What visual literacy is not!

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ABSTRACT

This paper intends to help design educators reach a more informed understanding of visual literacy by stating what we already know it is not, in order to promote discussion on how it can be fostered. This paper is based on Jefferies' PhD research from an empirical visual experiment carried out on a wide range of design practitioners, design students and the general public.

Specific terms of influence such as 'fixed', 'cross-disciplines' and 'accessibility' were highlighted for discussion when considering what visual literacy is not, and were consequently used to frame the problem. When considering each of these influences in terms of seeing; (a) Viewing visual language as a 'fixed' vocabulary does not allow for each working context to have its own visual value system. (b) Literacy of 'cross-disciplines' may not enable a way of seeing to be transferred between each design discipline. (c) 'Accessibility' in terms of a student's ability to read or write an image can not be determined from a designer's final product, as each individual and context is different.

It is proposed that debating the three identified areas will heighten design educators' awareness and provide a valuable basis for future pedagogy practices.

INTRODUCTION

It can be argued that visual skills are implicit and are experienced subjectively and emotionally; however they can be fostered through practice (Moore, 2003:28). Moore (2003:34) suggested that problems arise "when visual skill is thought of as some kind of innate 'gift' or subconscious attribute."

As designers are visual by nature, an underlying assumption may be that they have highly tuned visual skills. However, if this is the case, then design educators may not see any need to investigate whether these abilities are in fact present, leading to an inability to see the necessity for programmes to foster design students' experience and insight.

This issue informed the direction of the Jefferies' PhD which set out to discover whether designers require an acute visual skill set when practising in a digital setting. The question has always been relevant, but may not have been raised before new technologies dramatically altered means of visual communication, which required society to become more visually literate (Lester, 2000:xi). An experiment was designed to test the hypothesis that 'work in a digital practice requires a heightened set of visual skills' based on the assumption that there was one way of developing skills and that therefore a student's skill set should be clearly defined.

I. VISUAL EXPERIMENT

The visual experiment was based on a standardised empirical approach devising material to document levels of visual skill development, see Jefferies (2004).
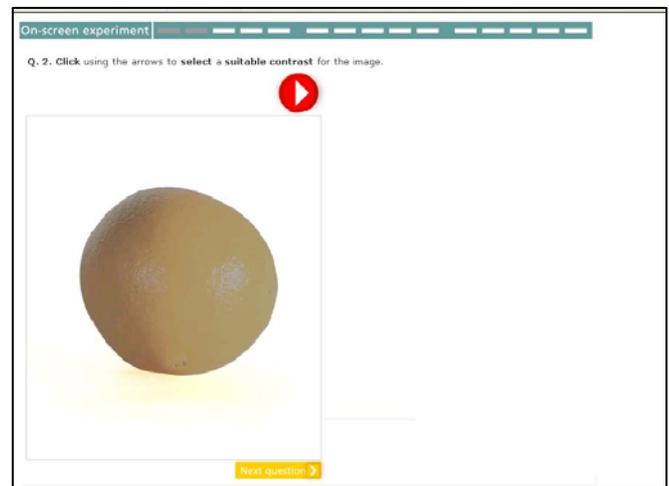

Fig. 1. Digital experiment material assessing visual discrimination ability by asking participants to select a suitable contrast for the image.
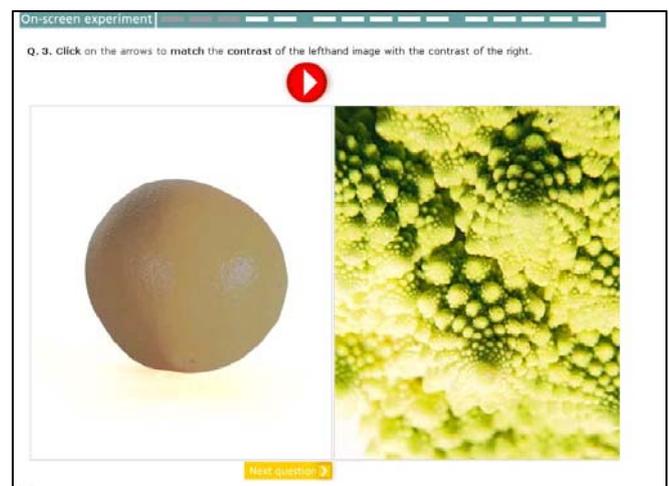

Fig. 2. Digital experiment material assessing visual association ability by asking participants to select a suitable contrast match to the image provided.

