••• The High Cost of Dropouts

SUCCESSFULLY USING EARLY WARNING SYSTEMS IN HIGHER EDUCATION

voyant

SEE THE FUTURE

Dropouts: The Cost is High

Failure to connect. Lack of maturity. Apathy. Life circumstances. Financial difficulties.

Whatever the reason a student chooses to walk away from an education – the statistics are clear: too many are dropping out.

• Nearly 1 in 2 students drop out of 4-year colleges
• 3 out of every 5 students drop out of private for-profit institutions[1]. (See Figure 1)

For educators, there's nothing more discouraging than witnessing the lost potential of students who will never gain the knowledge, skills and confidence that come with earning a degree or lay the crucial foundation that prepares them for personal and professional success.

The economic impact on the student – and on the college, university or vocational school – is great as well. Students who fail to finish a college degree suffer from lower future incomes (up to half a million dollars less[2]) and are more likely to default on loans. High dropout rates not only erode the reputations of educational institutions and cause undue hardship on instructors, but directly lead to lower revenues and may jeopardize government-backed loans.

Early Warning Systems Work

Schools struggling to rein in attrition rates may not realize that they hold the key to student retention.

Most institutions track valuable information about their students – demographics like age and race, high school GPA, current scholastic information, and financial aid status. These important variables can be used as part of an Early Warning System (EWS) that predicts which students are at risk.

Using predictive analytics and automated data processing (or "machine learning"), schools can mine their vast amounts of data to uncover patterns of historical behavior. For example, do first-time college goers over the age of 25 with loans default more than other students? Which newly admitted students will succeed? How successful will a student be in a given major?

Oftentimes, deciphering these relationships can be difficult and misleading, especially when the responsibility of determining which students are at risk is thrust upon the shoulders of busy instructors who most likely have no objective tools to do so. In fact, instructors report identifying student propensities to learn as one of their biggest concerns in the classroom.[3]
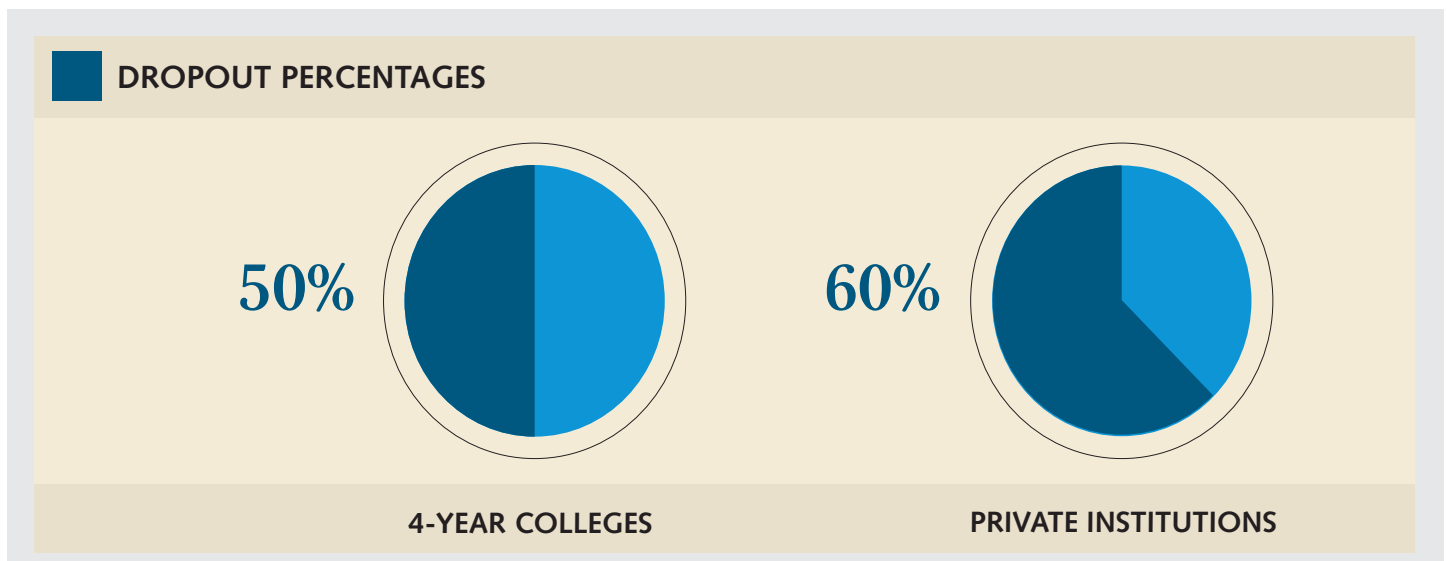

