

Investigating colour in interior design education: an observational study about colour in the first design stages

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Colour is a very important element in the interior setup, and in interior design education. It is important to educate students in design schools about colour, and how this element can play a big role in transforming the whole creative design process. Theorists disagree regarding the stage at which colour is considered. For example, many references, such as Pile (2007), showed that colour choices occurred in a later stage of design, concept development, while Attiah's 2016 study demonstrates that designers consider colour in the first stage of a design project.

The aims of this study are to determine the stage of colour thinking and choices by observing interior design and furniture students in King Abdulaziz University, who were undertaking commercial design studio, where their task involved designing retail interiors (stores) from scratch. The study will be in two stages, the first one is determining the stage of colour thinking and choices when students were building their design concepts, and the second one is to compare the findings with the results of Pile's and Attiah's theories.

The result of this study showed that colour thinking and choices were activated in the earlier stage of design projects, which adheres with Attiah's theory. The contribution to new knowledge in this study should help design educators teaching interior design students focusing on colour knowledge in the early stages of the course and design studios to allow them making appropriate colour decisions.

Keywords: colour, design education, interior design, retail design, stores design

INTRODUCTION

Colour plays an essential role in the success of any design project. Therefore, it is important to pay attention to determine the stage of colour selection in an interior design field. Many studies, in particular, Pile, organised the steps that designers undertake into seven main categories; starting with project beginnings, programming and concept development; detailed development of the concept came as a fourth stage, followed by implementation of the design, then supervising the design project, and finally what he named as post-completion evaluation. In his chart, the colour choices stage is listed under the fourth step which is the concept development (Pile, 2007). While Attiah confirmed in her study that colour selection takes place in the earlier stages of design rather than including colour in the later stages (Attiah, 2016). The aims of this study are to determine the stage of colour thinking and choices by observing interior design and furniture students in King Abdulaziz University, who were undertaking commercial design studio, where their task involved designing retail interiors (stores) from scratch. The study will be in two stages, the first one is determining the stage of colour thinking and choices when students were building their design concepts, and the second one is to compare the findings with the results of Pile's and Attiah's theories.

METHODS

Twenty-four interior design junior students in King Abdulaziz University were taught the course: Interior Design Studio 4 - commercial. The course description focused firstly on investigating existing stores designs, analysing brand's main elements (logo design, identity, packaging), and looking at all interior design elements of one chosen branch of a brand (preferably a local branch in Saudi Arabia to visit the store and report a consumer experience). After presenting in groups the brand's full analysis, each student suggested a retail business, a name for it, designed a logo and full graphics identity, and started conceptualising the interior for the store. The aim of this study was to observe where does colour fall in the students' design processes, and how they thought of it as an interior design element for their final interior projects proposals; this was done through firstly observing how students in KAU- Interior Design & Furniture are likely to work with their design processes, keeping in mind the fact that they showed a high level of design thinking and design outcomes prior to starting this course, and after the observations throughout the academic term (Feb-May 2017), the general findings were compared with existing literature and theory in colour in design process.

Table 1. Summary of course contents & tasks

Task	Description	Deadline
Case study	In groups, analysing all design elements of an existing retail or luxurious store	Week 2-3
Store identity	Students were given the chance to choose the store service/s, name, design a logo, and produce packaging items	Midterm
Visual merchandising method	Using lectures' summarised points, each chose a quality of visual merchandising prior to designing the store's main displaying units	Midterm
Full interior proposal	Full interior design: 2D & 3D drawings, interior circulation and zoning details, users' ergonomics and standards, the used visual merchandising methods, and window display design proposals	End of semester
Sketchbook(s)	Designer sketchbook documenting all studies, research, & design process throughout the semester	End of semester

Students were not directed to follow any specific colour choosing process and were allow to adopt any process that they wished to proceed. This allows a proper observation on how the students deal with colour choices, combinations, and applications into the design suggestions; the research team paid particular attention on the students' colour thinking. Twenty-four projects chosen by the students were categorised into five different groups based on the store services after the store ideas were approved:

- 1- Towards a creative era (6 projects)
- 2- Looking really good! (6 projects)
- 3- Femininity leads (4 projects)
- 4- Who doesn't want to be a child again?! (2 projects)
- 5- Happy mind (6 projects)

After the midterm, and when the logo, packaging, visual merchandising method, layout plan, zoning, and circulation all were approved and finalised, a revision lecture of colour wheels and colour terms commonly used by the interior design community were presented to aid students know more about this field. Figure 1 displays all final logo designs for the twenty-four stores. Figure 2 show the summary of the presented colour information as revision for the students.