Visual discrimination and association were assessed with visual discrimination being defined as "the ability to perceive differences between two or more visual stimuli." (Avgerinou, 2001:xvi). Visual association was defined as "the ability to link visuals that display a unifying theme". (Avgerinou, 2001:xvi). The experiment materials shown in figures 1 and 3 assessed 'visual discrimination' by asking participants to select a suitable contrast of an image in a digital and print-based medium.
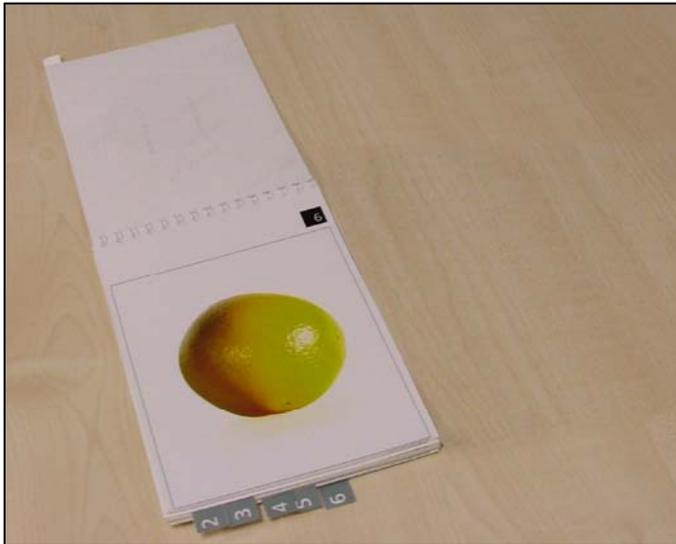

Fig. 3. Paper experiment material assessing visual discrimination ability by asking participants to select a suitable contrast for the image.
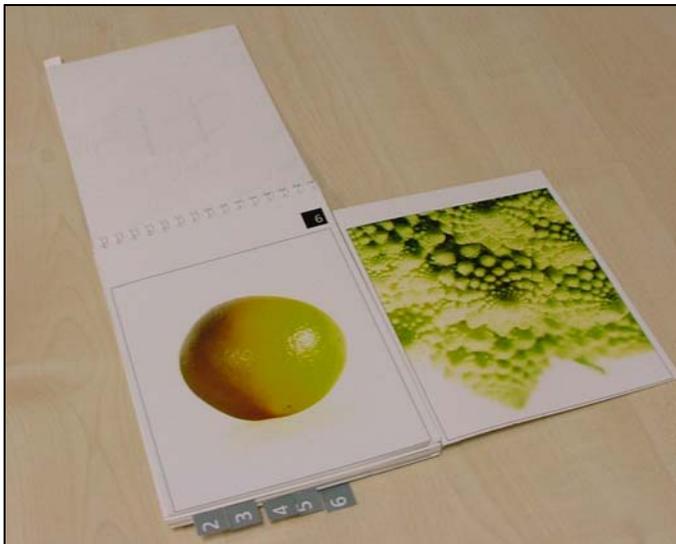

Fig. 4. Paper experiment material assessing visual association ability by asking participants to select a suitable contrast match to the image provided.

The experiment materials shown in figures 2 and 4 asked participants to select a suitable contrast to match the image, provided in a digital and print-based setting, to assess 'visual association'. Experiment material similar to that shown in figures 1-4 was also used to assess colour and scale to form the visual experiment. This was conducted with 161 participants within the UK; 73 design students, 48 designers (30 graphic, 18 new media) and 40 members of the general public.

Two relevant key findings provide the framework discussion.

A. Finding 1

It was predicted that the selection of a suitable match for contrast, colour and scale from the image provided (visual association, see figure 2 & 4) would show a narrow stand deviation as matching an image is a less subjective task than selecting one that the participant feels is appropriate (visual discrimination see figure 1 & 3).

However, results for the survey entire population disproved this hypothesis; Table 1 shows that when matching two images (visual association, figures 2 & 4) for contrast, the standard deviation was wider for paper and digital media than when selecting a suitable contrast for one image (visual discrimination, figures 1 & 3). In the context of scale, however, the prediction proved to be correct, while colour was shown to have no significant difference.

	Contrast (Standard deviation)		Scale (Standard deviation)		Colour (Standard deviation)	
	Digital	Paper	Digital	Paper	Digital	Paper
Visual discrimination	1.093	1.409	1.888	1.711	1.695	1.869
Visual association	1.772	1.707	1.406	1.423	1.805	2.050

Table 1: Entire population standard deviation: paper and digital results.

