

# USING CHARACTER DESIGNS TO REPRESENT EMOTIONAL NEEDS

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## ABSTRACT

Cognitive Psychologists have shown that children find it difficult to conceptualize ideas that are abstract in nature (Gelderblom, 2009). Design problems at the beginning of a development process require ‘blue skies’ thinking about new artefacts whose form cannot be pre-defined and therefore may appear intangible to a child. Here we explore an approach that draws on the qualities of character designs created by children to help the young user articulate their opinion more easily and rapidly without the complexities of working with the design concept. The attributes of the creations, alongside a discussion of these properties with the children have been shown through this work to help identify key issues with fewer constraints. The designed artefacts are analysed alongside a framework of Emotional Needs for the age group. Experimentation with industrial partners Candy Labs Games development (Knowles-Lee, 2012) shows that these methods can provide a way to break the ice with children and get their view for commercial use. Children have been noted to express themselves emotionally using the Characters as agents for their experiences.

## INTRODUCTION

The work of Alison Druin (Druin, 1999) and many others illustrates the significance of including children in a design process at all stages. As an adult it is almost

impossible to second-guess the preferences of an 8-12 year old child. (Naranjo-Bock, 2011) However, gathering useful information during a Participatory Design process for innovation can be more difficult than for adults. Not only do adults have different needs, behaviours and motivations than young people they also communicate in a different fashion. Not only is it, therefore, a complex task to gather appropriate information and design criteria, the difference in perception and culture between children and adults can lead to difficulties in interpretation during the process. According to Mazzone et. al. (Mazzone, 2010) “Children’s ideas should be harvested appropriately when designing for them since they observe and perceive things differently compared to adults”.

Traditional participatory methods therefore need to be modified in order to compensate for typical differences in cognitive development in order to gain useful results. However, Obrist et. Al (Obrist, 2011) stated that there is still a profound lack of knowledge of how to involve children in the different phases of a product development, in particular the early conceptualization and evaluation.

### BRIDGING THE CONCEPTUAL GAP.

Activities that involve defining a design outcome may not be tangible or understandable to a child (Gelderblom, 2009). It was therefore considered relevant to experiment with methods that would avoid the constraints of the design problem directly and perhaps instead represent it metaphorically. Ideally the method would allow children to include their own personality or even suggest the personality of the interface.

Storytelling and storyboarding, creating comic strips and so on have been used as co-design methods to enable both adults and children to communicate in an accessible form (Ryokai, 2012) However the methods are usually used to access information about the user as the narrator and to encourage them to tell their own story or to offer an opinion on a matter of concern.

Characters and stories both represent a familiar subject area for both adult and child. Characters are practically an everyday part of a child’s life, they have affection for them and they are frequently used by Counsellors to gain information from children sympathetically. The

question was, if the brief for the creature design can be made relevant to the context could a discussion around their qualities help identify appropriate design directions and understand more about the child?

## 2. Efficiency as a driver for new methods.

To ensure that sufficient understanding is gained, academic researchers can spend considerable time with children working on a product or interface (Druin, 1998). For example, it was concluded by Druin that children are capable design partners but this was established through regular contact over a period of months using a variety of participatory methods.

Previous work by the primary author has included a research project for a Knowledge Transfer Partnership, working with an innovations company, PDD Ltd.; the aim was to try and include user participation methods within a design process appropriate to a fast moving commercial environment. (C.Grundy, 2001) Though including the perspective of the potential buyer or user for a product was seen to be of high importance, significant time constraints dominated the duration of direct contact with the subject.



Figure 1: Typical Character Designs that provoked discussion around a diabetic product

Earlier experiments with student projects at the University of Brighton and Sussex, suggested that using character design activities had potential. The children were highly engaged during the character development process and the resulting forms and their descriptions provided useful clues about the children's feelings and preferences for the design situation. One student was designing a diabetic product that would require children to undergo potentially stressful blood testing. The use of characters allowed the child to talk about the character they had designed going through the potentially stressful test rather than thinking about the event from a more personal perspective. This suggested that use of these methods for sensitive subject areas like medical design could be a more ethical approach. (Grundy, 2012) The method appeared to facilitate 'agency' between the child and the designer. It avoided the need for direct questioning about the child's life or feelings, which some find awkward. Older boys especially appear to avoid talking about feelings and voicing opinions, character design potentially provides a talking

point and diverts attention from self-conscious individuals.

## LITERATURE AND THEORY

### PARTICIPATORY DESIGN CATEGORIES

Some time ago, Sanders ordered research methods into categories by what people 'Say', 'Do' and 'Make'. (Sanders, 2001)

**Say** – What people say about themselves and their lives. This defines (usually more traditional) tools based on verbally probing people about what they think and how they feel. Typical methods are focus groups, interviews, and questionnaires.

