K-12 student database jazzes tech startups, spooks parents

Stephanie Simon, Reuters

(Reuters) - An education technology conference this week in Austin, Texas, will clang with bells and whistles as startups eagerly show off their latest wares.

But the most influential new product may be the least flashy: a $100 million database built to chart the academic paths of public school students from kindergarten through high school.

In operation just three months, the database already holds files on millions of children identified by name, address and sometimes social security number. Learning disabilities are documented, test scores recorded, attendance noted. In some cases, the database tracks student hobbies, career goals, attitudes toward school - even homework completion.

Local education officials retain legal control over their students' information. But federal law allows them to share files in their portion of the database with private companies selling educational products and services.

Entrepreneurs can't wait.

"This is going to be a huge win for us," said Jeffrey Olen, a product manager at CompassLearning, which sells education software [1].

CompassLearning will join two dozen technology companies at this week's SXSWedu conference in demonstrating how they might mine the database to create custom products - educational games [2] for students, lesson plans for teachers, progress reports for principals.

The database is a joint project of the Bill & Melinda Gates Foundation, which provided most of the funding, the Carnegie Corporation of New York and school officials from several states. Amplify Education, a division of Rupert Murdoch's News Corp [3], built the infrastructure over the past 18 months. When it was ready, the Gates Foundation turned the database over to a newly created nonprofit, inBloom Inc, which will run it.

States and school districts can choose whether they want to input their student records into the system; the service is free for now, though inBloom officials say they will likely start to charge fees in 2015. So far, seven states - Colorado, Delaware, Georgia, Illinois, Kentucky, North Carolina, and Massachusetts - have committed to enter data from select school districts. Louisiana and New York will be entering nearly all student records statewide.

"We look at personalized learning as the next big leap forward in education," said Brandon Williams, a director at the Illinois State Board of Education.

IF DATA LEAKS, WHAT REMEDIES?

Federal officials say the database project complies with privacy laws. Schools do not need parental consent to share student records with any "school official" who has a "legitimate educational interest," according to the Department of Education. The department defines "school official" to include private companies hired by the school, so long as they use the data only for the purposes spelled out in their contracts.

The database also gives school administrators full control over student files, so they could choose to share test scores with a vendor but withhold social security numbers or disability records.

That's hardly reassuring to many parents.

"Once this information gets out there, it's going to be abused. There's no doubt in my mind," said Jason France [4], a father of two in Louisiana.

While inBloom pledges to guard the data tightly, its own privacy policy states that it "cannot guarantee the security of the information stored ... or that the information will not be intercepted when it is being transmitted."

Parents from New York and Louisiana have written state officials in protest. So have the Massachusetts chapters of the American Civil Liberties Union and Parent-Teacher Association. If student records leak, are hacked or abused, "What are the remedies for parents?" asked Norman Siegel, a civil liberties attorney in New York who has been working with the protestors. "It's very troubling."

VENTURE CAPITAL MAGNET

Fans of the project respond that the files are safer in the database than scattered about school districts. Plus, they say, the potential upside is enormous, with the power to transform classrooms across the U.S.

Does Johnny have trouble converting decimals to fractions? The database will have recorded that - and may have recorded as well that he finds textbooks boring, adores animation and plays baseball after school. Personalized learning software [1] can use that data to serve up a tailor-made math lesson, perhaps an animated game that uses baseball statistics to teach decimals.

Johnny's teacher can watch his development on a "dashboard" that uses bright graphics to map each of her students' progress on dozens, even hundreds, of discrete skills.

"You can start to see what's effective for each particular student," said Adria Moersen, a high school teacher in Colorado who has tested some of the new

products.

The sector is undeniably hot; technology startups aimed at K-12 schools attracted more than $425 million in venture capital last year, according to the NewSchools Venture Fund, a nonprofit that focuses on the sector. The investment company GSV Advisors tracked 84 deals in the sector last year, up from 15 in 2007.

In addition to its $100 million investment in the database, the Gates Foundation has pledged $70 million in grants to schools and companies to develop personalized learning tools [5].

New products regularly come to market, but both educators and entrepreneurs say adoption has been slow because of technical hurdles.

WARNING SYSTEMS TO FORESTALL DROPOUTS?

Schools tend to store different bits of student information in different databases, often with different operating systems. That makes it clunky to integrate new learning apps into classrooms.

At the Rocketship chain of charter schools, for instance, administrators must manually update at least five databases to keep their education software running smoothly when a child transfers from one teacher to another, said Charlie Bufalino, a Rocketship executive.

The extra steps add expense, which limits how many apps a school can buy. And because the data is so fragmented, the private companies don't always get a robust picture of each student's academic performance, much less their personal characteristics.

The new database aims to wipe away those obstacles by integrating all student information - including data that may previously have been stored in paper files or teacher gradebooks - in a single, flexible platform.

Education technology companies can use the same platform to design their software, so their programs will hook into a rich trove of student data if a district or state authorizes access.

That prospect has some companies dreaming big.

Larry Berger, an executive at Amplify Education, says the data could be mined to develop "early warning systems." Perhaps it will turn out, for instance, that most high school dropouts began to struggle with math at age 8. If so, all future 8-year-olds fitting that pattern could be identified and given extra help.

Companies with access to the database will also be able to identify struggling teachers and pinpoint which concepts their students are failing to master. One startup that could benefit: BloomBoard, which sells schools professional development plans customized to each teacher.

The new database "is a godsend for us," said Jason Lange, the chief executive of BloomBoard. "It allows us to collect more data faster, quicker and cheaper."

Whether all this data, and all the programs that use it, will transform education is another question. Most data-driven software has only been tested on a small scale; results are often mixed.

Though he is bullish on the sector, Michael Moe, the chief investment officer at GSV Capital, cautions that there is as yet no proof the new technology will produce "game-changing outcomes" for students - or, for that matter, sterling profits for investors.

Others are more skeptical still.

"The hype in the tech press is that education is an engineering [6] problem that can be fixed by technology," said Frank Catalano of Intrinsic Strategy, a consulting firm focused on education and technology. "To my mind, that's a very naive and destructive view."

(Reporting by Stephanie Simon; editing by Prudence Crowther)

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