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DEMAND FOR BI SKILLS SPURS UNIVERSITY PROGRAMS

By Catherine Traugot

At many companies around the world, the future of business intelligence is not an issue of vendor R&D progress. It's a skills issue. More and more, companies are seeking and promoting employees who know how to ask the right questions, find the data to answer those questions and make decisions based on the answers. Students who obtain SAS training at the university come equipped with those skills on the first day of the job.

For many college students, learning to analyze data used to mean one thing: manipulating spreadsheets. But increasingly students – and the businesses that hire them – want a more complete ability to analyze data and create business intelligence (BI).

Today's executives know that they need employees at every level of the company who not only can access and analyze data but also can use it to make intelligent decisions. To help meet this need, universities with an interest in developing future BI leaders are turning to SAS.

"Experts in the field are in high demand," says Kathy Lee, General Manager of the SAS Education and Medical Practice. "Whether uncovering fraud in banking transactions, improving the quality of healthcare received by patients or predicting which customers will respond to a marketing campaign, the importance of data analytics and business intelligence crosses all industries. Companies need employees with the skills to make critical, profit-enhancing decisions."

In the past, many businesses depended solely on Ph.D. candidates with technical skills to perform predictive modeling, data mining and other essential BI tasks in a programming environment. As more powerful, easy-to-use software has become available, however, business intelligence skills can be taught more broadly and earlier in a student's education.

"As competitive as the job market is now, students are almost required to know the latest technology, and they're in turn demanding this from their universities," says Lee.

True to its academic heritage, SAS has a long history of meeting the demands of students and universities through the SAS Academic Program. For nearly three decades, SAS has partnered with universities and business schools around the world to hold seminars and courses, provide curricula and research support, and – more recently – develop e-learning and certification programs. Today, those partnerships help prepare students in the latest skills on the most advanced technology:

- At North Carolina State University in the United States, a new graduate degree in analytics is being developed to give students an understanding of analytical concepts and hands-on experience with the same powerful tools used in industry today. The intensive 10-month degree will draw on professors from multiple disciplines to create a unique blend of statistics, information technology and business education.
- At the University of New South Wales in Australia, applications flooded the School of Mathematics after it announced an undergraduate program in data management using SAS software. "People with SAS skills are now being sought by organizations dealing with genetic research, homeland security and other emerging areas," explains Professor William Dunsmuir.
- At ENST Bretagne in France, students completing the post-graduate program titled "Information Technology Applied to Banking and Actuarial Business Intelligence" have no difficulty finding employment. Some, such as actuaries and IT specialists, are even recruited by the

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SAS® skills bring endless job opportunities

It wasn't a difficult decision for Alicia Robinson to work three SAS-related courses into her schedule at the University of Memphis. One of 15 students to sign up for the university's new SAS courses, Robinson is an employee on the help desk at AutoZone. She regularly sees listings for more advanced jobs at her company that require SAS skills. "With SAS, the job opportunities are endless," Robinson says.

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financial industry before completing their coursework.

The responses to these programs have positive outcomes for businesses, universities and students. "Current SAS customers are happy because they have an increased pool of talent to draw from, and future SAS users are created when students encourage their employers to use SAS when they enter the work force," says Jerry Oglesby, Director of Higher Education Consulting at SAS.

Giving undergraduates real-world skills
Memphis, Tennessee, is the home of nearly two dozen major companies that rely on SAS for data analysis and business intelligence, notes Stephanie Thompson, Associate Director of Institutional Research at the University of Memphis. Unfortunately, some of these local businesses were reluctant to hire University of Memphis students for certain jobs, Thompson says. In fact, she met with a FedEx executive who told her, "I wish I could hire your students – but they don't have SAS skills."

So Thompson made it her mission to introduce SAS skills to undergraduates. "SAS is in very high demand, and the skills are becoming more desired by employers," she explains. "I wanted to find a way to help position University of Memphis students so they can get these jobs."

Thompson has created a three-course undergraduate focus that appeals to students in many majors, and the only prerequisite is a basic statistics course. The benefits to local businesses like FedEx, AutoZone and First Horizon National Corporation are clear. "Recruiting outside of Memphis is a huge expense for area companies," explains Thompson. "So businesses can save money by recruiting locally – and our graduates are no longer at a disadvantage," Thompson says.

Michael Hardin, a Professor of Statistics and Associate Dean for Research at the Culverhouse College of Commerce at the University of Alabama, tells a similar story. He knew from his work in industry that individuals with the ability to build predictive models and accomplish other analytical tasks were scarce. So he created a certificate program that teaches data mining skills to graduate students from multiple disciplines. The four-course concentration in data mining was designed initially for master's in applied statistics candidates, but the coursework quickly became popular with MBA students as well.

Hardin and his colleagues work hard at teaching the students not just how to analyze data, but also how to present the findings. "They learn how to explain what the data means to executive-level staff," says Hardin.

The university's program has graduated 60 students who've taken a four-course series on data mining. "The program has been a boon to Alabama's graduate students and for employers desperate to hire top-notch BI employees," Hardin says.

In fact, many corporate SAS customers have contacted Hardin to recruit his students with SAS skills. In addition, corporate interest has led other universities around the country to consult Hardin about starting similar programs at their schools.

Encouraging business to adopt advanced BI practices
At the University of Central Michigan, Timothy Pletcher, Director of Applied Research, believes some companies are missing out on the value of advanced analytics – and he wants to change that. At the University Research Corp. (URC), Pletcher's team and students help companies like Dow Chemical with advanced analytic projects.

"We believe industry needs to learn how to do this," says Pletcher. "And the students we train as part of these projects then become embedded in industry and encourage continued change." For example, in one recent project URC students analyzed the human resources needs of a major Michigan employer, looking 10 years out in each market line around the globe.

Pletcher says the projects URC undertakes are the types that companies hesitate to do internally, at least at first. "They might have one person on staff who does this kind of work. But once they get their feet wet, they will devote more resources to advanced BI."

Likewise, the University of Connecticut has teamed with a major FORTUNE 500 company, GE, to create cutting-edge BI projects at edgelab, where

students work on live, strategically sensitive projects that involve data mining methodologies, biometrics, and process innovation and transformation.

A joint partnership between the university and GE, the lab is staffed with about 15 MBA students per semester who work on three or four projects for various GE business units. The high-profile projects typically involve numerous SAS BI software solutions.

As part of one of the projects, MBA graduate student Irina Tsikhelashvili created a new risk model for GE Money using SAS software. Tsikhelashvili later took a job at GE and won one of the company's coveted Edison Awards for technical contributions that have made a significant impact on the current and future vitality of the company.

Students like Tsikhelashvili and the work they do will encourage more universities and colleges to offer training in BI, says SAS' Lee. "We know that without a doubt, all companies need employees with advanced business intelligence skills to survive and thrive in today's globally competitive marketplace."

Bio: Catherine Traugot is a freelance writer based in Cary, North Carolina.