

The New Quest; a transformative experience design exhibition for children

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This thesis' scope is developing an exhibition about climate change for children between 4 and 12 years old through the use of transformative experience design for the Maritime Museum Rotterdam (MMR).

The current children's exhibition of the MMR is called Professor Plons. For 30 years it has been the most famous exhibition within the museum. In this exhibition, children from 4 -12 years old will be playfully introduced to the maritime world. Although the current exhibition is a great success, the MMR wants to create a new children's exhibition. The vision of this new exhibition is: "We and the ocean: the future of the sea". Their message is: life is not human-centred but humans are part of a much bigger ecosystem. They want to let visitors reflect on their position in the world to create awareness.

The thesis's relevance is to translate this difficult social-environmental problem into a playful exhibition where children will understand the topic and be encouraged to think of sustainable solutions for the future. To design this new exhibition for children, research has been conducted about the following topics; the target group, learning methods, climate anxiety and designing for a museum experience. This research resulted in a list of guidelines to design an exhibition for children about climate change. These guidelines are used for the creation of a World of Wonder (WOW). The WOW is the experience design method framework of Bär & Boshouwer, (2019) that has been used to create the proposed exhibition. The proposed exhibition consists of the visitor's journey, visitors' flow and the visitor's experience. These elements are visualized by writing the storyline for the exhibition, making a maquette and a storyboard of the intended visitor's experience.

The first part of the analyse is about the target group. This is a combination of desk research and a field study at a "basisschool" in Enschede. This analysis gave insight into the target group's cognitive development and their prior knowledge about climate change. Alongside this analyse, research about the existence of the climate anxiety phenomenon (Marks et al., 2021) within the target group has been done. This analyse showed how to educate children about this topic without spreading fear. In addition, this research gave answers on how to encourage them to take action using several psychological theories e.g. Csikszentmihalyi's flow theory (1997), Window of Tolerance (Siegel., 1999), the Overview Effect (White, 1998) and Awe experience (Keltner & Haidt, 2003).

The research about learning methods showed that educational frameworks such as Fundamental learning & EGO education (Laever, 2013) and elements of play (Bouwman et al., 2020) are very effective in transferring difficult abstract knowledge to young children.

Similar to the analysis of the target group, the analyse of designing for museums is also a combination of desk research and several field studies in different museums. The desk research showed the ongoing trend of museums shifting from traditional conservation centres into dynamic multisensory places inspired by theatre, film and advertisement due to globalisation (Vassos, 2017). This has led to research about the experience design method of Bär & Boshouwer, (2019). Both Bär & Boshouwer (2019) and the research about fundamental learning (Laever, 2013) showed that imagination is key to understanding and embedding knowledge into the mind. We use our imagination to create our reality of the world. Experience design is used to challenge this created reality of people to broaden their reality. The Interactive Experience

Model of Falk & Dierking (1992) gave insight into the consistency of these perceived reality experiences of visitors and how to design for it.

In this created WOW, 2 of the 4 stages are addressed. These are the concept development and concept design. In the first stage, creating the Big Idea; the overall idea and the scope of the experience are defined. The visitor's flow, visitors' experience and visitors' journey are part of this stage. The visitor's journey has been created to tell the overall story behind the exhibition. This has been done using the Hero's journey of Campbell (2008). The visitor's experience is visualized by making a storyboard. This visualises the different stages the visitor is going through when entering the WOW. In stage 2; concept design, a maquette of the new exhibition has been made. Here the Big Idea has been implemented by representing the visitor's flow of the new exhibition. This stage also showed the audience density and the overall experience with exhibits in the proposed exhibition.

As a final point, to further develop the exhibition, it has been recommended to conduct several evaluations in form of focus groups representing the target group. The storyline needs to be assessed to which extent it is appealing to the imagination and understanding of the target group. The effectiveness of the transformative experience needs to be evaluated. Further, the development of characters and the storyline needs to be designed alongside the target group. Children below 6 need to have a different approach to engage within the story on their level of understanding. A recommendation for this was using animals instead of personification of characters. Lastly, the visitor's flow needs to be tested for congestion and attention. To evaluate both elements, observations of visitors are needed to evaluate the time spent in specific areas.

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