B. Finding 2

The results demonstrated that, in fact, there was no significant difference between the levels in design practitioners and students. Therefore the null hypothesis was accepted and it became necessary to explore the assumptions of visual literacy itself.

This led to more sophisticated ideas of what visual literacy might be, and informed a contrasting approach; that of considering visual language as not fixed, but fluid.

II. INFLUENCES IN TERMS OF SEEING

It emerged that it was not the digital environment that was the influencing factor but the contexts and situations in which visual literacy is applied. Therefore from these findings it appears unnecessary to describe the nature of implicit skills and levels of development but rather to concentrate on terms which frame and aid students' 'appropriate use' in a context. According to Seppanen (2006:6) it is imperative to recognise the importance of the continuum when analysing visual culture, as visual literacy relies on "an understanding of the relationship between cultural change and cultural stability", thus it is fluid. Therefore in the author's experience the key debate to inform design educators' understanding in the development of seeing can be framed under the headings of: Fixed, Cross-disciplinary or Accessible.

A. Fixed

If we consider visual language, by its nature, to be *fixed*, design educators should equip students with a 'fixed skill set'; visual reading and writing skills. This is connected to linguistics; Dondis (1973), Curtiss (1982) and Thompson (1994) attempted to develop visual vocabulary of defined design elements and principles. Raney (1999:43) considered context, particularly appropriate use including the accurate application of reading skills and analysis being required to uncover the meaning in a message. This visual vocabulary enabled design educators to communicate visual literacy to their students. However it is questionable whether equipping them with a 'fixed skill set' and vocabulary has enabled students to engage with the visual.

This is debatable, as we consider the shift from literacy to literacies. Street (1984:89), who led this debate, regards literacy as a continuum from the narrow (and fixed) view, as expressed by students' acquisition of a generic reading and writing'[1] to literacy as a social practice, (therefore changeable)**,** with focus upon the application of literacy in a context, hence *literacies*.

The visual experiment employs the 'narrow view', to gauge if there is a single way to develop visual literacy reading skills in design education. This experiment unexpectedly disproved the notion of a single pathway to visual literacy reading skills development with little variation found between design students and practitioners. This implies that visual literacy is a social practice, dependent on how it is applied to individual situations or practices.

Visual literacy as a social practice argues against viewing meaning as fixed, e.g. teaching design students visual elements and principles. Whereas meaning is socially constructed, fluid, open, unstable, made and remade (Raney, 1999:43). Based on the results of the visual experiment (see finding 1) visual language is fluid, as visual discrimination and association were shown to vary in each context: contrast, scale and colour. In this setting, language is knowledge and literacy is the 'appropriate use' of knowledge in a context, suggesting that the development of a vocabulary alone is of limited benefit. Hence, it is not possible to declare a 'fixed skill set' to be universally applied in design education, as this would lead to sterile practices.

Therefore approaches are required to support students' meaning-making by engaging with change to inform and develop appropriate aesthetic judgements.

B. Cross-disciplines

In conjunction with fostering 'what can be' (changed) instead of 'what is' (fixed) when considering visual literacy, we need to examine the second influence, questioning whether a way of seeing can transfer between disciplines. As mentioned above visual literacy is acquired and developed in a social practice and is context dependent. This could suggest each practice within design would have its own 'way of seeing' and application of visual language. It is necessary to

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[1]indicative of skill levels; based upon cognitive psychology.

examine earlier definitions of visual literacy to understand if this is the case.

The concept of visual literacy was initially defined through observation of practical application in specific disciplines, thus,

"the definition informs us of what a visually literate person can do, but not what visual literacy is." (Bieman, 1984:1 cited in Avgerinou, 2001:64)

This may have led to the confusion and lack of direction for educators, which Avgerinou (2001) addressed by conducting a comprehensive review of visual literacy definitions (Debes 1969:27: Ausburn & Ausburn 1978:291 Hortin 1983:99: Sinatra 1986:5: Heinich *et al.,* 1997:67: Schiller 1987:276).

"in the context of human, international visual communication, visual literacy refers to a group of largely acquired abilities, i.e. the ability to understand (read), and to create (write) an image, as well as to think and learn in terms of images." (Avgerinou, 2001:xv)

Thus Avgerinou has enabled educators to select the skills required for 'reading' and 'writing' but there remains the question of how these are to be incorporated into practice, in particular when applying them to a variety of contexts. If a design educator were to take adopt Avgerinou's definition, they might look at specific skills but neglect the larger aim; to establish teaching strategies and foster application of a particular designer's visual practices.

