

CASE STUDY

Knovel[®]

Nanyang Technological University

Driving key learning outcomes



SUMMARY

Nanyang Technological University uses Knovel to engage and equip students with applied engineering and research skills.



ELSEVIER

“Knovel’s information and interactive tools provide real value to students.”

— Mr Lim Kong Meng at Nanyang Technological University



MR LIM KONG MENG is Head of the Engineering Library and Engineering Librarian (Civil Engineering & Maritime Studies). After graduating with a bachelor degree in Civil Engineering, Kong Meng started his engineering career with a local shipyard and later with a foreign MNC working at their regional office in Singapore. Prior to joining NTU Library, Kong Meng was the Senior Manager with the NTU School of Civil & Environmental Engineering. Kong Meng obtained his Master of Science in Information Studies in 2005, became the Head of Engineering Subject Library in 2007 and took over the operations of Lee Wee Nam Library in 2010.

Leveraging corporate experience to implement best practices in academia.

Despite Nanyang Technological University’s relative youth (established in 1991*), the Singapore science and technology institution has quickly become one of the top 50 universities in the world†. In addition to being home to the world’s largest engineering college, NTU is also one of the three most prolific universities in terms of research output in engineering. The secret to NTU’s meteoric rise? A global approach to education and a willingness to engage some of the world’s best faculty, researchers, staff and technological resources—including access to a wide range of science and engineering reference materials subscribed to and coordinated by NTU Libraries.

NTU also offers students dual/joint degree programs with other leading universities globally whose faculties and students also have convenient access to rich information resources. Like other prestigious universities such as Berkeley, MIT, Stanford, Cornell and Carnegie Mellon, NTU is a subscriber of Knovel.

With faculty members who hail from almost 70 countries, the globally-oriented university has long demonstrated its commitment to ensuring its faculty and students have exposure to the international technical community. NTU has invested heavily in enabling virtual access to an international community. The recent acceleration of the campus-wide wireless LAN to rates as high as 300Mbps is but one example of NTU’s efforts to give its students the tools and information they need to succeed in today’s global market.

Seeking sources with both breadth and depth

Nevertheless, as many universities around the world have come to recognize, training students to take advantage of available networks and databases is just as important as the networks themselves. This role of teaching NTU’s students the essentials of effective research falls to instructional librarians and subject librarians at NTU Libraries. Lim Kong Meng, Head of Engineering Library for the Nanyang Technological University, leads his team of 8 engineering librarians in providing training on information resources for engineering students. First trained as a civil engineer and later as a librarian, Kong Meng has an understanding of technical content that helps bridge the gap between scholar and student. “The subject involves a lot of interaction and networking,” says Kong Meng, “it doesn’t work if you are not [conversant] in that area.” These communication skills also allow Kong Meng to enlist faculty members to “convince [students] that mainstream search engines are not the only way to get information,” because, in the librarian’s words, although these have “a lot of breadth,” there is “quite little depth”. Kong Meng offers periodic research workshops, so students have a better understanding of which sources are properly vetted and which are not. “You need to look at the other sources, to be critical about information and analyze it before accepting it. We preach a lot about students having critical thinking. We have a lot of information, but it’s our aim in the workshop to discern as well.”



“To teach students, you first have to engage them.”

—MR LIM KONG MENG
NANYANG TECHNOLOGICAL UNIVERSITY

Knovel engages and instructs

This is where Knovel’s reliably sourced and easily searchable technical content is especially useful. Knovel’s information and interactive tools provide real value to students, especially the interactive tools. These tables and graphs are a Knovel feature by which users can manipulate the parameters of what-if scenarios to determine how results might vary based on different inputs. Students will find these interactive tools not only highly instructive but very engaging as well. Knovel’s content is multidisciplinary and can be accessed remotely without having to visit the library.

Knovel also organizes an annual contest, the Knovel Academic Challenge, together with many university libraries, including NTU, where students use Knovel’s online resources to answer a series of challenging technical questions as they compete for prize tech devices including tablets and

