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Death, Taxes & Correlations

Aligning instructional materials to state and national standards has always played a big part in the work of educational content providers. These days, with increased emphasis on student achievement, correlation reports are more important than ever.

As schools continue to focus more and more on student achievement and how it aligns with state and national educational standards, it's more important than every for instructional materials publishers to provide correlation reports.

A correlation report is a printed document indicating matches between educational content and educational standards. Currently, 49 states produce standards documents, which are revised every five to seven years. Some larger districts may also require correlations to their local standards or curriculum objectives. Producing correlation reports is an ongoing requirement for any education content producer. Companies have traditionally done correlation reports by hand, but an increasing number of organizations are developing technical solutions to streamline this process.

Manual vs. High-Tech

Creating meaningful correlations can be a difficult process, and making the results available to a broad audience is even more challenging. To that end, publishers can create correlations in one of two ways, manually or via a technology-based system.

The manual correlation task involves the tedious and time-consuming process of reviewing the educational content and comparing it with an educational standards document. The content expert doing the correlation looks for matching learning objectives and embedded concepts between the content and the standards document. The matches are then recorded in a table, which forms the body of the report. The subjective nature of this correlation process is particularly evident when working with large organizations employing several individuals who have different interpretations of the standards and a resource's instructional goals. Producing correlation reports in the seemingly endless variations required by each public entity has historically been time-consuming, and recent legislation has compounded the complexity of maintaining up-to-date correlations. The result is that correlation quality suffers, and publishers are forced to maintain a select set of state standards correlations, providing other states with correlations to national standards (where they exist) or none at all.

Since the late 1980s a number of organizations have employed database-driven systems in an attempt to streamline this process. Although there are many strategies for searching this type of database, an early contributor in this field was MediaSeek Technologies. The system MediaSeek pioneered has come to be known as an "intermediary-based" correlation system. Here the term "intermediary" refers to a set of statements describing what may be learned during the K-12 education experience. These statements and their associated attributes reside at the core of a relational database serving as an index to which instructional resources and education standards are correlated. State standards documents and educational content are independently correlated (mapped, tagged or aligned) to the intermediary and are matched as a result of common correlations to the intermediary.

Rather than directly correlating the educational content to multiple standards documents, each element required as part of the correlation is matched to the intermediary statements once. When a correlation report is needed, the educational resource and standards document of interest are identified, and the database system compares their respective matches to the intermediary. A correlation report is then generated as a result of matching of intermediary statements. Depending on the intended use of the report, it is possible for these systems to generate a correlation report literally with the push of a button.

Following is information on a few correlation service providers:

Plato Learning Inc., *www.plato.com*, provides correlation services to third parties utilizing its intermediary-based system (acquired as part of its purchase of NetSchools). Once instructional resources have been correlated to the intermediary, this

content becomes part of a database that can then be made available to the educator through a teacher interface, from a publisher's Web site or through reports in a wide variety of formats. The system provides end users with a way to find state and local standards that are matched to district curricula and instructional resources and tools. The Plato Learning model is interesting because the database is not limited to Plato Learning instructional content but also includes materials that may be competitive to Plato Learning's own offerings.

Align to Achieve (A2A), *www.aligntoachieve.org*, is the sole nonprofit providing correlation services. A2A collaborated with Mid-continent Research for Education and Learning (McRel), *www.mcrel.org*, to develop an intermediary known as the A2A+McREL Compendix. In addition to providing correlation services using the Compendix, A2A licenses the Compendix and a pre-correlated standards database of state standards.

Celera™, offered by SmartPro3, *www.smartpro3.com*, is an intriguing technological alternative to intermediary-based systems. Celera is based on a smart natural language search technology and is distinguished by the fact that it doesn't use an intermediary. Celera relies on descriptions of content or instructional objectives, which are imported into the system and then used as the basis for a ranking of documents by concept rather than word match. When a search is performed, the user is presented with a ranked list of possible matches, the best of which are then selected for correlation by the human who is correlating. This technology is currently undergoing enhancement that adds functionality enabling it to "learn" as the correlation choices are made so that subsequent searches become increasingly relevant.

The Benefits

Larger organizations benefit almost immediately from intermediary-based systems. Just considering the efficiency of correlating content a single time to an intermediary, we developed one estimate that put the financial break-even point at around two to three textbook-sized quantities of content. When you include the additional benefits for content and product development, the payback is even greater.

A few organizations are beginning to explore ways to utilize intermediary-based correlation systems throughout the entire content and product development cycle. In such a system, software tools designed specifically for the various individuals involved in product development interact with the correlation database, enabling the correlation process to begin at product inception. This allows the correlations to serve as the backbone of the product design and development. This in turn provides positive feedback to the editorial and development processes and results in standards-informed content with associated reporting from more traditional sales and marketing purposes to educator-centered systems. For larger organizations, in addition to fulfilling the correlation role, these systems can be designed to provide an enterprisewide content inventory and management system that facilitates content re-purposing through product bundles that more closely address ever-changing customer needs.

Correlation technology has matured quite a bit in the last decade, but we still have a long way to go toward developing an ultimate correlation system that is transparent to the user and produces reliable, accurate results. Even though intermediary-based correlation systems are becoming more sophisticated and more widely used, many people still have misunderstandings about what these systems can and can't do, and similar design problems frequently crop up. Education and awareness about these systems needs to continue in order for the developers of such systems to meet the broad spectrum of correlation needs in this market.

Looking Ahead

In the meantime, a number of organizations are spending monumental amounts of money and human effort to independently develop proprietary correlation systems. Virtually every major textbook company has teams of its brightest people working on this problem, and smaller organizations are struggling to find correlation systems that can meet their needs. This should be of concern to everyone in the K-12 education content industry. Too many of us are competing to develop systems that in the end will be virtually identical.

Some organizations advocate a National Standards Repository Database. Such a repository of standards and like documents requires recognition that a shared, jointly maintained, electronic collection of accurately represented standards documents is essential to systems requiring accountability from schools and the publishers serving them. Nearly all large publishers are attempting to maintain such a database, and many smaller publishers are unable to gain access to reliable standards information. This effort would require an unprecedented level of cooperation among K-12 education content developers and state education agencies; however, the pay-off would be huge in supporting existing educational initiatives. The vision is that the organization managing this repository would initially maintain a database of standards. A suite of development tools would be available to subscribing organizations, both public and private, that want to create products and systems for educational institutions and the organizations serving them.

A competitive economy can be created to generate high quality products and systems from educational publishers.

It's time for instructional materials publishers to begin thinking about how correlations can play a larger role in generating high-quality products addressing the market's needs.

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