International Journal of Multidisciplinary Research and Development

International Journal of Multidisciplinary Research and Development

Volume: 2, Issue: 10, 583-587
Oct 2015
www.allsubjectjournal.com
e-ISSN: 2349-4182
p-ISSN: 2349-5979
Impact Factor: 5.742

Rafat Madani
School of Education,
Faculty of Art Education,
Umm Al-Qura University,
Makkah, Saudi Arabia.

Adam Moroz
Additive Manufacturing Technology Group,
Dept. of Engineering,
Faculty of Technology,
De Montfort University,
Leicester, England.

Emily Beines
School of Design, Faculty of Art, Design and Humanities,
De Montfort University,
Leicester, England.

Bilal Makied
School of Education,
Faulty of Art Education,
Helwan University, Cairo,
Egypt.

Correspondence
Rafat Madani
School of Education,
Faculty of Art Education,
Umm Al-Qura University,
Makkah, Saudi Arabia.

To assess the involvement and influence of teachers in the design process with children

Rafat Madani, Adam Moroz, Emily Beines, Bilal Makied

Abstract
When children create art and design, the role of the teacher is important, however, their involvement in the form of instruction, monitoring, encouraging or judging, can influence creativity both positively and negatively. In order to understand this influence on creativity, this study investigates the type of teacher involvement and their perception of that involvement as a role and aspects of the child-teacher relationship that may have a bearing on creativity. Questionnaires were distributed to art and design teachers and the results showed that teachers felt their involvement was important and they are more involved in facilitation rather than creativity.

Keywords: Pedagogy, teacher's role, involvement and influence, class structure, design process with children, participatory design.

Introduction
When children are engaged in design in schools, they do not design independently because there is often involvement and consequently influence from adults, especially teachers at school. This involvement from the teacher can affect the design outcomes of the work produced by the children. This involvement could take a number of different forms, including: the practical methods used with children; the choice of design activity; and their interactions with children while instructing, encouraging and providing feedback.
This study forms part of a wider study about the development of a child-centric approach that assesses whether or not the presence and influence of a teacher, when children are engaged in design, would have an effect on design outcomes and children's ability to be creative. Towards the development of this approach this study is concerned with investigating the involvement and influence of teachers and the perceptions they have about their role in the art and design classroom. Thus the research aims to reveal information about children's situation when involved in the design process including how they currently design, their influences, pedagogical approaches, the role of the teacher, and importantly, the perception that teachers have about the importance of their role in fostering creativity.
The questionnaires carried out for this study aimed to reveal such perceptions, as well as the practical methods used by teachers during art and design classes. The questionnaires aimed to explore the influences on children when engaged in activities such as painting, drawing, printing and model making. They sought to uncover how children are influenced by equipment and materials, teacher's perceptions regarding how the different creative abilities of children affect design outcomes, the different creative abilities of different age groups, teacher involvement and the ways teachers judged or assessed the creativity of children's work.
It is important to understand the perceptions that teachers have about children when designing in relation to the child's ability to be independently creative, and their role. The study aimed to understand how far teachers believed they affected the design process. The main aim therefore, was to uncover from questioning the teachers what type of involvement that they have with children, when they are engaged in the design process, and whether this or other situational factors affects design outcomes.

Materials and methods
Preliminaries
There are arguments that children are capable of producing pure art by themselves and what they produce is a pure representation of their imaginations and that this ability is often tainted by pedagogical approaches (Cizek 1936, Viola 1942, Dubuffet 2003) [2, 14, 5]. Moreover, children have

'unconscious, innate "laws of form"' (Wilson and Wilson, 2009 p.43) [15]. Franz Cizek is the first to be credited with discovering child art and did not advocate a set way of teaching: he believed that minimal involvement was a way of fostering self-expression (Viola, 1942) [14]. The French artist Jean DuBuffet advocated '*art brut*' or raw art that was produced by children which was untouched by artistic culture, without mimicry and not from clichés of classical art (Dubuffet.com, 2003) [5].

Adult involvement can impede a child's ability to develop artistically. Gardner (1990:p.ix) [7] observed that learning in the classroom has a strong influence on artistic style, arguing that although the 'correct schema' can be found in the classroom, children are often not afforded the opportunity to produce art in a different way. Moreover, children have their own tastes, which differ from those of their teachers; although children are dependent on adults for everything in the creative process (Druin, 2002 p.1, 2) [3].

