Tablet Buyer’s Guide

A Complete Guide to Effectively Selecting and Integrating Tablets into Early Learning Classrooms
Table of Contents

3 Does the tablet survive the test?
4 Section A: Is technology appropriate for early learners?
5 Is it designed for early learners?
6 Is the focus on learning vs. free play?
7 Is it easy to use for small hands?
8 Can pre-readers use it independently?
9 Does it engage young children?
10 Section B: Does it monitor school readiness skills?
11 Does it support intervention?
12 How does it monitor progress?
13 Section C: Is it safe and secure?
14 Can you afford ongoing costs?
15 Are teachers trained to use the technology?
16 Can you measure the impact of your investment with results?
17 Dedicated Personnel
20 Sources

Lilla Dale McManis, Ph.D.
President of Early Childhood Research Solutions and Parent in the Know

Lilla Dale McManis works with parents and organizations using assessment and best-practices to promote positive outcomes for children. In addition to being a former special education teacher, she has held positions in applied research in a number of organizations including Hatch, the University of Texas, the Massachusetts Departments of Education and Public Health, and the University of Florida.

About Hatch
Early Learning Technology and Classroom Essentials

From Interactive Whiteboard Content to Mobile Technology—Hatch® is the leader in technology solutions for early learners through innovation and forward-thinking ideas. Our cutting-edge technology combines child-appropriate hardware with research-based content to engage children and empower teachers with progress monitoring tools. Hatch is the most widely used early education technology provider nationwide.
Critical questions to answer before purchasing tablets for early learning classrooms

Tablets have taken the commercial world by storm and a super-arcade of apps has excited children, parents and educators alike. That does not qualify all of the new devices and apps as shoe-ins for use in early education.

Does the tablet survive the test?
A little research goes a long way to make sure tablets and accompanying software fulfill the special requirements of early learners. This ebook will help you evaluate mobile device features that address a number of cognitive, social and physical challenges unique to early education before you buy.

CONSIDER THIS:
In a recent survey of teachers and administrators who use educational technology in their early learning classrooms, the top two reasons they used technology were 1) it helps children meet the goals of the program; and 2) the children enjoy it. (McManis, Nemeth and Simon, 2012)

There can be infinite uses for new age technology, but if the teachers are not able to bring it into the classroom and make it work, then it fails.

- Nancy Kassebaum, U.S. Senator
**Section A: Determine Whether the Technology is Appropriate for Early Learners**

**Question**

Is it based on scientific research?

A robust body of research exists that helps us understand the skills that technology software applications must address, also shedding light on best practices in education:

**Reliable Resources:** Studies and researchers must be cited by name in a whitepaper that details the research basis behind the technology’s function in an early learning environment. Content must be based upon current studies from reputable early learning research sources:

- National Early Literacy Panel (NELP)
- National Research Council’s (NRC) Committee on Early Childhood Mathematics
- Frank Porter Graham (FPG) Child Development Institute
- U.S. Department of Education
- National Center for Education Statistics
- Education Development Center
- Joan Ganz Cooney Center

**Check References:** Below are some of the major clearinghouse databases rich with current education research:

- Doing What Works
- ERIC – the Education Resources Information Center
- NIEER - the National Institute for Early Education Research
- What Works Clearinghouse

**Current Research:** Developers should use research findings no more than 10 years old to create technology and media for young children.

**Proven Results:** Vendors must provide evidence from studies that show that their technology and content work to improve learning outcomes.

**CONSIDER THIS:**

In a review of 40 years of research around the impact of technology in early learning, childrennow.org found an overarching theme in research findings “that it is the content of the media [i.e. software], not the technology itself that makes a different in learning outcomes.”
Technology and instruction must be adaptable to children’s individual and diverse learning needs. If the software application’s age rating spans too wide of a developmental range, it will not match a child’s level and progress. The activities may be either too difficult or not challenging enough for many children using it. Choose only developmentally appropriate software applications for mobile technology:

**Put Your Right Foot Forward:** Software applications must support sequential teaching. For example, a game should teach and introduce activities that focus on numbers and counting before introducing games that teach addition.

