



But Can You Make IT Do This? Reshaping Our Business and Our Technology

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Rather than focusing on the application of technology to deliver instruction to students, I would like to consider the value of technology in a different way, namely by asking how states can use technology—as well as our operating procedures (business rules) and business partners—to capture data on teacher preparation and certification, and then use that data to view student achievement and school improvement.

Over the last fifteen to twenty years there have been a number of efforts by states to buy or build certification “systems.” Many of those early efforts failed for a variety of reasons—the technology was not ready, the states themselves were not ready, or a little bit of both. The common denominator was the intent to automate and speed up the certification process, make information more available to customers, and capture enough data to document the process. The electronic scanning of such documents as college transcripts and application forms made a great amount of information readily available in an individual file, but not necessarily available as data that could be searched, compiled, and analyzed by pushing a few buttons.

When most people think of educator certification in their state, they still view the agency in charge of the process as the bad guys. We are the barriers; we are the obstacles; we are the bureaucratic red tape that keeps good teachers out of the classroom, as in “Oh, she would be such a wonderful teacher if she could just pass that content assessment.” We must change not only that perception but also the actual process. Technology is one of the ways we can do that. As that great educational philosopher Wayne Gretzky said when reflecting on his hockey game, “You miss one hundred percent of the shots you don’t take.” Although we certainly do not have all the answers in Georgia, we often follow the Gretzky philosophy to take a number of “shots” and, in so doing,



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have found things that work well for us. My intent in sharing some of our experiences is to stimulate thinking about perceptions and the process as we all try to enhance our existing certification systems and improve their value.

Georgia is one of about fifteen states with an autonomous Professional Standards Commission (GaPSC)—run outside the state department of education—which is responsible for educator preparation, certification, and discipline. We have about 1.6 million students in grades P–12 and about 135,000 certified educators employed in 181 public school districts. Our certification database contains records on 230,700 educators who currently hold valid Georgia certificates. In fact, each of those educators averages more than three certificate “fields,” placing more than 794,645 valid certificates into the database. To put our certification workload into perspective, in fiscal year 2007 we completed a little over 185,000 certificate transactions (issuance, denials, renewals, add-ons, upgrades, NCLB modifications), with an average processing time of about one week.

History

The GaPSC was formed in 1991, before the World Wide Web was available to share information. All of our information was stored on a mainframe computer, controlled by a data center managed by another agency—in other words, our data was not really our own. We had computer terminals to access some information, but had few word processors and no networks for sharing information. We still had a few typewriters, but some PCs were appearing—although the Pentium processor was only talked about by techies. Like most states, we had paper- or microfilm-based retrieval systems with information stored on documents, not in databases. And this was just sixteen years ago!

Our “system” was driven by the U.S. Postal Service, when an eighteen-wheeler pulled up every morning and unloaded hundreds of pieces of mail from people applying or asking about the status of their applications. All of our pending files were on paper, and inevitably one of our evaluators would put a file in a desk drawer and then go on vacation, a clear signal that that teacher was about to call and inquire about his or her certification status. We expended too much time playing “who has the file” and “telephone tag” with busy teachers who could only call between classes or right after school. Of course most of them could not get through to our office, but they did manage to contact their legislator or the governor. Our processing time in 1991 was somewhere between four and eight months, especially between June and October.



That means if an educator applied in June, it could be February before that educator received a certificate or found out that he or she was not “certifiable”—and the school year would be half over.

In 1994 we initiated a request for proposal (RFP) for a certification system, but only one contractor bid on it, which by Georgia law nullified the RFP. That event pushed our agency to decide that if we could not buy a system, we would build it ourselves. We were very fortunate to hire—and keep—a couple of incredibly smart information technology (IT) guys.* Since then, we have had a fairly consistent in-house IT staff that works alongside the rest of us as part of our agency. When the system does not work, they feel the pressure from their peers to fix it.

Very quickly we created a starter network of some of the shared Word documents. Although we were still working at desks with paper spread out all over the place, we learned how to scan and image documents and moved away from our microfilm storage/retrieval system. We looked to the Web for ways to access information and, just as importantly, to share the information in a secure mode with our customers. We also took a hard look at our certification business rules and procedures because we did not want to automate all of the Band-Aid, crisis-management procedures we had adopted over the years. We basically stepped back and rewrote all of our certification rules to simplify and streamline procedures, and gained additional benefits from our automation efforts. Staff members were involved in the rewrite, and they helped design the processes focused on our new computer screens, which gave them ownership of the process. In 1998 we moved from a mainframe to our own servers, and we have not looked back.

Partnerships and Trust

In the course of these efforts, we also took a hard look at our customers and decided we wanted some of them to be actual partners in the process, which is why the idea of trust is a critical component of our system. In fact, we believe that trust and partnerships have been almost as important as the technology used to build the system. As an example, there are state certification offices that are not willing to allow anyone outside their agency to determine whether or not a transcript in an educator’s application file is “official.” These offices view such decisions as their responsibility. On the other hand, our experience has shown the value, efficiency, and benefits that come from entrusting other players with some of these tasks. Since the school systems are responsible for hiring

* Two individuals instrumental in the technical design and development of our systems are Chuck McCampbell and Tom Hall.



educators and are accountable for the overall success of their schools, we realized they must be part of the certification team. We figured we could, with minimal effort, train a few individuals from each system and provide them unique access and system codes so that they could, if necessary, be held accountable for each transaction. We were initially concerned that they might feel overburdened and view the partnering as them doing our work, but we were also confident that once they saw the big picture, they would see the benefits they would obtain.