The problem that arises is that adults often have preconceived notions about what children want to create, potentially leading to designs that are not appealing to children (Druin, 2002) [3]. Even if teachers are only in a facilitative role or choose to adopt a 'hands-off' approach, this can still have a negative impact on creativity. Moreover, simple facilitation is not possible, because adults are inevitably drawn to participate, and if a teacher is present then children seek assistance (Read *et al*., 2002) [10].

A problem raised by Burkitt *et al*. (2010) [1] was that teachers believe skills development is more important than developing creativity. Burkitt *et al*. (2010)[1] commented that few studies have investigated the influence of teachers on children's art, and they found that younger children overestimate their artistic ability, only developing an accurate perception of their ability as they grow older; moreover, they also found that despite criticisms and emphasis on skills, children enjoy drawing.

Often, children do not have the opportunity to express their opinions and are not taken seriously (Druin, 2005) [4]: they tend refer to adults even if they have more knowledge about a subject. Furthermore, children may have different goals from adults (Taxen *et al*., 2001) [13]. Moreover, Druin (2002, pp.1-2) [3] states that children's tastes differ from those of teachers and adults in general.

In participatory design, influence comes in many forms, these include: verbal suggestions and advice (Burkitt *et al*., 2010) [1], ideas about how designs can be improved, by setting constraints (Roth, 1996) [12] and type of support (Einarsdottir *et al*., 2009) [6].

In addition, Burkitt *et al*. (2010) [1] argue that the influence of teachers on art and design outcomes is not as strong or straightforward as thought. Children stated that the help they received from teachers took the form of 'graphical and spatial demonstrations' as well as advice and verbal tips; they did not report being given specific instructions or being shown what and how to create something (Burkitt *et al*., 2010 p.263) [1]. Roth (1996) [12] is another proponent of teacher influence when creating art and design, and suggests three ways that this can happen: firstly, by offering suggestions about form and shape: secondly, by providing hints to improve existing designs: and thirdly, by imposing constraints and restricting materials. Additionally, Einarsdottir *et al*. (2009) [6] argues that provision of materials, interaction, and support from adults influences children's art.

Rose *et al*. (2006)[11] stated that the attitudes of teachers toward drawing, their perception of what art was about and the support that they provided to children all influenced art and design outcomes.

Methodology

The study adopted a phenomenological approach as it is best suited to revealing the experiences of given situations. Specifically, the situation or context here is the art and design class with children and phenomenology considers this context. A questionnaire was employed as the research method: it contained both open and closed questions, to collect quantitative and qualitative data. It was important to include open questions to reveal the experiences of the respondents (Hancock *et al*., 2009) [8] and closed questions to gather demographic data about the teachers. Quantitative information related to design classes taken and included practical methods which qualitative information related to perceived design outcomes, teacher's interactions with children and their perception of their own influence; moreover, there were questions intended to gather teachers' views regarding children's feelings about designing.

Development of Questionnaire

As stated above, the questionnaire adopted in this study used a combination of open and closed questions. For the closed questions, the researcher pre-specified the responses. This meant that the researcher had sufficient knowledge of the research area to pre-specify meaningful answers that could be used in the research (Peterson, 2000) [9]. The researcher has extensive experience teaching art and design to children justifing pre-specifying answers as a means to emphasise responses offering the most relevant information (Peterson, 2000) [9].

Different types of closed questions can be used in questionnaires. Dichotomous questions only have two possible answers and are used for gaining basic facts (Peterson, 2000) [9], for example 'Are you male or female? This questionnaire in this study included questions that were multi-categorical, and are in fact a series of dichotomous questions; an example of the type of question used in this study is the following:

Your involvement is necessary in the following parts of the design process:

- Instructing
- Encouraging
- Providing feedback
- Discussion
- Monitoring

Because the aforementioned multi-categorical questions were not suitable for eliciting information about opinions, attitudes or preferences, it was necessary to include another type of closed question. Rating scale questions allow graduated responses, and are suitable for eliciting information about opinions, attitudes and preferences (Peterson, 2000) [9]. An example of this type of question, arranged on a five-point Likert scale, is as follows:

If there is a restriction of materials to be used specified in the curriculum, this will negatively affect the children's ability to produce designs

- Strongly agree
- Agree
- Neither agree or disagree
- Disagree
- Strongly disagree

Closed questions were also used in the questionnaire to obtain demographic information, which included teacher's age; number of years of experience; art and design class sizes; the number of hours' children were engaged in art and design, and the ages of the children.

