Issue Brief

App Planning for Instant Classroom Teaching & Learning

The Issue

Millions of students today have access to tablets, but are they using them effectively in the classroom? Schools spend millions on these devices, but often find that teachers use them sparingly, either because they don't know how to utilize them or lack the budget for apps and other content. In 2013, the Los Angeles Times wrote, "A majority of teachers said they were using the iPads three hours a week or less. One possible reason is that teachers overwhelmingly said they had received inadequate training."

A Canadian study on iPad rollouts showed that an astounding 99% of students in Canada found the gadgets to be a distraction, largely because they were not fully integrated into their learning experience. The study, based on the experiences of more than 6,000 tablet-toting kids, noted that outfitting large numbers of students with costly tablets is a worthwhile endeavour—provided that teachers are prepared and trained for the radical shift in lesson delivery.

"Nobody seems to be looking at how to teach with smart devices while keeping students engaged," said Ron Yaros, Assistant Professor of New Media and Mobile Journalism at the University of Maryland's Philip Merrill College of Journalism, in a recent article on Campus Technology. There are plenty of studies that show students benefit when studying on their own, but none showing how to integrate the iPad into a group scenario with a teacher leading the class. In fact, a study by the University of Central Florida in 2013 found that, "Mobile learning typically occurs outside the classroom, with only limited guidance from instructors. To improve mobile learning effectiveness, students and instructors need help adopting more effective learning and teaching practices across content areas."

The response by many schools and individual educators has been to pursue the "flipped classroom" model, where students study online content, such as videoed lectures, at home, and use the classroom as a forum for discussing what was studied at home or for working on group projects. In the classroom, device use is more for quick look-ups to aid the discussion.

"Education is all a matter of building bridges."
Ralph Ellison

In this Brief

Schools nationally are adopting massive numbers of iPads and tablets—with bright eyes and high hopes for a big transformation, but on rollout, some interesting realities come to light. There is a steep training curve for both teachers and students before the devices can be used effectively. A vital part of any digital conversion strategy must integrate ways to improve teacher and student adaptability.