**Make it Crystal Clear:** For all early learners, particularly English Language Learners, software applications and games must use clear and concise visuals and audio to represent ideas. Present simple, clear choices for children.

**Stay on Task:** The attention span of a typical preschooler is generally from 5 to 10 minutes. Technology that includes apps with too many graphics, overpowering music or a great deal of movement can decrease a young child’s attention span.

**Relevance:** The subject matter must be relevant to curriculum goals and to each child’s needs and interests.

**Age & Developmental Stage:** Focus content narrowly within a developmental age range. Consider whether the software will be used by children older or younger than the intended age range and how they may react from frustration or boredom. Look for technology that includes appropriate software with these features:

- Variety of activities
- Shorter play times and wait times
- Humorous activities
- Adult involvement
- Goals and incentives
- Multiple opportunities for success
- Appropriate use of rewards
- Personalization options
- Content focused on appropriate learning goals like Language/Literacy, Mathematics, Social Studies, Science, Approaches to Learning and Socio-emotional Skill Development
**Class time spent on mobile technology should not become free play time. Educational technology is a valuable tool with the power to directly teach, support, and extend what children learn. When the standard curriculum combines educational technology with appropriate, interactive learning content and guidance from teachers, children can begin to see and make firm connections between concepts.**

**Games Focused on Learning, Not Winning:**
Giving a child a device with no direction and without content that is tailored to appropriate early learning education goals may actually cause him harm. A child should play to reach a goal or obtain a reward for progressively learning new skills.

**The Rating Game:** More than 1.6 million apps are available on the Android Market and an additional 1.5 million can be downloaded from Apple’s App Store. Ratings by reputable sources like Common Sense Media and Children’s Technology Review are far and few between. Most apps that claim to be educational do not meet the criteria to be deemed appropriate for classroom use.

**Education is not the filling of a pail, but the lighting of a fire.**

- William Butler Yeats
Poorly designed mobile technologies adversely affect usability and can distract children from learning goals. The technology’s interface should be designed so that early learners with developing fine motor skills can easily and independently launch, use, stop and exit programs in a safe environment. Look for these features:

**Access:** The interface allows independent access to all the learning games.

**Build up to Dragging:** Within the games, children grow into swiping as they gain experience.

**One-Touch Wonder:** Enlarged game icons can be activated with a single touch.

**Keep it Simple:** The interface facilitates clear and simple navigation within games.

**Sign Language:** An enlarged stop sign remains available and the option to “Continue” is available after pressing to exit.

**Spoken Language:** Audio recorded by a speech pathologist gives clear audio cues.

**CONSIDER THIS:**

Implementing technology pre-loaded with software applications developed by experts to support children’s development of core math and literacy skills narrows the achievement gap.
Children learn best when they can independently advance through educational lessons that engage them in a personalized learning environment. Both children and teachers benefit from tablets loaded with software applications that promote independent use.

**Photo ID Logins are Most Successful**
Pre-readers are more motivated and engaged; they develop self-efficacy and begin to recognize that they can control their own learning when they can intuitively log into and use technology. With photo ID technology, young children can log in without reading instructions.

**An Eagle-Eye View** Individual reporting is only possible with individual logins. Reports show how each learner interacts with each tablet and where she may be having difficulty.

**The Heart of the Matter** Independent logins that track each user’s progress through scaffolded skill levels is at the heart of appropriate, differentiated learning with technology.

**Did you know?**
Interactive display and whiteboard software by Hatch is designed to help teachers with small and large group instruction with built-in digital portfolio capabilities that capture authentic work samples.
Interactive technology fosters a child's engagement with software content by providing either verbal or nonverbal positive, encouraging responses to input. Interaction levels play a pivotal role in knowledge and skill development, discovery and effectiveness of instruction.