Open questions were used to gain insight into the practical methods currently used in the art and design classes: if and how children were influenced by the availability of materials; creative ability and its impact on art and design outcomes; the type of involvement of teachers and the ways in which teachers evaluated the work. Because the questionnaire was intended to directly examine teachers and their role in the design process, it was important to word the questions to avoid bias in the teacher's responses. An example of this was when the researcher wished to enquire how the materials could have influenced the children, the researcher did not ask the teachers, 'How are children influenced by materials?' Instead, the teachers were asked about, how using different types of materials affected the confidence of the children when they were engaged in art and design.

Questionnaire Sampling and Distribution

There were a total of forty respondents from different schools within the Mecca region in Saudi Arabia. The teachers had varying academic qualifications and experience teaching art and design. Importantly, only teachers currently engaged in teaching children aged between 9 and 12 years were included in the study. The questionnaire was piloted to determine if the questions were sufficiently clear and could be answered effectively, and if the revealed data could be used in the study. In total, six teachers took part in the pilot study.

The questionnaires were distributed via an online survey, in order to protect the anonymity of the respondents, the teachers were provided with a link and the researcher received the data via an online survey facility.

Results & Discussion

In order to analyse the results, we used the Statistical Package for Social Sciences (SPSS). Appropriate statistical techniques were used to analyse the data, which included frequencies and percentages. The results of the study revealed aspects of the creative process in which children are influenced by teachers, which meets the study aims. The data reported on teacher involvement, the dependency of children, and manifestations of creativity, and is presented below.

Involvement

In response to the open question: 'At which stage of the design process are you more involved with the children and why?' the majority of the teachers stated they were less involved in the actual design phase and more involved in the practical realisation of design or production, which required the use of technology. Further evidence of the teachers' involvement in practical aspects of the process showed that teachers felt children needed help with new techniques.

Most of the teachers mentioned that they only offered instructions and supervision, without involving themselves in the creative process. Given that they said that they are very much involved in discussion and monitoring during the design stage which is the creative process, this suggests that they do not perceive monitoring and discussion as part of the creative process or that they feel it does not influence the children's creativity.

The results demonstrate that all the teachers agreed their involvement was necessary to support the creativity process; and more significantly, seven of the teachers felt that their involvement was necessary in all areas. Discussion, encouraging and providing feedback were felt to be the areas in which involvement was most essential (Table 1).

Table 1: Necessity of involvement in design process activities.

Statement: Your involvement is necessary in the following parts of the design process				
		Frequency	**Percent**	**Cumulative Percent**
Valid	instructing	6	15.0	15.0
	encouraging	8	20.0	35.0
	providing feedback	7	17.5	52.5
	discussion	8	20.0	72.5
	monitoring	4	10.0	82.5
	all	7	17.5	100.0
	Total	40	100.0	

Teachers were asked about whether different types of involvement had a positive or negative effect on pupil creativity.

Most teachers said that all forms of involvement had a positive effect on creativity, with a majority stating a strong positive effect. Encouraging the pupil was thought to have a strong positive influence on creativity, followed by discussion with the child. The suggestion that any form of involvement had a negative effect on creativity met with extremely low agreement (Table 2).

Table 2: Opinion of positive or negative influence of aspects of involvement.

Types of involvement	Strongly positive	Positive	Neutral	negative	Strongly negative
Instruction	11(28%)	10 (25%)	13 (33%)	4 (10%)	2 (5%)
Encouraging	28 (70%)	3 (8%)	8 (20%)	0 (0%)	1 (3%)
Providing feedback	13 (33%)	14 (35%)	10 (25%)	2 (5%)	1 (3%)
Discussion	19 (48%)	13 (33%)	6 (15%)	1 (3%)	1 (3%)
Monitoring	15 (38%)	12 (30%)	11 (28%)	1 (3%)	1 (3%)

Factors believed to negatively affect children's ability to concentrate included instructions, too much discussion led by the teacher, and direct involvement in the creative process. However, most teachers disagreed with the idea that teacher involvement is a barrier to independent creativity. They emphasized that negative influence was not present if they focused purely on supervision and did not impose their own ideas. Additionally, the majority of teachers confirmed that supervision was an important characteristic of their role.