DROPOUT PERCENTAGES

50% 4-YEAR COLLEGES

60% PRIVATE INSTITUTIONS

Figure 1

[1]U.S. Department of Education, "Enrollment in Post-secondary Institutions, Fall 2008; Graduation Rates, 2002 and 2005 Cohorts; and Financial Statistics, Fiscal Year 2008"
[2]American Institutes for Research, "The High Cost of Low Graduation Rates: How Much Does Dropping Out of College Really Cost?", 2011

A centralized EWS can objectively, efficiently and accurately sift through the data and identify students in jeopardy. The EWS does the heavy lifting, allowing instructors to focus on what they do best – teaching.

Voyant Analytics EWS

Voyant Analytics makes Early Warning System software using predictive modeling that significantly increases the ability to accurately predict:

• Students at the highest risk of leaving school early
• Students at the highest risk of defaulting on loans
• Who among these students would benefit most from intervention

Using key demographics, Voyant Analytics accurately predicts 8 out of 10 dropouts (Figure 2) – and can determine what intervention, counseling and education programs can be created to keep at-risk students in school and keep them from defaulting on loans. Voyant Analytics does so with the push of button. Data is uploaded and Voyant Analytics quickly does the work – saving valuable time, resources and money, and eliminating the need for costly student retention consultants.

It's a flexible program with real-time accuracy and instant results that brings the numbers to life and allows schools to identify at-risk individuals sooner. Data can be uploaded as often as needed and variables can be changed to track new students who may be part of the target group – giving institutions the best chance at keeping that student on a path to success.

MI³ Intervention Services

Voyant Analytics partners with MI³ (MI cubed) – an intervention system that uses the new data to retain students and see them through to graduation.

MI³ understands that people learn differently through seven multiple intelligences: Verbal Linguistic, Math Logic, Spatial, Bodily Kinesthetic, Musical, Intrapersonal and Interpersonal.

An easy-to-use tool, MI³ identifies which of these seven multiple intelligences at-risk individuals use most often and most successfully. MI³ includes training for teachers on how to successfully engage with these students, strengthen their abilities, increase the possibility of using other less dominant intelligences and appreciate the intelligences of others.

