

# Exploring Independent Design: Redefining Children's Creative Beyond Participatory Design

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## Abstract

When children participate with adults in design they do so to varying degrees. A child may be an informant where the adult is designing for children or may have a leading role. While different degrees of involvement are justified, an adult is always present which has an influence on design outcomes. This paper presents a new approach to design, namely, independent design which moves beyond the commonly accepted participatory design continuum towards child art that is not influenced by adults. The new approach was evaluated through experimentation and evaluation of creativity. The results show that removing adult influence increases creativity.

**Key Words:** *participatory design, independent design, adult involvement, influence*

## INTRODUCTION

There are two main premises to the study, firstly, children are always engaged in art and design with an adult or at least in the presence of an adult, and secondly, the presence of an adult has an influence on design outcomes. In reference to the former, children can be engaged with adults in the classroom where the teacher can take on different roles from merely being a facilitator to being an active participant, the same is true for participatory design where spaces or objects that are being designed for children by adults where the child can be a mere informant or a leader in the design process. In reference to the latter, the type and level of involvement of an adult or even simply their presence has been shown in the literature to have a negative effect on design outcomes. The effect of adult involvement in participatory design is to influence the child's creative ability. This study proposes to give children the opportunity to be creative without the presence of adults both towards a new design paradigm in creativity and a new paradigm in participatory design. This can only be

achieved by moving beyond the current participatory design continuum, where at one end children are mere informers and at the other end the adult is merely a facilitator, to an independent design approach. Such an approach is developed here based on an avoidance of the negative aspects of current approaches and an inclusion of their positive aspects in relation to the ideas of adult involvement and influence.

## PRELIMINARIES

### *Pure Art*

When assessing or evaluating the artistic and design capabilities of children, judgments can be made based on the presence of specific artistic skills that have been taught or other criteria such as representation. However, there are individuals (Cizek 1936, Viola 1942, Dubuffet 2003) who argue that anything created by a child serves as a genuine manifestation of their imagination and should therefore be appreciated. Furthermore, these proponents believe that traditional pedagogical approaches to teaching art and design can negatively impact the inherent creative abilities of children.

The concepts of pure art and the impact of pedagogy were initially introduced by Franz Cizek, who is acknowledged as the first to uncover that children's drawings are guided by inherent and unconscious "laws of form" (Wilson and Wilson, 2009, p.43). Moreover, all children have a universal set of rules regardless of their upbringing or their environment and they have a 'universal language of visual symbols' that is inherent quality present in children from birth, which requires nurturing and development over time, should be safeguarded from adult interference, as stated by Wilson and Wilson (2009, p.44).

With regards to child art, Franz Cizek did not believe in a set way of teaching, instead he believed in minimal involvement from adults in order to foster self-expression and nurture creative tendencies through free exploration using a wide choice of materials (Viola, 1942). Cizek valued children's art considering it pure and he pursued the creation of a conducive environment for children to be creative in (Viola, 1942).

Jean Dubuffet, an artist who opposed the established cultural norms, is another proponent of pure art. He actively sought out new artistic expressions that diverged from conventional production methods (Dubuffet Foundation, 2013). Dubuffet was fascinated by art produced by children and coined the phrase '*art brut*' or raw art (Dubuffet.com, 2003). Dubuffet's definition of *art brut*

included the following: ‘we mean pieces of work executed by people untouched by artistic culture, in which therefore mimicry, contrary to what happens in intellectuals, plays little or no part, so that their authors draw everything.... from their own depths and not from clichés of classical art or art that is fashionable. Here we are witnessing an artistic operation that is completely pure, raw, reinvented in all its phases by its author, based solely on his own impulses’ Jean DuBuffet. (1949).

