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Six "Technology Need to Haves" for Smaller Districts and Charter Schools

The BLEgroup is an organization of 200 leading Ed tech decision makers who collaborate to present thought leadership on critical issues to improve education with the integration of technology.

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Introduction

It is harder for smaller districts to plan, implement, and integrate digital instructional materials and management systems because they often lack the experience, staffing, and resources. The vendors do not provide the same support to small districts that they do to large ones.

Technology is impacting education at the speed of light. Every day another school is transitioning from textbooks and teachers in front of whiteboards to digitally delivered personalized education on iPads and computers with data-driven assessments and adaptive instruction.

Ninety percent of districts have fewer than 7,000 students and contain 65% of all K-12 students. These districts are the largest part of the K-12 education market. Getting technology integrated in these districts has been challenging.

- **On the Vendor side**, vendors find it difficult to work with the smaller districts because they are remote and most vendors have small sales staffs.
- **On the School side**, these districts lack the staffing, experience, and resources to effectively integrate technology and many have not changed their procurement processes to address the down pour of new materials. It is no longer practical to have a district wide curriculum committee to meet every 6 years to choose a new book.

For the past five years, the BLEgroup, a group of 200 leading ed tech decision makers who work with both schools and vendors, has focused its school efforts on supporting smaller districts to plan, implement, and integrate technology for improved teaching and learning as well as efficient management. We have identified the 6 processes that enable these to integrate technology for improved teaching and learning and efficient management practices. With the new services and products that are now available, some smaller districts can use blended learning, adaptive assessments, broadband, adaptive instruction, and integrated management systems, as well or better than the top 100 districts.

The aim of this piece is to provide small district leaders with the constructs and processes to achieve engaged students, better learning outcomes, and efficient management practices which enable drive data-driven decisions at the student, class, school, and district level.

The six seminal products and processes are:

1. Knowledge of the availability and quality of digital educational materials
2. Instituting integrated management systems
3. Making IT organizations address instruction and technology
4. Providing strong professional development that coaches teachers and supports teachers in learning to use the new digital tools and materials
5. Linking effective procurement to a cost-effective cloud repository system for digital materials
6. Constructing a solid infrastructure that can grow as digital needs grow

We will illustrate the six practices individually and provide applicable resources throughout each section.

1. Knowledge of the availability and quality of digital educational materials

The surfeit of open source, digital content, and varying platforms has made identifying the quality of educational content much more difficult. Without the tools, processes, and staff to evaluate the quality of the content, small districts often wind up relegating decisions on content to schools. In the long term, these processes need to be centralized to ensure quality of content. In the past two years, a variety of new evaluation tools and services have been developed to help districts determine the quality of digital materials and applications. These new applications and services both identify quality products and monitor their use on an ongoing basis. These include low cost services that provide crowd sourcing of teachers' opinions, ratings by 3 expert curriculum staff, full consulting groups that support districts in choosing curriculum, easy-to-use platforms, professional development, and implementation assistance.

Resources

Below are some of the evolving applications and services:

- Education Elements, <http://www.ed-elements.com> – Helps districts choose appropriate materials, has a platform for delivery of instruction, and provides professional development coaches at the school level to help teachers integrate technology.
- Learn Trials, <http://www.learntrials.com> – A catalog that provides a comprehensive listing and evaluation of digital materials to allow districts to choose the correct materials and then address the utilization rate of the materials.
- Edsurge, <http://www.edsurge.org> – A non-profit group that provides crowd sourcing data on ed tech products, helps districts with a concierge service to match them to data, and provides information on start-up firms to the investment community.

2. Instituting integrated management systems

Smaller districts commonly have siloed, server-based management systems for assessment, finance, special education, human resources, and student information. They also tend to lack the resources to set up a data warehouse to do data analysis to have data-driven instructional improvement. An easy-to-use, cloud-based, integrated management system allows school systems to make data-driven decisions on all levels — from individual students to the district as a whole. Companies working in this area are early start-ups or groups that provide partial solutions. In the coming year, several firms will enter the space, given the market's large size and districts' need for easy-to-use integrated data analysis services to support their instructional improvement and reporting efforts.

Resources

Two new early-stage companies that integrate management data so districts can make improvements from the student to the district level are:

- Bright View Analytics, <http://www.learntrials.com> – A cloud-based company that integrates management systems (HR, Finance, Assessment, and others) to enable districts to use data to improve outcomes of teaching and learning at all levels.
- Ed-Fi Alliance, <http://www.ed-fi.org> – A non-profit that establishes common data standards that allow interoperability of systems to support usable data.

3. Making IT organizations address instruction and technology

The IT groups often don't understand curriculum and vice versa. We have reached the point where if networks aren't always functioning, teaching and learning can't occur. This is a major problem in many districts where the groups are not integrated. As curriculum evolves from text book to online digital material, the network can never fail or teachers don't trust it and stay with textbooks. When they remain traditional blended, personalized learning cannot occur.

Technology takes up increasingly larger portions of a district's budget as we are moving to 1:1 computing. A chief information officer (CIO) or Director of Teaching and Learning is the crossover role needed to oversee the investment and operation in Infrastructure, access devices, instructional software, curriculum, professional development and data-driven decision making. The CIO role needs to report to the superintendent since he/she is responsible for hardware, networks, digital instructional material, and professional development. The CIO/Director of Teaching and Learning is responsible for managing the integration of teaching and learning, infrastructure, data analytics, and ongoing professional development for teachers. It is a strategic role.