**Do** – covers observational techniques. This method of understanding people is more strongly based on anthropological principles and is often referred to as ethnography. Studying what people do allows one to see behaviours that the person may not be aware of or be able to articulate.

**Make** – describes projective and participatory creative techniques. These tools, according to Sanders, are focused on people expressing their thoughts, feelings and dreams.

Sanders argued that it is insufficient to listen to what people say about their lives and that watching what they do and also including them creatively will reveal a fuller picture and allow triangulation of information.

These categories provide a useful starting point as they are simple to understand. However, some argue that 'Say' tools are frequently not useful for children due to their reliance on verbal and language skills. 'Do' observations have also been described as open to misinterpretation when dealing with children, because adults watching children may misunderstand their actions. Make is frequently cited as being most appropriate for children and yet without the other categories may be insufficient. The character design activity typifies the 'Make' style of participation. However discussing the aesthetic qualities of children's characters relates to the 'Say' style of method without the pupil having to refer to themselves as individuals. The character acts as a prop, metaphor or agent for the discussion.

A more complete literature review describing a range of existing methods has been carried out, but there is insufficient space to include the full version here.

### CHARACTER DESIGN

The reasons for selecting Character Designing for the activities are discussed with references below.

### CHARACTERS ARE FUN

Mazzone et al. (Mazzone,2010) alongside Markopoulos at al.(Markopoulos 2008) have found that fun is an important issue when dealing with children. Character design is an activity that children are familiar with,

through story creation and other typical classroom activity and one that they appear to enjoy and find easy and tangible.

#### ATTACHMENT TO CHARACTERS

Children love Characters, according to many successful toy designers and film-makers (Del Vecchio 1997). Some psychologists suggest that affection for characters is a natural part of the separation process, allowing children to focus elsewhere in their relationships, beyond the parent bond and be more independent. This could explain children's excitement over Dora the explorer and Thomas the Tank Engine, besides their apparently likeable qualities.

#### CHARACTERS HAVE PERSONALITIES

Characters are a useful conduit for discussion because they can have personalities, behaviours, emotions, feelings; likes and dislikes just like their human or animal equivalents. The co-design work done by others, previously described, includes the use of 'make' tool kits, which are usually random elements put together to allow easy creation of simulated objects without dictating the results. It appears from the work of some researchers that the actual designed outcomes are less significant than the expression of thoughts and feelings during the co-design process. If activity helps to generate a discussion between participants of different ages then perhaps a character design task could be helpful.

#### CHARACTERS AS MEDIATORS FOR EMOTION

Psychologists, working with traumatized children, sometimes use an inanimate object like a teddy bear or a doll to allow the child to communicate about upsetting events in a non-verbal way. The object, in one sense, acts a prop, to help where language may be limited. The third party character also helps in an emotional sense as the child is talking about events that happen to the teddy or the doll, which may make it easier to open up and talk about the problem. The character design activity for this project helps with dialogue; it may also make it less traumatic to consider the more sensitive areas for designing like blood sampling.

#### EMOTIONAL NEEDS

Del Vecchio defined key emotional needs for children, which were subsequently used for analysing the data (Del Vecchio, 1997). For example, a typical consideration for children is their need for control; most younger people do not have as much direction over their lives as adults this can be a strong motivation. In turn, this can manifest in enjoying games and activities that allow increased choice. For boys in particular the need can also manifest in wanting to appear powerful and thus they enjoy games where they overcome adversity or the forces of evil.

These requirements and how they manifest in games preferences will be explored later in the results section.



Figure 2. Diagram for Emotional Needs

#### DATA AND METHODS

The brief for the company investigation was to find out children's preferences for a computer game intended to provide fun and also teach them about history. The theme was similar to the 'Horrible Histories' style of introducing facts in an amusing and easily assimilated way. The lead academic and four Candy Labs company members visited a class of 30 school children to conduct character design experiments based on this idea. On the first occasion school pupils aged between 8 and 9 (from, St Andrews Primary in Hove) were asked to create or choose Characters that represented a period in history, describe their personality and create an associated storyboard to illustrate their behaviour and activities. On the second occasion, the children were asked to design a game involving history as a comparison, then asked to create characters and stories. The group was divided into groups of 6 children per investigator and allowed to work in 'friendship pairs'. Each group was given a set of cards offering a set of inspiring objects, environments and props to jog creative thinking.



Figure 3: Characters presented for both experiments.

The information gathered from the children included their drawings, video observations about the events and notes made by the adult participants.

