

Pedagogic Innovation with IBM Rational Helps ITE Students Gain Globally Recognized Industry Skills

Overview

■ **Challenge**

To help ITE students gain practical, market-relevant skills and fill an industry shortage in software professionals with commercial-level training and experience.

■ **Solution**

A partnership with IBM enables students to gain experience in commercial IBM products. Students are also given the opportunity to be professionally certified by IBM.

■ **Key Benefits**

- Students gain globally recognized certifications that enable them to secure rapid employment with competitive starting salaries.
- Graduating students with commercial-level training immediately address the employment market's shortage in skilled software professionals, reducing the pressure for companies to recruit internationally.
- Cross-fertilization between education and commercial industries create opportunities for value creation in areas such as course curriculum development and intellectual property creation.

Through IBM training and certification, ITE helped students gain market-relevant skills and employment credibility.

ITE – A champion of market-driven education

The Institute of Technical Education (ITE), a Singapore institution established in 1992, provides industry-related training to school leavers and continuing education to working adults. Its multi-disciplinary curriculum encompasses a wide spectrum of industries, ranging from technology and engineering to business and service skills.

As a non-profit education institution, ITE's key objective is to produce graduates with market-relevant skills that could be used to help them secure employment. Its education model emphasizes a hand-on approach to learning, in which students are routinely attached to companies on internships to gain industry experience.

Addressing the needs of the marketplace

In Singapore's technology industry, there is a strong demand for software professionals with market experience or training in commercial-level software in order to minimize post-recruitment training costs.

Since 2005, ITE's School of Electronics and Info-Communications Technology has been partnering with IBM to incorporate IBM technology related training into its curriculum, with the aim of equipping students with technical skills that are highly sought after in the marketplace.

The partnership was led by Mr. Shafique Dawood, Section Head of the School's Info-Communications Technology



department. According to Dawood, one of the key challenges faced by ITE has been in improving employers' perceptions of its graduates. For many years, ITE was seen by the public to be a last resort for low-achieving students. Although ITE's image has improved through the years, Dawood believes much more can be done to promote and market his students. He said: "We want to change employers' mindsets. We believe that the way to do this is by maximizing our students' skills and competencies through our market-driven courses that infuse elements of domain knowledge."

Partnership synergies

Through its partnership with IBM, ITE has been offering two course modules that incorporate IBM Rational software and methodologies: *Software Testing and Change Management* and *Software Performance and Vulnerability Management*. In these courses, students are trained in areas such as software functionality testing using Rational Functional Tester, or software vulnerability identification using Rational AppScan.



These programs have become so successful that since 2008, the School has stepped up its game by providing students with opportunities to gain highly sought after professional Rational certifications such as *IBM Certified Solution Design – Functional Tester*. The pilot run in 2008 saw seven students certified. Encouraged by its success, the program was expanded in 2009, in which 31 students were awarded certifications. Three of these students have secured full-time employment, with 17 others on their way to doing so, even before graduation despite the economic recession.

In 2008, ITE and IBM Singapore also jointly collaborated to open a Software Quality Assurance Centre at one of ITE's campuses. The Centre was established to help meet the shortage in Singapore for software quality testers. According to Dawood, companies in Singapore have had to frequently turn to foreign hires to address this shortage. With the Centre, companies are now able to "tap into the skills of ITE students who have been trained to conduct testing using proper methodologies."

The results have been impressive. "Prospective employers often tell me how pleasantly surprised they are about the quality of our students in their interviews," Dawood said. "Since the inception of these programs, many of our graduates have been able to command much higher salaries compared to previous years, with some even beating that of tertiary graduates."

The future in co-partnership

In 2007, ITE was the winner of the prestigious *IBM Innovations Award in Transforming Government*. This award, commissioned by the Ash Institute for Democratic Governance and Innovation at Harvard University, recognizes ITE's success in developing a highly sustainable and replicable education model that can be used to transform poorly performing educational institutions worldwide. In August 2009, ITE was awarded the *Technology Excellence Award with IBM Rational Software* for its progressive partnership

with IBM in the continuous innovation of quality technical education. Dawood also received the *IBM Technology Evangelist Award* for his efforts in encouraging the development of skills and capabilities through Rational Training and Certification programs, as well as dedicated work in managing the Software Quality Assurance Centre.

The success of the partnership has prompted the development of an innovative two-year course called *Higher Nitec in Information Systems Quality*, which commences in April 2010. The course will enable students to develop higher level IT skills specifically focused on the development of quality information systems. Moving forward, ITE seeks to work in deeper partnership with IBM to become a co-creator of IBM course curriculum and a regional licensed IBM training provider. ITE staff will also benefit. "Increasingly we are getting more of our staff to become certified with IBM – to be equipped with knowledge that will help them lead industry projects," Dawood said. "I see the future as more collaboration between ITE and IBM in the areas of research and development, and even to the extent of co-intellectual property creation."

"With IBM, we've been able to successfully boost our students' skills and employability, and we see our partnership as a sustainable path for the future," Dawood said. "Over the next few years, we plan to work with IBM to expand our course curriculum to incorporate a greater variety of commercial products. We foresee greater cross fertilization between ITE's market-oriented education and the commercial IT industry."

For more information

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