Application Story

Lafourche Parish School Board

LAFOURCHE PARISH SCHOOL BOARD
The Lafourche Parish School Board oversees 30 schools that teach more than 15,000 K-12 students.

Situation
Needed to extract intelligence from standardized test scores.

Insightful Solution
- Insightful Miner

Results
- An easy-to-use data analysis workbench that could analyze large datasets quickly
- Statistically-sound analysis of data helped administrators use fact-based decision-making to make curriculum changes to improve student test scores
- Support for the entire data analysis process from data access to reporting

Organizational Overview

The Lafourche Parish School Board oversees 30 schools that teach more than 15,000 K-12 students in Thibodaux, Louisiana. Today, more than ever school boards have limited budgets and resources to design and deliver education programs.

Each year, fourth and eighth graders in Lafourche Parish take the Louisiana Educational Assessment Program (LEAP) test to assess student achievement. It is a true “high stakes” test that has an impact on the district, the school, and the student. Unsatisfactory performance on this test can result in students being retained and the school going into special corrective action status that is not desirable. Teachers use the information gained from standardized testing to modify methods and curricula while addressing areas where students may need to improve.

The Challenge

Every year, Chris Bowman, Technology Manager for Lafourche Parish School Board, has less than three weeks to mine test score data and provide insight to the board, principals and teachers to guide curricula decision-making. For Bowman, understanding what variables affect student performance on standardized tests and providing decision-makers with the information they need to make decisions regarding student education is critical. “As an educator, I’m always looking for new ways to understand what’s happening with our student population,” said Bowman. “Data mining software provided an opportunity to provide the board, principals and teachers with fact-based information to help guide student and curricula decision-making.”

The Strategy

Bowman selected Insightful Miner because it was a cost-effective data analysis workbench that could provide him with the information he needed to answer the following questions, “What specific variables affect student test scores?, How can we incrementally improve student test scores?, Can we find any correlations in the data to clearly understand how variables are interacting to produce test scores results?, and What curricula variables influence test scores? Or, is there something so very obvious or buried within the data that is impacting student performance?”

Historically, decision-makers in the school community including the board, principals and teachers relied on anecdotal descriptions and intuitive discussions to make important curricula decisions. Bowman introduced data mining to the

school board so they could begin to make better decisions, faster based on factual rather than intuitive reaction to test results.

Using Insightful Miner, Bowman was able to access, analyze, present and deploy test score insight within minutes. Fast, actionable information allowed the school board to take the action required to address student issues quickly. Data mining helped Bowman make new discoveries and correlations that had a significant impact on curricula development and test preparation.

"It was not always apparent which component part or strand of the test had the most impact on the students because strands vary in influence from year to year. For example, of the six strands we tested this year, we were able to identify the most important strand for remediation this year through strategic data mining techniques. Without this analysis, a large part of the remediation period would come and go before we would know which part of the test played the strongest role. Insightful Miner helped us to become more efficient before remediation even started.

Key Benefits

According to Bowman, the key benefits of Insightful Miner include "its intuitive graphical user interface that makes it easy to build predictive models to predict future test performance. Also, Insightful has a history of providing cutting edge and traditional analytics that provide me with precise and reliable information for broad distribution. With Insightful Miner, I can be confident that the information I provide to decision-makers will be accurate."

Insightful Miner's graphical capabilities improved communication at the school board. "People respond to pictures. A graph is overwhelmingly more useful than a ten-minute explanation. To have a wealth of information visually presented makes an explanation easily and quickly assimilated. Statisticians aren't viewing this data. Teachers and principals are seeing for the first time. It made great sense to give them something easily discerned so that the dialogue about school improvement can start sooner."

Calculating ROI

For Bowman, calculating a return on his investment in Insightful Miner is difficult. "How do you put a value on a child passing a test and not having to repeat a grade?" For Bowman, the software's return-on-investment is "its ability to extract actionable intelligence from data that was simply not possible before."

Applications

- Exploratory Data Analysis
- Visualization
- Data Mining

Products

- Insightful Miner