

D3M Technology and House Bill 1275, The School Property Tax Elimination Act

The following is a comprehensive overview of the data driven technology plan which would be implemented to provide school districts and administration with a variety of educational outcome data to be served as the basis for accountability as contained in HB 1275.

Data Driven Technology in Education (D3M)

Technology, as we know it, is currently refining itself to transform the way schools deliver instruction, manage administrative capabilities, store and utilize data in an effective way to improve student achievement. With the onset of No Child Left Behind (NCLB) high stakes testing, evaluation, refinement, and accountability in Pennsylvania's schools, data driven decision making has become a crucial aspect of any type of evaluation done by any entity.

What is D3M Technology?

Data Driven Decision Making Technology Software (D3M) can be utilized to achieve those accountability aspects that schools and education establishments are seeking to achieve and overall improve student achievement. Development of the tool has been progressing for the past several years and is globally accessed by many venues of industry. It is significant to note that various and versatile applications of software can be chosen by the client to achieve the desired goals and objectives of the client utilizing the technology based on their own needs and wants. The D3M is designed to assist the instructor to manage student progress, learning materials and resources, and the program curriculum. Many of the applications contain database warehousing, as well as, database mining based upon the platform's intent. Many applications provide secure internet access to the data, on-site management, and a fact-based, integrated information accountability system to provide the necessary actionable business intelligence data for decision making. There is an incredible amount of computerized data warehousing and mining systems available worldwide for a wide range of clients to suit their educational needs. Such systems for data driven decision making routinely address the objectives of:

- Performance Based Data Management
- Adequate Yearly Progress as required by NCLB
- Cycle Time of Curriculum Cycles (Materials, Resources, and Textbooks)
- Decision Support Systems
- Requirements Specification
- Student Confidentiality
- Student ID Numbers
- Data Modeling
- Defining Requirements
- Simplified Collection
- Streamlined Reporting
- Technology Auditing
- Data Quality and Best Practices

- School District to State Reporting
- Diversity Recognized in States and Schools with Local Control

Using data to make good decisions is not new. How schools and education agencies achieve that goal is new and constantly modifying due to emerging and refining technology. HB 1275 provides for D3M technology to be utilized as a school district fiscal efficiency tool by requiring a system to be driven from the district up. HB 1275 establishes an approach allowing school districts to enter into a contract with a data-driven decision making total system vendor no later than July 1, 2010. Once that occurs, the respective school district must submit a copy of the contract to which it entered to the Pennsylvania Department of Education.

There is no "one size fits all" for all school districts within any given commonwealth when it comes to how D3M is utilized. However, each school district has the local control and ability to access data relevant to their needs and wants from various other sources both internally and externally through an integrated data base system. This system will have the capabilities of allowing the school district to share data, programs, services, and resources with the intermediate unit and the Department of Education statewide in a more cost effective and efficient way. Duplication and redundancy of services and programs will cease to exist and once newly established will allow all school districts full accessibility in having and sharing of importing and analyzing data from a variety of other systems that cannot otherwise communicate with one and other. School districts will be able to tailor their diverse needs unique to their respective district with D3M Technology, yet, have the ability to expand future opportunities for their school district.

D3M Technology Potential as Contained in HB 1275

- Can build capacity in the state education department to use, and help school districts use, data effectively to improve student results.
- Provide technical assistance in using data to guide school improvement efforts and monitor the impact of those efforts on student results.
- Move state and local entities into levels of technical assistance that require tools for data analysis, processes for systemic change based on data driven decision making, and skills for close assistance to schools.
- This tool can help state and local levels, school support teams, and technical assistance providers support schools even when they cannot be on-site.
- This tool gives school support teams and other technical assistance providers in the state and local levels, a way to support the day to day job embedded work of school improvement without being a substitute for school support team guidance.
- Provides an assessment framework that determine student's mastery levels of standards and manages data effectively for student performance improvement.
- Provides powerful assessment solutions which provide instant feedback for diagnostic use by teachers.
- Facilitates robust data warehousing of student and school data.
- Provides both historical and longitudinal capabilities for utilizing and managing data and making necessary applications of such data.
- Provides curriculum management systems to integrate each teacher's curriculum planning, lesson plans, and grade reporting into a standards based system.
- Utilizes instruction and practice systems to align curriculum and instructional resources to State and local standards.
- Enhances student information systems primarily concerned with issues of day to day student administration.
- Data analysis and reporting systems for student performance longitudinally across grade levels, schools, subject areas, and programs.
- Provides definitive goals toward increasing the value and return of data driven decision making technology investment.
- Provides project management integrated with State education goals, standards, guidelines, and