This contention is results (see finding 2) from the visual experiment; that graphic design and new media practitioners did not have a higher skill base than design students. Nevertheless, their actual visual practice may differ, and it was observed that two thirds of the graphic design practitioners showed a more diverse skills base than their new media counterparts. This can arguably be explained by screen-based designers placing greater emphasis on production tools and more specialist ability to communicate in one medium; implying a narrower visual practice. Conversely, it could be argued that non-specialist graphic designers have greater experience of visual language over different contexts where production skills are secondary to visual thinking. Cleveland (2004:118) contends:

"The change from the use of hot metal for typesetting to photocomposition was an example of metamorphosis ... These skills were not so much associated with the physical use of the machinery, but with the aesthetic choice and placement of type. When the new technology made the operation and flexibility of the physical typesetting practice easier, the compositor became marginalised as their skill base became narrower."

This could perhaps equally be applied to graphic designers.

Taking into account that the development of visual literacy is not solely dependent on vocabulary and skills but also on strategies to inform 'appropriate use' complies with Street's (2001:221) suggestion,

"we need to 'start where the people are', with what they already do, and help them to transform their own lives in their own ways for their own purposes, rather than to impose our literacy for our own purposes on them, in the process ignoring or despising their existing patterns of literacy and development practices."

It may be that the earlier approach to defining visual literacy by observation in specific practices was more appropriate. However, as well as observing specific skills, it is essential to understand when immersion and critical engagement support a designer's visual practices, to aid application in a constantly changing social context.

Immersion is also connected to Csiksentmihayi's (1990, 1991) psychological concept of flow. In the 'flow state' an aesthetic experience is a pleasurable, passive, focused, timeless and subjective way of seeing, as, for example, frequently found when sketching.

Critical engagement is based on Dunne's (1999:59) comments on Dewey's (1958) approach to aesthetic experience drawing a distinction between recognition and perception. Thus recognition of an object and relating it to what we already know differs from perception of an object we are actively engaging with, "so that its qualities may modify previously formed habits or schemes." (Dewey, 1958 cited in Dunne 1999:59) To recognise is not to question and therefore may lead to inaccurate assumptions rather than "growth and learning" through active perception and defamiliarisation which may involve use of critical tools which inform 'methodical creativity' (Raby *et al.,* 2000:1) such as brainstorming and personas which both promote immersion and engagement.

Each design discipline has an alternative way of applying visual literacy, suggestive of different types of immersion and critical engagement e.g. different types of sketches and use of personas in the design process. Therefore a design discipline way of seeing may not fully transfer, as it involves use-based visual literacies. Hence, rather than identify specific skills and attributes found in the final output of a design project, methods to aid students' immersion and critical engagement in the design process for a design visual practice are required.

C. Accessibility

As each design practice has different visual literacies, immersion and critical engagement in change are personal and may not easily be discernible through assessment. However, they provide the main influence on seeing, and could be fostered.

Avgerinou's (2001) and Bennett's (2001, 2002) visual literacy formative assessments employed a mixture of visual and verbal questioning to assess knowledge of specific visual attributes. Earlier in this paper a visual-only approach (see figures 1-4) was used which evaluated visual production skills in order to reveal the nature of visual literacy. As designer expertise was found to be diverse in nature in the visual experiment (see finding 2), simple assessment of literacy levels like 'literate' or 'illiterate', do not relate to the nature of visual literacy.

The visual experiment, along with other formative assessments of knowledge, is limited when informing the nature of universal production as they only assess skills and ignore use in context and practice. As has been argued, visual literacy as a language is not fixed but changeable and is not necessarily cross-disciplinary. As visual literacy is fluid, taking a 'snapshot' in of visual knowledge would appear to glean an inaccurate picture for two reasons:

a. Design educators would merely be able to assess 'what' students know rather than 'how' they know.
b. It would foster a surface (looking) rather than a deep (seeing) learning approach which would reduce the opportunity for shifts in perspective or defamiliarisation.

Evaluation of a deep approach involves self-assessment of immersion and engagement, and not the language used to describe it. It is believed that this will lead to students engaging with change and making more informed aesthetic judgements. Therefore, a design educator would set up an approach for students to conduct their own continual self-assessment. This should result in students evaluating the process of designing, rather than the attributes of a particular piece of work.

III. DISCUSSION AND SUMMARY

The authors have presented visual literacy as a social practice and given key consideration to fostering 'seeing'. This research aims to heighten design educators' awareness of the broader picture and inform strategies to guide 'appropriate use' in a context and within a 'design discipline', instead of focusing on specific skills.

