

## DEFINING CREATIVITY AS PROBLEM SOLVING IN GRAPHIC DESIGN EDUCATION

S. A. Alhajri

School of The Arts, Loughborough University, Loughborough, UK

**Abstract:** Creativity is a complex phenomenon. It intersects with multiple areas of knowledge: art, education, and cultural studies, to name a few. Defining creativity always involves novelty and appropriateness, yet it is difficult to find a definition of creativity that suits all fields. This paper argues that creativity in relation to graphic design education can be defined as problem solving. This paper aims to test this account of ‘creativity’ within the graphic design education context. It is part of a PhD research project that investigates creativity enhancement and assessment from socio-cultural perspectives and within the graphic design education context. In order to test this account of ‘creativity’, international and local graphic design lecturers were asked to complete a questionnaire and interviews. The collected data mostly confirms that it is rational to argue that creativity can be defined as ‘problem solving’, being explained as a cultural production, at least within the graphic design education context. The contribution of this paper is that it advances the idea of creativity in graphic design as problem solving, by investigating the location of creativity in graphic design, specifically in the Omani context: also this research gives a snapshot of differing views regarding creativity in design education as perceived by international lecturers versus Omani lecturers.

**Keywords:** *creativity, design education, problem solving*

### 1. Introduction

The very basic definition of creativity, among most fields, is “the production of novel, appropriate ideas in any realm of human activity from science, to the arts, to education, to business or to everyday life” (Amabile, 1997, p.40). The concept of ‘creativity’ is a contested notion, with definitions spanning the academic, artistic, and everyday worlds. This paper argues that defining creativity is a problematic issue, and the current use of the word ‘creative’ is misleading because “No word in English carries a more consistently positive reference than ‘creative’” (Williams, 1961, p.19). Williams (1961, p.19) argues that “the very width of positive references of the ‘creative’ word involves 1) difficulties of meaning through a habit, 2) unthinking repetition which at times make the word seem useless”. It is difficult, because of infinite regression or tautology, to define the word ‘creativity’ by using similar words such as ‘original’, ‘creative’, or ‘new’. Barnard (2005, p.169) argues, “It is not uncommon to find each of these words used to define and explain the others”.

This paper does not make a global claim for creativity, but rather makes a small and tight claim based on both theoretical and first-hand research. It is an attempt to locate the phenomenon of ‘creativity’ within the graphic design education context, as a starting point for developing a pedagogical model, as

part of a PhD research project. Also, creativity can be comprehended as a cultural activity that each member of a specific culture - in the case of this research, graphic design education - performs routinely as part of their everyday cultural activity (Williams, 1961, p.34). It is understood here as a "... cultural production, and both graphic design and art are examples of cultural production" (Barnard, 2005, p.169). Based on this, it is argued here that creativity in graphic design involves problem solving, which is usually explained as a 'cultural production'.

There are some beginnings of common consensus and approaches towards creativity and what it looks like in graphic design education. Studies such as Tudor (2008) and Williams et al. (2010) argue that there is a common understanding between most graphic design educationalists of some terms such as creativity, enhancement, assessment, and pedagogical strategies. Based on the idea that different cultures generate or 'create' different realities (Williams, 1961, p.34), this paper intends to use this notion of creativity to claim that the Arabic educational system, in general, and the Omani graphic design educational system, in particular, have their own models of defining the 'creative' act. Nevertheless, "the use of the 'creative' word in Arabic culture is affected by the matter of cultural prestige [...] and institutional significance" (Barnard, 2005, p.170).

The literature that has informed this issue is largely Western literature, while current understanding of the importance of creativity in the Arabic context and in relation to design, innovation, and social change is limited (Iqbal, 2011, p.376; UNDP, 2003, p.76). Research that aims to focus on the state of creativity in relation to graphic design education is found to be relatively scarce, especially in Eastern literature: two of the few examples of this literature are Khaleefa (1999) and Alkholy (2007). However, some relevant issues have not been covered well in the 'Eastern' literature, such as the location of creativity within graphic design education in the Arabic graphic design curriculum; how creativity is defined and assessed within this context; the importance of creativity for graphic design students; and finally the issue of creativity enhancement. This is in spite of creativity being an extremely important issue in most modern educational systems, which should be considered and emphasised (Craft, 2001, p.11; Sharp et al., 2000, p.2; The Creativity Centre, 2006, p.4).

