Intelligent IT, cool education!

An innovation programme for technology enhanced learning in the Netherlands.

For ten years now, SURF is executing a programme on stimulating technology enhanced learning in Dutch Higher Education (HE). Within this programme, funded by the ministry of education, over 70 projects have been carried out in which almost all universities are collaborating and experimenting on how IT can enhance education. One of the results is that SURF has become a natural meeting point and sparring partner for about 1000 pioneers and early adaptors in Dutch HE.

In the past few years we learned that a lot of universities, in one way or the other, have the ambition to become more student centred. They use words such as personalized education and flexible learning. We call it 'customized education'. We are convinced that IT can be a strong enabler to realize these ambitions. That's why in our most recent programme we address topics that enable customized education, such as:

- a flexible and open learning environment
- using learning analytics
- open educational resources
- open badges and microcredentialing

Students have more and more individual learning requirements and have high expectations for the digital environment in education. The 'Education Innovation with IT' programme helps institutions tailor their education to meet these needs. To do this we run a range of projects together with the institutions, based on their challenges.

Optimally meeting students' learning needs
The student population of the Netherlands is increasingly diverse. Students carry various devices around with them and expect to be able to use all of them to access their learning environment and (open) learning materials anywhere, anytime, as well as use them to gain insights into their learning achievements. New applications and technologies provide flexible, personalised education more quickly and more easily, and let students study wherever and whenever they want. Institutions can offer personalised support and give students more control over the progress of their studies. And they can offer students a personalised learning environment, giving them access to learning and exam materials everywhere, all the time.
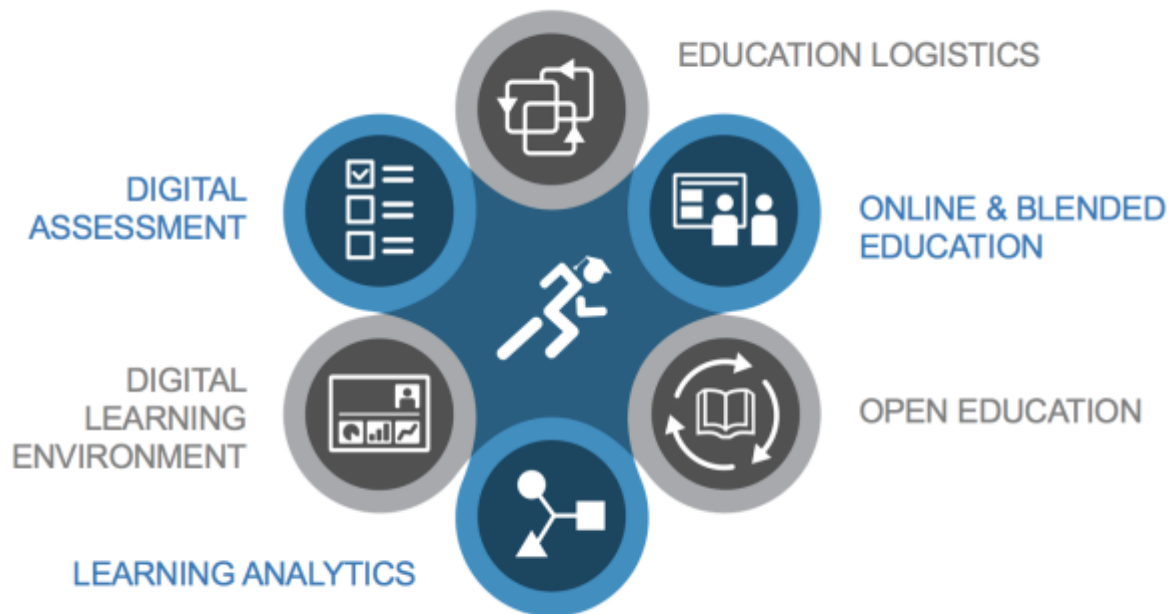
Using IT for educational innovation
Thanks to developments in the IT sector, institutions are increasingly able to offer more tailored education and use technology which supports the current digital research and education sphere. SURF helps them do this. We support people who want to use IT to set educational innovation in motion within their institution.

Research IT options to boost the quality of education
SURF collaborates with educational institutions on an ongoing basis to build knowledge and expertise, while also facilitating the sharing of experiences. We research how IT can help education and the management of education organisations, and experiment with new

applications and technologies. Additionally, SURF develops service packages based on the needs of institutions, helping them achieve their ambitions and boost the quality of education.

In this presentation, we give an overview of this SURF way of working for technology enhanced learning in HE and show the results of the innovation Programme in general, but focus on the last three years; the organisation of the programme, the different means and the results of the separate projects will gain attention.

After this introduction and overview of the six programme themes and the different projects within these themes, we'll let the audience vote for one of these projects that they'd like to hear more about. It wouldn't surprise us that this will be the Open Badges project because since out talk last year this project gained considerable traction. The remaining presentation time ($^+$/- 50/50) we will focus on this single project, of which we will present all ins and outs.

We'll finish up by musing on the ambitions for the next years to come; what can or should be new fields of interest, how can we be more effective in dissemination and grow on impact? Is there an international interest in collaboration with other NRENs on such matters or subjects? If so, how could we organise such collaboration?

Authors
Alexander Blanc
Frans Ward

Author Affiliations
SURFnet

PO Box 19035
3501 DA Utrecht
The Netherlands

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Technology enhanced learning, education, best practice, collaboration, innovation, strategy, building communities

Target audience for presentation
General audience

Topics
- o The power of the Internet: strategy, building communities, users, net freedoms, international, cloud services, scaling issues
- o Networking at the speed of science: e-infrastructures, big data, small data, HPC, extreme networking, SDN, WiFi, mobility, education
- o Responsible sustainability: trust, green ICT, privacy and sharing, cloud and local control, software sustainability, knowledge exchange, protocols and standards
- o Creating intelligent complexity: identity, IoT, smart campus, security, privacy, cloud brokers, collaboration, automation, virtual organisations, network research

Author Biographies
Frans Ward is a Senior Technical Product Manager at SURFnet and has been responsible for innovation projects in the area of Trust and Identity, Service Delivery and Educational Services. For the past two years his focus was mainly on Open Badges and Micro-credentialing, the Open Educational API and Open Educational Resources; projects that are part of the SURF innovation programme 'Education Innovation with IT'. Frans studied Business Information Technology at Rotterdam University. After working at the Erasmus University IT department for more than 12 years he joined SURFnet in 1999.

Alexander Blanc is Senior Product Manager at SURFnet. He studied Communication Science at the University of Amsterdam. In 2004 Alexander joined SURFnet to become Product Manager of its online video services. From 2010 on Alexander was involved in many different projects and services concerning SURFnet's Collaboration Infrastructure, Security, Privacy & Trust, and Educational Services. The past three years Alexander took part in several of the projects within the 'Education innovation with IT' programme.

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