Visual literacy is an active process which involves 'seeing' using in-depth intellectual critical engagement (Dewey, 1958) which also involves immersion in terms of sketch work. This employs visual thinking which Arnheim (1970) believes to be 'preconscious, metaphorical thought' and results in directing the intent of a designer's practice. This is an iterative process involving both immersion and conscious critical engagement to inform aesthetic judgements.

Schon (1983 cited in Moore 2003:34) suggested that visual skills can be learned and coached through 'reflection in action'. Therefore students should be encouraged to explore new ways of seeing, (through brainstorming, others' perspectives and sketching), to inform intent and to evaluate their decisions though 'reflection on action' to aid critical engagement.

A. Fostering a design discipline way of seeing

Each design discipline has it own way of seeing. For example; new media design students have to constantly update their production skill-base as new technology evolves and so are in constant change, whereas more traditional print-based graphic design students consistently use the same technology while production skills are secondary.

Because of different contexts and practices, design educators need to develop new ways of fostering students' visual literacy which fit within the design discipline.

B. Theory into Practices

The authors has put this key theoretical consideration into teaching practice, by using 'personas' (see figure 5) to foster self-assessment in design students. Persona describes users of website, products or services by identifying their goals and dream focusing designers to go beyond subjectively, when think about the consequences of their design decision.

Coaching students' seeing by self-assessment is an extremely subjective process which may not directly relate to a final graded piece of work. However using personas in a studio setting has informs their decisions in the future.
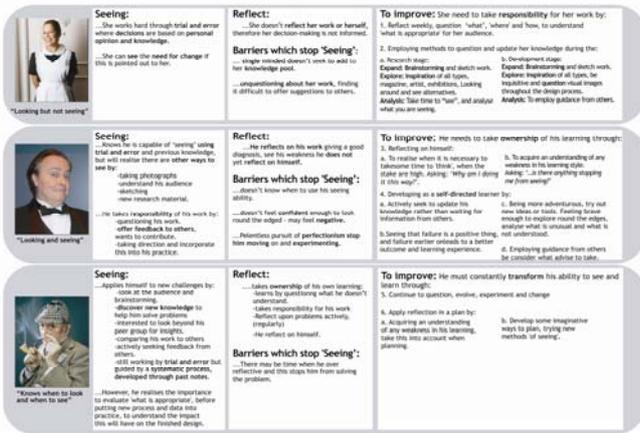

Fig. 5. Jefferies (2007) personas' which foster design student's to self-assessment and develop visual engagement.

There are already many methods and techniques which design educators can employ which are currently parts of design practice. These fall into two types, those which inform intent and those which evaluate decision making. Both of these approaches employ qualitative user study techniques, for example cultural probes, personas, scenarios, user diaries and focus groups, to gain information to inform designers. This research has also begun to apply user experience methods in design practices such as personas to enable both the educator and the student to better understand their practice. In order to position students as users of visual literacy it is vital that they have the ability to see themselves objectively and become defamiliarised while engaging with the process. Objectifying something that is assumed to be subjective can be achieved using such user experience methods, with a focus on engaging while remaining defamiliarised as it is easier to be critical of an external persona than of oneself.

C. Summary

This paper has argued and shown through a visual experiment that visual literacy can not be considered as having a 'fixed skill set' and that the design educator should be aware of the three influencing factors: Fixed, Cross-disciplinary and Assessable. These influencing factors would suggest a formative assessment of visual knowledge and teaching a 'fixed skill set' of visual elements and principles alone, would be inappropriate; as it will not aid design students' process of engaging and applying their visual skills in a context. Visual literacy cannot simply be taught as discrete knowledge but can only fostered through such methods of self-assessment based upon reflecting on experience.

Also the research suggests that design educators need to adopt new pedagogy strategies to foster design students visual engagement, instead of visual 'literacy'. Through changing the focus from 'literacy' to the act of 'engagement',

a more sophisticated understanding of design students 'appropriate use' of the visual can be fostered. This follows the idea of the use of persona, a structure way to visual engage design students. Therefore a number of tools, particularly from Interaction Design, which are often used to engage clients and current work by the authors in the Centre for Design Research are being used to investigate ways to engage and aid design students self-reflection (Jefferies, 2007).

To summarise, it is only by framing the issues in the above terms and continuing to review them that we can move forward and create a questioning and maturing generation of designers, whatever their discipline.

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