Furthermore, the majority of the teachers 72.5 percent agreed that they were suitable judges of creativity. This further reflected the importance teachers assign to their role and that they were confident they understood what creativity was (Table 3).

Table 3: Teachers' personal opinion indicator of creativity.

Statement: Your personal opinion is a good indicator of the quality and creativity of the child's designs.				
		Frequency	**Percent**	**Cumulative Percent**
Valid	strongly disagree	0	0	0.0
	disagree	2	5.0	5.0
	neither	9	22.5	27.5
	agree	23	57.5	85.0
	strongly agree	6	15.0	100.0
	Total	40	100.0	

Most of the teachers, 65 percent, either disagreed of strongly disagreed with the idea that if children were allowed to create independently without restrictions they would produce designs that are more creative (Table 4). Thus, it can be concluded that the majority of the teachers believed that it was not considered to be better to leave children alone and allow them to work more independently. This was also a strong reflection of the fact that the teachers felt that their participation was necessary for helping the children to produce creative designs and the importance teachers assign to their role.

Table 4: Agreement that working independently leads to designs that are more creative.

Statement: If you leave the children alone and allow them to work more independently it is better, meaning that they produce more creative designs				
		Frequency	**Percent**	**Cumulative Percent**
Valid	strongly disagree	13	32.5	32.5
	disagree	13	32.5	65.0
	neither	7	17.5	82.5
	agree	5	12.5	95.0
	strongly agree	2	5.0	100.0
	Total	40	100.0	

Creativity

Another indication that teachers assigned importance to their role in the creative process was that many of them 82.5 percent (Table 5) agreed that some children needed assistance to develop their creativity. Additionally, the teachers felt that their role was to develop children's creativity regardless of innate creative ability.

Table 5: Ability has to be developed

Statement: Some children have to be taught creative ability.				
		Frequency	**Percent**	**Cumulative Percent**
Valid	strongly disagree	0	0	0.0
	disagree	2	5.0	5.0
	neither	5	12.5	17.5
	agree	25	62.5	80.0
	strongly agree	8	20.0	100.0
	Total	40	100.0	

Despite the fact that teachers felt that their presence was essential for creativity to occur (Tables 4 and 5), the majority 77.5 percent (Table 6) did acknowledged that children had the creative ability to realise their imaginations. This indicates that teachers were confident in their pupils' creative ability, but as the above results show, felt that there involvement was necessary to foster their creativity.

Table 6: Creative ability to realise imagination

Statement: Children naturally have the creative ability to realise their imaginations.				
		Frequency	**Percent**	**Cumulative Percent**
Valid	strongly disagree	0	0	0.0
	disagree	2	5.0	5.0
	neither	7	17.5	22.5
	agree	18	45.0	67.5
	strongly agree	13	32.5	100.0
	Total	40	100.0	

Conclusions

In reference to current design activities, it was found that a variety of practical methods was being used in the classroom. The most common activities were woodwork and modelling and the least popular were silkscreen printing and 3D modelling using CAD; however, in relation to the latter there was no evidence of 3D printing in order to realise 3D CAD designs.

The teachers felt that there was sufficient time allocated to giving instructions. Although teachers acknowledged the importance of providing background information and instruction, they were also aware that if they spent too much time on these, and provided too much detail, children's concentration tended to wane. This indicates some acknowledgement by teachers that their involvement can have an effect on the children during art and design sessions. The teachers also indicated that a significant amount of time was allocated to assessing designs, and they emphasised the importance of their role in evaluating designs.

In relation to this, the vast majority of the teachers also expressed the belief that they felt that they were the best judges of creativity, and that they felt confident in this role. However, there was an indication that their judgement of creativity was not entirely subjective, because most teachers expressed confidence that the standards of the curriculum were sufficient for judging creativity.