After the event, the results were evaluated alongside descriptions of established key emotional needs expressed in a graphical format. A typical board is shown in Figure 3. The data was analyzed to see if any conclusions could be triangulated about design features and how they might meet these needs.

Each member of the design team was interviewed at a later date and their impressions of the experiment used in the evaluation of the activity against the criteria described next. The children were also asked as a cohort if they had enjoyed the activity and observation of their level of engagement undertaken throughout.

## EVALUATION OF DATA

Mazzone et al. (Mazzone 2008) worked on the use of participatory design methods to create a mobile music app with children. Over a series of three sessions they worked on general considerations about running design sessions with children for design contexts. The primary evaluation criteria for their process were:

- The capability of the design methods employed in the activity to produce useful results for design.
- Is the design method suitable to engage and involve children as active participants? Suitability: verbal and cognitive, social skills, need to be considered thoroughly as these are a limiting factors on the success.
- The understanding gained about the user group during the process.

For this project, bearing in mind the rationale for the approach, it was concluded that methods should be evaluated against these criteria as follows:

1. Use for Design: the volume/quality of information relevant to the design problem,
2. Efficiency in terms of overall time spent against Usefulness.
3. Suitability: was the activity understood, were they able to carry out the activity?
4. Engagement, did the children enjoy doing the work and did they continue to remain engaged during the process.
5. Identify: The volume/quality of information gathered about the children general lifestyle and preferences for the game.

The evaluation would be considered from the interview responses from the game design team and observations of the pupils' attitude and work.

## RESULTS

Point 1: All members of the Candy Lab game development team mentioned that this was a useful experience and that it had put them in mind of the children's way of thinking. Useful ideas had arisen from both sessions with the children. Even when the ideas were not entirely credible or usable there were also occasions where children's thinking stimulated ideas in the listener. For example: In Figure 4. Pupils suggested that characters could be seen rising out of gravestones as a potential starting menu with dates and information on them to educate about a given character. The illustration shows the Candy Labs graphical interpretation of the idea.



Figure 4 Characters with gravestones

Figure 5 also shows a map for navigating the game and an idea for moving around using a trebuchet that were also explored.

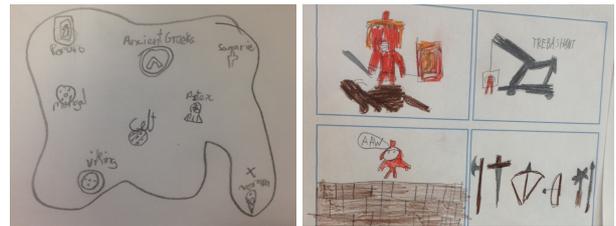


Figure 5 Map and Trebuchet

On the whole it was also agreed that it was a useful way to interact with the children and get a general feel for their level of understanding, preferences and behaviour. The activity was therefore a relatively efficient way to gain insight in the very brief time spent in school (a total of 1 hour on the creative activity).

Point 3: The character design activity proved to be more understandable than the version where children were asked to produce a game. Four of the design team independently commented that it was easier for the children to engage with the more simplified version of the brief. For the game design some children designed the interface, some the start screen, some game fights and so on, they clearly all had a different definition of a game. They were also, in some cases, inclined to copy existing games or apps. Thus for the character design activity more time was spent on the more creative and valuable part of the brainstorming than for the game creation brief.

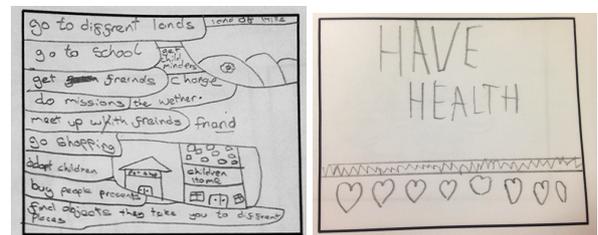


Figure 6. A menu system and health monitor typical of games.

Point 4: All members of the team noted that the children appeared to be fully engaged in the character design activity and were quick to start the process. For the game version, they were a lot more hesitant and appeared less certain initially as to what was expected. However they did engage once they had started the process and appeared to enjoy it as much as previously.

In general enthusiasm for both activities was high, according to the teacher and the observed excitement by all. An important issue here was that in some cases for the 'game design activity' vs the 'character design' a lot of time was wasted on getting excited about existing games. As time is of the essence the character design activity is considered again preferable.

Point 5: Some common themes about the children and their lifestyle, preferences and emotional needs emerged during the experiment. Many children, perhaps predictably, were interested in feeding their character, see Figure 7.

