



E-Learning: The Digitalization of Swedish Higher Education

Thanks to state-of-the-art ICT infrastructure and innovative public policies, Swedish higher education is going digital.

THE 878 MILES between Kiruna, a town almost 100 miles above the Arctic Circle in northern Sweden, and Malmö, Sweden's third largest city, situated across the Oresund Sound from Copenhagen, has gotten a whole lot shorter thanks to state-of-the-art information and communication technology (ICT) infrastructure and innovative public policies promoting IT-based distance education.

The number of students enrolled in distance education in Sweden almost tripled between 1996–97 and 2005–06, mushrooming from 28,400 to 82,300. Almost one in five Swedish students participates in

online courses, according to Statistics Sweden.

The establishment of Sweden's Net University (Nätuniversitetet) in 2002 provided the momentum for the upsurge. The Net University is a consortium of 35 Swedish colleges and universities and



CULTURE:

SWEDEN

BACKGROUND:

A military power during the seventeenth century, Sweden has not participated in any war in almost two centuries. An armed neutrality was preserved in both World Wars. Sweden's long-successful economic formula of a capitalist system interlarded with substantial welfare elements was challenged in the 1990s by high unemployment and in 2000–02 by the global economic downturn, but fiscal discipline over the past several years has allowed the country to weather economic vagaries. Sweden joined the European Union in 1995.

LOCATION:

Northern Europe, bordering the Baltic Sea, Gulf of Bothnia, Kattegat, and Skagerrak, between Finland and Norway

AREA (COMPARATIVE):

Slightly larger than California
Climate: Temperate in south with cold, cloudy winters and cool, partly cloudy summers; subarctic in north

POPULATION:

9,031,088 (July 2007 estimate)

ETHNIC GROUPS:

Indigenous population: Swedes with Finnish, and Sami minorities
Foreign-born or first-generation immigrants: Finns, Yugoslavs, Danes, Norwegians, Greeks, Turks

RELIGIONS:

Lutheran 87%, other (includes Roman Catholic, Orthodox, Baptist, Muslim, Jewish, and Buddhist) 13%



currently offers more than 2,700 online courses and degree programs. Well over two-thirds of students participating in online courses during the 2005–06 academic year were enrolled via the Net University.

The e-learning uptake within higher education is not surprising given that Sweden has one of the world's most advanced ICT infrastructures. Eurostat estimates that 77 percent of households had a broadband connection and 96 percent of households had internet access in 2006. Along with its Nordic neighbors and the Netherlands, Sweden also has one of the highest broadband penetration rates in the European Union (EU). In addition, 80 percent of Swedes—more than in any other EU country—reported using the Internet regularly.

In 2003 the Economist Intelligence Unit ranked Sweden number one in an “e-readiness” index that analyzed the conditions for Internet-based learning in the world's 60 largest economies. The report highlighted that “Internet-based training is common within government agencies” and that “the government is continuing to develop laws and strategies to expand the role of e-learning

within its offices and the public education system.”

Public Policies Promoting IT-based Learning

Distance education has a long tradition in Sweden, as well as in the other Nordic countries. In the early 1900s, correspondence courses were important, especially in rural areas. For instance, in relation to the rapid industrialization of the country in the early twentieth century, engineers with work experience but no formal education could obtain their degree via post.

In the last 20 years, traditional correspondence courses have been adapted to an online environment. In 1998 the Swedish government passed a bill known as “The Open University,” which aimed at broadening access to higher education via distance learning. IT was seen as one tool for increasing enrollment and reaching students who otherwise might choose not to study. The Swedish Agency for Distance Education (DISTUM) was founded in 1999 to promote



Lingonberries growing in the wild in northern Sweden. The berries are a typical accompaniment to meat dishes.



A winter afternoon at sunset, view over Riddarholmen and the Old Town.



LANGUAGES:

Swedish, small Sami- and Finnish-speaking minorities

LITERACY: 99%

COUNTRY NAME:

Kingdom of Sweden

GOVERNMENT TYPE:

Constitutional Monarchy

CAPITAL:

Stockholm

LEGAL SYSTEM:

Civil law system influenced by customary law

EXECUTIVE BRANCH:

Chief of state: King Carl XVI Gustaf (since September 19, 1973)

Head of government: Prime Minister Fredrik Reinfeldt (since October 5, 2006)

ECONOMY:

Aided by peace and neutrality for the whole of the twentieth century, Sweden has achieved an enviable standard of living under a mixed system of high-tech capitalism and extensive welfare benefits. It has a modern distribution

system, excellent internal and external communications, and a skilled labor force. In September 2003, Swedish voters turned down entry into the euro system concerned about the impact on the economy and sovereignty.

SOURCE: CIA WORLD FACTBOOK

the development of IT-based education. After several organizational reforms, the responsibilities of DISTUM were assumed by the Swedish Agency for Networks and Cooperation in Higher Education (NSHU) in 2006.

“Our organization has three main tasks: widening participation in higher education, pedagogical development, and IT-supported distance learning. We see these three tasks as more or less one in the same. They are very closely intertwined. You need pedagogical development if you want to increase access to higher education, and IT-supported distance education is one way to do that,” says Per Westman, NSHU senior adviser.

Between 2002 and 2004, the Swedish government provided almost SEK 500m (more than \$50 million [U.S. dollars]) in support to Swedish colleges and universities to help them develop their IT-based distance learning. Universities used this money to design courses, develop curriculum, and establish the necessary IT infrastructure and support. Over this period, the number of courses and programs increased from about 1,200 to more than 2,600. The majority of these courses are in law and social sciences, followed by natural sciences, technology, humanities, and theology.

