



# **PebbleGo and Multimodal Literacy**

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For years, teachers have used Howard Gardner’s Theory of Multiple Intelligences and other theories to help students learn through their strongest intelligence. Gardner encourages teachers to use different methodologies, exercises and activities to reach all students. As technology advances, and our students become savvier at knowing the many modes that help them to learn, multimodal literacy becomes more and more pertinent. That is, using images, sound, text and video to give the student the information in the best format(s) for their learning style.

### ***What is multimodal literacy?***

Multimodal texts, texts that have more than one mode, communicate the meaning through the synchronization of the modes. Written text is only part of the message in multimodal literacy and perhaps not even the dominant part. Many researchers believe that a language-based pedagogy is no longer sufficient for reading in our technological form of learning (Kress and van Leeuwen, 1996; 2001); and have determined that the new way of communication may in fact be a call to establishing a new learning paradigm.

Multimodal literacy, called a variety of terms such as visual literacy, digital literacy, media literacy, and multiliteracies, is a literacy of the screen. Modes on the computer screen include image, text movement, music, sound effects and voice quality, all of which create meaning to the student. This multimodal literacy raises the issue of what literacy is or could be, and what it means to be literate in the digital era (Kress 2003). The notion of literacy shifts then from an emphasis on handwriting and spelling to that of finding, selecting, processing and presenting information from the internet and other sources.

### ***The benefits of multimodal learning***

A recent study performed by the Metiri Group, integrating the work of Richard Mayer and Roxanne Moreno, stated that students retain information better through words and pictures rather than through words alone. Students learn better when the corresponding words and pictures are presented near each other, and again if those words and pictures are presented simultaneously. (Mayer, Moreno, 2003)

Based on the research evidence, humans do not learn in a linear movement as once believed. Each student learns in his or her own manner, and teachers must present the information in an adapted format that will use the prior knowledge and strengths of the learner, the complexity of the content and the interests of the learner. Gardner’s multi-intelligences support this. For instance, if a

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student is primarily a visual learner and knows that his/her second strongest means of learning is auditory, using both modes of learning would make the learning that much stronger. In using technology in multimodal literacy, the resources and lessons can vary according to the needs and interest of the learner.

Using computers when learning allows the brain to take in data using the words, sounds, and images at a pace appropriate for the level of learning. This enables the student to learn in their preferred mode (some learn best through seeing, others through hearing) and at their most beneficial tempo. Experienced teachers recognize that adapting lessons and resources to the learner makes learning much more efficient.

Scaffolding is providing learners with the support needed to perform a task independently that would be otherwise beyond their reach. Whether that support is establishing prior knowledge or building relevance, multimodal literacy through computers allows the learner to learn independently. The learning becomes a discovery for the student as they become active participants in the learning process.

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### ***Incorporating multimodal literacy into the classroom***

According to cognitive theory, the learning process is a combination of phonetic and visual processing. Researchers have shown that learning increases when the appropriate use of visual and verbal multimodal resources are used. The challenge for educators is to incorporate these concepts into their classrooms, lesson plans and student engagement through multimodal content.

Educators are continuously changing lesson plans and learning environments as research proves the need for modifications. The world of words in which most educators learned how to teach must now become the visual world of the student. Multimodal learning is a pragmatic approach to bridging the differences from textual-orientation to visual.

Teachers are encouraged by Metiri to craft lessons that are multimodal and interactive. The goal should be to activate the students thinking in many ways, using the media that is best suited to the student and the subject. At the same time, it is best not to overload the brain with too many stimulants. Flashing banners

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and blaring music can cause delayed learning due to switching the attention away from the intended learning. Avoiding too much stimulation within the computer application can help focus the student to the task of learning.

The National Science Teachers Association encourages teachers to gain full knowledge of the software students use in learning, know how to incorporate the computer into instructional strategies, use computers and software ethically and use computers in a variety of ways.

