



A Brain-First Guide to Classroom Technology

Six questions for parents and educators

The brain responds to the demands of the activity, not the device on which it appears. Use these six questions when considering a new digital tool or reviewing one already in use.

1. What is the learner's brain being asked to do?

Look beyond the product and the activity on the screen. Is the student remembering, reasoning, predicting, comparing, generating and making connections? Or are they mainly receiving information and following prompts?

A student can appear busy without being deeply engaged. "Interacting with content" tells us very little about the cognitive work taking place.

2. Is the technology supporting the learner's effort or replacing it?

Technology can provide helpful feedback and opportunities for practice. It can also perform essential cognitive work on a student's behalf—what researchers call "cognitive offloading."

Generative AI makes this especially visible. A student can produce a polished essay while doing very little of the thinking, remembering, reasoning or composing. The finished product may look impressive while revealing little about the capacities of the learner who submitted it.

Consider whether the technology is extending the student's thinking or reducing the need for it.

3. Is the challenge purposeful and responsive?

Learning and cognitive growth require effort at an appropriate level. The activity should place a clear demand on the process being developed and adjust as the learner's performance changes.

This is what we call effortful processing, or cognitive friction. The task must stretch the learner enough to stimulate growth without overwhelming them.

Difficulty is not necessarily a design flaw. When it is purposeful and carefully calibrated, it can be part of how learning and cognitive change occur.

4. What role does the teacher, facilitator or parent play?

Technology should give the adult greater insight into the learner. Can they see how the student is approaching the task, interpret errors, notice changes in attention or effort, support persistence and make informed decisions about what should happen next?

Personalization should not mean leaving a student alone with a device while software determines their learning experience. Human observation, relationships and professional judgment remain essential.

5. Does the change extend beyond the screen?

Success within an app is only one measure. Can the learner later understand, explain, remember, solve or reason more effectively in another setting?

Time logged, levels completed and satisfaction surveys may show that a student used and enjoyed a product. They do not show whether anything meaningful changed for that learner. Look for evidence that learning transfers beyond the tool and can be used independently.

6. What is the screen time replacing?

Even a well-designed digital activity must be considered within the whole of a child's day. Is it replacing direct teaching, discussion, handwriting, physical materials, independent reading, movement, outdoor activity, sleep or time with other people? The value of an activity cannot be separated from the experiences displaced to make room for it.

