



Instructional Technology Resources

What is Instructional Technology?

Instructional technology is a specific technology field that deals with creating resources for learning.

The nature of instructional technology is traced back to academics like B.B. Seels and R.C. Ritchie, who defined it as "the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning."

From this definition, it is clear that instructional technology does involve things like Web-based training and other learning resources. It is more of a comprehensive term for all of those designs that accommodate successful learning technologies.

Instructional technology is not the same as information technology, although both are commonly abbreviated as IT. Whereas information technology is a broad-based, overarching category of technology very familiar to the business community, instructional technology is a bit more obscure. Experts also point out that instructional technology is not synonymous with digital training. Instead, it is a body of theory about a field of technology that has various characteristics including applied intellectual techniques, established disciplines and academic value. <https://www.techopedia.com/definition/20045/instructional-technology>



Tech tools to support Multiple Representations

How will this help ESE students learn better?

Learner variability: all individuals are unique in how they learn. Each student has personal preferences, a unique learning style, and specific strengths and weaknesses that the teacher should be aware of. Using this information, the teacher and student can develop a learner profile to support personalized learning and thereby help the student become an expert learner. Being an expert learner means knowing how you learn best and what specific tools and resources are available to maximize your own learning.

Learning, and transfer of learning, occurs when multiple representations are used, because they allow student to make connections within, as well as between,, concepts. In short, there is not one means of representation that will be optimal for all learners; providing options for representation is essential. (CAST website: <http://udlguidelines.cast.org/representation>)



Collaboration tools for teachers

Creating activities, Sharing announcements, and Building lessons

[Flipgrid is a website](#) that allows teachers to create “grids” to facilitate video discussions for feedback. Each grid is like a message board where teachers can pose questions, called “topics” and their students can post video responses that appear in a tiled grid display. As teachers build out their topics they have the option of including learning objects from Nearpod, Padlet, Wakelet, Kahoot, Wonderopolis, Buncee and other online tools. Of course it is also simple to add a video, Giphy or Emoji.

[Nearpod is a student engagement](#) platform that can be used to amazing effect in the virtual classroom. The concept is simple. A teacher can create presentations that can contain Quiz’s Polls, Videos, Images, Drawing-Boards, Web Content and so on.

[Padlet is an application](#) to create an online bulletin board that you can use to display information for any topic. You can add images, links, videos, columns for sorting or refining organization, and more.

[Wakelet is a curation tool](#) that allows you to save, organize, tell stories, and share content from around the web. Using Wakelet, you build collections that can be embedded in online learning activities.

[Kahoot is a game-based](#) learning platform that allows teachers to create quizzes very quickly that can be embedded in learning activities to increase engagement and provide another means of showing what students have learned.

[Wonderopolis is an informational site](#) that asks and answers interesting questions about the world.

[Buncee is an easy-to-use tool](#) for empowering student voice, creating engaging class materials and enhancing school communication.



Collaboration tools for teachers

Deliver ongoing instruction, provide support and feedback, create video tutorials

[Loom is an easy and free screen recorder](#) for Mac, Windows, and Chromebooks. You can record your camera and screen with audio directly from your Chrome browser.

[Screencastify is an ultra-simple](#) screen recorder that will supercharge the way you communicate.

[Screencastomatic makes it easy](#) to record and create videos with its free screen recorder. Great for helping teachers flip the classroom, create how to videos and generally bring lessons to life.

[Educreations is a unique interactive whiteboard](#) and screencasting tool that's simple, powerful, and fun to use. Annotate, animate and narrate nearly any type of content as you explain any concept.

[ShowMe is an online learning](#) community where anyone can learn and teach any topic.

Online Resources

All K-12 teachers now have free access to National Geographic Learning platforms and eBooks. National Geographic Learning is also extending access for current digital users and providing training and support for educators transitioning to online teaching. Learn more (<https://ngl.cengage.com/assets/html/covid19/>).



Tech Resources to support Engagement

How will these resources help ESE students learn better?

Learner Variability: all individuals are unique in how they learn. Each student comes to school with their own set of circumstances. These precipitating factors play a huge role in the success of the students we work with. UDL promotes the following strategies to maximize engagement:

Recruiting Interest – Spark excitement and curiosity for learning.

Sustaining Effort & Persistence – Tackle challenges with focus and determination.

Self-Regulation – Harness the power of emotions and motivation in learning.

Affect represents a crucial element to learning, and learners differ markedly in the ways in which they can be engaged or motivated to learn. There are a variety of sources that can influence individual variation in affect including neurology, culture, personal relevance, subjectivity, and background knowledge, along with a variety of other factors. Some learners are highly engaged by spontaneity and novelty while others are disengaged, even frightened, by those aspects, preferring strict routine. Some learners might like to work alone, while others prefer to work with their peers. In reality, there is not one means of engagement that will be optimal for all learners in all contexts; providing multiple options for engagement is essential.