From the above literature, what is known about the problem is that creativity is important in education (Craft, 2003, p.124); that there are tight links between creativity and design (DTI Economics Papers, 2005, p.3) - "Design is considered a creative activity. It is also considered a source of innovation and a foundation for social change" (Sosa et al., 2005, p.229); and that creativity can be enhanced within students' education (Hewett et al., 2005, p.13). Even though creativity is held to be important in (design) education, nobody knows what it is, therefore there is a kind of blind faith that it can be taught and that it will have beneficial effects. However, "Surprisingly little educational attention is traditionally afforded to identifying, analysing and promoting teaching strategies that actively stimulate and nurture individual creativity in learners" (Tudor, 2008, p.5). This confirms the necessity for more research on teaching strategies that can be used by university lecturers to improve students' creativity within graphic design education contexts. Examples of some studies conducted in this area are Harpe (2006), Hsiao et al. (2004), and Tudor (2008).

## **2. Design and creativity from socio-cultural perspectives**

Creativity has been understood differently from culture to culture. Different cultures have different perspectives on what is 'creative'. Therefore, the value of creativity is culture-relative. This is where the idea comes in that creativity as cultural production and problem solving is common to all cultures, but that what counts as problem solving, the content is different in each culture.

Similarly, design lies between the unmeasured fluidity of the arts, where nothing is measured, and the rigidity of the sciences where everything that cannot be measured is ignored. As such, design operates in a fuzzy realm of 'social issues', a place where results are valid, but generally local and difficult to reproduce universally; so, it is to do with meaning, and cultural production. The same case can be applied to graphic design education. Its education, operation, theory and technical strata of delivery are all strongly aligned with the cultural framework of the West. By contrast, graphic design education in non-Western developing countries is an emerging topic at all levels, from general to higher education.

Western philosophy (e.g. Williams, 1961, p.20) has provided a fundamental base as a conceptual framework for this research that will be adapted herewith to non-western areas (i.e. the traditional Arabic Omani educational system). Western philosophy traditions begin with Aristotle and Plato, then are taken up by Marvell, for example (Williams, 1961, p.25). Williams critiques traditional ways of comprehending the 'creative' concept and argues that creativity is a part of everyday cultural activity, an activity that everyone performs routinely as a member of a culture.

Williams, (1961, p.54) argues, "Art is ratified, in the end, by the fact of creativity in all our living. Everything we see and do the whole structure of our relationships and institutions depend, finally on an effort of learning, description and communication, we create our human world as we have thought of art being created<sup>2</sup>.

So this research can be linked to Williams's conception of creativity, as stated by Rustin (2007, p.7):

*"Williams's conception of the core value of 'creativity' included dimensions of work, learning, and decision-making. A good life would be one in which work made use of human faculties; in which education would encourage the development of a variety of capacities; and where people would share in decision making in the public sphere."*

It is argued that Williams is here focusing on the role of education to "encourage the development of a variety of capacities". This explains the term of 'enhancement' mentioned within this research. In the above passage, Rustin (2007) argues that creativity can be developed, and it involves a "variety of capacities". Therefore, these understandings work well with the concepts of this research mentioned earlier.

This research is based on this perspective that the artist and graphic designer play a vital role in society in revising the understandings of specific groups towards some terms (e.g. creative, valuable, appropriate). To solve this problematic issue Williams (1961, p.45) suggests that, "by returning the ideas to their place in the tradition, we can become conscious enough of them to reject them, as a part of our ordinary account of perception and communication".

Barnard (2005, p.172) argues, "graphic design is not different from art because art is creative and graphics is not", but rather, "both graphic design and art are creative in the sense that they are two of the ways in which experience is made meaningful and communicated".

Williams (1961, p.49) attempted to define the word 'creative' by stating "The 'creative' act, of any artist, is in any case the process of making a meaning active, by communicating". This understanding clearly agrees with the argument made within this research in terms of how educators understand the creative act: that is, creativity in design education is an approach, a process, and a fundamental attribute of the learner.

Another underpinning of this research is the argument that "the individual creative description is part of the general process which creates conventions and institutions, through which the meanings that are valued by the community are shared and made active" (Williams, 1961, p.55).

