IBM predictive analytics for education

Empower your institution to make the best decision every time

Highlights

Predictive analytics lets educational institutions at all levels learn more about students and donors by offering valuable insights into what's likely to happen next. By combining new knowledge with what they already know, institutions can develop proactive strategies and programs to ensure smarter decision making.

Educational institutions at every level are facing demands for greater accountability for what students learn and for managing costs and other resources more effectively. Meeting these challenges involves making a host of operational decisions every day, as well as being smarter about strategic decisions around the student life cycle.

What if you could predict outcomes reliably—and easily—and know which actions or interventions were most likely to achieve specific objectives? For instance, what if you and all the others involved in a decision had greater insight into questions like these:

- Who are the applicants that will be successful at your institution and what is the probability that they will matriculate?
- Which students are at risk of not advancing to the next level and what interventions are most likely to help each student get back on track?
- Who are the alumni most likely to give a major gift, how much are they likely to donate, and what is the best channel to reach them?
- What is our projected enrollment for the next five years, and do we have the capacity to support future growth?
- What programs should be implemented to ensure student and institutional success?

Predictive analytics bridges the gap between data analysis, predictive insights and improved outcomes, empowering educators and administrators to be smarter about leveraging data to improve the student lifecycle and reach institutional objectives.

A powerful combination for education

With IBM® SPSS® Statistics software, administrators and educators can gain predictive, actionable insight so they can be confident that they're making the best decisions, every time. Whereas traditional analytic tools are often backward-facing (example: a report on last year's attrition rate), IBM SPSS Statistics enables a forward-looking view of your institution's situation, coupled with prescriptive recommendations to guide decision making (example: these students are likely to drop out, and this is the targeted intervention to get each one back on track).

As a data-agnostic platform, IBM SPSS Statistics can incorporate both structured and unstructured data as inputs for statistical analysis, data mining and predictive modeling to uncover hidden patterns and associations within the data, anticipate likely outcomes and prescribe personalized recommendations.

These predictive insights and prescriptive actions can be deployed via a user-friendly, web-based application to make it easy to view all available information about your students, faculty, campus, community or donors. They can also be integrated into business intelligence tools so users can receive key performance indicators, reports and alerts to provide information on the past, present and future of your institution.

IBM SPSS Statistics can support multiple applications at a single institution—so, for example, if your university wants to improve both its student recruiting and its retention efforts, you could leverage your software investment for even greater impact.

Who can use IBM SPSS Statistics?

In elementary and secondary school districts:

- Superintendents
- Principals
- Educators
- Guidance counselors
- Analysts and grant application personnel
- Community relations officers

In higher education:

- College or university presidents, chancellors or provosts
- Deans of students
- Deans of faculty
- Recruitment officers
- Development or advancement officers
- Alumni relations officers
- Government relations officers
- Institutional researchers

Improving student performance with predictive analytics

K-12 administrators and teachers are under increased pressure to meet state performance mandates, and those who demonstrate real results can capitalize on lucrative incentives. With IBM SPSS Statistics, administrators and educators can find hidden patterns in data about students' past and present performance to help predict future achievement. By understanding the combination of factors that lead to dropouts and identifying at-risk students, teachers and administrators can proactively intervene to help ensure student success.

How the Hamilton County Department of Education got smarter

For Hamilton County, the essence of educational intelligence is granular insight into individual student performance. By leveraging predictive analytics and business intelligence, the county's teachers, counselors and administrators have a better understanding of how adverse patterns develop and can now step in earlier to keep students on the right track. That's one reason the county's graduation rate increased by 10%.

"Offering users such as teachers and social workers information on demand is a real game changer," comments Dr. Kirk Kelly, Director of Accountability and Testing at HCDE. "Rather than constantly playing 'catch-up' with old data, they are given an up-to-date daily view of students and teaching, equipping them to make better decisions. Role-based access means that users see only the information that they are authorized to view."

Developing effective student retention strategies

Student attrition is a costly problem for many colleges and universities. With IBM SPSS Statistics software, university administrators and faculty can reach out to students early, when they first show signs of being at risk of failing to graduate. IBM SPSS Statistics enables schools to identify key variables that lead to success and failure—and proactively intervene with data-backed recommendations that will help keep students enrolled through graduation. In addition to avoiding the loss of tuition dollars, improving student retention can maintain or enhance an institution's reputation and its ability to offer financial aid to prospective and current students—which, in many cases, is a key factor in students' ability to remain enrolled.

Building a 360-degree profile of students

Using IBM SPSS Statistics to combine a range of data points about students like test scores, academic performance, chosen electives and scholarship status, you can easily create a 360-degree profile of each student. Create a dashboard with all this information so that every staff member can access it. Using advanced statistical analysis, you can easily identify students who are most at risk of dropping out or low performance. Equipped with these insights, the school can take early action to help students re-engage with their courses and get back on the right track. With this new insight derived from patterns hidden in the data, administrators and educators can automatically trigger student care for those that are struggling, making more contact with them and offering extra support.

Enhancing enrollment management

When looking into post-secondary education, young people are often told: "For every student, there's a college or university that's the right fit." And administrators know that certain students are more likely than others to succeed at their institution. IBM SPSS Statistics makes it easier to focus recruitment efforts on those who are most likely to accept enrollment and succeed at a particular institution. This benefits institutions by controlling recruitment costs and by enabling them to offer the right incentives, such as financial aid packages, that will attract desirable students. It also enhances a school's ability to create course schedules, maintain the appropriate levels of faculty and support staff and optimize the use of campus facilities.

The Keller Graduate School of Management at DeVry University

The Keller Graduate School of Management at DeVry University uses IBM Analytics to identify students at risk of dropping out and intervene effectively. By building a 360-degree profile of each student and using this to drive intervention activity, the schools helping students to reach their full potential. As a result, the school is raising both persistence rates and NPS scores by two percent.

"Our aim is to continually improve student outcomes and provide the best learning environment to help students achieve their career goals," says John Hassman, Director of Business Analytics at the Kellar Graduate School of Management. "By better understanding what works best for particular students, we can optimize use of student care resources."

Why IBM?

IBM SPSS Statistics can help institutions and educators predict future events and proactively act upon that insight to drive better educational and fundraising outcomes. Academic institutions can rely on IBM SPSS Statistics software as a competitive advantage in attracting and retaining both students and donors. Most important, organizations can incorporate predictive analytics into everyday business processes, typically without the need for outside help.

For more information

To learn more about how IBM SPSS Statistics can help you meet your goals, contact your IBM representative or IBM Business Partner, or visit the following website: ibm.biz/SPSSforHigherEd

To start a free trial of IBM SPSS Statistics, visit the following website: **ibm.com**/analytics/data-science/predictive-analytics/spss-trials

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