The concept of creativity should embrace a democratic perspective, where it is accessible to everyone and not limited to the exclusive understanding of a creative minority. This inclusive approach to creativity in education was found to be appropriate (Robin Report, 1999, cited in Sharp, 2004, p.6). Jackson (2009, p.259) advocated for children to have the freedom to generate their own unique ideas, highlighting their inherent capacity for endless acts of creativity. McArdle (2002), in reference to the Nurture Nature approach of participatory design, said that art produced using this approach is valuable, beautiful, unique and spontaneous because children have freedom of self-expression. Cassou (2004) say that self-expression and pure creativity go hand-in-hand.

### ***Adult Involvement and Influence***

The preceding discussion introduced the principles of participatory design, emphasizing that it entails the involvement of multiple individuals in a collaborative design process (Read et al., 2002). By exploring research in the field of participatory design, one can recognize the significance of soliciting input from children and the potential detrimental effects of excessive adult involvement (Read et al., 2002).

Gardner (1990:p.ix) says that classroom learning influences the style of the art and that although models of the ‘correct schema’ are found in the art classroom and in textbooks, children are not afforded the opportunity to be creative in an alternative way. Meador (1992) says that education can inhibit the development of creativity in children because they are constrained by social conventions or experiences in school generally.

Burkitt et al. (2010 p.263) suggested that children feel teachers help them through ‘graphical and spatial demonstrations’ as well as suggestions through tips and advice, in contrast to specific instructions and being shown what and how to draw. Burkitt’s et al. (2010) study looked at the influence of adults on children’s drawing at home and in the school but did not to examine the negative effects of such influence.

The aforementioned notion is further supported by Roth (1996), who asserts that teachers can exert influence over children in three ways. Firstly, through offering suggestions regarding forms and shapes; secondly, by providing hints on how designs can be enhanced; and thirdly, by imposing constraints or limitations on the choice of materials. When discussing the impact of these factors on children, Roth (1996, p.144) explains that their effects are context-specific. For instance, instructions such as " design a bridge by using only a set of materials provided " (Roth, 1996, p.144) can carry different meanings in different situations.

The notion of adult influence on children's drawings has also been proposed by Einarsdottir et al. (2009), who suggest that interactions, provisions, and support provided by adults can impact children's artwork. Rose et al. (2006) addressed some of the influences on children's art, including adults' attitudes towards the drawings, their perceptions of the purpose of the artwork, and the support they offer. Likewise, Roth (1996) identifies various factors that influence children's art and design, such as the materials and tools available, community standards, current design trends, past achievements, individual preferences, and constraints imposed by teachers.

### *Participatory Design (Theory)*

Children are increasingly seen as socially competent actors in participatory design (Gattenhof and Radvan, 2009). Driskell (2002) provides a definition of children's participation, which includes that is: transparent, local, interactive, inclusive, responsive, relevant, educational, reflective, transformative, sustainable, voluntary and personal. Engagement models should respect children's intelligence and avoid clichés about their creativity (Gattenhof and Radvan, 2009).

Hart (1992) says that child participation is about designs that affect the spaces in which people live, sharing decisions with children in a democratic process and democracy and is a right of citizenship. Another reason to involve children in participatory design is because they bring fresh and new perspectives and because they are users they understand user needs (Driskell, 2002, Day et al., 2011).

Woolner (2011) agrees with the necessity of participatory design; however, Woolner (2011) acknowledges that it is not as straightforward as thought because the adult is bound by restrictions when engaged in designing and planning and therefore, has to compromise during the participatory design process.

### Read et al., (2002)

Read et al. (2002) introduces the IBF participatory design continuum model, which illustrates the levels of involvement of the child in participatory design. In the model there are varying degrees of child participation in participatory design which include informant design, where the child informs the adult about what they need, balanced design where there is equal participation and facilitated design where the child is the principal designer and the adult merely facilitates (Read et al., 2002).

### Druin (2002)

Similarly, Druin (2002) mentions four roles of children in design which include design partner, informant, tester and user. Druin (2002) discusses the importance of allowing children to participate in the design of technology intended for use by children, because children have their own norms, culture and complexities.