**Plenty of Variety:** Children explore a number of colorful settings.

**Bright Illustrations and Music:** The skills should be presented within a colorful and relatable setting, ideally featuring relatable characters. Real photos should be shown to represent vocabulary words.

**Integrated Achievement:** Children should have a way to measure their progress using a clear visual indicator. If possible the indicator should

**Fast Feedback:** After answering, children should instantly hear feedback that guides their knowledge.

**Safe Risk-Taking:** Children should learn from their mistakes and may try again without penalty.

**A Pleasant Challenge:** Games should include measures to detect children's ability and adjust to each child's optimal skill level, so children are neither bored or frustrated.

**Recognition Factor:** Fun and familiar characters may provide a special connection to activities.
A thoughtful and informed approach to the use of technology in early learning can support developmental and learning goals. Implementing technology pre-loaded with software applications developed by experts to support children’s development of core math and literacy skills narrows the achievement gap.

Help Teachers Teach: Technology and software applications must teach. Teaching involves explaining and demonstrating a skill, then providing opportunities for practice, and finally, providing feedback.

Passion for Learning: A 2007 review by the Education Development Center of over 20 years of research showed that two- to seven-year-olds prefer educational interactive games and spend more time playing them than older children.

Maintain a Forward Focus: Studies by the National Research Council and the National Early Literacy Panel show that later academic success is predicted by early reading and early math skills.

Numbers Don’t Lie: Software applications that develop math skills support early learning teachers who are intimidated by teaching math.

Support the Curriculum: A study commissioned by PBS found that after two months, preschool children from economically disadvantaged communities who participated in a classroom that incorporated appropriate, research-based media to support the standard curriculum significantly outscored children who didn’t participate in the study on all five indicators of early literacy skills.
Differentiated instruction individualizes the learning process and supports seamless intervention. Technology that is equipped with appropriate progress monitoring tools tracks the progress of each student in every skill in every classroom. Progress monitoring systems that detail each child’s performance in real time are valuable intervention tools. Children progress through skill levels at their own pace, automatically.

Appropriate educational technology allows the teacher to temporarily suspend the recording of responses in the progress monitoring system if a child cannot progress to the next level. Sometimes only a teacher can provide the needed support for a skill that needs special practice. The teacher should also be able to block a certain skill family from showing for a length of time for specific children so that he or she can pre-teach or re-teach. In short, the technology is not a complete form of instruction on its own, but may be “steered” and may point to where guidance is needed most.

**Every Stroke Counts:** The progress monitoring system should provide automatic intervention and instruction based on every response the child provides.

**The Teacher Holds the Key:** The system should provide intervention if children find themselves stuck in a particular skill. Progress should show how much time each child has been working in each skill development area and take snapshots of performance so teachers know to provide additional instruction.

**Scaffolding is a Must:** The skill development areas in the software applications should be designed designed to build upon each other.

**One Step at a Time:** Children should not encounter advanced concepts before they show success with foundational skills.

The teacher is the critical factor in the full development & use of educational technology.

—U.S. Congress, Office of Technology Assessment
Can the progress monitoring feature report each child’s progress on the same content, at the same time, across the entire institution?

Reporting and management of early learning technology involves much more than simply managing who has what apps. How are individual children, whole classrooms and entire schools performing in comparison to each other? Reliable reporting is essential:

**Doesn’t Take a Genius:** Effective progress monitoring reports are built-in, automatic and easy for teachers to use.

**Enhance Learning:** Progress monitoring plays a pivotal role in guiding instruction. Reporting that occurs in a regular, real-time and active manner supports a relevant and complete cycle of learning. Tablet technology without progress monitoring creates an incomplete cycle of learning.

**Easy Access:** An effective system enables secure access to reports and administration features through a Web browser from any location with an Internet connection.

**The Apps Don’t Have It:** Appropriate progress monitoring systems are typically absent from most narrow, single apps. Many apps are incorrectly categorized as “educational” when they have no connection to educational standards.

