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TECHNOLOGY & LITERACY

CALIFORNIA LITERACIES IN PRACTICE: A CAR/W GUIDE FOR TPE 7 IMPLEMENTATION

ENHANCING LITERACY INSTRUCTION THROUGH TECHNOLOGY

WHY TECHNOLOGY & LITERACY

As teacher preparation programs implement the requirements of Teacher Performance Expectation 7 (TPE 7), they will undergo important shifts in coursework, curriculum design, and clinical practice. These changes are intended to better equip future educators to address the needs of learners in diverse classroom settings. A central focus of TPE 7 is the purposeful integration of technology and literacy to support equitable and effective literacy instruction.

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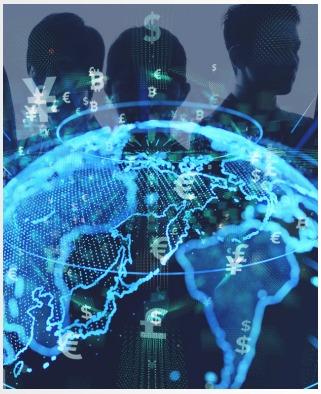
TECHNOLOGY AS A TOOL FOR LITERACY LEARNING

This document is intended to advance knowledge and understanding of literacy-technology integration by providing faculty in teacher preparation programs, as well as K–12 educators, with a comprehensive overview of how various professional organizations in education conceptualize and position technology integration. It offers foundational definitions, background on key concepts, and targeted recommendations and resources aligned with the subsections of Teacher Performance Expectation 7 (TPE 7).



Although TPE 7 addresses a wide range of instructional domains—including planning instruction, effective expression, foundational skills, meaning-making, content knowledge, assessment, and language development—a unifying theme across these areas is the purposeful integration of technology to enhance accessibility, engagement, and learning outcomes for all students. Educational stakeholders and scholars consistently emphasize the importance of embedding technology into literacy instruction. For example, the International Literacy Association (ILA, 2019), in its position statement *Digital Resources in Early Childhood Literacy Development*, asserts that the meaningful use of high-quality digital resources is essential in preparing all young children for long-term academic success.

Likewise, the National Council of Teachers of English (NCTE, 2019) defines literacy in the digital age as the ability to access, analyze, compose, and evaluate information across multiple formats and platforms. This expanded definition acknowledges that literacy now extends beyond traditional reading and writing to include the capacity to navigate and make meaning within multimodal, interconnected digital environments. NCTE's perspective highlights the evolving nature of literacy and underscores its critical role in preparing students to engage thoughtfully and effectively in a rapidly changing global society.

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TECHNOLOGY & LITERACY

TECHNOLOGY AS A TOOL FOR LITERACY LEARNING

The National Council of Teachers of English (NCTE, 2019) advocates for the use of technology as a means to empower learners, emphasizing the need to teach students how to critically engage with digital texts, create meaningful content, and use technology in ethical and responsible ways. The integration of technology in literacy instruction is grounded in the goal of preparing students to interpret, analyze, and produce texts across a range of formats—from traditional print to interactive and multimedia platforms.

Technology, when used as a tool for learning and expression, can support student progress across all key themes of the California Common Core State Standards for English Language Arts/English Language Development (CA CCSS for ELA/ELD) and the California ELD Standards.

These themes include:

- Meaning Making
- Language Development
- Effective Expression
- Content Knowledge
- Foundational Skills

By thoughtfully integrating technology, educators can enhance instruction in each of these areas, promoting deeper engagement, multimodal communication, and equitable access to learning opportunities.

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WHY DIGITAL TECHNOLOGY & LITERACY LEARNING

ENGAGEMENT, CRITICAL THINKING, MULTIMODAL COMMUNICATION, EQUITY & INCLUSION

Integrating technology into literacy instruction can enhance student engagement, develop critical thinking, foster multimodal communication, and promote equity and inclusion in meaningful ways (Wolf, 2018). For example:

- **Enhance Engagement:** Digital tools like interactive eBooks, multimedia resources, and collaborative platforms make reading and writing dynamic and immersive. Examples include platforms such as Epic! or Book Creator, which allow students to interact with text through narration, highlighting, and embedded questions. Collaborative tools like Padlet and Google Docs further engage students by making reading and writing social and interactive experiences.
- **Develop Critical Thinking:** To develop critical thinking skills, students must engage in purposeful analysis of texts and media, learning to question, evaluate, and synthesize information across diverse sources and formats. For instance, using CommonLit or Newsela, students can explore current events from multiple perspectives and evaluate source credibility. Digital annotation tools to support close reading and collaborative textual analysis.
- **Foster Multimodal Communication:** Technology enables students to express their ideas through a combination of text, visuals, audio, and video, broadening their communication skills. Tools like Adobe Express, Canva, and Flip allow students to create digital stories, book trailers, or video reflections that combine different media formats to convey meaning in creative and authentic ways.
- **Support Equity and Inclusion:** Technology ensures all learners, including English learners and students with disabilities, have access to tools and resources that meet their needs. Assistive technologies such as screen readers (e.g., Read&Write), translation extensions, and speech-to-text features help ensure accessibility. Platforms like Seesaw and Google Classroom also support differentiated instruction and personalized feedback.