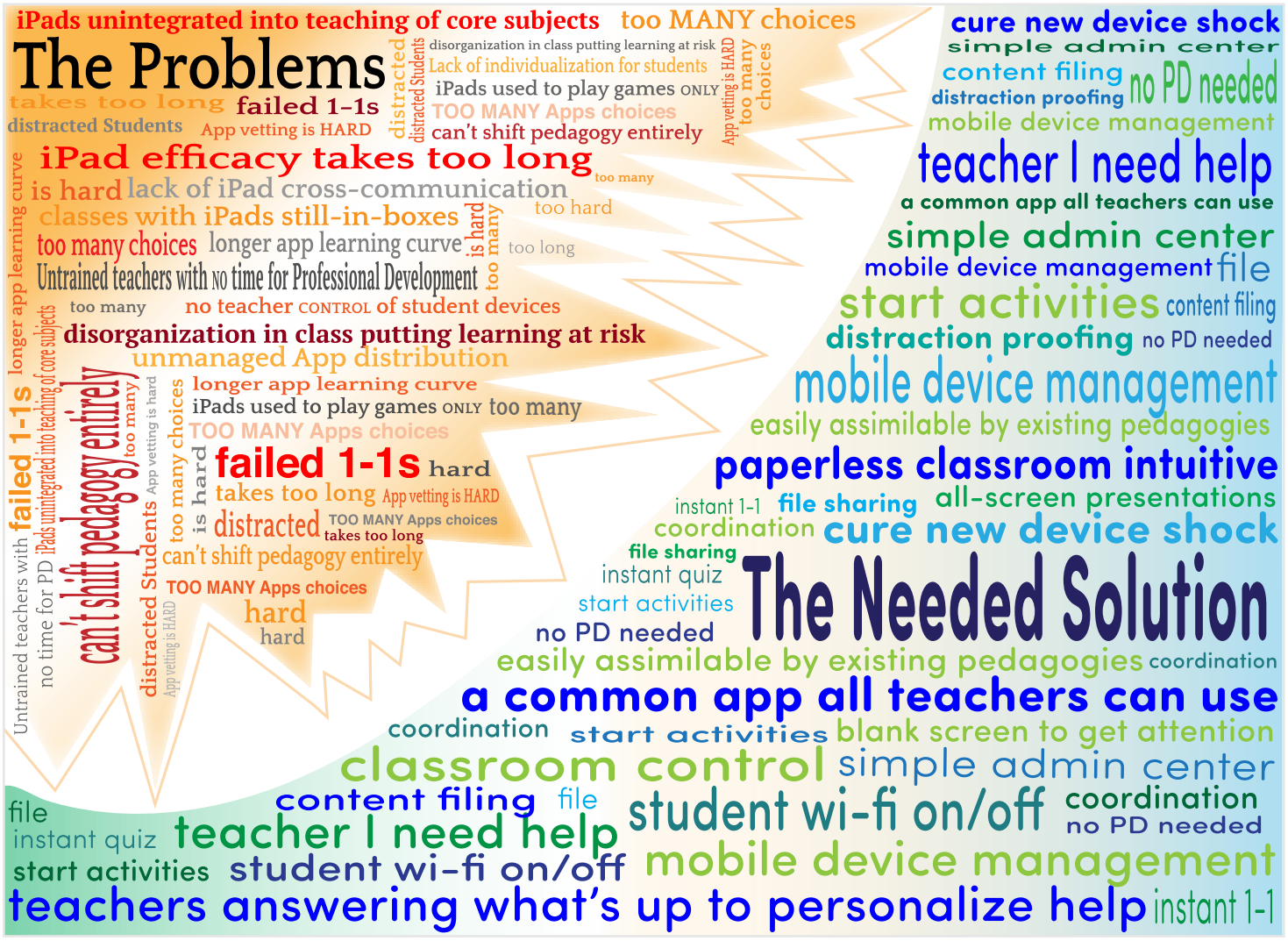
This brief discusses a bold idea for apps in the classroom now that 50% of students nationally have access to computing devices for part or all of the day. This brief also showcases research and provides highlights on several key classroom app-planning points.

Risk of distraction is high in a normal sized-class where the teacher can't see what is on every device while the groups carry out a project, or when the teacher verbally queries student understanding of the materials and guides the group to the knowledge they should have gotten. Students can easily drift off to other activities and not participate. On the other hand, students can also drift off and use their device to learn more.

Faced with using a blended model of integrating devices into the classroom and using offline or online learning, most schools do their traditional curriculum mapping exercise and give teachers a generalized view of what has to be taught in the course of a year, then leave the "blending" up to the teacher to create—and there lies the problem. With too many choices available for how to use the device in any one lesson and how to control student engagement, many teachers are simply lost.

In addition to blended learning, another alternative schools could pursue is to alter the entire pedagogy by going with full online courses that come complete with all instructional elements, including lectures, testing, chunking, gating, metrics and more. It is only a small step beyond this to fully-virtual courses that may also come complete with "pop-up teachers" on-screen to help during course hours. Such a dramatic step is beyond the grasp of most schools, both cost-wise and because it would cause so much disruption. These alternatives show great promise, but may not be for every environment or student.

Leaders in schools realize they are in a people business, both in educating students and running the schools. Getting every teacher in a school to follow some new but poorly definded ideal is challenging at best. True blended learning (versus online and virtual) are distinctions not everyone clearly grasps. Some teachers claim to be integrating technology and doing blended learning when all they are doing is letting students use their iPads to play games or as a reward for getting their work done.



