around the world explore, create, and collaborate. The site provides curated collections of technology, and users can search by keywords and refine the search results with filters.

○ **The EdSurge Product Index (by EdSurge)**
https://www.edsurge.com/

EdSurge is "an independent information resource and community for everyone involved in education technology." The EdSurge Product Index site lists and organizes a number of educational technology products from various sources, and provides users with a means of searching for needed educational technology. Educators can select subcategories and browse through the options currently listed, filtering by age and learner, curriculum type, tech and requirements, cost, and usage.

Resources for General Information

○ **The National Clearinghouse for English Language Acquisition (NCELA) website** (https://ncela.ed.gov) provides a range of resources, including current demographic data on English learners, and information on federal grant programs and policy. NCELA also publishes *NCELA Nexus* (https://ncela.ed.gov/ncela-nexus), a semimonthly e-newsletter. It shares new resources, upcoming events, and other announcements, and provides links to opportunities for jobs, education, and funding related to the education of English learners. Nexus subscribers may also receive occasional, time-sensitive announcements from OELA and NCELA.

○ **The Office of Educational Technology (OET) website** (https://tech.ed.gov/) provides links to recent reports on professional development and instructional practices using educational technology, among other resources. Explore the website for additional information that, while not specific to English learners, can inform your thinking about technology use.