**Did you know?**

Research suggests that teachers may not implement technology-based progress monitoring fully or regularly, which diminishes its power to help kids reach their learning outcomes. (Peneul & Yarnall 2005)

Educational technology can monitor children’s progress toward goals and outcomes that provide remediation and targeted instruction for the child. Authentic work can be captured in real time, demonstrating a child’s improvement over time.
Section C: Consider the Actual Costs of Deployment, Support, Repair & Training

Is it safe and secure?

Technology must hold up to the daily use, natural curiosity, and demanding environment found in early learning classrooms.

Case in Point: What kind of protective casing is included to provide security for fragile hardware?

Just in Case: In the event the hardware breaks, what options are you provided by the hardware manufacturer for repair or replacement?

OOPS! Invest in protective padding/cases for the tablets. Unintentional drops are inevitable. If protection is not included with the purchase cost, add in the cost of outer padding/tablet cases and the investment in man hours required to test and then install them.

Security remains one of the most perplexing challenges schools face today. How can you provide independent access to technology, apps, software and the enormous learning potential offered by child-friendly internet sites but restrict access to not-so-child-friendly websites and software applications that only serve as entertainment games or are too advanced?

Become a Control Freak: Insist on an interface that provides a controlled and safe environment.

Begin and End Safely: A child-safe desktop should enclose game play to provide focus and limit access to adult controls and content.

Access Control: Teacher tools and apps are mere clicks away, safe behind a quick security check where children cannot reach them.
It’s never “that simple.” Making a mobile technology decision for a large number of classrooms is not a cut-and-dry, order-and-delivery situation. In addition to a research stage, a planning stage is necessary to create a deployment plan and to calculate the long-term costs of installation and maintenance:

**Are Installation and Setup Included?**
Complimentary access to technology professionals who can frontload the system for you is a must.

**It’s Not Just About Hardware:** You may have to look outside the app store to find software applications that are appropriate for early education. If educational software with progress monitoring tools is not included, add those costs.

**Whom Do You Call?** Owning a set of devices also means taking care of them. Tablets must work well with software, and software with your internet connection. Does your tablet offer a support team to address your unique issues down the road?

---

**Did you know?**

Research suggests that teachers may not implement technology-based progress monitoring fully or regularly, which **diminishes its power** to help kids reach their learning outcomes. (Peneul & Yarnall 2005)

Educational technology can monitor children’s progress toward goals and outcomes that **provide remediation and targeted instruction** for the child. Authentic work can be captured in real time, demonstrating a child’s improvement over time.
Question

Are teachers trained to use the technology?

Successful technology integration in an early childhood classroom requires proper installation and set-up, but even more important is staff training. If the vendor cannot provide professional development for teachers and administrators who will be using the tablets, is staff knowledgeable enough and certified to train teachers? Keep in mind the costs associated with the time, labor and supplies required. The vendor should include training for their product. Their consultants can train you, your staff, and teachers to use the new tablets effectively.

A Little Support Goes a Long Way: During a 2009 study for PBS by the Education Development Center, every preschool teacher who added technology to classroom activities was able to implement the technology long-term, weaving it into the curriculum. It was the regular professional development and coaching throughout the study that empowered teachers to deliver the curriculum reliably by engaging children with technology.


Look Ahead: Anticipate the need for additional, ongoing professional development. Online learning tools such as a Learning Management System with self-guided, convenient courses allow new users to train independently and current users to brush up on their skills.