The Educational App Universe

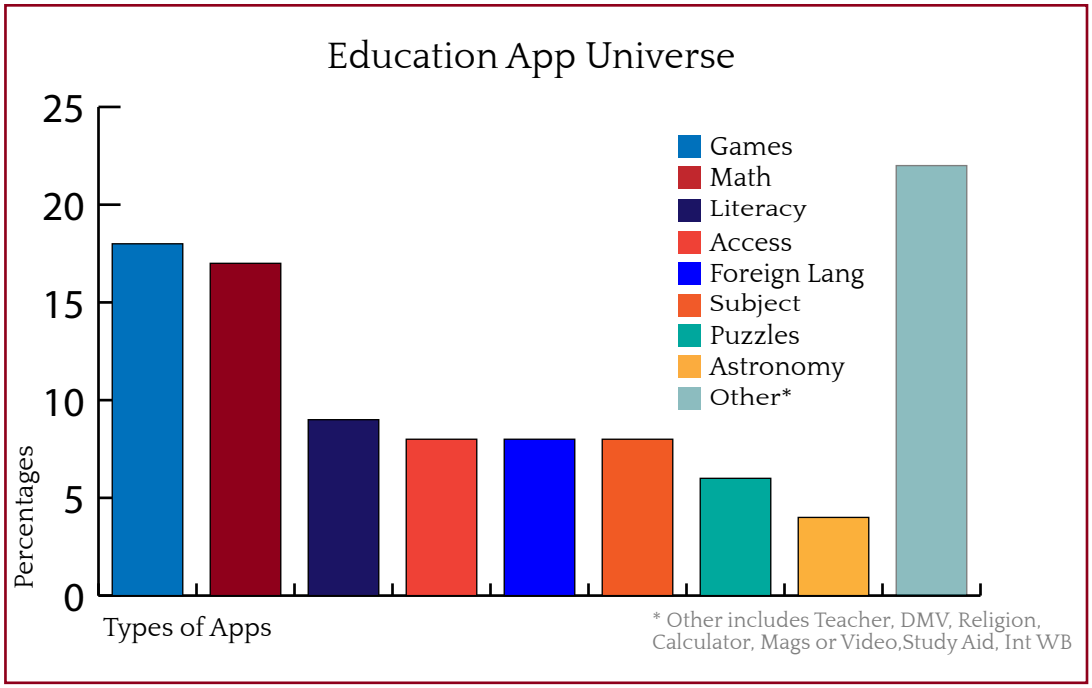
In 2014, the average classroom has these resources for teachers to manage and use:

- 5-50+ apps
- 2-20+ membership sites (including district systems)
- 5-100+ non-member sites

Teachers also spend countless hours in lesson planning and reporting into school-wide or district-wide systems. Many teachers complained of "too many log-ins" even before the introduction of massive numbers of student devices in 2011–2013. Along with the new advanced learning management systems, few teachers have been given advanced lessons on the analytics that are supposed to provide the insight they need to personalize learning. When they can't control the devices in their classroom or use them for coordinated classroom-wide activity, it's hard to spot which students are doing what so that individuals with issues can be singled out and a custom plan created.

With the advent of 1-1 computing devices in classrooms, professional development is often involved more with how the device works than with what will run on it.

The choices available from school systems, from the Internet and from the industry are myriad. In a recent study of just the app universe for education, the Learning Counsel found thousands of learning apps from multiple providers. In looking at all apps, this graphic chart describes the app universe, including learning-oriented games, by category.



The Learning Counsel study showed that apps come in a wide variety, and differ greatly in cost. Some of the more advanced math apps can cost $80 or more per student, per year.

With the advent of 1-1 computing devices in classrooms, professional development is often involved more with how the device works than with what will run on it. Most schools and districts have informal idea networks among staff that are really a hit-or-miss way to address the issue. These idea networks consist of informal app sharing or lists of apps on school websites. The job of reviewing and ascertaining the utility of any one app has typically been on the individual teacher, with the exception of some distributed by a central technology department.