### **3. The importance of defining creativity within graphic design education**

This paper is part of an on-going PhD research project that situates itself among three realms: education, design, and creativity, investigating the relationships, effectiveness, and interrogations among these three large areas. Therefore, the topic of this research is currently of interest to the community of design educators and designers. It is timely and fills a gap in current knowledge in design education. Williams et al. (2010) argue, "There is no established 'study of design creativity' that explores the particularities of creativity as it relates to design". So this research will contribute to advancing the idea of creativity in graphic design as problem solving, both among practitioners and their audience. In addition, this research demonstrates an understanding of the creativity phenomenon in the field of design education. It outlines the notion of design as a process in the West versus an application of technology in other places. The practical implications are inferred, being an increased understanding and appreciation of creativity and the design process in the Arab world, particularly in Oman. Restructuring of the design curriculum based on the particular sensibilities of the Arab world can have significant implications for the teaching of graphic design there.

#### **4. The state of creativity in Arabic and Omani graphic design education**

The Omani graphic design education system lacks a unified framework working towards the concept of creativity. One of the consequences of such a lack is a shortage of pedagogical structured programmes that can enhance the creativity of Omani graphic students. It is believed that this is a result of an underestimation of the importance of creativity in the Arabic traditional educational system in general (Almusa, 2004, p.5), of which the Omani educational context is part. The location of this educational problem within the Omani (Arabic) context will also colour the take on creativity. This is a result, also, of the absence of a unified conception of creativity, Barnard (2005, p.170) argues that, “We are still operating with an unexamined notion of creativity and we are likely to be stuck with the uncritical and mystifying conception of creativity”.

While creativity is regarded as one of the main components of the contemporary design curriculum and a growing effective phenomenon, the situation in most of the current Arabic design educational systems disregards creativity (Khaleefa, 1999, p.22). It is argued that there are cultural reasons for the undervaluing of creativity. UK schools value creativity, but Arabic schools in general, and Omani ones in particular, do not. More importantly, there are not enough documents explaining the status of creativity in relation to Omani graphic design curriculums: very few studies (e.g. Khaleefa, 1999; Alkholy, 2007) have investigated creativity in the Arabic context. These studies argue that the traditional Arabic education system has negatively affected the status of both graphic design as a discipline and creativity as an integrated part of this discipline. These studies mostly investigated creativity from a psychological perspective, but have not covered all research-related issues such as the importance of creativity for graphic design students and creativity assessment.

Also, this problem arises as a result of underestimating the role of creative people in social and cultural change, and also because Arabic educational systems depend entirely on old methods of teaching, where knowledge is passively transferred from the teachers to the students. Such traditional educational environments do not encourage creativity, simply because “being creative in traditional classrooms is often difficult for students because they become afraid to take risks, afraid to explore new ideas, and afraid to fail” (Kawenski, 1991, p.236). “Traditional educational systems have allowed students to feel more comfortable by not being creative” (Cole et al., 1999, p.8). Surely these factors are local curriculum issues, which do not affect the notion of creativity as ‘problem solving’ or ‘cultural production’. It is argued that, even though eastern culture differs from western culture, the process of cultural production itself is the same.

It is believed that this weakness in the Arabic education system in general, and in the Omani graphic design educational context in particular, is a result of the absence of unified educational objectives that graphic design departments and higher education institutions are asked to achieve. For instance, in most higher education institutions in the Arab world, teachers usually construct their own educational aims (Alhadi, 2008, p.87), whereas in the UK, for instance, higher education authorities apply a uniform educational system for Art and Design called a ‘Subject benchmark statement’, issued by The Quality Assurance Agency for Higher Education (QAA). This system formulates the final anticipated outcome that is expected from art and design schools (QAA, 2008, p.3).

#### **5. Creativity as problem solving**

Several scholars from different fields (e.g. Paul Torrance and Sidney Parnes in psychology; Alex Osborn in business and education) have addressed creativity as a problem solving process (Dahlberg, 2007, p.2). The problem solving process should be applied here in order to identify the creative strengths of students. Sawahata (1999) and Hanna (2001) perceived “creativity as problem-solving using effective methods, informed by an understanding of social, cultural, historical, and technical aspects of communication to achieve a desired goal” (Cheow, 2008, p.24).