(CAST website: <http://udlguidelines.cast.org/engagement>)



Math

[Zearn Math is a K-5 curriculum](#) that includes 400 hours of digital lessons - available free and designed to develop an understanding and love of mathematics - critical to helping all children realize their potential

[Photomath is a phone/tablet app](#) that helps take the anxiety of helping your children with their math work. Take a picture of the math problem and it walks you through all the steps of how to solve the math problem and gives you the answer.

[Mathshare is a free problem-solving tool](#) that makes learning math easier. With Mathshare, students can solve problems step-by-step and explain their reasoning with a note. This helps students stay focused and shows teachers how they got their answers. Mathshare is free for teachers and students.

Tools

[Google Drive Can make it easy](#) to for students to work in an accessible collaborative environment. Resources can be accessed from any web browser or by using a dedicated iOS or Android App Grades 3 – 12

[Peardeck is a tool](#) designed to support learners by allowing them to follow along with their teacher's presentation and answer interactive questions from any device that can connect to the Internet

[Socrative is a great tool](#) for creating quick assessments on any web capable device.



Online Resources

Marine Mammal Center activities – This series of online learning resources for grades 3 through 8 provides information about marine mammal health, science and conservation. Download the learning activities (<http://www.marinemammalcenter.org/education/online-learning-resources/>).

Free subscriptions are available for myViewBoard software, which helps teachers record and share whiteboarding lessons with remote students. Learn more (https://www.viewsonic.com/us/distance-learning#_video)

Ringbeller is releasing five episodes of its “edutainment” video content, designed for K-5 students over the next two weeks on the Ringbeller Youtube channel (https://www.youtube.com/channel/UCRyre4mjXRYnJ54Oz26GNMA?View_as=subscriber). The first two episodes are available now.

Until the end of the school year, qualified schools have free digital access to TCI’s social studies and science curricula (<https://www.teachtci.com/online-teaching-during-coronavirus-outbreak/>). Teachers can deliver interactive lessons from a laptop or tablet. TCI has also developed a resource page to support teachers with free videos, guides and FAQs.

The Museum of Science, Boston has launched this digital museum experience that features new live presentations, engineering projects, podcasts, kid-friendly activities and more every day. Parents and educators can participate in live webinars with museum educators to learn how to support STEM education. Closed captioning will be available for live and recorded content. Most content will be available in multiple languages, including Spanish. Start exploring (<https://www.mos.org/MOSatHome>).



Tech Resources to support Expression

How will these resources help ESE students learn better?

Learner Variability: all individuals are unique in how they learn. Students are unique individuals that are sometimes differently abled. It is important that tools and resources are available in their learning environment to ensure access to curriculum and the ability to share what they have learned in multiple ways.

*Learners differ in the ways that they can navigate a learning environment and express what they know. For example, individuals with significant movement impairments (e.g., cerebral palsy), those who struggle with strategic and organizational abilities (executive function disorders), those who have language barriers, and so forth approach learning tasks very differently. Some may be able to express themselves well in written text but not speech, and vice versa. It should also be recognized that action and expression require a great deal of strategy, practice, and organization, and this is another area in which learners can differ. In reality, there is not one means of action and expression that will be optimal for all learners; providing options for action and expression is essential. (CAST Website: <http://udlguidelines.cast.org/action-expression>) Planning with variability in mind leads to increased student achievement as students develop **learner agency**, taking ownership of their own learning.*

The Collaboration Tools for Teachers listed at the beginning of the document are excellent for providing students with Multiple Means of Expression



Online resources

edHelper.com is publishing free daily math and writing workbooks (<https://www.edhelper.com/teacher-education/best-teaching-and-classroomideas.htm>) for elementary students. Additional free resources are available, such as free math worksheets

[Quizlet is an online database](#) of nearly 300 million study sets created by students and teachers. Data sets include both text-based and visual study materials. The range of topics covered on Quizlet is pretty amazing. Students can remix existing sets or create their own. For each study set, Quizlet offers up to nine study activities, including matching and fill-in-the-blank games and timed quizzes.

Schools that have assigned essays about the coronavirus can have students use the EduBirdie platform for free (<https://edubirdie.com/essay-editing-service>). EduBirdie checks submitted academic writing for grammar and punctuation errors.

[Poptropica is an educational game](#) for kids ages 6-12, created by Jeff Kinney, the best-selling author of Diary of a Wimpy Kid. In Poptropica, kids go on educational adventures where they need to problem solve and build persistence to solve a challenge. The challenges put common subject topics (like Greek mythology) into a playful environment that makes learning fun. Poptropica is certified as COPPA compliant and safe for kids by KidSafe.