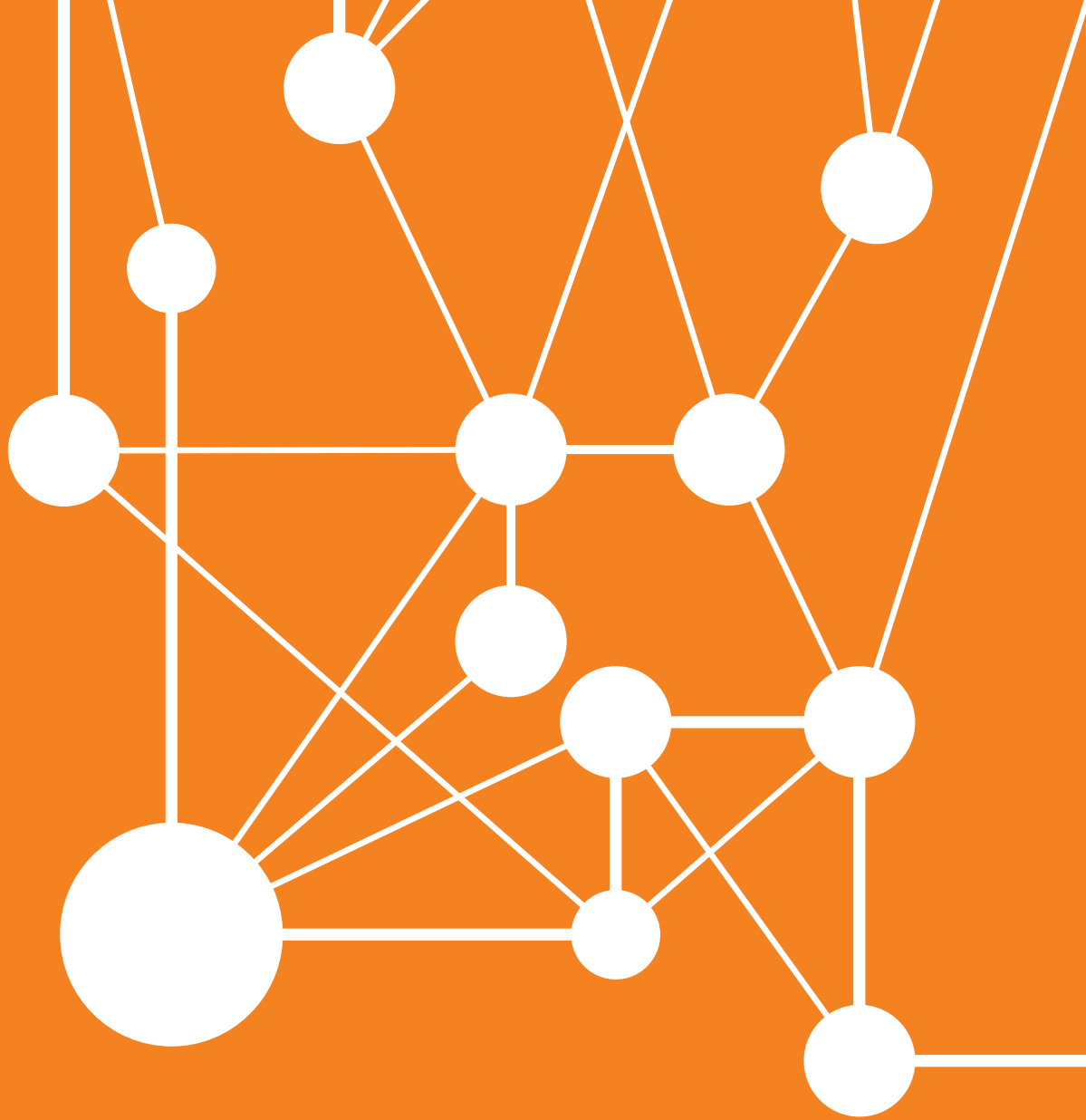
MP3 players. Quite a number of winners were students from NTU.

Equipping students with tools for success

For Kong Meng, the goal of teaching NTU students to be more effective is to make them lifelong learners. “Things are moving so fast,” says Kong Meng, “especially in science and technology. There’s a need to keep in touch... a new challenge.” Yet the librarian knows that to teach students, you first have to engage them. That’s why the library staff “are into Facebook, twitter, mobile technology,” and other global social media. To connect with students, Kong Meng suggests, “We have to continually evolve, to go where the young people are going.” The worlds of engineering, technology and communication are changing. NTU knows that if its students are to be successful in industry or academia, they have to be able to retrieve reliable technical information, apply it to real world challenges and evaluate their results. Yet because those pursuits reach beyond campus and international boundaries, Kong Meng and Nanyang Technological University have to equip graduates not only with knowledge, but also with the global research tools necessary to extend it. Judging from NTU’s continued ascent among the world’s top science and technology universities, it’s working.

* As the Nanyang Technological Institute.

† NTU ranks #47 in the 2012 QS World University Rankings.



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