Small districts need:

- Sufficient integrated and instructional support for schools that depend on the infrastructure
- 1:1 devices
- Digital materials for the majority of the instructional day
- Well-trained IT support staff to help teachers make the transition to digital teaching and learning

4. Providing strong professional development that coaches teachers and supports teachers in learning to use the new digital tools and materials

Inadequate professional development and policies requiring professional development is the biggest problem smaller districts schools have in converting from textbooks to digital teaching and learning. Teachers are being asked to teach in a new way from how they have taught. They now have to use digital curriculum, data, adaptive instruction and assessment, and individualize material. From the BLEgroup's work in 200 small districts, an effective conversion process takes 4 years to build the necessary capacity.

The common reasons that professional development is lacking:

- Many districts maintain the old model of a professional day either 3 times a year or one afternoon every other week. This is inadequate to engage teachers in learning new curriculum, technology, making data-driven decisions, change the ecology of their classroom, and individualizing instruction.
- In the BLEgroup work of assessing the quality of a small district's program and then working with them to develop and implement a technology integration plan, we have observed that the districts who provide effective professional development defined as teachers effectively using technology to deliver blended learning and using digital curriculum to increase graduation rates, gets good results on state standards tests, close the racial gap in student achievement, use group instruction effectively, and identify and reteach missing skills. These districts provide at least 7 times more professional delivery than traditional delivery!
- Packaged Web based professional development programs have not been effective.
- Software publishers who provide 2-3 days of training when they initiate their programs are only successful if they provide ongoing support or teacher technology coaches provide ongoing support.
- Teacher technology integration teachers who are very effective are first and foremost excellent teachers who their peers respect. They learn how to use the digital curriculum and data analytic tools. Their effectiveness comes from working collaboratively with their peers and not having any evaluative responsibility.

It takes 3-4 years to develop an effective teacher coach program. The best ones are run centrally by the CIO or head of instruction. The reason that there are so few programs like this is it means a district has to either hire additional staff or restructure staff so that they have fewer librarians, or combine subject matter coaches and technology coaches.

Good pedagogy, defined as subject matter expertise and knowledge of what intervention to use with each student, will always be the base of effective teaching and learning. However, the transformation to digital teaching and learning demands high-quality teacher coaches — respected by their peers and trained to integrate technology into teaching and learning. Almost all districts lack sufficient teacher coaches or a lead teacher with knowledge of integration of technology.

Resources

Here are two examples of new services that effectively address professional development.

- Common Sense Media, <http://www.common sense media.org> – Provides relevant professional development for teachers in a series of eight professional development modules. This is the first of a new set of individual, web-based PD that certifies mastery of skills teachers need for teaching digitally. It also illustrates how technology fluency differs from traditional teaching. They also provide evaluation and rating of apps.
- Education Elements, <http://www.edelements.com> – Helps a district find and select the best digital curriculum, data analytics, and computing devices. Education Elements has a full time skilled technology integration coach in each building who co teaches and collaborates with teachers.

5. Linking effective procurement to a cost-effective cloud repository system for digital materials

Digital tools and resources have eliminated the need for a single textbook for every student. Instead, as more school districts, regardless of size, move to 1:1 computing or digital delivery of personalized instruction, they will need different instructional materials that are linked to standards.

Many smaller districts making the move to 1:1 or digital delivery of personalized instruction:

- Should expect to pay no more for their digital content and devices than they are currently paying for textbooks and supplementary materials;
- Need easy ways to purchase content by either metering the cost of instructional materials or having concurrent licenses for materials to control the cost of content; and
- Require content — whether publisher-produced or open source — to be stored in an easy-to-use, digital repository from which teachers can draw their standards-based materials.

The repositories are at an early stage of development. Repositories are needed since the days of adopted textbooks are over. Districts have to have a place to store digital materials that will be used on devices. They are buying a broad range of materials with different licensing agreements; for example, concurrent licensing, metering, variety of same-topic texts for different types of learners, and others. These materials need to be inventoried and managed in the cloud.

Resources

A company beginning work in the repository space is:

- Copia, <http://www.thecopia.com> – Repository for a collection of educational materials and assessments. Copia procures the material for the district, stores it on its platform, and enables teachers to personalize.

6. Constructing a solid infrastructure that can grow as digital needs grow

Think of the infrastructure like the large cranes that keep growing until a sky scraper is fully built. As teaching and learning are increasingly delivered over a network, all school districts will depend on them 24/7 for teaching, learning, management, and data analytics. Districts also will have to plan for the infrastructure's sustainability by including the cost in their budgets.

In the short term, there are some definite issues smaller districts need to address:

- **E-rate** – E-rate is going to double to over 4 billion dollars, and its prime objective will be increasing broadband and Wi-Fi access points. There will no longer be funding for internal connections.

- **Tablet computing** – Most districts are beginning the move to tablets. Districts should consider the following: which platform to use — iPads, Google Docs, Android, Windows. There are pros and cons to each option.
 - **Advice:** Pilot multiple devices to be certain which are the best for your needs. Do you have curriculum to use on the devices? Is it costlier to buy less expensive devices or higher-quality devices? Consider the replacement costs if a device breaks and how much of your budget is consumed by such costs.
- **Successful implementation** – There needs to be coordination between professional development, quality digital materials, and completely reliable networks or the implementation will fail.
 - **Advice:** Implementation should normally be done over four years due to cost and training. Before starting, make sure that sufficient funds are available for sustainability and the combined costs of training, instructional materials, and replacement of devices.

Conclusion

Smaller districts can achieve effective intertwining of technology and educational processes without the staff and experience of larger districts. Just keep it simple: stick to the six basic components and integrate them thoughtfully.

With the rapid advance in new ed tech offerings, such as repositories, adaptive instruction, integrated management systems, cloud-based products, and catalogs that provide information on the functionality of appropriate materials, integration of technology is very doable.