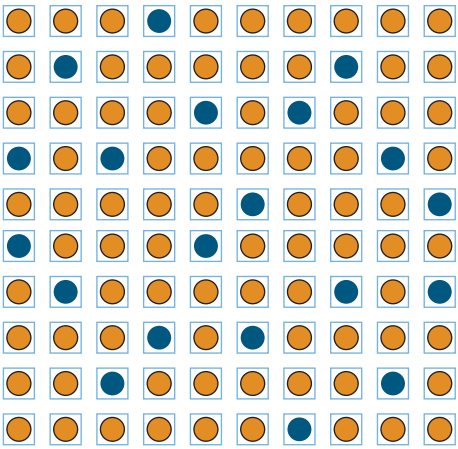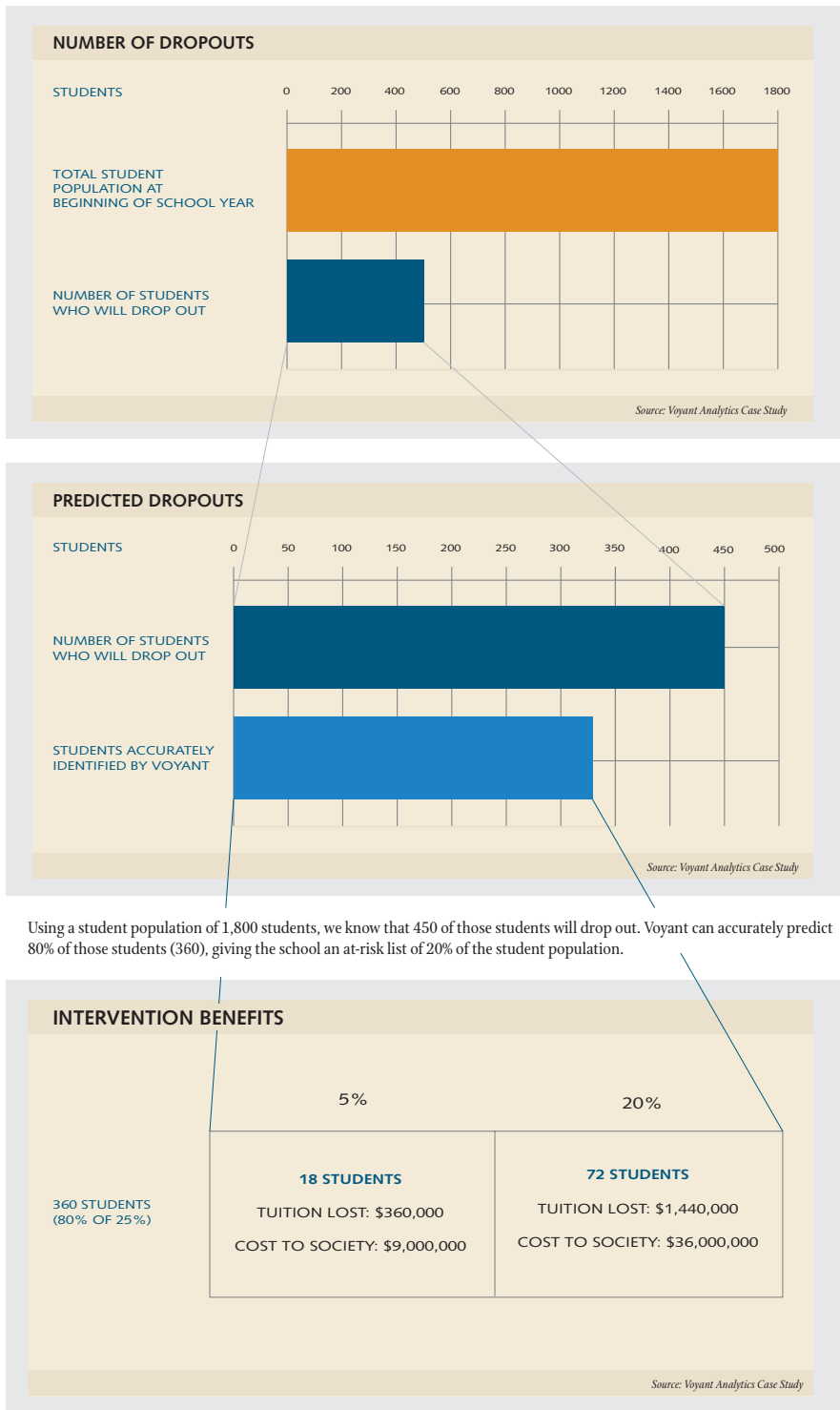Voyant Analytics can *successfully predict* 8 out of 10 students who would drop out.

