

Summary

In this report the research done for my bachelor graduation assignment is set out. The research is focused on the use of Virtual Reality (VR) in the educational environment, especially the bachelor curriculum of Industrial Design at the University of Twente. Two major analyses were done one regarding the curriculum and the other regarding Virtual Reality products and applications. Besides these two analyses an inventory has been made which products and which product types were currently present in the Virtual Reality Lab of the University of Twente. From there a tool has been designed to combine the information that came out of the analyses. With this tool, lecturers can easily find a Virtual Reality application that can support them in giving their courses.

The research did not start with a clear research question. There was a broader problem. Currently, the VR lab is not being used to its full extent. Students know of the existence of the VR lab, but only use it, and the products in it, in only one module of the entire bachelor curriculum. Thus, the goal of this research is to find a method to enhance the presence of VR in the curriculum.

Firstly, a curriculum analysis was done to get insight in which courses have room for improvement and to find out if the use of new technologies, like VR and AR can support courses. This analysis is based on evaluations of courses from the last five years. This was done to find the reasons why some courses scored consistently high or consistently low in these evaluations. Courses were also categorized to find if there was a correlation between learning themes, teaching methods and the scores of the evaluations. It was found that low grades were often caused by organizational problems, the higher counterparts were mainly due to practical applications of the theory during the course. So this gives an indication that AR or VR applications could have a beneficial effect if it gives student an interactive and practical opportunity of applying the theory as long as it does not lead to organizational problems.

Secondly, a market analysis has been done. The goal of this analysis was to explore which products are already available and how they could contribute within the educational program. Two types of products were found and researched either purely educational applications and products that were linked to in some sense with the industrial design field. Also, the current products available in the VR Lab of the UT were mapped and inventoried.

After these analyses were done there was a clear picture of what kind of courses there are and what kind of products. The decision was made to not focus on one course or one product but to try to find a method of linking courses and products to improve the way teachers could start implementing VR in the curriculum.

A tool was developed that a teacher can use when setting up his or her course for that year. The teacher gives some input of what it would like to achieve with VR in their course and the tool gives recommendations of what applications might be useful. The system also works with evaluation data to give the teacher an indication of what would be a good area to improve in the course and to give better recommendations concerning applications. As of now only a mock up has been made of the tool using InVision, an online interface creator. This gives the users an idea of how the front end of the tool would work. The back end is described in the report as well as the plan for development and implementation.