Collaborate to Integrate Technology

As the 2010-2011 school year approached, I noted five issues as I assessed the current state of affairs at Hillside Elementary, a Title I school in Omaha, Nebraska:

1. Starting in 2011, all Nebraska State Accountability (NeSA) assessments would be administered electronically.
2. My school technology team was concerned that we could easily fall into the trap of focusing more on acquiring the newest tech gadgets than using technology as a tool to improve instruction.
3. Our English-language learner, special education, and free and reduced-price lunch subgroups were all increasing. Our teachers were interested in determining more effective ways to differentiate instruction and motivate students.
4. The goals of the district’s new strategic plan focused on student proficiency in reading, writing, and math, as well as preparing them for the global workplace.
5. Positive changes had surfaced as a result of teachers’ hard work in implementing professional learning communities (PLCs) over the past two years.

I wanted to weave these themes to create a strategic plan that built on our strengths, closed the gaps in our weaknesses, and increased student achievement. I identified technology integration as the focus that would enable me to bring these elements together.

Barriers to Technology Integration

Hillside’s teachers recognized the advantages of integrating technology but, like most schools across the country, we had not achieved true technology integration.

Two barriers typically hinder schoolwide technology integration: students lack access to hardware and teachers lack time, or in some cases the expertise, to plan high-quality technology lessons.

The hardware accessibility obstacle was not a factor at Hillside, where we enjoyed a ratio of one laptop for every two students. Eight teachers had Smart Boards in their classrooms, thanks to the fundraising efforts of our parent organization. A Nebraska Educational Technology Association grant had enabled us to purchase a cart of iPod Touches.

The teacher time and know-how barrier was evident, and I thought it could be remedied. We built in to our master schedule two one-hour common planning times for each grade level (K-6), each week. In addition to doing PLC work, our grade-level teams could use the additional planning time bi-weekly for technology integration planning.

Research-based Work

We wanted to ensure that the technology integration time would not be used to simply manufacture “fun” tech activities; the work had to be research-based if it was to be worthwhile. After considering several options, I chose Using Technology With Classroom Instruction that Works for a study group book to guide the grade level teams’ work. The book merges Robert Marzano’s nine categories of effective instructional strategies with educational technology applications and resources. With this book as their guide, teachers would improve their instruction as they acquired new technology skills.

The success already exhibited in our PLCs convinced me that we didn’t need outside experts to show us how to increase student achievement; most of the knowledge we needed was readily available in our own staff. The same was true with technology. We had technologically savvy and innovative teachers who were not sharing their expertise with their less proficient colleagues due to lack of time.
I determined that each grade level team of three teachers should be led by one of their own, and this group of seven individuals would serve as technology facilitators. Each facilitator would lead a bi-weekly study group. They would also support and encourage their teams as they tried new technology ideas, providing hands-on help. They would keep the focus on student learning.

I was concerned about asking the potential technology facilitators to take on an additional responsibility with no compensation. So I secured one of my school district’s innovation grants and I offered each technology facilitator a new Apple iPad. The district also benefitted because the facilitators could provide feedback about the feasibility of substituting iPads for laptops at the elementary level. The seven most technologically savvy teachers on my staff immediately and enthusiastically agreed to become technology facilitators.

The Process
Guided by a book study calendar to use as a framework, the grade-level teams followed the same process throughout the book study: they individually read a chapter that focused on a Marzano strategy and thought of a way to implement technology using that strategy in an upcoming lesson. They then met, discussed their three ideas, and decided which one they preferred. They used that idea to create a lesson plan together, and went back to implement the lesson in their own classrooms. At their next meeting, they debriefed how the previous lesson went and repeated the process.

To ensure that the process would work smoothly in practice, I asked the seven technology facilitators to do a trial run with me. We each read the first chapter of the text and devised an idea for a lesson plan. When we met, we shared our ideas, reached consensus on our favorite, and drafted a lesson plan around the idea together. We easily tackled the task in less than an hour and produced sample lesson plans that they could share with their grade-level colleagues at their first session.

I provided leadership by introducing the upcoming Marzano strategies in my staff meetings the week before the teachers read the new material. I also met regularly with the technology facilitators to check progress.

Sharing the Wealth
At the end of each semester, we conducted a technology lesson exchange during a staff meeting. Each grade-level team talked about their favorite lesson and answered questions from the teachers at other grade levels, so they could tweak the lesson to work with their own students.

I created a wiki, on which all the lesson plans were electronically posted. The lessons are instantly available to teachers 24 hours a day. Modifications can easily be made to each document as teachers revisit the lesson plans.

As a result of this collaboration, technology skills are now much more evenly distributed among all teachers at each grade level. The groups developed lesson plans that incorporate new technologies in engaging ways that motivate students.

Hillside’s teachers, who had for years believed that integrating technology into their curricula would enhance student achievement, developed the knowledge to make technology integration a reality.

Teachers have discovered that technology makes learning more student-centered, exciting, and relevant. At-risk students are more cooperative and more willing to engage in learning activities. Technology integration is also promoting the use of higher-level thinking skills and enabling students to apply their knowledge in new ways. Hillside students are acquiring skills they will need to succeed in the complex, technological workplace that awaits them.

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