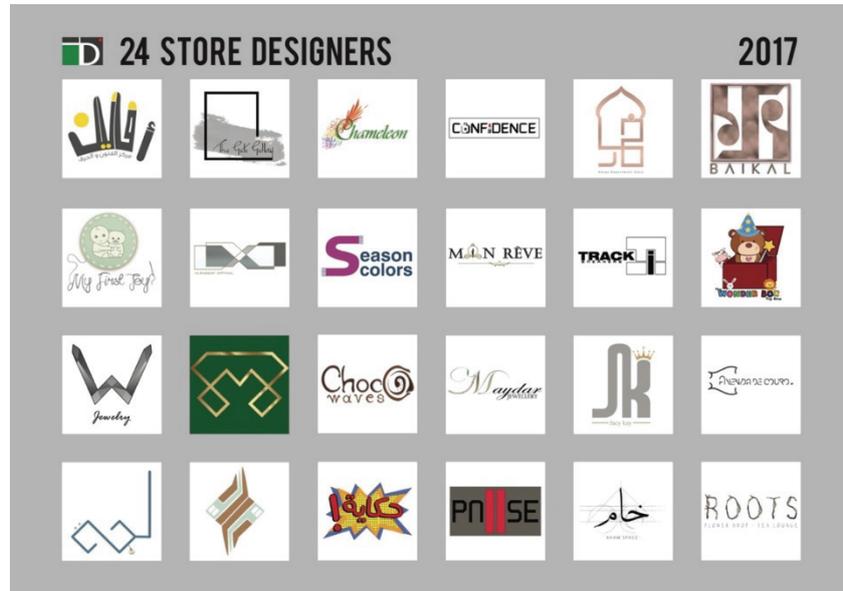


Figure 1: Students projects' logo designs.

Pigment Colour Wheel & Colour Relationships

Split Complements: A circle with 6 dots at 12, 2, 4, 8, 10, and 12 o'clock.

Mutual Complements: A circle with 6 dots at 12, 2, 4, 8, 10, and 12 o'clock.

Monochrome: A circle with 6 dots at 12, 2, 4, 8, 10, and 12 o'clock.

Complementary: A circle with 6 dots at 12, 2, 4, 8, 10, and 12 o'clock.

Near Complements: A circle with 6 dots at 12, 2, 4, 8, 10, and 12 o'clock.

Double Complements: A circle with 6 dots at 12, 2, 4, 8, 10, and 12 o'clock.

Analogous: A circle with 6 dots at 12, 2, 4, 8, 10, and 12 o'clock.

Triads: A circle with 6 dots at 12, 2, 4, 8, 10, and 12 o'clock.

Useful Colour Terms

Hue
Name of colour. The attribute of a colour by virtue of which it is discernible – to describe its position in colour spectrums or colour wheels.

Value
Value refers to the lightness or darkness of a colour. It indicates the quantity of light reflected. In pigment mixing, this can be adjusted by adding white or black.

Tint
A colour mixed with white pigment increases its lightness and is known as a tint.

Shade
A colour mixed with black pigment increases its darkness and is known as a shade.

Saturation
In pigment mixing, saturation is the intensity of a colour, expressed as the degree to which it differs from white. This can be adjusted by mixing it with its complement colour.

Tone
A colour mixed with grey (black+white).

Colourfulness
How much the hue is apparent.

Colour Temperature
A cool or warm hue.

Metamerism
Colours of a pair of samples matched under one condition but not another.

Colour Constancy
A colour appearing approximately the same under varying illuminations.

Colour Wheel
The circular format allows relationships between hues.

Colour Scheme
Combining colours to create pleasing visual harmonies.

Primary Colours
Colours that cannot be mixed from others in the colour wheel.

Secondary Colours
A colour that is created by mixing two primary colours.

Tertiary Colours
A colour that is created by mixing a primary and secondary colour.

Additive Colour
(Light) RGB are the primary colours.

Subtractive Colour
(Pigments & Printing) CMY or RYB.

Figure 2: Colour wheels and terms for designers – The sketchiniZer.

Note, Each chosen colours as showed in Figure 1 determined the final interior colour choices for each project to follow the brand identity, and the lecture to aid colour thinking (Figure2) helped students improving the colour choices as colour schemes (colour combinations) but not as a starting point to select the starting colour.

FINDINGS AND DISCUSSION

Commercial / stores design usually accommodate the colours of the brand in the interior setup. The fact that it is a commercial design studio, students had to follow the main brand identity. However, if it is a residential studio for example this may have differed. Thus colour theories and knowledge should be presented to students at first not to feel confused when reaching colour applications stages.

Colour choices came in the very first design stages as for the identity choices, which adheres to Attiah's (2016) proposed theory. Choosing colours stage was firstly, as observed, in the logo design process, each student worked on sketching many ideas and the teaching team helped each student individually to reach the final logo design. Students preference of colours showed in that stage to match the store's products with a colour without any colour guidance from the research team, only editing shades or colour tones when required. Those colours and tones were applied by default in the interior CAD (computer aided design) drawings.

Students need to know more about colour combinations - tips to combine better colour schemes for interiors.

When the knowledge of colour terms and revising some colour schemes techniques and theories through a revision session, better colour applications were achieved, but the major colour choices were following the brand's main chosen colours at the beginning. Figure 2 shows the summary of the presented colour information as revision for the 24 junior-level students. As a result, this only assisted in choosing better colour combinations, but not in changing the main chosen colour(s).

Colour thinking falls in very early stages as Attiah (2016) suggested, while Pile (2007) included colour thinking and choices in later stages (drawings and concept development stages). This study may adhere with Attiah's, as colour major choices were conducted earlier when design students started to think of their stores, in some cases, before having the interior drawings.

CONCLUSIONS

Colour thinking is a very crucial stage in any design project, interior design education should give this stage more importance by offering students good references and lectures at the beginning of design studios. The result of this study showed that colour thinking and choices were activated in the earlier stage of design projects, which concurred in Attiah's theory. The contribution to new knowledge in this study should help design educators teaching interior design students focusing on colour knowledge in the early stages of the course to allow them making appropriate colour decisions. However, there are different findings in the stage of colour selection between researchers and this is possibly due to the type of design projects. Therefore, the researchers believe that some projects need to think about colour in the initial stages of design, for example, retail store design which is then followed by other factors such as the brand, logo, etc. This corresponds with the findings in this study that students think of colour in the early design stages.

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