Several reports and evaluations attribute the extra government funding, which universities received as grants per distance-enrolled student, as one of the main reasons for increased participation in online courses. Westman says that they initially expected the number of students to decrease when the extra funding ceased in 2005, but enrollment rates have instead stabilized. There were slight increases in 2005–06 and 2006–07, but nowhere near the same boom experienced in 2002–2004.

The Future

In addition to the medium, one of the main differences between virtual and on-campus education is full-time enrollment. The majority of courses within the Swedish Net University are five credits (40 credits equals a full academic year). In 2004 only 12 percent of the courses available through the Net University were full-



The University Liaison Building, the newest of Umeå University’s buildings, is an important, creative place for people to meet and for establishing connections with researchers, trade and industry, and public organizations.

time, and only around 100 of the 1,621 courses offered were degree programs. Many of these were within health and medical care, where a large number of specialist programs are available for further professional development of individuals already working in the field.

Many distance students are also enrolled simultaneously online and on-campus—more than one third of distance learners participated in both.

Westman doesn’t expect the number of students enrolled in distance education to increase significantly in the near future. “What we have seen during the last two years, at some universities, is that campus-based education and distance education are merging. We will see more flexible education. You can choose if you want to take your course at campus or at home. So it will be much more difficult to define distance education, but there will be much greater flexibility for many more students,” he says.

One challenge for distance education in the future is the drop-out rate. The completion rate in 2004 was only 57 percent, which has financial implications for universities. Swedish universities receive a portion of their funding per student when students register, and the rest of the allowance when the student has successfully completed his or her studies. With high drop-out rates, many distance learning programs face the possibility of underfunding if they are not able to boost course completion rates.

A Comparative Perspective

Many countries have launched virtual universities, but there are several reasons for the apparent success of the “Swedish model.” In particular, Swedish higher education is tuition-free. This means that while universities compete with each other for students and government funding, they do not compete on the open market in the same way as American universities. A report from the Swedish National Agency for Higher Education compares the Net University to other virtual campuses, such as the failed NYU OnLine and the California Virtual University.

The report states that “an important reason for these failures is likely the exaggerated optimism in terms of expectations of market size and economic gain.” Such expectations were largely due to the IT boom in the mid-1990s.

“In the Nordic countries, the situation is somewhat different. Here, initiatives are not... built upon expectations of economic gain in the same way as in other countries, but more to achieve the goals of educational policy... The Swedish government has tied the Net University to expectations of widened participation and increased access,” the report says.

A Question of Survival

Widened participation has become a survival strategy for Swedish universities, especially in rural regions. More than half of the students

at Gotland University in Visby are enrolled in distance courses. Gotland is an island in the Baltic Sea off the western coast of Sweden, three hours by ferry from Stockholm. Fewer than 60,000 inhabitants live on the island.

Marie-Louise Jungnelius, coordinator for Internet-based learning at Gotland University, says distance learning has been vital to their enrollment figures because of their remote location as well as the fact that fewer students in Sweden are choosing to study at the university.

“Attracting more students with distance education is a way to survive,” she says. Internet-based education reaches out to a different demographic than campus-based courses.

“An average student participating in distance learning is female, and she is about 35 and has two children. That means that you can’t go to courses. You are occupied with your family and many of our students also have full-time jobs. It attracts a different kind of student. It has been a government strategy that we should broaden the recruitment base. This has also given an extra kick for these kinds of studies,” says Jungnelius.

This is an accurate description of overall trends within Swedish distance learning. For the Net University, more women than men participate in online education, and more than half of all online students are older than 34, compared to fewer than 20 percent of on-campus students. Additionally, almost half of distance learning students have children, and close to 80 percent are employed.

Digital Goes Global

Although expanding the recruitment base is an explicit goal of Swedish distance education, e-learning in Sweden has primarily been oriented at the domestic market according to the Swedish National Agency for Higher Education. Less than 10 percent of the courses offered via the Net University are in English, despite the fact that almost 20 percent of new enrollees in Sweden are exchange students. Still, almost 250 courses in English are offered through the Net University.

While most courses require Swedish residency, a few have no geographic restrictions.

One of these innovative courses is the “communication for development” master’s program at Malmö University. The program, known as “ComDev,” targets media, communication, and development professionals—many of whom are already working in the field. Seminars are held on campus in Malmö, but students have the option of telecommuting to class.

Student Kerri Arsenault says the technology makes the program unique, and students dial in from locations as diverse as Fiji, Uganda, and Australia. Although she was living in Malmö for the first year of the program, she will be attending courses remotely during her second year.

“What is amazing about ComDev is that I can interact and learn from students from all over the world; this is possible only because of the technology,” she says.

“While I sat in the physical classroom, my classmates watched an online video stream and participated via an online chat that we in the classroom were also able to view. Some-

times there would be an engaging discussion in the classroom. However, simultaneously there might be a more engaging discussion in the chat. Though I attended in person, I would also bring my laptop to class—that way I could also interact specifically with my online colleagues,” she explains.

During a trip back home to the United States last year, Arsenault logged on for a seminar—at 3:00 a.m. She says the time difference, rather than geography, is the biggest challenge for making the course work. “I experienced the online version of ComDev and surprisingly, it wasn’t much different. I had to get up at 3:00 a.m. but other than that, I felt the information reached me...maybe in even a more productive way,” she says.

For Arsenault, ComDev practices what it preaches: “globalized learning and information sharing no matter where you are.”

Which, after all, is what distance learning should be all about.

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