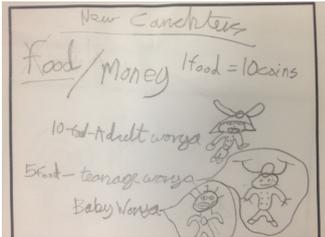


Figure 7. Feeding characters

One of the stories was for a Boudicca character (Figure 8) and her chosen behaviours mirrored those of her creator when discussed more closely. This indicates the potential for the character acting as an agent for discussing the preferences of the individual.



Figure 8. Boudicca character with her chosen behaviours and lifestyle

Other common emotional themes were the need to feel protected, indicated by their characters having cloaking devices or disguises or fierce pets.

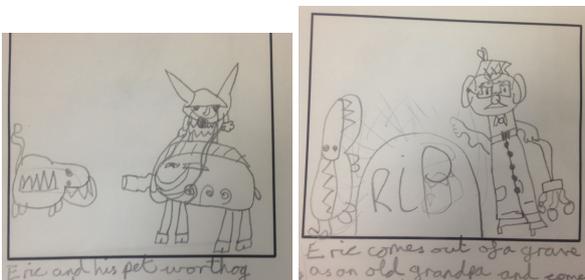


Figure 9. Protective Pets and Disguises

The emotional needs discussed by Del Vecchio, for 'power' were indicated through a variety of 'special powers' that were either a part of their character or were earned by gathering particular objects. The children also

introduced magic potions to elicit these powers (Figure 10)

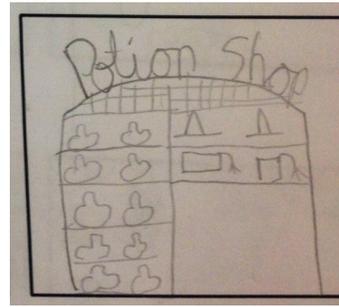


Figure 10. Special Powers

The control issues (also mentioned in the earlier section on Emotional Needs) introduce a preference to feel powerful and to overcome adversity or conquer evil. These may account for many of the children's ideas and examples are shown in Figure 11.

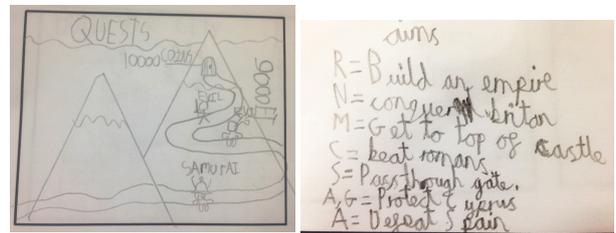


Figure 11. Power to overcome evil and other adversaries.

Children also like to demonstrate their knowledge as Del Vecchio shows and this also makes them feel powerful. (Figure 12)

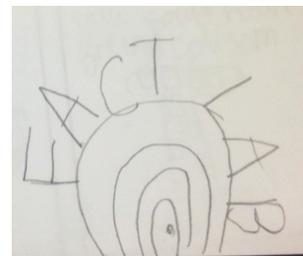


Figure 12 Showing off knowledge

The control instinct might also be illustrated where the player gets to choose between objects or make decisions in the game; some of these were illustrated through the children's drawings, with choosing their weapons, pets, friends or the land they go to. An example is shown in Figure 13.

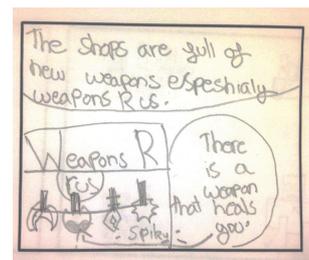


Figure 13. Getting to choose their weapon

Children also show the emotional need to socialize or compete, depending on the scenario.

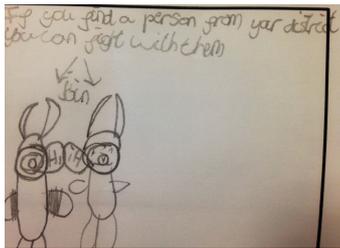


Figure 14. Cooperative and social play with friends

## DISCUSSION

Thus it was discovered that the character design activity was clearer and easier to comprehend than the game design concept as theorized. The feedback from the games company indicates that the character design method used can provide a useful way to gain insight into the preferences of the child for a chosen context. An unpredicted aspect of the experiment was that some of the designers also actually preferred the character design activity because they felt more confident in explaining it. The simplicity of the task seemed to put the team at ease on the first occasion.

The game designers were left with a much clearer picture of the child's developmental stage and how better to design the game for them. Because the activity is understandable and also engaging for the children, blogs that allow later submissions and descriptions from the children could also become possible. Although pupils appear to be randomly creating characters and their behaviours, it was clear that common themes for preferences and emotional needs became visible when results are compared from 30 different children.

This will be the subject of further experimentation.

## ACKNOWLEDGMENTS

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