The standards recognize that students at all grade levels, even in the earliest grades, need opportunities to interact with technology. Writing Standard 6 for kindergarten, for example, states "With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers." Guidance for young children's use of technology is provided in *Technology and Interactive Media as Tools in Early Childhood Programs Serving Children from Birth through Age 8* (http://www.naeyc.org/files/naeyc/PS_technology_WEB.pdf) (2012), the position statement of the National Association for the Education of Young Children and the Fred Rogers Center for Early Learning and Children's Media at Saint Vincent College. Importantly, the guidelines assert that "Effective uses of technology and media are active, hands-on, engaging, and empowering; give the child control; provide adaptive scaffolds to ease the accomplishment of tasks; and are used as one of many options to support children's learning" (8).

Figure 10.9. CCR Anchor Standards and CA ELD Standards and Selected Grade-Level/Profiency Level Standards with Explicit Technology Components (technology component bolded)

Reading Anchor Standard 5: Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

- *Grade-Level Example*: RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, **electronic menus, icons**) to locate key facts or information in a text efficiently.
- *Grade-Level Example*: RI.3.5 Use text features and **search tools** (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.

Reading Anchor Standard 7: Integrate and evaluate content presented in diverse **media** and formats, including visually and quantitatively, as well as in words.

- *Grade-Level Example*: RL.2.7 Use information gained from the illustrations and words in print or **digital text** to demonstrate understanding of its characters, setting, or plot.
- *Grade-Level Example*: L/HSS.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and **media** (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

Writing Anchor Standard 6: Use **technology**, including the **Internet**, to produce and publish writing and to interact and collaborate with others.

- *Grade-Level Example*: W.K.6 With guidance and support from adults, explore a variety of **digital tools** to produce and publish writing, including in collaboration with peers.
- *Grade-Level Example*: W.7.6 **Use technology, including the Internet**, to produce and publish writing and **link to** and cite sources as well as to interact and collaborate with others, including **linking to** and citing sources.

Writing Anchor Standard 8: Gather relevant information from multiple print and **digital sources**, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

- *Grade-Level Example*: W.3.8 Recall information from experiences or gather information from print and **digital sources**; take brief notes on sources and sort evidence into provided categories.
- *Grade-Level Example*: W/HSST.6.8 Gather relevant information from multiple print and **digital sources**; **using advanced searches effectively**; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Speaking and Listening Anchor Standard 2: Integrate and evaluate information presented in diverse **media** and formats, including visually, quantitatively, and orally.

- *Grade-Level Example*: SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other **media**.
- *Grade-Level Example*: SL.11-12.2 Integrate multiple sources of information presented in diverse formats and **media** (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

Speaking and Listening Anchor Standard 5: Make strategic use of **digital media** and visual displays of data to express information and enhance understanding of presentations.

- *Grade-Level Example*: SL.5.5 Include **multimedia components** (e.g., **graphics, sound**) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
- *Grade-Level Example*: SL.11-12.5 Make strategic use of **digital media** (e.g., **textual, graphical, audio, visual, and interactive elements**) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Language Anchor Standard 4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

- *Grade-Level Example*: L.2.4e Use glossaries and beginning dictionaries, both print and **digital**, determine or clarify the meaning of words and phrases in all content areas.
- *Grade-Level Example*: L.9-10.4c Consult general and specialized reference materials (e.g., college-level dictionaries, rhyming dictionaries, bilingual dictionaries, glossaries, thesauruses), both print and **digital**, to find the pronunciation of a word or determine or clarify its precise meaning, its part of

speech or its etymology.

ELD Standards Critical Principle: Part 1 - Collaborative, 2: Interacting with others in written English in various communicative forms (print, **communicative technology**, and **multimedia**)

- *Grade-Level Example*: Grade 3/Emerging: Collaborate with peers on joint writing projects of short informational and literary texts, using **technology** where appropriate for publishing, graphics, etc.
- *Grade-Level Example*: Grade 8/Bridging: Engage in extended written exchanges with peers and collaborate on complex written texts on a variety of topics, using **technology** when appropriate.

ELD Standards Critical Principle: Part 1 - Interpretive, 6: Reading closely literary and informational texts and viewing **multimedia** to determine how meaning is conveyed explicitly and implicitly through language.

- *Grade-Level Example*: Grade K/Expanding: Describe ideas, phenomena (e.g., how butterflies eat), and text elements (e.g., setting characters) in greater detail based on understanding of a variety of grade-level texts and viewing of **multimedia** with moderate support.
- *Grade-Level Example*: Grade 7/Bridging: Explain ideas, phenomena, processes, and text relationships (e.g., compare/contrast, cause/effect, problem/solution) based on close reading of a variety of grade-level texts and viewing of **multimedia** with light support.

ELD Standards Critical Principle: Part 1 - Productive, 10: Writing literary and informational texts to present, describe, and explain ideas and information, using appropriate **technology**.

- *Grade-Level Example*: Grade 2/Emerging: Write very short literary texts (e.g.,story) and informational texts (e.g., a description of a volcano) using familiar vocabulary collaboratively with an adult (e.g., joint construction of texts), with peers, and sometimes independently.
- *Grade-Level Example*: Grade 9-10/Expanding: (a) Write longer literary and informational texts (e.g., an argument about water rights) collaboratively (e.g., with peers) and independently using appropriate text organization and growing understanding of register.

Several topics related to the use of technology are discussed in the following subsections.

Understanding Multimedia Text

Much of the text encountered on the Internet and in electronic formats has both conventional print elements and other media—graphics, sound, video, or animations. These types of texts are often labeled *multimedia* documents. There are also sites where there is no conventional text and all meaning is conveyed by other media. Students need to learn how multimedia elements affect the messages being conveyed by the document. They need to know when to attend to them and when they are less important. Mayer (1997) demonstrated that graphics may be more useful for learners