The results clearly show that the teachers believe that their role and their involvement is important to enable children to be creative. Furthermore, the majority of the teachers agreed with the idea that their involvement in the participatory design process, for example, instruction, monitoring, encouraging, providing feedback, and assessing design outcomes, had a significant positive effect on children's creativity. In support of this view, the teachers were adamant that pupils would not be more creative if left alone to create independently. Thereby, reinforcing the importance that teachers attach to their role in the creative processes when working with children.

In relation to the proposition that children need teachers, and ask many questions, as opposed to relying on their own initiative led to divided opinions among teachers. Although, upon examination of the different aspects of the creative process that teachers were involved in, the results show that the teachers were involved in all aspects. However, their strongest involvement was in the areas of discussion, encouraging and providing feedback. Indeed, the strongest opinion expressed, was that children are dependent on teachers, strongly indicating the importance to teachers of their participation.

The review of the literature in this area has already shown that these aspects of the creative process have a significant influence on children and design outcomes. Teachers felt that

their involvement was not a barrier to creativity, and that they felt that such involvement was necessary because it helped children to concentrate, specifically offering encouragement, feedback, reward and participation as contributory factors. However, there was some acknowledgement by teachers that there was a balance, and that too much involvement or instruction could negatively affect their concentration; thus, the teachers understood there was a limit to their involvement. This was further evidenced by the fact they were less involved in art and design creation than they were in practical production techniques requiring the use of technology.

Another indication that teachers' involvement could affect creativity and design outcomes was that teachers were in control of their choice of materials. However, teachers did say that they were restricted by the curriculum and did acknowledge that such restrictions would have a negative impact on creativity.

Overall, teachers were significantly involved in the creative process and felt that their level of involvement was necessary to the creative process. However, they also recognised that children did have their own natural creativity.

The implications of this study are that it lays the foundations for educational consideration to allow children to design and realise their imaginations without adult involvement and influence. The study also opens the possibility of a new design paradigm of new types of design by children more closely related to their imaginations.

References

1. Burkitt, E., Jolley, R. & Rose, S., 2010. The Attitudes and Practices that Shape Children's Drawing Experience at Home and at School. International Journal of Art & Design Education, 29(3), pp.257–270.
2. Cizek, F. (1936). Liberating the child artist. Available: http://meredithsabbatical.blogspot.co.uk/search/label/Franz%20Cizek.
3. Druin, A 2002, 'The role of children in the design of new technology', Behaviour & Information Technology, 21, 1, pp. 1-25.
4. Druin, A. (2005) what children can teach us: Developing digital libraries for children with children, Library Quarterly, 75(1), 20-41.
5. DuBuffet (2003). Avilable: http://www.dubuffet.com.
6. Einarsdottir, J., Dockett, S. & Perry, B., 2009. Making meaning: children's perspectives expressed through drawings. Early Child Development and Care, 179(2), pp.217–232.
7. Gardner, H. (1990) Art Education and Human Development. P.ix. Los Angeles, CA, Getty
8. Hancock B., Windridge K., and Ockleford E. 2009. An Introduction to Qualitative Research. The NIHR RDS EM / YH.
9. Peterson, R. (2000) Constructing Effective Questionnaires, London: Sage Publications Inc.
10. Read, J. C., Gregory, P., macfarlane, S., mcmanus, B., Gray, P., & Patel, R. (2002, August). An investigation of participatory design with children-informant, balanced and facilitated design. In Interaction design and Children (pp. 53-64). Shaker.
11. Rose, S.E., Jolley, R.P. & Burkitt, E., 2006. A Review of Children's, Teachers' and Parents' Influences on Children's Drawing Experience. International Journal of Art & Design Education, 25(3), pp.341–349.
12. Roth, W.-M., 1996. Art and Artifact of Children's Designing: A Situated Cognition Perspective. The Journal of the Learning Sciences, 5(2), pp.129-166
13. Taxen, G, Druin, A, Fast, C, & Kjellin, M 2001, 'KidStory: a technology design partnership with children', Behaviour & Information Technology, 20, 2, pp. 119-125.
14. Viola, W. (1942). Child art. University of London press.
15. Wilson, M., & Wilson, B. (2009). Teaching children to draw: A guide for teachers & parents. Engelwood Cliffs, NJ: Prentice-Hall