Prioritizing Equity and Accessibility through Technology.

The importance of equitable and accessible resources in elementary school classrooms to meet the needs of all learners.

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Technology can be a powerful tool in learning that can give students opportunities to access content, reinforce and expand relationships, reimagine learning, prioritize collaboration, and "…shrink long-standing equity and accessibility gaps, and adapt learning experiences to meet the needs of all learners" (Thomas, 2016). Students benefit from learning experiences that prioritize their ability to engage with high quality instructional materials that are accessible, both in content and in structure, and allow them to fully participate and take ownership of their learning.

Why is Equity and Access Important?

The terminology used to describe equity and accessibility have many contrasting meanings. However, the terms equity and access will be used in this paper to articulate the importance of accessibility of texts for students with different

learning needs, and how texts that show a wide representation of people and experiences benefit students in their learning. More than ever, technology can support these goals, and provide ways to create authentic learning experiences for students of all abilities. Often, this means leveraging stakeholders to work together to improve student experiences and access, including teachers, school leaders, families, and community members.

Simply providing classrooms with technology tools does not mean that elementary schools are automatically accessible or equitable (Langub & Lokey-Vega, 2017). Rather, teachers need training and support to explore ways to integrate digital literacy and technology skills into students' learning experiences to make their lessons accessible to all. This is especially important as schools consider how to best use the technology tools and resources that the COVID-19 pandemic ushered into elementary school classrooms. While the amount of technology and digitized instructional materials in K-12 classrooms has increased substantially, (Rice & Ortiz, 2021; Judge, Puckett, & Bell, 2006), the quality of its use remains inconsistent across schools (Dolan, 2016).

Additionally, the way that students are expected to make sense of text through digital media and technology has also evolved. Increasingly, students are expected to read, research, comprehend, create, and evaluate materials. The emphasis on these competencies underscores the need for adaptable materials to assist students in their ability to access tools to support their learning. Digital literacy skills are an expectation of all students, regardless of their ability level, and teachers are constantly evaluating tools for how they meet the diverse student needs observed in their classrooms. According to the Individuals with Disabilities Education Act (IDEA), assistive technologies (AT) is defined as "any item, piece of equipment, or product system, whether acquired

> *"One of the most important aspects of technology in education is its ability to level the field of opportunity for students."*
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> **- John King, U.S. Secretary of Education**

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commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities" (IDEA, 2004). In elementary schools, mainstreamed classrooms prioritize inclusion among all students, and it is beneficial when students who vary in reading or writing ability or have other impairments can utilize the same tool to adapt to different student needs. AT can empower students who have visual impairments or difficulty in reading comprehension gain a sense of independence and autonomy (McNear & Farrenkopf, 2014). Thus, providing students with resources that can be adaptable for students of all abilities is very important in creating equitable classroom experiences within a cohesive model that streamlines teacher time and attention.

Audio books are particularly helpful in providing students with access to texts in a variety of ways. Research in multimodal literacy instruction has shown that all students benefit from experiencing texts from a variety of modalities, including reading aloud, audio texts, digital texts, video, multimedia, among others. Notably, Moats and Farrell (2005) illustrated that active learning through multisensory experiences had higher student engagement, and was more effective than passive learning alone. Thus, when students have multiple ways to access text and information, they are more engaged and have better learning outcomes as a result.

Additionally, students who have challenges in reading comprehension, decoding, and/or fluency can understand texts in a different way when multiple modalities are woven into their literacy experiences. Education was changed by COVID-19 and its impact on student growth and learning is still not well understood. However, the use of AT and muiltisensory literacy experiences can support growth and engagement in learning in order to enhance students reading and writing skills.

Another important consideration is the extent to which students see themselves represented in the texts they are reading in their classrooms. Notably, teachers who "...view students' experiences as an asset and intentionally bring students' voices into the classroom...create a safe and engaging atmosphere for

learning to take place" (Darling Hammond et.al., 2020). Recent research also shows that trust and relationships among teachers, parents, and school leaders is imperative, and the extent to which that relationship exists in a positive way "predicts the likelihood of gains in achievement and other student outcomes where instructional expertise is also present." (Darling Hammond et.al., 2020). Ladson-Billings (1995) also supports the importance of culturally relevant texts in students' education by valuing and elevating their experiences, acknowledging the importance of this value in classroom practices where "…knowledge is continuously recreated, recycled, and shared by the teachers and the students" (p. 163).

How Does Connect by Capstone Provide an Accessible and Equitable Resource?