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ACTIVE & PASSIVE TECHNOLOGY

ENGAGEMENT, CRITICAL THINKING, MULTIMODAL COMMUNICATION, EQUITY & INCLUSION

In today's digital age, technology plays a critical role in shaping literacy instruction. However, the impact of technology on student learning depends largely on how it is implemented. The distinction between active and passive technology use is particularly significant in literacy classrooms, where the goal is to cultivate critical reading, writing, and communication skills. By developing a clear understanding of this distinction, educators can make informed decisions that align with California's English Language Arts (ELA) and English Language Development (ELD) Standards (California State Board of Education, 2013, 2014), the California Dyslexia Guidelines (California Department of Education, 2017), the California Digital Learning Integration and Standards Guidance (California Department of Education, 2021), and the ISTE Standards for Educators and Students (International Society for Technology in Education, 2023).

Active technology use in literacy instruction refers to engaging students in interactive, participatory learning experiences where they create, analyze, and critique digital content. This approach emphasizes student agency and meaningful interaction with technology, moving beyond passive content consumption. In active learning environments, students might use digital tools to compose multimedia texts, participate in collaborative discussions, or solve complex problems. In literacy classrooms, this means leveraging technology to deepen students' understanding of texts and enhance their ability to express ideas across multiple formats.

Passive technology use in literacy instruction involves students primarily consuming content with minimal interaction or engagement. In these scenarios, technology is often used to deliver information—such as through watching videos, reading eBooks, or listening to recorded lectures—without requiring active participation or critical thinking. While passive use can provide foundational exposure to texts and concepts, it does not offer the depth, personalization, or cognitive engagement needed to develop higher-order literacy skills. As such, it should be complemented with more interactive, student-centered approaches to maximize its instructional value.

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ACTIVE TECHNOLOGY

Examples of Active Technology Use in Literacy Classrooms

- **Digital Storytelling**: Students create multimedia projects, combining text, images, and narration to retell stories or share their analyses.
- **Interactive Annotation**: Using digital tools, learners highlight, annotate, and question text in eBooks or online articles, engaging critically with the material.
- **Multimodal Presentations**: Students use technology to craft presentations, blending written narratives with video, audio, and visuals to enhance communication.
- **Language Practice for English Learners**: Interactive apps provide real-time feedback on pronunciation, writing, and comprehension, allowing learners to actively develop their literacy skills.

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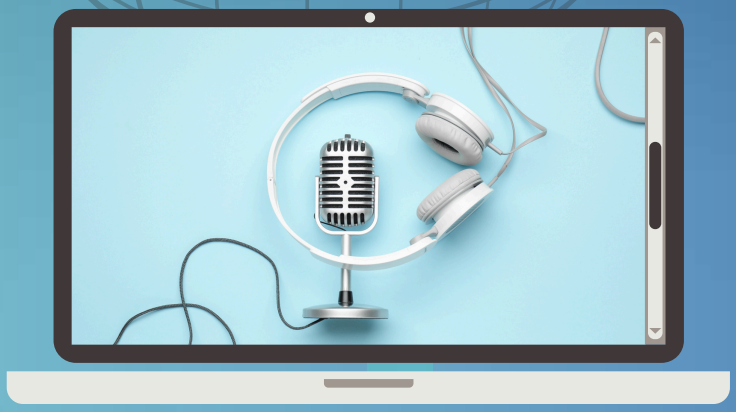

Resources: Technology - Literacy Educational Applications

Educational Applications - Provide an interactive way for learners to engage with different subjects and content. Educational applications vary significantly, as some are used for content consumption, while others are used for content creation (Wood, Stowell, Goldberg, 2024). Some examples include:

- Storyboarding
- Digital Storytelling
- Gaming
- Blogs
- Book creation
- Digital Puppetry
- Social Media Platforms
- Voice recording
- Websites
- Online drawing and painting tools that can be used to create digital art
- Photo editing tools that can be used to enhance or alter digital images.
- Music production software that can be used to create and edit music.
- Coding Programs that can be used to create interactive stories, games, and animations.
- A graphic design tool that can be used to create posters, flyers, and other visual materials.
- 3D modeling tools that can be used to create and design 3D objects.
- Online platforms allow students to explore and learn about art and culture from around the world.