### ***Using multimodal literacy to develop understanding and informational literacy with the youngest of readers.***

Both the National Science Teachers Association (NSTA) and the American Association of School Librarians (AASL) believe that computers should have a major role in the teaching and learning of science and informational research. It is imperative that the software engage the student in meaningful interactive dialogue and creatively employ graphics, sound and simulations to promote acquisition of facts... and enhancing understanding. (NSTA website)

Librarians and teachers have an opportunity to involve the youngest of readers in developing their literacy skills through research. Students at this age have a natural curiosity and are excited to learn new information and how to develop the skills that allow them to acquire that information. Building life-long literacy skills is the goal of AASL, and they have developed standards that focus on the learning process. These AASL standards are for the 21st century learner in that they include the higher-level of thinking and are perfect for the multimodal learner.

Standard 1 encourages students to access information efficiently and effectively by forming questions and exploring ways to answer them by identifying potential sources of information. Standard 2 states that an information literate student can evaluate that information as to whether it is appropriate to the question at hand, and standard 3 states that the student should integrate that information to one's own knowledge. Multimodal learning gives emergent readers the ability to meet the very basic level of the AASL standards by allowing them the opportunity to find the information in the format they find most effective for their learning styles. Initiating research is a practical way to introduce the youngest readers to the technology skills they will need as they advance through their academic careers as well as the working world.

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“Designed to give the emergent reader the opportunity to acquire knowledge by using and developing their multimodal literacy, PebbleGo™ integrates content curriculum, early literacy skills, and information literacy skills.”

## ***Supporting Multimodal learning with PebbleGo™***

Capstone Press, a nationally recognized content-area publisher, is proud to introduce the only database available for the youngest of researchers. Designed to give the emergent reader the opportunity to acquire knowledge by using and developing their multimodal literacy, PebbleGo™ integrates content curriculum, early literacy skills, and information literacy skills.

Until recently, databases for middle elementary and up were the only programs available for research. None were developed for the youngest of researchers. PebbleGo™ is developed to improve the computer literacy for future users of these databases.

The PebbleGo™ design is research-based. The functional design of the screen supports one of the main instructional goals for computer-based learning developed by R. Mayer and R. Clark: to inform. Many studies that compared lessons that used text alone to teach content with lessons that added relevant visuals to the text have shown that the versions with graphics improve learning. It's the functionality of the graphic that determines their effectiveness. PebbleGo™ uses consistent placement of representational graphics (actual pictures of the animals) as buttons that will lead the student to the facts about that animal.

PebbleGo™ is accessible to all learners. The multimodal organization of PebbleGo™ offers a range of modes with which to engage all learners, including picture, text, verbal and video/gaming modes. These modes enable students to approach the information according to their needs and interests. The video portions provide deeper exploration of the information and help the students construct meaning. The opportunity to hear the words spoken in a steady, even voice as the student reads the text engages the student's multimodal character for information gathering as well as helps them to learn the correct pronunciation of the words.

## ***Assessments and PebbleGo***

Multimodal learning was taken into consideration as the built-in PebbleGo™ assessments were developed. Within each article on a specific animal, there are two forms of assessment that use diagrams and drawings to check learning. Along with these is a report template which encourages the youngest of researchers to develop and practice correct research skills.

Lesson plans to support standards and information literacy skills are offered with PebbleGo. Christa Harker, co-author of the Linworth title *Library Research with Emergent Readers: Meeting Standards*

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*through Collaboration*, has developed lesson plans appropriate for the emergent reader. Each lesson plan integrates both curriculum standards and the AASL standards for the 21st Century Learner into projects that are age-appropriate.

When pictures are simultaneously presented with text, voice and video in a format that engages the student, the student becomes intent on finding information in the best way for them. PebbleGo, the innovative K-3 database from Capstone Press, takes multimodal learning to the next step by making research and literacy accessible for the youngest students.

## www.PebbleGo.com

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