Capstone's Connect includes an ecosystem of products that brings together teachers and resources that support student learning in the context of state and national standards. Connect includes PebbleGo, thousands of E-books, and an easily accessed source for connecting these tools to learning goals and standards. PebbleGo, an online platform containing wide ranging non-fiction articles and media provides elementary teachers with a supplemental resource including texts that all students can access digitally, audio recordings, and Spanish language versions of their materials, which teachers can also print for students to read offline. Students are able to read PebbleGo articles through a multimodal, multi-sensory platform, which levels the playing field for the students in the classroom, regardless of their ability. In doing so, students with different learning needs and visual disabilities are able to experience and engage in high quality texts that extend their learning and allows them to better engage in lessons.

Teachers are able to utilize PebbleGo as a versatile tool that is widely accessible within their classroom, and is also inviting for students who are advanced readers, so teachers can offer the same tool within PebbleGo for all students from those who are advanced to those who need additional learning support. Articles

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contain suggestions for additional reading and learning, which encourages students to further explore topics of interest. PebbleGo Create provides an open and inclusive way for students to show what they have learned by creating a digital artifact of their reading, and is also accessible for students with different learning needs by offering a wide range of modes for student response, including voice recordings, images, stickers, and other digital tools. In addition to Connect, PebbleGo, and its E-books, Capstone also boasts an extensive catalog of print books that can extend teachers' classroom libraries and provide another mode of reading to further benefit student learning and literacy growth in the classroom.

PebbleGo is freely available to students after school hours, and educators can leverage the accessibility provided through this resource to bring parents and

caregivers into the educational processes and learning experiences. The flexibility to share authenticated links with families eases the burden of access at home, and PebbleGo's accessibility on mobile devices with an internet connection streamlines the ease of sharing between home and school. The ability to bring the learning home with PebbleGo is an important tool in building relationships between school and home, and provides a vehicle through which teachers can invite families into conversations that begin in the classroom.

The range of articles, topics, readings, videos, and voices that are highlighted through PebbleGo, Capstone's e-books, as well as in their print books, encourages teachers to bring diverse texts into their classroom, regardless of the core curriculum within their school. In order to support students feelings of belonging in the classroom, these tools can support teachers in bringing different perspectives into their instruction, and creating a window through which students can see their own stories and histories reflected in the articles provided by PebbleGo as well as in Capstone's print and E-books. Additionally, the emphasis on student choice and curiosity fostered by PebbleGo and PebbleGo Create brings student preferences and passions to the forefront of learning, and encourages teachers to highlight student

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interests through high quality, engaging, multimodal texts that support student literacy development.

Thus, PebbleGo offers an accessible resource to teachers, students, and families that connects diverse stories and experiences while supporting multimodal, multi-cultural and multi-sensory learning that expands the range of access and equity within elementary school classrooms.

Implementing Capstone's Ecosystem of Products in Kindergarten-6th Grade.

Connect

Connect by Capstone provides teachers with a straightforward platform to access standards tied directly to PebbleGo's non fiction articles and Capstone's engaging e-books that support classroom use. Connect provides a one-stop-shop for supplemental materials that are directly connected to state standards, and links directly to articles, activities, e-books, and other multimodal resources that teachers can bring directly into their classroom with minimal time searching for solutions. These tools facilitate easy classroom integration and provide teachers with tools that can be utilized for students with a wide range of instructional levels and abilities. This platform is incredibly powerful in connecting Capstone's tools to one another and teachers can seamlessly integrate the resources it provides into lessons and activities, providing an accessible option through which students can advance their literacy skills and learn new content tied directly to their core lessons and standards.

PebbleGo

PebbleGo's non-fiction articles include a wide variety of topics that is easily navigable by even the youngest students. PebbleGo's platform places the learning into the hands of students, emphasizing digital literacy skills and competencies with a

strong literacy base that is easy to access and is widely representative of people, places, and topics. It's read-aloud feature in both English and Spanish acts as a vehicle for access for students of different ability levels, and students can freely explore articles based on their interest in that subject rather than their reading ability. Thus, students are exposed to topics that are interesting to them, harnessing the power of reading and learning through personalized learning experiences and additional books and articles to extend their learning.

Capstone's Interactive E-books

Capstone's Interactive E-books are an excellent way for teachers to encourage independent student reading within their classroom with high quality, engaging books tied directly to their curriculum. Capstone's read aloud feature creates an accessible model that students can utilize to experience texts through multiple modalities, creating new ways for implementing rich literacy experiences in elementary school classrooms that are standards based, and easily integrated in lessons as well as at home. The open access for students also allows them to share the e-books with parents and care givers, extending opportunities for literacy in the home and inviting students to explore books that can be easily accessed that enrich their home libraries.

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