Design Based Education to promote international cohesion

Geplaatst door Roelien Wierda op donderdag 28 juni 2018 15:45

Now that we - as a University of Applied Sciences – are in the middle of a transition from Competency Based Learning and PBO it is striking how DBE and Design Thinking are increasingly the focus of global interest. The NHL-Stenden InnovationLab is a partner in the EU-funded project "Added Value", which focuses on STE(A)M education, supported by Design Thinking methodologies. We have been invited to participate in this educational project (running from January 2018 – January 2020) on the basis of our DBE-expertise.

From 11-15 June a four-headed delegation from NHL-Stenden travelled to Barcelona to take part in a 5-day working conference for the partners in the project consortium. The consortium consists of a Polish, Spanish, Irish and Dutch partner. The entire project has a Design Thinking orientation; in this article we will outline how we as project team follow the stages of Design Thinking in order to successfully reach our goals. Besides we will demonstrate what steps have already been taken and what role NHL-Stenden plays in the project. We will focus in particular on how we disseminate the NHL-Stenden educational vision on Design Based Education.

Conduct practice-based research

The original authentic challenge comes from Polish schools :
"how can we make education – especially maths and calculus education – more interesting and relevant by applying innovative educational insights such as STE(A)M en Design Thinking?"
Over the past couple of months each of the partners has been busy carrying out desk research and research through focus groups and expert interviews. The desk research focused on world-wide good practices and innovative publications and projects while the focus groups and interviews focused on the status quo of maths education in the various partner countries. The different outcomes of the research were presented in Barcelona, conclusions were drawn and the authentic challenge was refined to suit the needs of all participating countries. Curricula were compared as well as the organization of maths and related subjects. Besides, teachers were interviewed about their dispositions, perceived freedom and barriers. The objective of these interviews was to establish what common ground the partners share and what needs they have in common. Moreover, it was decided that the outcome of project would have to be a toolbox that is generic enough to cater for the needs of the different participating countries.
Some striking results from the research:
a. The attainment targets for maths of the partner countries show striking similarities
b. The differences between teachers of the partner countries with respect to dispositions, perceived freedom and barriers was smaller than was assumed. The general assumption in international projects is often that Dutch schools are rich and innovative. From the interviews a completely different perspective emerged: Dutch teachers, like their peers in other countries,

would like to experiment and try new things but they lack the necessary time and feel hemmed in by the set curriculum. The looming CITO-test leaves too little room for creativity when it comes to maths. There were, of course, also striking differences. In Poland, for example, maths is taught by a special maths teacher, much like in Dutch secondary education. The limited amount of class hours gives the Polish maths teacher even less room to move than his peers in other countries.

Determine the research question based on knowledge

Where the first day of the conference was devoted to sharing the desk research and focus group research, day 2 was devoted to sharing expertise with respect to STEAM and Design Thinking/DBE. The Irish partner gave a workshop on STEAM, the Spanish partner organized a simulation with a strong Design Thinking orientation, the Polish partner did a workshop on Design Thinking and we offered a workshop on Design Based Education, using our platform MySchoolsNetwork. Besides external experts on maths didactics and maths e-pedagogy were invited to share their expertise.

Brainstorm and Generate ideas

Day 3 and 4 were filled with intensive brainstorm sessions as to what the toolbox should consist of, what it should look like and what educational vision the toolbox should be based on (if any...). These were interesting sessions during which the different cultural backgrounds sometimes gave rise to heated discussions. The structure of a Design Thinking approach guaranteed that by the end of day 4 we had reached a consensus that the toolbox should be DBE-based and as to what the general contents and look & feel of the toolbox should be. It goes without saying that the NHL-Stenden delegation made a strong case in favour of a DBE-approach.

On the 5th and final day the further planning and roadmap of the project were discussed. In the next phase the Spanish partner will be responsible for the design of the toolbox, which will subsequently be prototyped by each of the partners. The prototyping will be organized through hackathons in each of the partner countries with groups of teachers and student teachers.

We look back on the 5-day conference in Barcelona with great pleasure and satisfaction. We have experienced how DBE is not just a great learning environment for our students but also works wonderfully well as a vehicle for international collaboration and projects. The DBE approach is a perfect way to combat false assumptions and generalizations, thus creating room and structure for a creative and problem solving process.

If you are interested in learning more about this or other DBE activities initiated by the InnovationLab, contact us via innovationlab@nhl.nl