The Danish Simulator - Exploring the Cost-cutting Potential of Computer Games in Language Learning

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Abstract

When exploring reasons for applying games in teaching environments, motivating learners is often, and rightfully so, cited as a main reason. In Denmark we are currently exploring an additional motivational aspect, that of saving money and increasing efficiency at the same time.

The Danish Simulator, also known by its game name "The Hunt for Harald," is an online language and culture learning game, which contains speech recognition, based interactive lessons focused on teaching specific cultural and communicative skills for Danish, and a game-based virtual world focused on letting the learners apply those skills. The platform's integrated speech recognition system allows the learner to actively enter into conversation with the inhabitants of the virtual world. If they understand what the learner says, they respond and the learner continues on in achieving the actual goal of the game, finding Denmark's birth place, the Jelling Mounds, erected by Kings Harald Bluetooth and Gorm the Old, from 930-965.

Development of the Danish Simulator platform was sponsored by the "Foundation for Wellfare Technology" under the Ministry of Finance. The foundation has as its sole purpose, sponsoring projects which can realistically show potential cost-cutting benefits, and increased efficiency, by introducing technology within the public sector, without compromising the quality of the service which is being provided.

Since 2007, the number of immigrants receiving Danish lessons at language centers in Denmark has increased by approximately 13.000 people, peaking in 2010 with 49.500 learners [1]. The teaching of Danish to immigrants is done at publicly funded language centers of which there are approximately 60 to in Denmark - part public, part private, employing around 1500 teachers. The annual cost of Danish education is estimated at 170 million Euros. The increase in the number of learners has not been matched by a similar increase in teachers or available hours - on the contrary.

The aim of the DS during the test phase was to replace part of the actual in-class teaching hours, in this case 10 and 20 percent respectively. We focused on two separate levels of learners, those with existing shorter educational backgrounds (referred to as level 2 learners) and those with mid- or higher level educations (referred to as level 3 learners).

The DS was tested over a period of 6 months from October 2011 through March 2012 at 3 different language centers, by approximately 250 students. The study was evaluated by an external Ministerial department, UNI-C, and the results of the evaluation clearly demonstrated the financial potential.

But, already now it seems evident that a platform of this type can successfully take over a larger percentile of the teaching requirements without a decrease in learner grades or satisfaction.

The main aim of this article will be to report the results of the study.

References

[1] Danskuddannelse i tal 2010 [*Danish education in numbers 2010*]. Published by the Danish Ministry for Children and Education, 2012. 2010 Report