

FUN: Select Expertise & Cases

Evaluation

How can we develop learning games that respond to **actual educational needs**?

Our aim is to develop a research-based framework for evaluating learning games for different local and national educational contexts. University of Jyväskylä and WGBH have set out to explore this goal by carrying out expert evaluations of STEM learning in Finland and the USA.

The results highlight **the meaningful use of games** in the classroom context, e.g. by increasing goal orientedness and curriculum relatedness; underlined the need for improved implementation of scaffolding; and recommended that more emphasis be put on such creative and open-ended tasks where the children are able to experiment and explore.

Based on the outcomes and the developers' feedback on the value of the evaluations, there is a need for a comprehensive, multidisciplinary, **evidence-based evaluation** framework to support and accelerate entry to prospective markets. This will be one of the next steps in our work.

Gamification

In Aalto University we have studied achievement badges in education from different perspectives. Some aspect of student behavior can be affected with achievement badges. Some students seem to be affected more than others.

Thematic groups emerged from analysis of feedback regarding achievement badges. Some were not impressed by badges while others focused on suggesting improvements. It was also clear that they triggered **emotions** – both positive and negative. Some stated that they did affect behavior and a few focused on the social aspect of badges. Based on student feedback and our experiences, we found general guidelines and suggestions for using badges in education.

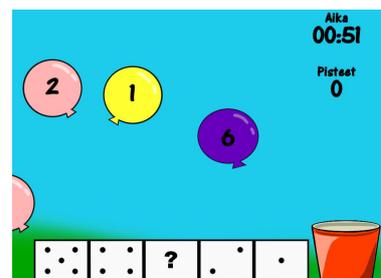
Differences in students' **goal orientation** profiles seem to play a role in explaining why some students respond to gamification schemes more strongly than others.

Kinetic Interfaces

Is there a way to make implicit learning in science games more intuitive and immersive?

A group of designers from EdGE at TERC and University of Tampere (TAUCHI) believe it is. By combining efforts to create science games with kinesthetic interfaces, it is possible to **make the implicit learning more visceral and immersive**, with the goal of deeper implicit learning for a broader set of learners. Multimodality and immersion leverage learning by engagement and flow in games for different age groups.

In this collaboration, games serve as **both teaching and research instruments**. Existing games and evaluation methods are shared and deployed in pilot studies across countries. By working together, the teams have gained hands-on familiarity with new evaluation tools and methods and preliminary data for patterns of engagement, which can act as a seed for future cross-country collaboration.



Our vision: How To Design Games for Education - From Anecdotes to Evidence

Need

Evidence-based pedagogical validation of educational games to accelerate entry to prospective markets

Benefits

Validated, comprehensive evaluation for educational games
Flexible and effective educational network
Contextual – pedagogical – enjoyable – technological

NABC

Approach

Progress-oriented evaluation feedback from personal experiences to measurable learning and beyond
Boosting of the products' way to the markets and reducing the investment risks

Competition

Alternative for game development based on only anecdotes and intuition for game companies and other parties interested in educational game development