The role of difference in reflective design activity

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According to reflective practice, the designer “sees” the situation through their selected “frame”, constructed by their “applicative system”, and comes to an assessment that the current situation is not preferred. A “move” is made, resulting in an attempt to re-construct the situation in a potentially preferable future state, which in Schön’s account is evidenced as a modification to Petra’s drawings. The final “see” is the reflective appreciation of the changes made, considered by the designer about the proximity of the current situation to a more desirable outcome. For the past 30 years, this has provided an attractive account of designers’ activity. We’ve analyzed this microcosm of design activity through the use of ethnographic participant observation and a series of photo-elicitation interviews with the participants involved. Photographs of artifacts presented were taken during each session, as part of the inventory of each tutorial episode. All tutorials were 30 minutes in length, once per week, over an eleven week period. All audio recordings were transcribed for preparation and analysis.

A coding scheme was developed and tested for intercoder reliability, to test our working hypothesis that physical boundary objects structure difference between designers, when the presentation of artifacts in design episodes is understood as being one component of the design conversational structure understood as a representational system of symbolic exchange across the network of actors (Currie, 2004).

Introduction

Schön (1983) introduces us to Petra, a first year student working through a studio based architectural assignment, and Quiet, the studio master engaging Petra in a set of tutorial sessions. Schön has analyzed this microcosm of design activity through the use of ethnographic participant observation, which has resulted in the highly influential account of designing as a reflective practice, as a “conversation with the materials” where the designer’s process is encapsulated as a “see-move-see” triad.

An ethnomethodological approach informs our data collection activities, where we examine how two actors are using artifacts, dialogue and conversation, to effectively outline and structure their worldview to others. As Gee suggests, actors select words, build phrases and construct sentences to suggest to others how they might re-construct their world view in the minds of others.

Methods

An analysis of tutorial transcriptions identified three worlds of focus in the conversations between tutor and students across each design episode: material composition (what is the object made from?), technical process (what is the object made with?) and social interaction (what is the object made for?). During each episode, the boundary objects presented are also operating across multiple trajectories, constructed from the experiences and appreciative judgement systems of the participants, as designers discuss the relationships between precedent artifacts, present prototypes and future manifestations yet to appear.

Analysis of Results

We pose the question: “Before any move is made, who sees what?”

Various case studies were conducted, centred on the use of physical boundary objects during design activity, and ways in which they uncover difference between actors during design activity, which we suggest must be seen, identified and managed before any subsequent design move can be made.

Future Considerations

The prototypes and artifacts presented during tutorial discussions, when operating as boundary objects between actors across the design network, do not necessarily construct shared thinking and understanding, rather, they appear to operate as a concrete point which highlights difference across worlds, enabling a re-structuring of individual views towards a common approach encompassing multiple worlds, allowing for the design trajectory to progress. What emerges is the temporal nature of the prototype as boundary object (AR), being at once present in the design episode, but also acting as a representation of past iterations of objects and precedent artifacts (Ar1), and also of possible future manifestations which have yet to appear (AR*). During the design episode, the actors involved are intending and interpreting artifacts across the trajectory (past, present, future) and across three types of worlds (material, technical, social). Though this project has outlined the degree of difference that are made manifest through the presentation of physical artifacts during design episodes, it remains unclear whether physical artifacts facilitate convergent or divergent modes of thinking in designers, and to what degree is high fidelity prototypes facilitate appropriate thinking at various stages of design development. Future research will investigate relationships between drawing/sketching (hi plastic boundary objects), including the difference these between forms of representational artifacts and the ways they operate differently in structuring designers thinking, particularly in diverse groups and networks.

Literature Cited


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Further Information

For additional information regarding this research, the case studies presented, or the PhD project overall, please contact the corresponding author at: g.verhoeven@ed.ac.uk.