

## CHARTING THE BTECH COURSE

“It’s a story of getting lost before finding our way forward.” That’s how Hoa Tu, founding principal of BTECH, describes the process of ensuring that the school’s Scope & Sequence of high school and college course work maps to the skills that industry needs. Skills Mapping is an important first step for all P-TECH model school partnerships. It identifies the entry-level skills associated with a particular industry, and informs the development of the Scope & Sequence. However, as Hoa and the other BTECH school partners found, the process is a complicated one.

**School:** Business Technology Early College High School (BTECH) in Queens, NY

**Partners:** New York City Department of Education, The City University of New York, Queensborough Community College (QCC) and SAP

**Launch:** September 2014, as one of 16 new schools opening in the fall of 2014 as part of New York State’s P-TECH 9-14 school rollout

**Degrees Offered:** Computer Information Systems and Information Technology

### THE CHALLENGE

The BTECH school, located in Queens, New York, is the product of a partnership between the New York City Department of Education, The City University of New York, Queensborough Community College (QCC) and SAP, a leading provider of enterprise software and services. Students at BTECH pursue Associate in Applied Science degrees in either Computer Information Systems or Internet Technology.

The partners began the skills mapping process during the planning phase. They used the Skills Mapping Guide to understand the process, but once underway, the complexity of the effort became clear. “Nothing was linear,” recalls Hoa. “It was more of a stop-and-start effort.”

Hoa asked SAP to provide two entry-level job descriptions for consulting and for software development. What Hoa got back was not what she, nor the Chairs from QCC’s Business and Engineering departments hoped for. The descriptions were high-level and generic, without the detail that would enable high school and college faculty to map the skills to the curriculum.

Her request for more information from SAP representatives did not yield better information. This was not because SAP was holding back, but rather because of cultural differences. “SAP is a German-based company, and they don’t use specific skills-based job descriptions. They had descriptions of soft skills, but not the content-based skills needed to be a successful entry-level employee,” says Hoa.

### SKILLS MAPPING FROM SCRATCH

Rather than throwing up their hands, Hoa and representatives from SAP decided to take another approach. They agreed to talk to the people within SAP who could provide the necessary information. Together, they interviewed 60 SAP employees—from entry-level to senior executives—to hone in on the skills required for the two positions that they had earlier identified. The questions they asked focused on identifying specific, common tasks and goals. They included, “Can you tell me about your job? What do you do everyday? What knowledge and skills do you use daily? Weekly? Monthly?”

Hoa and the BTECH partners then went through the interview transcripts, mining them for content and skills. They went through multiple iterations until they came up with a precise list of 26 essential skills in five buckets.

Next, they shared this list with SAP's Learning Group, a department that focuses on teaching SAP products and culture to employees and clients. This step helped fine-tune the skills terminology so that it would resonate with SAP employees and remain accessible to teachers and parents.

BTECH teachers and QCC faculty are now in the process of mapping the skills to the content at both the high school and college levels. They began by listing all critical classes, irrespective of any particular order, and checking off the skills that would need to be addressed. They have realized that not all of the skills will be learned through high school and college coursework. For example, students will also need to learn through mentoring and workplace learning. Hoa notes, "There will be multiple instances and classes to ensure mastery."

### CONSTANT REFINEMENT THROUGH SCRUM

After numerous iterations, the BTECH school partners expect to have the Scope and Sequence developed by the fall of 2014.

No one expects this to be a final product, however. To ensure that students are acquiring needed skills, Hoa has implemented the SCRUM methodology that she learned while interviewing a SAP developer. Rather than assigning a developer a project, then reviewing and testing once the development is complete, this method employs two-week timeframes for review. This approach enables course correction along the way.

Similarly, Hoa and her team will review student data every six weeks to ensure that students are acquiring the skills they need. "If we see a need, we are not going to wait until next year to make a change," says Hoa.

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