What had initially been our processing work at the state level became our work with the school system partners. We began by automating the renewal process, now known as **Automatic Certification Renewal System (ACRES)**. School systems access a secure screen; enter a secret password and the certification identification number of their employee; and verify that renewal requirements such as course work and background checks have been completed, and that copies of all documents are maintained in the individual personnel folder at the school system. They push a button, and we print, fold, stuff the certificate in an envelope, and put it in the mail within twenty-four hours. For years, school personnel offices all over our state received thank-you notes from teachers because they received their renewed certificates so quickly. Imagine! Thank-you notes from teachers to certification offices! As our partners saw the increased value of their role, the mutual trust went up and our processing time went down. In 1996, a little over 72,000 certificates were issued, and during our peak time—June through October—it still took about three months. Five years later, with more technology, rule tweaking, and partnering, almost 79,500 certificates were completed with a processing time of about six weeks. Today our processing time averages about one week, with approximately 60 percent of the transactions actually completed overnight. An unanticipated benefit of the system is that our evaluator staff actually works from home four days a week, which makes them a lot happier and a lot more productive.

ExpressLane

About a year and a half ago we implemented our version of an “almost online system,” which we call ExpressLane. When a school system partner wants to submit a certification transaction, it enters our secure Web portal with a secret password and enters the certification identification number. Our certification system searches the database to see what, if any, certificates that individual holds. If the individual is not yet certified, the only transaction option is to request an initial certificate. However, if the individual is already certified, then other options are available. The school system—now driven by the actual certification data and business rules from our system—determines what transaction to initiate and is



informed of exactly what documents must be included in the application packet. A random number is automatically generated with instructions, and is faxed over a secure network back to the school system. The school system then obtains and arranges the required documents in the proper order and faxes the documents to our server. The random number on the cover sheet identifies the specific school system transaction and employee identification number; the computer converts the fax images into a TIF image; and the entire electronic packet is routed to an evaluator for processing. No paper is ever printed from the secure fax transaction. Since all required documents are present in a set sequence, most ExpressLane applications, which now constitute about 65 percent of our cases, are processed in a day.

Hi-Q

We have recently implemented what we call the Hi-Q (Highly Qualified) system, merging our certification database information with the state department of education employment database. As a result, central office personnel or school building principals in Georgia can access Hi-Q through our secure Web portal, which provides a list of all the teachers in the school or system, and indicates who is, and is not, highly qualified by our state's definition, and why. The administrator can click on any one of the individuals and see specific details, such as certificates held, tests passed, and teaching assignments. The system also identifies a variety of options that would make the educator highly qualified: reassign the teacher into subjects for which he or she is certified; pass a content assessment; complete some course work; and so on. The Hi-Q system enables administrators to keep track of Hi-Q percentages and status with the click of a button, and guides them through the process of putting together an individualized plan for those who are not yet highly qualified. Our partners readily see the value of Hi-Q and realize it only works when they help keep the certification and employment database records current.

Teacher Distribution

The equity in teacher distribution is an important piece of NCLB. Our technology, and the efforts of our partners, allowed us to design a database called EQUITY, which calculates such information as school building/district AYP status, student population by ethnicity, percent of free and reduced lunch, years of teaching experience, teacher turnover, and a variety of other factors that contribute to school improvement and student achievement. Local school administrators can access our secure portal and view data across schools—within their district as well as statewide. When we see individual schools not making AYP, we



often see that a number of the teachers do not have many years of experience, and there is usually an accompanying high turnover rate. This is important information for those making decisions in schools, and it can now be accessed across the state.

What's Next?

Like other states, we now find ourselves at a critical stage in the ongoing refinement of our database system. As discussed, most certification systems were built to speed up processing and capture only enough data to document the transaction. If specific information is desired, such as the college program the teacher completed, that information can be found by going into the individual electronic record.

Certification officials are not normally interested in capturing (entering) a lot of data that is not going to streamline the process. But technology has matured, and the need for data analysis has changed in recent years. A great deal of data is now desired to enable researchers to analyze information on teacher quality, preparation, assessments, and other variables that have been previously unavailable. To certification officials, who tend to focus on processing, it sometimes seems that if it were up to the researchers, they would want someone to enter data on whether teachers have blue eyes or brown eyes. That way, future researchers could determine whether or not blue-eyed teachers have a greater impact on student achievement than brown-eyed teachers.

One of the next issues, then, is how to modify and enhance our current systems and procedures to collect more data for analysis without slowing down the processing time. There is no doubt that data is essential to improving student achievement and school improvement. There is also no doubt that certification officials and many other players must come to the table and address these issues of what and how much data to collect, and how it can be shared.

A great amount of assistance and informed guidance has been produced by the Data Quality Campaign. Its efforts to promote and support the development of statewide longitudinal databases that link both student and teacher data have benefited a number of states. Through its conferences and publications, which focus on the use of data as a flashlight to illuminate rather than a hammer to discipline, many states are making progress. But can you make IT do this...? We still have much hard work to do at the state level, but by reshaping our business, applying new technologies, and sharing lessons learned, we will get there.