### Hart's Ladder (1992)

Hart (1992) presents the Ladder of Participation, which he describes as a typology for thinking about child participation. The first rungs of the ladder are collectively denoted as 'non-participation' and include manipulation, decoration and tokenism, the next five rungs are collectively denoted as 'degree of participation' and include assigned but informed, consulted and informed, adult-initiated shared decisions with children, child-initiated and directed, and child-initiated shared decisions with adults.

Hart (1992) says that there are examples in children's lives where they organise themselves without the need for an adult, examples include building a play house. Furthermore, in relation to this, Hart (1992) says that motivation is an important principle that is behind their involvement: if children are motivated, then they are capable of design if they have a feeling of ownership. However, here Hart (1992) is referring to children working collectively. The conclusion of Hart's (1992) idea is that if children are not at least partially involved, they will not show competence: in other words involvement fosters motivation, which in turn fosters competence.

## **DEVELOPMENT OF DESIGN APPROACH**

The study is based on the idea that children do not need the influence of adults when they are designing and are capable of designing independently, moreover, that the absence of adults will lead to a different art and design paradigm. Towards the development of an independent design approach that moves beyond currently accepted participatory design it was important to examine existing

participatory design processes. The examination of different design approaches involved the identification of negative practices in terms of their extent of adult involvement and influence, and some positive practices all of which contribute to an approach for independent design towards the development of design approach criteria.

### *Current Participatory Design Approaches*

Here an overview of the identified practical approaches to participatory design is evaluated. The evaluation focusses on the both the negative and positive aspect of the approach in relation to adult involvement, and both negative and positive aspects are used to develop criteria for the development of the approach.

#### **Rayner et al. (2010)**

A checklist of recommendations is provided which includes planning for consultation, the understanding and application children's knowledge, guiding and facilitating the design process, appropriate methods for different age groups, using fun methods, allowing sufficient time, allowing participants a voice, making sure that children's inputs are reflected in the designs and finally, creating an atmosphere of participation. These guidelines clearly show a high level of participation by the adult as facilitators and are thus rejected in the development of the design approach of the present study, and these negative aspects are used to develop approach criteria.

#### **Jackson (2009)**

Jackson (2009) developed the Craft to Creativity approach to participatory design. It was based on encouraging independent creativity in school and the idea that all children are naturally creative and teachers should stand aside and allow them to be creative. However, despite these positive aspects there is a focus on the role of the teacher as an enabler and the idea of both independent and collaborative pedagogy, moreover, there is an acknowledgement that students still preferred the normative pupil / teacher relationship (Jackson, 2009).

#### **Kano and Read (2005)**

In this approach there was an investigation into participatory design with schoolgirls allowing them to design websites. Unfortunately, the study was too focussed on the participatory aspects of the teacher, which included recommendations of how to plan, organise, conduct and evaluate the

participatory design. Overall, there was a rigid structure and very little emphasis on the importance of allowing the children to design independently.

### Pound (2011)

Pound (2011) provides an approach for designing and being creative for children of primary school age. However, the recommendations included advice about acting as role model, careful observation of children, encouraging children, planning the design session and offering meaningful choices. Thus there is a high level of adult involvement, even suggesting observation and challenging children on their designs, this despite that the original intention of this approach being to allow children to freely develop their ability to be creative and use their imaginations.

### McArdle (2001)

The Nurture Natural Approach is founded on a number of principles which include that the child is centre of the programme, learning should be free, spontaneous, playful and unstructured, all art work is valuable and beautiful, observation and discussion with child is encouraged albeit in a gentle manner, provision of materials, allowing the child to work independently without interference or encouragement and children are not encouraged to exceed their current levels.

Although many of the principles of this participatory approach agree with the principles of independent design, the approach encourages the adult to observe the child and to discuss about their work, a significant form of involvement.

### Pinciotti (2005)

The Complementary Approach is something that is used in early childhood and is based on principles which include that any art that produced is precious and art is about self-expression. However, the approach also advises about the role of the teacher which is to supply materials and to be supportive, although it is important to note that guidance should be limited. Thus, this approach accepts the involvement of the teacher.

