Electronic Device Usage and Screen Time

Screen Time At School

The National Association for the Education of Young Children has taken the official position that "when used wisely, technology and media can support learning and relationships," allowing educators to "improve program quality by intentionally leveraging the potential of technology and media for the benefit of every child." Research also supports the common sense finding that excessive passive screentime can have negative effects such as decreased academic performance, behavioral issues, and irregular sleep patterns. [1] Comprehensive formal research findings remain inconclusive, though generalized findings indicate that educational practice around technology integration is more important than pure quantity of screen time in an educational context.

We envision student devices as an enhancement to the learning environment, allowing us to expand traditional learning experiences in new and exciting ways that further our instructional program for all students. Incorporating technology into the classroom must be done purposefully. Student-centered active learning and student/teacher interaction will continue to be a daily experience in our classrooms.
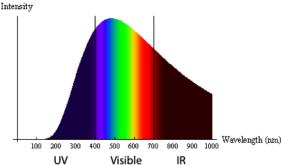
Screen Time at Home

In 2016, the American Academy of Pediatrics (AAP) revised their screen time recommendations, recognizing that use of electronics and media consumption may have both positive and negative effects, depending upon how the technology is used and in what quantity. The AAP recommends prioritizing home activities such as family time, outdoor play, exercise, and sleep, while limiting recreational screen time to ensure that these more important activities are not displaced [2]. The AAP Family Media Planning Tool [3] is a great resource for setting family expectations. The The AAP does not provide specific recommendations for educational electronics usage.

Technology can be a great tool and resource, but also has the potential to be a distractor, with substantial evidence suggesting use of media while engaged in learning tasks reduces overall learning [4][5]. Helping children focus on completing assignments before spending time on recreational endeavors can instill valuable life skills best learned prior to entering the world of adult expectations. Additionally, experts suggest having children surf the internet in a central place at home, such as the kitchen or family room, rather than away from adult supervision or behind a closed door.

Blue Light Impact in Children

Visible light is a form of electromagnetic (EM) radiation with a wavelength between 400 nm and 700 nm [6]. In humans, visible light passes through the structure of the eye into the retina, where photosensitive cells transform it into an electrochemical signal which is transported to the brain. EM radiation with smaller wavelengths, such as ultraviolet (UV) and blue light, contains more energy than EM radiation with higher wavelengths, such as red light. Bright UV light sources such as prolonged sunlight exposure can potentially damage eye function (a reason many sunglasses come with integrated UV-filters). Research does not indicate that such exposure to visible blue light is problematic [7].

"Although the light emitted by personal electronic devices is not bright enough to damage the human retina, it is able to stimulate blue-light-sensitive ganglion cell photoreceptors that regulate circadian rhythms." [8] Therefore, personal computer device use prior to bedtime may degrade the overall quality of sleep. Limiting exposure to electronics prior to bedtime is recommended. Additionally, the operating system on district devices is configured to reduce the amount of blue light emitted, shifting colors to warmer tones during night hours with the Windows 10 "Night Light" feature.

Recommendations

- Student devices are used to expand and enhance the learning environment through purposefully planned classroom instruction.
- Students have a variety of instructional interactions throughout their school day, including student-centered whole group, small group, and individual instruction. Some interactions will involve electronic devices, and some will not.
- Student device usage is appropriately prioritized and balanced with other activities such as family time, indoor and outdoor play, exercise, and sleep.
- Supervision of electronic device usage in an age-appropriate manner builds independence and positive decision-making practices.
- Setting expectations for appropriate use of devices at home and at school sets a strong foundation for maximizing the educational benefit of electronic resources.
- Limiting exposure to electronics prior to bedtime can improve sleep habits.

References

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