Refer to the TPE 7 Matrix for additional resources and links to technology tools that support the various domains of TPE 7

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PASSIVE TECHNOLOGY

Examples of Passive Technology Use in Literacy Classrooms

- **Watching** a video or listening to a story without discussing or analyzing the content.
- **Reading** an eBook without engaging with built-in tools like highlighting or note-taking.
- **Listening** to pre-recorded vocabulary lessons without opportunities to practice using the words.

While passive technology use can play a supporting role, it must be complemented with active strategies to ensure students critically engage with texts and develop key literacy skills.

International Society for Technology in Education (ISTE) Standards

As educational technologies continue to evolve at a rapid pace, it can be challenging for educators to remain current with every new tool or platform. Rather than focusing solely on keeping up with technological trends, educators should prioritize designing virtual learning environments that center learners and promote critical thinking, collaboration, creativity, and curiosity. The International Society for Technology in Education (ISTE) Standards offer a valuable framework to guide intentional decision-making about digital learning environments and the tools students engage with (Wood et al., 2024).

Established in 2016, the ISTE Standards define the essential skills and knowledge needed for effective teaching, learning, and leadership in the digital age. These standards are globally recognized and provide a comprehensive framework for educational innovation. The ISTE Standards are organized into two key strands: one for educators and one for students. The educator strand outlines digital-age competencies that support student-centered instruction and professional growth. According to ISTE, educators serve in the following roles:

Learners: Continuously improving their practice by learning from peers and exploring evidence-based uses of technology to enhance student learning.
Leaders: Advocating for student empowerment and seeking leadership opportunities to improve teaching and learning.
Citizens: Promoting responsible, ethical participation in the digital world.
Collaborators: Working with colleagues and students to share ideas, solve problems, and improve instructional practice.
Designers: Creating learner-driven, authentic experiences that accommodate diverse needs and learning styles.
Facilitators: Supporting student achievement through the integration of technology aligned with ISTE student standards.
Analysts: Using data to inform instruction and help students reach their learning goals.

By aligning instructional practices with the ISTE Standards, educators can foster purposeful, equitable, and forward-thinking uses of technology that advance literacy and support students' ability to read, write, and communicate effectively in a connected world.

The ISTE standards (2016) for students are designed to empower the students' voices and ensure that learning is a student-centered and student-driven process. Students are viewed as:

Empowered Learners - Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.

Digital Citizens - Students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world. They act and model ways that are safe, legal, and ethical.

Knowledge Constructors - Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts, and make meaningful learning experiences for themselves and others.

Innovative Designers - Students use a variety of technologies within a design process to identify and solve problems by creating new, useful, or imaginative solutions.

Computational Thinkers - Students develop and employ strategies for understanding and solving problems that leverage technological methods' power to develop and test solutions.

Creative Communicators - Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals.

Global Collaborators - Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.
In summary, the ISTE Standards provide guidelines for the effective use of technology in education and offer a framework for innovation. They include two strands for educators and students, defining essential digital age skills and knowledge to deepen teaching practice, promote collaboration, and encourage student-centered learning.

The ISTE Standards (2016) position students as active learners and communicators, highlighting literacy as essential to student-centered learning in a connected world.

Digital, Multimodal & Multimedia Technology

Multimodal technology, like multisensory instruction, refers to digital tools and platforms that integrate multiple modes of communication—such as text, images, audio, video, and interactive elements—into a unified experience. These technologies support the development of **multimodal literacy**, where students learn to interpret and create meaning using a combination of verbal, visual, auditory, and gestural modes. In education, multimodal technology fosters dynamic and engaging learning experiences, particularly in literacy, by appealing to diverse learning styles and enhancing comprehension and expression.

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Digital, Multimodal & Multimedia Technology

Digital, Multimodal, and Multimedia Technology

Contemporary literacy instruction, along with digital and multimedia technologies, offers dynamic ways for students to access, interpret, and produce texts. These tools support diverse learners by integrating multiple modes of communication that extend beyond traditional print. Digital texts—written or visual materials accessed through electronic devices—often include interactive elements such as hyperlinks, annotations, or search functions that enhance comprehension and engagement.

Examples include:

- E-books with built-in dictionaries and note-taking tools
- Online articles with hyperlinks to related resources

Multimedia texts, a type of digital text, combine multiple communication modes—such as text, images, audio, and video—into a unified format. These texts require readers to navigate and synthesize meaning across modalities, encouraging critical thinking and creative expression.

