

# The Current State of 21st Century Education Technology 2011-2012 - Paving a Road to Success

By Edward S Lee

Remember filmstrips, movie reels, overhead projectors and transparencies? These are the "tech tools" that I remember from my school days. Not an interactive anything anywhere. It was simple. Teachers and professors had to decide between blackboards or overheads, black, blue or maybe green ink and that was about it.

We've come a long way from those days, and in many cases new technologies have quickly replaced the old. There is however a wide variation on how advanced school districts are in terms of their education technology implementations. One thing is clear; no matter how limited resources are, all school districts have formed a set of goals around education technology. If we expect to reach any of these goals, we have to understand the underlying factors that can affect the character and complexity of a problem. These factors will in turn affect how we approach a particular problem and the solutions that are applied to reach our goals.

From a 30,000 foot perspective, there are commonly three key components to an education technology solution; Hardware, Software and Training (the often forgotten, but many times most important component).

In today's education tech world, you will not get very far without the three vital components mentioned above. These are however, merely the tools that we will use in reaching our educational goals. If you were to place all of the best hardware, software and training materials in a room, they would not magically yield higher test scores, achievement and graduation rates all by themselves.

You might think that what I'll be saying next will have to do with people and how they can be the difference makers. This of course is true, but the actual focus should be on what these all important people are doing (and unfortunately in many cases **not** doing) in order to achieve our collective educational goals.

Many of us have lost sight on the "education" in education technology. It's right there in front of our eyes and we still manage to forget that this is about properly educating students and enabling them to reach their fullest potential.

The following list contains some of the most common pitfalls that we see on a day-to-day basis as education technology integrators. These are the processes and activities that have proven to be inefficient, ineffective or counterproductive to education technology goals.

- 1. Having no goals to begin with** - This situation is all too common. A school district is hard-set on implementing and/or upgrading their education technology resources, but nothing is tied back to curriculum goals. The purchase and installation of projectors, interactive whiteboards, response systems, classroom sound systems etc is not the implementation of a solution, it's simply a purchase. Avoid asking yourself "now what?" once the smoke has cleared. Achieve this by creating a real implementation plan that is tied to long term educational goals and state standards. All of the best education technology hardware manufacturers have researched education requirements in detail and have

designed their solutions accordingly in order to help schools reach these goals through the use of their products. Ask your technology provider questions related to your educational goals and only engage with those who understand your goals and can tell you how their products will help you reach them.

**2. Cookie cutter approach** - Let's outfit every classroom and every teacher with the same exact technology tools. And let's not stop there, let's do it all at once so everyone is happy and nobody feels left out. Makes sense - right? Well not exactly. Administrators and Tech Directors don't want to hear grumblings about inequities or create an environment of haves and have not's even for a short period of time. This would be disaster - or would it?

One of the best examples I can think of is interactive whiteboards or IWB's. These boards are incredible tools and can greatly enhance a learning environment when implemented properly, but the addition of this technology tool is not always a "no brainer" in all learning environments. Companies like SMART Technologies and Promethean may disagree, but in the end, if the educational goals of their customers are being met, it will be a win-win situation for all involved - especially the kids.

This is a trend that is difficult to break. It is fairly easy to understand how this has come about since politics can many times trump logic.

Learning activities can vary greatly from room to room and from subject to subject. The learning goals for math will likely vary greatly from the learning goals in science class versus foreign language classes. Science room environments may vary even further based on whether you are dealing with Physics, Chemistry or Biology.

The variances can run even deeper based on other district based requirements, room arrangement or teaching style of an individual teacher.

Taking a step back to do some real analysis and planning may help you and your schools get on a more accurate track in terms of matching technology tools to actual academic goals. To say that "we'll figure that out later" adds to the risk that you will leave a critical requirement unaddressed.

**3. Making all decisions from the Top Down** - Not that you would do this, but too many Tech Directors or IT Managers make district wide decisions without gathering any input from the end users of technology. In this case it is of course teachers that would help drive accurate requirements from the bottom up that would complement the decisions being made from above. This will no doubt take more time and effort, but in the end it will likely uncover more detail and accuracy to your requirements that will help minimize risk and decrease the chances that you'll miss a requirement or waste time and money spent re-working your initial solution with an unplanned "Phase 2" of your implementation.

**4. No Training or Professional Development (PD) Plan** - You might be lucky enough to have a real go-getter on your staff that takes the ball and runs with it, creating your training program in the process. These self starters do exist, but you can't count on training and PD taking care of itself. Full adoption and use of new technology tools requires planning AND management of the plan. If done correctly, your educational goals are met and everyone comes out looking and feeling like a champion.

5. **No metrics** - How do you show that your plan has been successful? Part of proper planning is establishing a pre-determined method of measuring success via a set of well chosen metrics. Not everyone loves numbers by nature, but I'm betting that everyone will love them when they definitively show that planning and implementation has led to success.

6. **Buying solely on price** - Hopefully you have not grown completely cynical when it comes to value. If you spend the time talking to your prospective sales people and service providers, you will see a wide range of offerings presented to you. If you want to do what's best for your schools, you will spend some time calculating the true cost of a solution where the physical hardware is only one component. If you make your decision solely on the price of hardware, you might be doing a great disservice to yourself, your schools, your project team and your students. Some of the most important value differentiators will have to do with service, support, training and professional development. A quality solution provider will not only sell you the hardware, they will pro-actively support it. They will work with you consultatively and open an ongoing dialogue with you and your staff to assist in reaching your goals. Many providers have dedicated Education Consultants on staff that are familiar with state and federal education goals. This further enables you and your team to map education goals to the use of education technology tools in the classroom.

7. **Thinking your planned solution is "good enough"** - This might apply when buying a car or home appliance when added cost is usually associated with "bells and whistles", but a classroom is not about getting to point A to point B or how white your shirts can be. True adoption of education technology in a classroom can be a tricky goal to meet and adoption must come with real results like increased test scores and graduation rates. If you are heavily constrained by budget, I recommend creating the best solution possible and starting with one room. If you don't have the funds to complete an entire room, do it in well thought out phases with guidance from your education technology integrator (remember that thing about added value? - A perfect example). If you continue this process over time, you will end up with quality learning environments in every room vs. a watered down "solution" in each room that yields no actual results.

8. **Thinking you are "done"** - This relates directly to #7 above. It's important to have a mindset of constant improvement. New and improved technology is constantly being developed. This can offer great opportunity, but it can also create confusion. In the 'one room at a time' scenario above, it would be of added benefit to re-evaluate your plan as time progresses. This will give you the ability to fine tune your solution over time. For this reason, it will be important to pay attention to feedback from end-users of technology enabled classrooms. There may be a new and improved technology available or you may have realized that you "over-bought" in a particular area and can then adjust your plan accordingly. Ideally, there will be no changes at all and simply a confirmation that your plans and system designs are sound. If you reach the end of an implementation and everything has gone according to plan, you are still far from being done. As with all technology, there are the elements of hardware maintenance, support and an ongoing training/professional development plan. If you have specific plans in place in all of these areas and actively manage to your goals, your chances for success will be greatly improved.

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