An example of this is Albert Einstein, who “had a tremendous work ethic”, which enabled him to have “diligence and patience to use problem-solving techniques to reach a solution” (Howe, 2001 cited in Muirhead, 2007, p.1). Also, Negus et al. (2000, p.266-267) argue that this approach in defining creativity “can be found in numerous locations where the term is used more generally to refer to a task executed with considerable skill, a problem solved with imagination and panache” (Negus et

al., 2000, p.266-267). Mich et al. (2006, p.2) argue that the definition of “creativity to which the community seems to have converged sees creativity as problem solving, encompassing also problem finding and solution thinking. Creativity is thus the generation of innovative rather than conventional solutions to the problem at hand”. According to this definition, each problem requires a unique solution and every solution requires an original approach in dealing with a multitude of factors that may work for or against it (Sawahata, 1999).

## **6. Methodology**

A qualitative interpretative methodology was used to answer the research questions and fulfil the aims. A survey approach was used for this research through implementing two methods: semi-structured questionnaires and semi-structured interviews. The selection of such methodology was based on a discussion of ‘creativity’, which is a controversial phenomenon that is interpreted differently in various fields and cultures. The online questionnaire was conducted internationally, with 33 lecturers. It investigated how creativity is defined within graphic design contexts, and whether creativity can be comprehended as problem solving. The reason for selecting this group is to reflect on international experiences in defining creativity. The same set of questions was asked in face-to-face interviews conducted with 39 design lecturers who teach design courses in six Omani higher institutions. The respondents of the two groups helped in comparing how different cultures perceive creativity.

The participants’ responses provoked various themes and issues that were beneficial for this study. The collected data were analysed by a thematic analysis method, where the results were first coded and then categorised according to different themes, which were extracted from the literature review and based on the research aims and questions. This type of analysis usually codes and categorises the information manually to obtain the inferences. The number of participants assisted the researcher to distinguish the most repeated inferences of answers and the most repeated differences.

## **7. Results and discussion**

The participants’ responses indicate that the majority of international and local (i.e. Omani) design lecturers recognised the importance of creativity in graphic design education. Yet a few participants expressed uncertainty about the existence of creativity, as problem solving, within graphic design education. Reviewing the literature has confirmed the strong relationships between creativity and graphic design education. An example of a prior study that has noted the importance of creativity in design education is Khaleefa (1996). As mentioned earlier in the literature review, very little information was found in the literature on the question of how creativity is defined in the Arabic educational context in general and in design education specifically.

Both the literature and the primary sources of data confirmed the importance of creativity as a crucial component in contemporary design education. An example of these studies is that of Robinson (2006), who said, “Creativity now is as important an issue in education as literacy and should be treated with the same status”. So, this paper states that creativity is an integrated component of cutting-edge graphic design education; it is highly linked to graphics practices by default. More importantly, this research states that creativity in graphic design education is represented as problem solving ability that each graphics student should have when solving ‘wicked problems’ that might be encountered in the society where this creative person practises his/her creative acts. This research states that creativity is not a talent that lies with a few people: rather it is argued that all humans are all naturally creative, life itself is a flow of continuous creativity, and all human conscious minds naturally have a creative flow.

## **8. Conclusion**

To sum up, the previous perspectives of literature described creativity as a form of problem solving, and it can be explained also as ‘cultural production’. This view was also confirmed by the participants in the research methods (i.e. questionnaire and interview). It is compatible with the view of Barnard (2005, p.169) in which he argues that graphic design is creative and involves problem solving in the same kinds of ways as art, because art is also a problem solving process, not because they are both

'creative' in the 'irruptive', 'special' or 'mystical' sense of creativity. Barnard (2005, p.170) argued further, "problem-solving is itself a creative activity, that finding a solution to a communication problem is itself an example of creative activity". This means graphic design is also creative. Accordingly, he thinks this justification is insupportable as it is "lazy and unphilosophical and it merely pushes the problem back a stage" (Barnard, 2005, p.170). Therefore, defining creativity as a problem solving process and explaining it as a form of cultural production process is a valid argument, at least within the context of this research, and specifically in relation to the graphic design context.

Creativity in the Omani traditional educational system lacks a framework for that very creativity. For example, there is no unified educational vision or objectives that are intended to be achieved by graphic design institutions. The evidence of this the absence of any Art and Design benchmarking system similar to the 'benchmark statement: Art and design 2008' developed in UK by QAA (2008). This has caused a lack of a structured pedagogical model, which can enhance students' creativity, which is something that my research proceeds to investigate, forming a tentative model.

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