results to determine technology tool's effectiveness and efficiency through an evaluation committee and planned verification meetings as a result of contract implementation.

- Quality instruction integrated with formative assessment and supported by data driven action research which enhances professional teaching strategies, best education practices, and instructional effectiveness.

Additional Benefits of D3M Technology

Some schools and states are utilizing D3M technology specifically for addressing the mandates under the No Child Left Behind Act, while others have chosen to allow the system to provide a database mechanism to allow districts to judge and evaluate the performance and effectiveness of school programs, while identifying goals and objectives. D3M technology extends beyond schools providing wider range of influence as ultimately educators, students, and policymakers will benefit from the ability to make more informed choices about education based on relevant data.

Performing for the Intended Audience

D3M technology has the capabilities of serving a wide ranging set of audiences depending upon where you sit as a parent, principal, superintendent, curriculum specialist, student, teacher, and/or policymaker. Each audience is gleaning various key elements important specifically to them in answering the questions they are asking. Each of these decisions requires a different set of data elements from a database, a different analysis of data, and possibly a different reporting option. Discussion is vital among decision-makers prior to implementing contracts, about the design of the system that tries to meet the needs of everyone in broader terms in lieu of separate and specific purposes. Real accountability has been shifted to utilizing data effectively and making appropriate applications to justify effectiveness, accountability measures, as well as, fiscal efficiency. Security, confidentiality, and functionality are all challenging aspects which need to be addressed within the frameworks of such a technology system.

Show Me The Money

Technology is a big money item in any school budget. Modern and ever changing technology requires funding priority, maintenance, and attention to upgrades and ever increasing security risks. While at one time, most vendors of commercial products did not understand the needs and wants of schools and education, that assumption is no longer applicable. While there are some grants available to create affordability to those implementing technology such as the Act 183 Grants, Classrooms for the Future, High School Project 720, and the Accountability Block Grant Program, it would be advantageous for all school districts to have equitable access to D3M technology despite their socio-economic wealth or lack of broadband services due to the demographics of their school district. Without such services, these schools and communities can not fully experience the benefits of such technology as D3M and only accentuates the "digital divide" amongst these areas of our Commonwealth. Fair deployment of technology to all areas of the state was at the heart of

HB 30 in 2003. Fair deployment could be achieved through House Bill 1275's D3M technology tool and the cost of ownership would decrease over time by the following:

- Decreased time and cost associated with implementation
- Reduced dependency on technical staff for data access and analysis
- Reduce maintenance and support costs by eliminating redundant systems and programs
- Eliminate ineffective and obsolete school programming as a result of data collected and analyzed
- Increase efficiency and effectiveness of student programming and curriculum through refinement

- Increased effectiveness and efficiency of tax dollars in providing a cost effective and quality academic program

Advances in Technology Accentuate Accountability

As advances in technology race ahead, we must ensure that the nation's students become technologically literate. Not to meet this challenge will mean that American students will only fall further and further behind. With reading, writing, and arithmetic, technology has become the nation's "new basic". Our children's future, the future economic health of the nation, and the competence of America's future workforce depend on our meeting this challenge. (U.S. Dept. of Education, 1996).

In order to achieve the goal of providing a thorough and efficient education for future generations of students, schools, too, need to be advancing themselves in professional learning of technology advancement. House Bill 1275 achieves this laudable goal by providing a comprehensive school review process which helps districts with continuing education improvement efforts by utilizing well-defined and quality tools.

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