Figure 2

[3]Journal of Career and Technical Education, Volume 23, Number 1. "A National Assessment of Perceived Instructional Needs For Professional Development of Part-Time Technical land Occupational Education Faculty in the Community Colleges in The U.S."
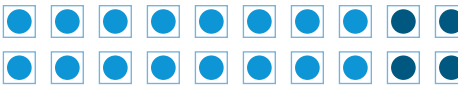
The Cost of Apathy

The right predictive and intervention tools work – preventing students from failure and institutions from the potential loss of hundreds of thousands of dollars to perhaps millions each year.

The Institute of Education Science's What Works Clearinghouse evaluated effective interventions and found that they retain an additional 5% to 20% of students on average compared to control groups . Assuming that a dropout loses half a million dollars in future earnings and that a school loses $20,000 in tuition, saving just a fraction of these dropouts can lead to substantial societal and institutional savings – not to mention the savings in time for instructors and satisfaction of students successfully completing programs.
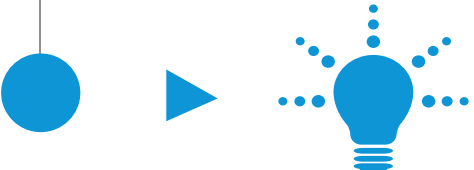
Figure 3

NUMBER OF DROPOUTS

Source: Voyant Analytics Case Study

PREDICTED DROPOUTS

Source: Voyant Analytics Case Study

Using a student population of 1,800 students, we know that 450 of those students will drop out. Voyant can accurately predict 80% of those students (360), giving the school an at-risk list of 20% of the student population.

INTERVENTION BENEFITS

	5%	20%
360 STUDENTS (80% OF 25%)	**18 STUDENTS** TUITION LOST: $360,000 COST TO SOCIETY: $9,000,000	**72 STUDENTS** TUITION LOST: $1,440,000 COST TO SOCIETY: $36,000,000

Source: Voyant Analytics Case Study

Paying $20,000 each in tuition, if 20% of the drop-out population could have been retained through intervention, this school could have realized additional tuition totaling $1,560,000 over three years.

● **20** out of every **100** students will drop out.

● Voyant can find 16 of those 20 before they do.

An intervention program can save up to 20% of those at-risk. What if those students walked away? The consequences are significant. (Figure 3) For an institution with 100 students, lost annual revenue is $56,000. The cost to society is $2 million. A 1000-student institution would lose $560,000 – with a societal cost of $20 million.

Voyant Analytics Simplifies Student Success

Institutions of higher learning can make their data work for them with Voyant Analytics.

Voyant Analytics partners with schools to meet their goals by first developing a pilot program to determine desired outcomes. Analysts pinpoint specific variables and relevant historical data, and fine tune parameters for the most accurate results. Once the program is in place and approved, it runs automatically.

Voyant Analytics' easy-to-implement software can also be applied to several other facets of higher education. For example, Voyant Analytics can help with admissions and financial aid decisions, and choosing the best potential donors for fundraising campaigns.

The process is accurate, fast and simple – and takes the frustration and guesswork out of retaining at-risk students and ensuring school success. When combined with the MI[3] multiple intelligences tool, Voyant Analytics is even more powerful.

Voyant Analytics in Action: a Case Study

Voyant Analytics partnered with a large national vocational school to develop an Early Warning System – and the results were impressive.

Using the school's historical data, Voyant Analytics simulated at-risk lists for 20 classes of students that already had completed the vocational program (1,800 students in all) to determine the accuracy of the software.

On average, the generated list correctly predicted 87% of the students that actually ended up dropping out and only mistakenly identified students as at-risk 4% of the time.

Paying $20,000 each in tuition, if 20% of the dropout population could have been retained through intervention, this school could have realized additional tuition totaling $1,560,000 over three years.

Some students will likely drop out regardless of a school's efforts. But, a predictive list can also identify the students who are on the fence. In other words, schools can focus on the students who could just as easily fail a class as pass it – and positively impact their odds of success.

Learn more at www.voyantanalytics.com or call Voyant Analytics at 312.857.6211.

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