The job of an app reviewer is not simple. The work of figuring out that an app has actual learning content, that it will teach something or help achieve mastery of some learning goal, that it will fit with a specific lesson need, and that it is affordable, is significant. This is especially true when a typical subject-based app is going to take up very little class time before the student has exhausted what it has to offer. The ratio of vetting time to utilitization time is out of proportion with relation to how much the teacher may need to get done in the school year for any one subject.

The New App Planning

The suggested practice in the App Planning column to the right is a way to bring some order to schools. Part of what is suggested will expose some of the hidden concerns teachers may have for really utilizing their iPads and comfortably embracing apps.

Many schools list app resources on their public website, althought it is common to overlook some apps that may be in use. Districts interviewed by the Learning Counsel have reported more than 200 apps in use across their schools, some of which are not free apps.

> Non-curriculum personnel are making curriculum decisions, which may not necessarily be a good thing.

Technology directors in schools typically attempt to make lists of free app resources, independently of the curriculum departments. They may also provide devices with a suite of three to five preloaded apps. This means that non-curriculum personnel are making curriculum decisions, which may not be a good thing.

Tool apps are popular with iPad rollouts because they can be used with most subjects. However, even with tool apps that function for storytelling, or cartooning or notetaking (as examples), there is the limitation of having to have a lesson plan built around the tool, and some would be useful only for certain grade levels. The added burden on the IT staff to try to determine appropriate tool apps and manage all of those for any set of devices is a cost. The costs of apps are no longer "free" even if they appear to be, because staff time is an increasing cost. Additionally, no schools reviewed by the Learning Counsel have reported negotiating on volume for student use for even one paid app. All of this should be a part of the overall app planning.

App Planning

1) Survey teachers.
   a. On pedagogical practices.
      Determine group-activity and lecture time versus study time. Ease of time by activity (group activity, lecture, study, etc.)
   b. On student control.
      Determine how comfortable they are that students will "follow along when needed.
   c. On App awareness level.
      Determine subject-App and tool use/interest.
   d. On pop quiz use.
   e. On visual sharing, using presentation tools, personalization.
   f. Other digital curriculum such as websites, etextbooks, ebooks, etc.

2) Break down grade-levels and lesson-time-used.
   a. Of Tool Apps, label by grade/age appropriatenness.
   b. Of Subject-based Apps, ascertain the amount of lesson time used per before it's exhausted of its utility.

3) Ascertain individual App learning curve.
   a. Give each App a rough rating, 1 for Easy up to 5 for one that will take the average teacher or student an hour or more to learn.
   b. Evaluate with a low number if the App is self-learned, and a higher number if it requires other intervention including video or in-person live training on it.

4) Discover management issues.
   a. How will students get the App?
   b. Is the App owned by the Student or school?
   c. Can app be recalled and re-issued?
   d. How can massive numbers of devices all receive updated Apps at once?
   e. Can new downloads be prohibited?
   f. Can teachers "see" what's on a student's device in class?
   g. What features are needed for good classroom management?
   h. Can the content itself be "locked" on the device so it can't be altered, shared, cut/pasted, or otherwise cause potential copyright infringements?

5) Discover cost issues and potential to negotiate.

6) Beware redundancy.
   a. Existing materials on a subject may have already been purchased with a subscription curriculum site – another App on the same subject may be wasteful.
   b. Make teachers aware of what tools grades below theirs are using because students will already have mastered those.
   c. Create awareness of Apps used and who exactly is using them.

7) Create a written selection policy to ensure subject, grade and pedagogical appropriateness of each App.

8) Create a written procurement policy.

What's Needed

Schools need a bridge from what was the norm for pedagogy to what it will be with devices in the hands of every student. Moving from a largely textbook-centric, paper intensive model to a blended, flipped or virtual model actually should have real thought put into the difference it makes in pedagogy.