Who Trained the Trainers? Use trainers who are knowledgeable about the product and how to make the most of the software application and progress monitoring components. Specific qualifications are required:

- Trainers participate in rigorous training and are tested to confirm their knowledge of early learning and how tablet technology works best in that environment.
- Trainers have spent several weeks in the field before completing their first training course and afterwards are graded to ensure they have an in-depth understanding of the product and the customer.
- Trainers receive periodic fidelity checks on product installation and teacher training.
- Trainers seek feedback after they have completed a technology training to ensure continuous improvement.
How are you going to measure the system’s success and demonstrate that it’s improving mandated learning outcomes? You must have automatic access to quarterly snapshots of performance to view trends over time. Reporting allows you to pair objective data with subjective observations for more precise teacher-guided assessments. Look for multi-level reporting that demonstrates how individual children, classrooms, schools and districts are performing:

**A Different Way to Look at Things:** A variety of easy-to-use reports show a myriad of details about how children are developing in real time.

**Instant Reports:** Reports provide up-to-the-minute, refreshed views of each child’s progress as they develop core skills.

**Compare and Contrast:** Compare the progression of skill acquisition over time between children in one classroom and between multiple classrooms or facilities.

**Informed Peer Grouping:** Children can be grouped for additional instruction based on skill levels. The data informs teachers on areas where children exceed or need more work so they can provide individualized attention or pair children for group instruction and peer tutoring.

**Who’s on First?** Reports show the usage in minutes of both the software and the tablets in every classroom.
Question 14

Will you have dedicated support personnel?

The key to this last question is “dedicated.” IT Support for teachers and administrators must be streamlined and specifically trained to work with the education market. Progress monitoring reports show you data about usage, but not about tablets left sitting in classrooms because teachers learned how to turn them on, but not how to integrate them into daily classroom life. You don’t have time to monitor the usage statistics of every device in your school or district, but a dedicated technical support team does:

Now That’s Commitment: Vendors must offer lifetime access to technical support.

Individualized Service: Just as teachers individualize learning, so must vendors of educational technology individualize service for those teachers. Don’t settle for anything less than access to technicians who understand early learning and are responsible only for supporting educators.

That Special Someone: Dedicated support is like a coach watching out for you and your investment so that you don’t have to. Purchase from a vendor who delivers support that provides personalized attention to how and when your tablets are used. If data is not automatically uploaded to cloud-based storage, the system throws up a red flag alerting dedicated personnel to contact end users to uncover any possible issues they can resolve.
Designed for the classroom

iStartSmart by Hatch uses the latest technology to deliver award-winning software that is research-based and ties to national standards.

> **Kids** log in easily using their photo and engage with activities that develop skills with positive reinforcement.

> **Teachers** access individual & class progress reports to inform instruction.

> **Parents** see real-time progress in kindergarten readiness and entry-level kindergarten skills.

> **Administrators** access overview reports of all classrooms anytime, anywhere with an Internet connection.

...and everyone in it.

> **Automated Progress Monitoring** with adaptive teaching technology that automatically gathers data as children play research-based learning activities.

> **Immediate Intervention** with abilities to refocus activities for each child and group children for additional instruction.

> **Demonstrate Advancement** through reports accessed throughout the year to improve student outcomes.

> **Web-Based Reporting** allows access to overview reports of all classrooms anywhere with an Internet connection.
Hatch technology ensures positive outcomes for early learners

—Cynthia Johnson, PreK Early Start (PKES) Program Manager, Houston, TX

Interactive Displays & Whiteboards
With Lesson Planning Tools

Revolutionary Computers & Mobile Devices that Monitor Child Progress

Multi-Touch Tables & Content Packages that Promote Cooperative Play

How can Hatch learning activities & tools work for you?

1 Save Time  
2 Differentiate Instruction  
3 Ensure Quality  
4 Show Results

Thousands of research-based activities for preK to 1st grade that align with NAEYC & Head Start standards and vary from easy to advanced levels.

Includes easy-to-use tools that monitor each child’s progress, allow educators to base decisions on actual data, and capture authentic work samples.

Plus, Hatch Technology is proven to work! A recent study of preschoolers showed gains that resulted in 82% “ready to read” and 92% “school ready” in math.

HatchEarlyLearning.com | 800.624.7968

The Early Learning Experts®
Tablet Buyer's Guide

**Sources**