### Drew and Rankin (2004)

The Creative Open-Ended Materials Approach is based on principles for using open-ended materials; these principles include spontaneous creative self-expression, understanding through hands-on experience, play with peers to support learning, open-ended exploration facilitated by

teachers and observation of children's learning and enjoyment. Despite the fact that this approach emphasises spontaneity, the adult is involved through providing a link between thinking and ideas.

### *Approach Criteria*

Based on both the positive and negative aspects of the participatory design approaches described in the above, a number of approach criteria were derived as follows:

- Allow freedom and spontaneity of expression
- Connection between design and final product
- Children should be self-reliant
- No pressure to perform
- No supervising or observing the children find evidence from lit that observe is bad
- No discussion, criticism and feedback
- No evaluation or assessment against marking criteria
- No structuring of the design process
- No restricting the children's choices
- Non-intervention and Art Brut principles

During the development of the approach it was ensured that it followed these criteria in order to eliminate all the identified forms of adult involvement.

### **METHODOLOGY**

An experiment of the proposed independent design approach involved children designing without the presence of adults. The experiment was designed to see if the absence of adults leads to an increase in creativity in the children's designs. The children were given the opportunity to create designs that were subsequently used to produce either two or three-dimensional products in an adult free environment. The children were only provided with pen and paper and worked in a neutral environment.

Focus group interviews with the children were used after the experiment to gain insight from the children's experience of using the approach, in accordance with the phenomenological approach described above.

The designs produced by the children needed to be evaluated to determine whether they exhibited signs of increased creativity in comparison to designs produced in school under the influence of the



classroom and their teachers. For this the assessment tools Creative Product Semantic Scale by Besemer and O'Quin (CPSS) and Consensual Assessment Technique (CAT) by Amabile were employed.

#### 4.1 Creative Product Semantic Scale (CPSS)

Creative Product Semantic Scale (CPSS) Besemer and O'Quin (1986) is a creativity assessment tool based on the Creative Product Analysis Matrix (CPAM) and is used to consider the creativity in products. CPSS was based on evaluation criteria, which were divided into three dimensions: Novelty, Resolution, and Elaboration (style) and Synthesis, all derived from the CPAM. Each of these dimensions were comprised of a number of bipolar adjective pairs, for example within the Novelty dimension were the adjective pairs *Exciting-Dull* and *Novel-Predictable* scored on a scale between 5 and 1.

Of the three dimensions, the study only adopted the Novelty and elaboration and Synthesis (style) because it was only concerned with realising the imagination and creativity, not the skills related to resolution. Moreover, because this study is not only concerned with the aesthetic but also with evidence of influence it was necessary to identify signs of adult influence and whether or not children are using their imagination without such influence. Therefore, CPSS was adapted to suit this study with the introduction of a new dimension, named 'Uninfluenced', to which a set of adjectives pairs were added including *Pure – influenced*, *Natural – unnatural*, *Free – restricted* and *Unbiased – biased*.

#### 4.2 Consensual Assessment Technique (CAT)

One of the important features of CAT Amabile (1988) is that it assumes that some products are more creative than others which was important to this study because it was concerned with establishing whether there is an improvement in the creativity of the designs between school where a level of participatory design is taking place and designs using the proposed independent design approach of this study.