Examples include:

- News articles with embedded videos and infographics
- Digital storytelling platforms integrating narration and visuals
- Interactive educational videos with closed captions and on-screen text
- Personalized learning platforms featuring audio, video, and embedded questions

Effectively integrating these technologies into literacy instruction enhances student engagement, supports multimodal learning, and prepares learners to navigate an increasingly digital and interconnected world.

Conclusion

As literacy instruction continues to evolve alongside technological advancements, it is essential that educators integrate digital tools with intentionality, enhancing student learning rather than using technology for its own sake. Aligning instructional practices with California Teaching Performance Expectation (TPE) 7 ensures that technology meaningfully supports student engagement, critical thinking, multimodal communication, and equitable access to learning. The distinction between passive and active technology use highlights the importance of interactive, student-centered strategies that cultivate higher-order literacy skills. Additionally, the thoughtful integration of multimodal and multimedia tools expands students' capacity to interpret, analyze, and create digital texts—skills that are critical in a globalized, digital society. As teacher preparation programs and K–12 schools adapt their curricula to meet the demands of contemporary literacy, a strategic approach to technology integration will be vital in developing digitally literate, critically engaged, and empowered learners.

To explore tools refer to the TPE 7 Technology - Literacy Integration Matrix. This resource provides curated links to technology tools aligned with the various domains of TPE 7, helping educators design meaningful literacy learning experiences.

TPE 7 Technology - Literacy Integration Matrix

TPE	Technology Resources	Description
7.1 Plan and implement evidence-based literacy instruction (and integrated content and literacy instruction) grounded in an understanding of applicable literacy-related academic standards and the themes of the California English Language Arts/English Language Development Framework (Foundational Skills, Meaning Making, Language Development, Effective Expression, and Content Knowledge) and their integration.	https://soundoftext.com/	Students can type in text to have it read to them
	https://support.microsoft.com/en-us/windows/complete-guide-to-narrator-e4397a0d-ef4f-b386-d8ae-c172f109bdb1	Allows screens on computers to be narrated to students
	https://www.robobraille.org/	RoboBraille is an e-mail and web-based service capable of automatically transforming documents into a variety of alternate formats for the visually impaired and reading impaired.
	https://otter.ai/home	Allows for a virtual note taker to automatically take and store notes from online courses, meetings, etc.

TPE	Technology Resources	Description
7.2 Plan and implement evidence-based literacy instruction (and integrated content and literacy instruction) grounded in an understanding of Universal Design for Learning; California's Multi-Tiered System of Support (Tier 1– Best first instruction, Tier 2– Targeted, supplemental instruction, and Tier 3– Referrals for intensive intervention); and the California Dyslexia Guidelines, including the definition and characteristics of dyslexia and structured literacy (i.e., instruction for students at risk for and with dyslexia that is comprehensive, systematic, explicit, cumulative, and multimodal and that includes phonology, orthography, phonics, morphology, syntax, and semantics).	Seesaw	Digital portfolio allowing students to demonstrate learning in multimodal ways. Tier 1 and Tier 2 instruction.
	ReadWorks	Provides high-quality, evidence-based reading passages and comprehension questions. Features accessibility options like text-to-speech for diverse learners.
	Newsela	Offers differentiated reading materials aligned with content areas. Text levels can be adjusted to meet individual student needs.

TPE	Technology Resources	Description
7.5 Foundational Skills Multiple Subject Candidates: Develop students' skills in print concepts, including letters of the alphabet; phonological awareness, including phonemic awareness; phonics, spelling, and word recognition, including letter-sound, spelling-sound, and sound-symbol correspondences; decoding and encoding; morphological awareness; and text reading fluency, including accuracy, prosody (expression), and rate (as an indicator of automaticity), through instruction that is structured and organized as well as direct, systematic, and explicit and that includes practice in connected, decodable text. Multiple Subject and Single Subject English Candidates: Provide instruction in text reading fluency that emphasizes spelling and syllable patterns, semantics, morphology, and syntax. Multiple Subject and Single Subject Candidates: Advance students' progress in the elements of foundational skills, language, and cognitive skills that support them as they read and write increasingly complex disciplinary texts with comprehension and effective expression.	Magnetic Letters.pptx	Free digital magnetic letters in powerpoint format that students can manipulate.
	https://www.starfall.com/h/	Multiple online games and activities for students focusing on foundational skills such as phonics, phonological awareness, and fluency.
	https://ufli.education.ufl.edu/foundations/toolbox/	UFLI interactive foundational skills lesson, including the virtual blending board allows students to interactively blend letters to make words and the virtual word mat.
	https://www.teachyourmonster.org/teachyourmonstertoread	From matching letters and sounds to enjoying little books, Teach Your Monster to Read is designed in collaboration with leading academics from Roehampton University and will support your child through every step of their reading journey.