A working committee that considers the issues from a district level, school-wide level and individual-teacher level has a good shot at creating a correct plan. Appropriate selection that fits the curriculum map should have a new selection and procurement policy that addresses the unique characteristics of digital curriculum.

For the majority of schools in the U.S., blended learning with emphasis on personalization is the norm for what leaders envision, and the average app plan should reflect this. Ideally there would be at least one tool app solution that bridges from the old textbook and lecture world to a real blended and personalized learning. It would aid in several important aspects at the school level and individual teacher level, and be universally applicable.

Schools need a **bridge** from what was **the norm for pedagogy** to what **will be** with devices in the **hands of every student.** Moving from a largely **text-book-centric,** paper intensive model to a **blended, flipped or virual model** actually should have real thought put into the **difference it makes in pedagogy.**

The question is, is that possible with an App?

IT and curriculum management tend to stand in two different camps when it comes to what is needed. There are "fixes" for some of the issues in each of the camps with apps or server software right now. Apps for teacher organization, apps for note-taking, apps for screen-control, apps for collaboration—after awhile this becomes a lot of apps, which increases cost on all fronts, including learning curve. Knitting those together into one would be the strategic move.

A fast adaptation to effective teaching and learning with one superior tool app that is multi-functional might very well streamline tool app management, and save precious IT hours. Simplifying tool apps and creating student continuity from one grade to the next would provide schools with a new level of efficiency in the move to digital.

An uber Tool App would:

- Require *no* professional development, but be instantly intuitive just like most cell phone apps
- Contribute to the distribution and collection of assignments, helping teachers go paperless
- Provide a chat capability that really allows the teacher to embrace the way students like to interact both in class and outside of class since students are so used to texting
- Reduce student distraction by providing teachers with classroom controls and a simple one-touch administration. Ideally it would give teachers the ability to blank the screen of any student who's not paying attention. Teachers could also shut down wi-fi to block any web surfing prohibited during lessons.
- If the class is in quiet study mode, students could do the virtual equivalent of hand-raising by shooting a query to the teacher. The teacher could respond with personalized help for that student.
- For projects, it would provide file-sharing and content filing.
- It would allow live presentations to all screens so everyone could follow along and discuss.
- Live and virtual cross-coordination with messaging between teacher and students and student-to-student would give any lesson plan a co-learning capacity.
- And it would provide mobile device management features such as creating or importing users, creating class sites, granting access to users, creating groups, admin management for enrolled devices (assign to students, give teachers access to controlling features), sending and receiving files, and filtering.

These functions within a modern iPad classroom have the promise of a fast transition to every-day use by teachers.

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About Netop

Netop develops market leading software solutions that connect people with computers and smart devices, using remote access, screen-sharing and video chat technologies. Millions of users count on Netop to make 100 million swift, secure and seamless connections every day.

Netop software connects more than 6 million teachers and students, helping schools transform education and improve learning outcomes with tools that make teaching with technology easier and more effective.

Headquartered in Denmark, Netop has offices in the United States, China, Romania and Switzerland, and customers in 105 countries. The company is privately held. Read more at www.netop.com.

About Vision ME

Meet Vision ME, the classroom management app that makes teaching in the iPad classroom easier and more effective. Present lessons directly on classroom iPads, showcase student work, focus attention with the click of a button, share files and more. Vision ME combines teaching tools with mobile device management (MDM) capabilities to provide an all-in-one classroom workflow app that engages students and improves learning outcomes in the iPad classroom. The Vision ME app allows educators to:

- Present lessons from anywhere in the classroom, iPad to iPad
- Enable students to lead class demonstrations from their iPad
- Showcase any student's work to the entire class
- Distribute and collect files and assignments, perfect for the paperless classroom
- Broadcast messages to your entire classroom
- Chat with selected students in groups or privately
- Blank student iPad screens
- Block internet access with the touch of a button
- Assess student performance with web-based tools

To learn more about Vision ME and get your free 30-day trial, please visit www.netop.com/visionme.