How to Visualise the Qualities of Installations?

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Museums and science centres are places where visitors learn and gain knowledge through encountering and engaging with installations. The design of these installations is important for the engagement and experience outcome for visitors. We present two visual methods, the Expogon and the Visitor Engagement Index (VEI) profile. These can assess the design of installations and give hints for the designers on how to improve the experience.

A systematic approach is needed to evaluate whether installations in a science centre work as intended, and what could possibly be changed to improve the mediation effect. Tools are available to structure this evaluation process.

The Expogon

The Expogon by Dan Spegel (see expogon.org) breaks down the exhibition medium into six elements: narrative, space, visitor, objects, time, and sender. Each element consists of fifteen hexagons representing categories, ten pre-filled and five empty for additional categories. The researcher wanders through an exhibition and notes observations on the Expogon. Thus, it is a qualitative tool that allows brainstorming when evaluating an exhibition.

The Visitor Engagement Index Profile

The Visitor Engagement Index (VEI) profile is a quantitative measure to evaluate single installations. It classifies installations in their dimensions of competition (C), narrative (N), interaction (I), physical (P), visitor or user control (U), and social (S). Each of these dimensions can have a value from 0 to 5; the higher the value, the more a dimension is present in an installation. The table on the following page presents the description of the values for each dimension.

The values from this assessment are drawn in a spider-diagram for each installation that is evaluated. We show an example in the following diagram where four selected installations at the Norwegian Maritime Museum (NMM) are characterised and assessed using the VEI-profile. Drawing the assessment of several installations into one diagram, one can evaluate the characteristics of an exhibition.

The VEI profile for selected installations in a science centre.

The selection of the dimensions in the VEI-profile is from a installation-centric perspective, aimed at complementary dimensions to the Expogon. The selection of these dimensions has been performed together with representatives from science centres where we, in an iterative process, listed possible characteristics of installations and grouped these avoiding large overlaps. Afterwards, we defined the different levels as shown in the table. Practice will show whether these dimensions need to be adjusted or dimensions need to be added.
Being assessed along these six dimensions, the installations at the NMM have distinct characteristics, from a simple presentation with a start button (NMM-04) to a complex simulation and game with four consoles (NMM-01).

Assuming that these installations form one ensemble, we can visualise this ensemble’s characteristics as a whole. In the above example, we recognise that the physical (P) dimension has rather low values for these installations. An exhibition designer could consider to increase the P-value by making changes to the installation for the sake of giving visitors a better experience or to decrease values, e.g., the U-dimension in the above example. In other cases, a good mix of characteristics could be the objective of an exhibition.

**How to Assess Engagement?**

When an installation designer decides to make changes on the basis of the VEI-profile, both the original and the modified installation need to be assessed with regard to how engaging these installations are. In the field of visitor studies several approaches are possible, such as observations, questionnaires, or assessment using diverse sensors. In the ideal case, the assessment is minimally intrusive, does not bother the visitor, and can be performed in a short time.

Observations by museum personnel usually focus more on the visitor instead of the installation. Questionnaires might be intrusive for the visitor, and the answers are given in retrospect, i.e., not *in situ*. Our approach is to use observations from sensors to retrieve data about a visitor’s engagement. Electronic questionnaires will be tailored so that only relevant questions will appear. Thus, the visitor will not be bothered more than absolutely necessary.

**References**


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