TPE	Technology Resources	Description
7.6 Meaning Making Engage students in meaning making by building on prior knowledge and using complex literary and informational texts (print, digital, and oral), questioning, and discussion to develop students' literal and inferential comprehension, including the higher-order cognitive skills of reasoning, perspective taking, and critical reading, writing, listening, and speaking across the disciplines. Engage students in reading, listening, speaking, writing, and viewing closely to draw evidence from texts, ask and answer questions, and support analysis, reflection, and research.	Epic! Books News Literacy Project	Digital library with multimodal features like read-aloud and interactive text. Engages students with rich content aligned to UDL principles. NLP advances the development and teaching of news literacy in K-12 education. The News Literacy Project offers several resources and services for educators, including an online learning platform, a free weekly newsletter, professional development opportunities, a variety of classroom materials.
	Newsela	Offers differentiated reading materials aligned with content areas. Text levels can be adjusted to meet individual student needs.
	Bookshare.org	Listen to words read aloud, follow with karaoke-style highlighting, enlarge text, or read in braille.
	Epic! Books	Digital library with multimodal features like read-aloud and interactive text. Engages students with rich content aligned to UDL principles.

TPE	Technology Resources	Description
7.7 Language Development Promote students' oral and written language development by attending to vocabulary knowledge and use, grammatical structures (e.g., syntax), and discourse-level understandings as students read, listen, speak, and write with comprehension and effective expression. Create environments that foster students' oral and written language development, including discipline-specific academic language. Enhance language development by engaging students in the creation of diverse print, oral, digital, and multimedia texts. Conduct instruction that leverages students' existing linguistic repertoires, including home languages and dialects, and that accepts and encourages translanguaging	Storytelling with Google Tools	This is an activity where students use Google Docs to create an interactive "Choose Your Own Adventure" story.
	Adobe Animate from Audio	Pick a character and start recording your voice then watch the animated character come to life.
	PBS LearningMedia	A pre-kindergarten through grade twelve online library of trusted, quality, curated resources from PBS and public media stations. Digital resources include short videos, lessons and interactive games.
	Epic! Books	Digital library with multimodal features like read-aloud and interactive text. Engages students with rich content aligned to UDL principles.

TPE	Technology Resources	Description
7.8 Effective Expression Develop students' effective expression as they write, discuss, present, and use language conventions. Engage students in a range of frequent formal and informal collaborative discussions, including extended conversations, and writing for varied purposes, audiences, and contexts. Teach students to plan, develop, provide feedback to peers, revise using peer and teacher feedback, edit, and produce their own writing and oral presentations in various genres, drawing on the modes of opinion/ argumentation, information, and narration. Develop students' use of keyboarding, technology, and multimedia, as appropriate, and fluency in spelling, handwriting, and other language conventions to support writing and presentations. Teach young children letter formation/printing and related language conventions, such as capitalization and punctuation, in conjunction with applicable decoding skills.	Adobe Express for Education	Creative skill-building made easy! Use tools designed to be classroom-safe to make impactful presentations, infographics, videos, and more.
	Book Creator Pen Tools	Book Creator is a fantastic tool for students and teachers to create and share digital books
	https://www.kidztype.com/typing-web/	Free interactive typing and keyboarding lessons for all ages.
	https://www.quill.org/	Free website that provides handwriting, grammar, and language practice.

TPE	Technology Resources	Description
7.9 Content Knowledge Promote students' content knowledge by engaging students in literacy instruction, in all pertinent content areas, that integrates reading, writing, listening, and speaking in discipline-specific ways, including through printed and digital texts and multimedia, discussions, experimentation, hands-on explorations, and wide and independent reading. Teach students to navigate increasingly complex literary and informational texts relevant to the discipline, research questions of interest, and convey knowledge in a variety of ways. Promote digital literacy and the use of educational technology, including the ability to find, evaluate, use, share, analyze, create, and communicate digital resources safely and responsibly, and foster digital citizenship	Schoolai	Content and discipline-specific lesson activities
	https://www.brainpop.com/discover/	Content specific engaging videos for elementary through secondary students.
	Media Making and Media Literacy for All Educators	KQED offers free online workshops and webinars to support all educators in developing skills to promote youth voice and civic engagement.
	ReadWorks	Provides high-quality, evidence-based reading passages and comprehension questions. Features accessibility options like text-to-speech for diverse learners.

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