## RESULTS

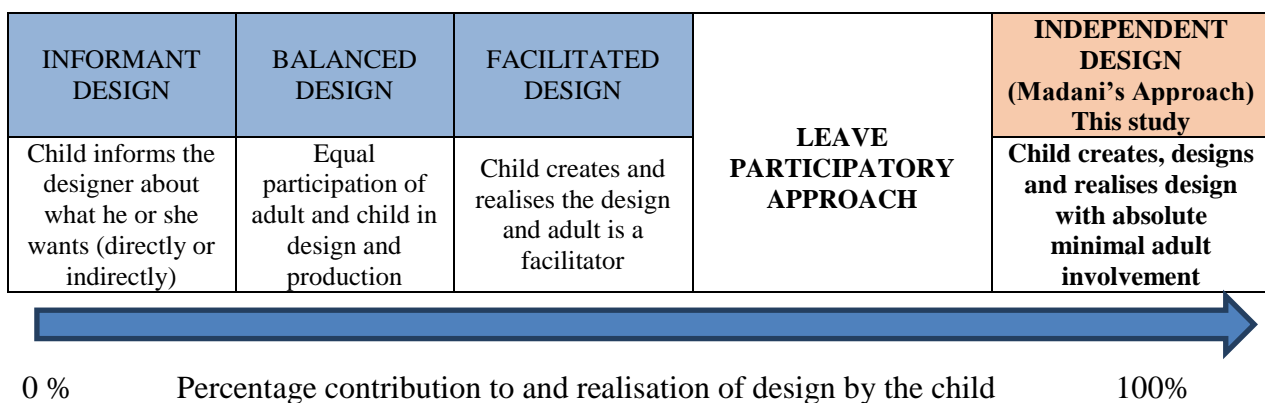
The study was based on the idea that children were capable of being more creative if the influence of adults was removed. The results from the CPSS instrument showed that removing adult involvement lead to an increase in creativity of the designs produced by children between designs

produced in school and designs produced using the approach of this study. This increase was found in all three of the CPSS dimensions described in the methodology. Importantly, the results showed that there was a large increase in signs of the work being uninfluenced, therefore, revealing a link between adult involvement and influence on design outcomes.

The results of the post-experiment focus group with children revealed that children welcomed the opportunity to be creative independent of adults and that it fostered a sense of motivation to be more creative. In relation to this idea, the feeling of being independent was associated with feeling respected which was in turn associated with motivation. In support of the idea of independent design the children said that they did not need the teachers for inspiration and that such an approach supported the creative process by allowing children to foster a clearer picture of what they wanted to design, unimpeded by instruction and suggestion.

### CONCLUSION

In conclusion, the study was based on the idea that the involvement of adults in situations of participatory design has influences on design outcomes and that there was a need to discover a new approach to design by children by removing such influences. Current approaches to participatory design all have a degree of adult involvement to a greater or lesser extent (see Figure 1). The study successfully developed an approach that left the commonly accepted participatory design paradigm showing that not only is design by children possible without the involvement of adults, but that such absence actually leads to an increase in creativity. This was achieved through consideration of the negative and aspects of current approaches.



**Figure 1 Adapted from the IBF Participatory Continuum Model (Read et al., 2002)**

The increase in creativity was successfully demonstrated through the experimentation of the developed independent design approach and application of two creativity assessment tools, CPSS and CAT. Designs created without adult involvement shows the possibility of a new design paradigm, which is achieved through the new approach to design by children. The implications of this research include a reconsideration of how children are currently involved in design both in the world of design and the classroom.

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## استكشاف التصميم المستقل إعادة تعريف الابداع عند للأطفال متجاوزاً التصميم التشاركي

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### الملخص

عندما يشارك الأطفال مع البالغين في عملية التصميم، تتم المشاركة بدرجات متفاوتة. فيمكن أن يكون الطفل مصدرًا للفكرة الابداعية فبالتالي يتم التصميم من البالغ للأطفال، أو قد يكون للطفل دور قيادي في عملية التصميم. في حين مشاركة البالغ بدرجات مختلفة من المشاركة، يكون البالغ دائماً حاضراً وله تأثيراً واضحاً على نتائج التصميم. يقدم هذا البحث نهجاً جديداً للتصميم، وهو التصميم المستقل الذي يتجاوز الاستمرارية المقبولة للتصميم التشاركي نحو فن الطفل الذي لا يتأثر بتدخل البالغين. تم تقييم هذا النهج الجديد من خلال التجربة وتقييم الإبداع. فتظهر النتائج أن إزالة تأثير البالغين يزيد من الإبداع عند الأطفال.