



EduTablet

Bridging the app gap in Flemish secondary schools

Research has shown that teachers in Flemish secondary schools are genuinely interested in integrating digital tools (such as tablets) in their curricula. But this obviously requires the right content to be available in the right format - which is a major showstopper today.

EduTablet rallied all stakeholders (schools, app developers, publishers and academic researchers) to investigate how this so-called 'educational app gap' can be bridged.

EduTablet's project partners put users (teachers as well as secondary school students) center stage and used their inputs to investigate:

- What educational apps should look like, and which features they should contain.
- Which approaches and technologies could help Flemish publishers to create digital educational content.
- Which recommendations could be formulated towards teachers, schools, publishers and policy makers to foster the uptake of digital apps in Flemish secondary schools.

THE OUTCOMES

1. A number of basic technological hurdles need to be overcome first

The lack of good educational content is not the only hurdle to the uptake of digital tools in Flemish secondary schools. EduTablet revealed that a number of basic infrastructural

challenges need to be solved first. As part of the project, the researchers found for instance that almost every school in Flanders has been equipped with Wi-Fi. Yet, only in 47% of the schools that were queried, students can actually access that network. On top, it appears that very often only a limited number of students can simultaneously make use of the Wi-Fi network because of security and bandwidth constraints.

2. Three demonstrators uplifting traditional learning content to the digital era

Simply digitizing existing course material will not be sufficient to make the most of digital learning tools: the real opportunity of digital learning lays in making optimal use of new learning techniques. EduTablet spent a great deal of effort on developing approaches to enrich content along three digital dimensions: adaptivity, interactivity and inquiry-based learning.

Making learning content adaptive - e.g. tuning it to a student's individual proficiency level - is not an easy thing to do. EduTablet therefore explored ways in which interoperable formats, such as Tin Can API, can be used to capture learning activities in a learning record store. Additionally, algorithms have been investigated to enable exercise adaptivity.

EduTablet also pursued new ways to enable interactivity between students and teachers across multiple screens. Furthermore, it explored the potential of inquiry-based learning - which starts from questions, problems or scenarios, rather than simply presenting established facts or portraying a smooth path to knowledge. Finally, the project also included a legal track that dealt with the proper use of source material (copy rights) and privacy and data-protection.

“All these tracks come together in the three EduTablet demonstrators that we built,” says Winnie Valbracht, the project lead. “They provide some concrete answers on how to bridge the educational app gap in Flanders, and how teachers, students and publishers could benefit from this. As a whole, EduTablet can be considered a guideline for the digitization of education.”

3. Blended learning is the future, but it requires a well (re)-defined role of secondary school teachers

Digital learning tools will not replace current ways of teaching and learning; in practice, a blended learning approach needs to be pursued – whereby traditional classroom teaching and feedback in wider groups is blended with the use of tablets and apps.

“The use of digital learning technologies should not be an aim in itself – and should never be considered a stand-alone solution,” says dr. Ellen Vanderhoven (iMinds - Ghent University). “It should be an integral part of teachers’ learning plans. And therein exactly lays another challenge: teachers should be taught how to use these digital technologies in a classroom environment.”

“It is important for schools and the government to be aware of this, so that they can adapt their policies, training courses and budgets accordingly,” she adds.

Hence EduTablet also resulted in an interactive tool that identifies five types of teachers – based upon their attitude towards (and familiarity with) the use of digital tools during their classes. According to the researchers, adequately dealing with their respective concerns is crucial to fostering the adoption of these new technologies in an educational setting. After all, one can have the best Wi-Fi and the best apps – but if teachers have not bought into their use, we are back to square one again.

NEXT STEPS

“Various opportunities for follow-up research have been spotted already,” concludes Winnie Valbracht. “One track is to further explore the use of adaptive reasoners and tin can statements to analyze data that have been captured, and use those insights to finetune course tracks in the scope of adaptive learning. From a commercial perspective, several meetings are taking place to explore the demonstrators’ market potential.”

AGENTSCHAP INNOVEREN & ONDERNEMEN  Vlaanderen is ondernemen

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FACTS

NAME	EduTablet
OBJECTIVE	Bridging the app gap in Flemish secondary schools
TECHNOLOGIES USED	Xamarin, HTML
TYPE	ICON project
DURATION	01/01/2014 – 31/12/2015
PROJECT LEAD	Winnie Valbracht, Cronos
RESEARCH LEAD	dr. Ellen Vanderhoven, iMinds - MICT - UGent
BUDGET	2,037,000 euro
PROJECT PARTNERS	Atheneum Ieper, Averbode, Bits of Love, Boek.be, Business Language and Communication Centre (BLCC), Cronos, Lucernacollege (Antwerpen), Plantyn, Sint-Jozefshandelsschool – Sint-Pieterscollege (Blankenberge), Van In
RESEARCH PARTNER	USolv-IT
IMINDS RESEARCH GROUPS	CiTIP - KU Leuven, ITEC - KU Leuven, MICT - UGent, MMLab - UGent, SMIT - VUB, Technical Testing Lab



WHAT IS AN ICON PROJECT?

iMinds is the digital research center and business incubator for Flanders, Belgium. Its ICON research projects are agile and demand-driven, combining academia and industry partners. ICON projects typically have a duration of two years, yet quickly adapt to the rapidly-evolving digital landscape. ICON partners intend to use the project results in their products or services.

EduTablet project partners:

