

# A Colour Palette Methodology

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## ABSTRACT

This paper presents "*The Colour Combination Cards*"; a method collection for design students to be used in the creation of colour palettes. Since a design process is influenced and controlled by various methods, this project suggests using a defined methodology in the work with colour palettes in order to give more variety to the design of colour schemes. The methodology is presented to the students as method cards that can be combined and applied in their design work.

The methods are divided into four categories: Plan, Create, Adjust and Review. None of the methods are conclusive but indicate possible approaches to colour work and vary from quite practical and intuitive to completely systematic methods based on theories of colour harmonies. The paper describes the methodology and concludes by presenting two cases where "*The Colour Combination Cards*" have been applied in colour classes as well as a discussion on future work.

## KEYWORDS

Colour, design, method cards, design students, didactics, colour harmonies

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## 1. INTRODUCTION

When we look at a man-made colour scheme, we can talk about our perception of the colours and how they affect us. We can also take on a more theoretical approach and discuss contrast ratio and harmonies in the scheme. We can simply enjoy the beauty of the palette or reflect on how it brings out the best in a form. All this is about experiencing the colour scheme after it has been created. For a design student, it is also important to look at the colour scheme from another perspective. The student must curiously ask: *How is this palette created?* This question is directed backwards in time and focuses on the actions leading up to the finished colour scheme. A design student must as such be trained in both understanding a colour composition after it is created as well as mastering the creation itself. He must be able to formulate an intention with a colour scheme in his own work and select and apply methods to produce it.

This simple question; *How is this palette created?* is the promotor for the development of the colour palette methodology described in this paper. The work began in 2015 at Designskolen Kolding in Denmark. The background was observations of students' work with colour that showed that their approach to creating palettes were often highly intuitive. The majority of students would tend to forget colour theory later in their studies and therefore not make qualified colour choices in their design projects (Mikkelsen 2016). A beta-version of The Colour Combination Cards has since been tested as a teaching tool and evaluations has led to the form the collection has today.

The paper starts by introducing elements from a classical design process, that has been implemented in The Colour Combination Cards. Next follows a description of the phases and methods suggested in the methodology. The paper concludes by presenting two cases where The Colour Combination Cards has been used in design education.

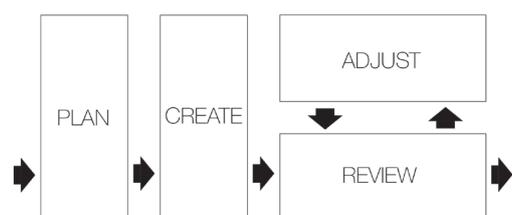
## 2. UNDERSTANDING THE DESIGN PROCESS

In 1926 psychologist Graham Wallas described the creative process in four phases; Preparation, Incubation, Illumination and Verification (Jacobsen and Rebsdorf 2003). Since then many models to understand creative processes including design processes has been generated. In 2007, The British Design Council did a major study of the design process in eleven international companies. Based on their observations, they developed the model *The Double Diamond*, which is a very simplified model illustrating the progress of a design process

(British Design Council 2007). The model divides the process into four phases. A divergent phase is followed by a converging phase, which is repeated in the second diamond. Each phase consists of a number of iterations, where ideas can be developed and tested. A divergent phase is characterized by an open-minded approach, a phase where ideas are freely created. A convergent phase is characterized by the opposite; an analytic approach for the purpose of selecting the best idea. When comedian John Cleese talks about his creative work he distinguishes between an open mode and a closed mode, and states that both are necessary in creative processes (Cleese 1991). Professor of strategic management, Roger Martin has also identified these two different states of mind in design thinking, which he claims to consist of both analytic thinking and intuitive thinking (Martin 2009). The structure of *The Colour Combination Cards* is inspired by elements of the design profession in terms of phases, iterations and analytic versus intuitive thinking.

## 3. THE COLOUR COMBINATION CARDS

The *Colour Combination Cards* (Mikkelsen 2018) is a colour palette methodology developed for design students. The methodology is divided into four elements: *Plan - Create - Review - Adjust*. These elements can be understood as both categories of methods and phases in a colour design process. Each phase indicates a certain working procedure in the design process and suggest a number of methods to be used in the specific phase.



**PLAN:** The colour work in the design process begins with the student contemplating the intention behind the desired colour scheme. He will make an effort to understand his target group by studying age, gender, culture, job, and style. Through this work the student will identify the target group's wants and needs. It is also necessary for the students to have knowledge of the design field, where the colour scheme is to be implemented. Is it for interior; the student can study light conditions. Is it for a graphic identity; the student must consider readability and symbolic value of the colours. Is it for a fashion collection; the student can look at trends etcetera. Besides research in the target

Figure 1 - A visualisation of the phases in the colour design process

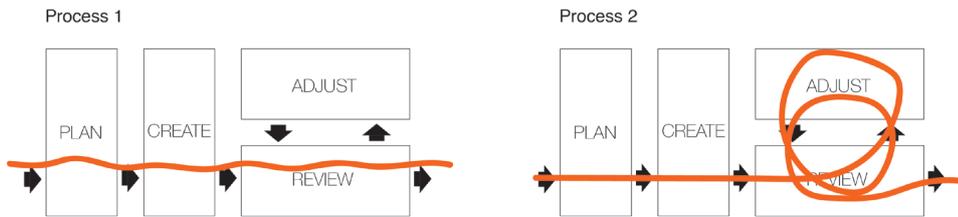


Figure 2 -Illustrations of two variations of the colour design process

group and design field, the student must also at this stage define what he wants to achieve with the palette expression. Should the colour scheme have a calming or dramatic effect? Is it sophisticated or raw? Artificial or natural? When the student has outlined a plan for the colour scheme he can move on to the next stage.

There are five Plan-cards in the method collection. Four of them proposes a strategy for a colour scheme and outline as such both an expression and possible tactics to meet this expression. These four Plan-cards are intended as examples that can be used by the inexperienced design student to train the thinking. The fifth Plan card describes what the student should consider to be able to formulate his own plan. This card is mostly directed at the student who are already familiar with working with colours and with design processes.

**CREATE:** At this stage, the student will work with the first draft of a colour scheme. Colours are composed to meet the plan that was defined in the previous phase. In the Create-phase no judgement can take place. Emphasis is placed on an open approach to ensure a creative workflow. There is room for intuition and contemplation.

There are twelve Create-cards in the method collection. These twelve cards each represent a method to create a colour palette. The methods range from very intuitive to very systematic approaches and are collected partly from existing colour theory and partly from interviews with practicing designers (Mikkelsen 2016).

**REVIEW:** After the open and creative process follows an analytical look at the colour scheme. Here the student will stop up and hold his first draft up against the original plan and evaluate whether it meets the intentions. The student may include other people in this process, it can be a fellow student or if possible a representative from the target group. If the colour scheme is consistent with the intentions the design work is completed. If not, the design process must subsequently include one or several iterations where the colour scheme can be improved.

There is only one Review-card in the method collection. This card indicates a number of

questions, that the student can ask himself to assess whether the colour scheme live up to the intentions formulated in the Plan-phase or not.

**ADJUST:** If the generated colour scheme does not meet the intentions, it can be further processed in the Adjust-phase. This phase can be interpreted as an iteration of the Create-phase. As described in the previous chapter, working with iterations is an essential part of a design process.

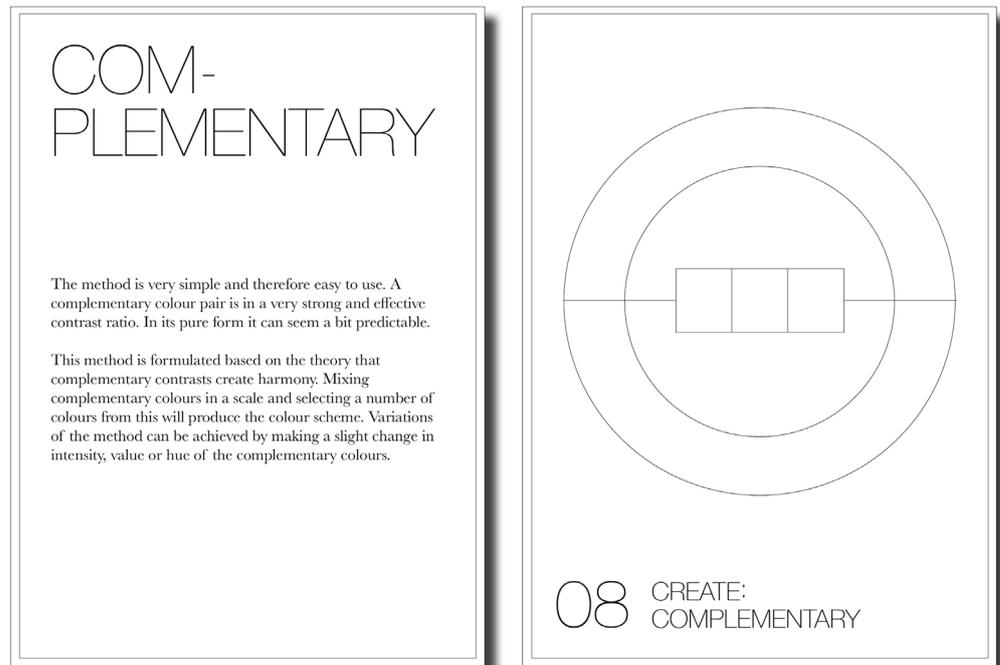
There are twelve Adjust-cards in the method collection. These twelve cards each represent a method to vary and to improve a colour scheme. The methods range from very intuitive to very systematic approaches, and are collected partly from existing colour theory and partly from interviews with practicing designers.

Figure 2 shows two different illustrations of the colour design processes. The first illustration shows a process that consists of a Plan-phase, a Create-phase and a Review-phase. The colour scheme that is generated in the Create-phase is thus assessed in the Review-phase to have fulfilled the intentions of the Plan-phase. The design process is therefor completed. The second illustration shows a process that consists of a Plan-phase, a Create-phase and a series of iterations of Review- and Adjust-phases. The colour scheme that is generated in the Create-phase is thus assessed in the Review-phase *not* to have fulfilled the intentions of the Plan-phase and must be further processed in an Adjust-phase. This process Adjust - Review - Adjust - Review is repeated until the expression of the colour scheme is satisfactory.

#### 4. THE METHOD CARDS

The Colour Combination Cards consists of a total of thirty methods. Each method is formulated on a card. This enables the student to physically take out a card of the collection and put it on his desk in order to focus on this one method while working with it. All text and graphical design is made in black-and-white so no colour combinations are indirectly proposed. On the front the cards present a graphic that illustrates the methods, a short title, the method category and a number. On the reverse side of the card is a description of the method, possible variations

Figure 3 -Illustration of the Create-card No.8 Complementary.



and pros and cons.

Overview of the thirty methods in four categories:  
 Plan-cards: No.1 Balance, No.2 Trend, No.3 Subdued, No.4 The Full Circle, No.5 Another Plan  
 Create-cards: No.6 Analogue, No.7 Monochrome, No.8 Complementary, No.9 Split Complementary, No.10 Triad, No.11 Tetrad, No.12 Personal Colours, No.13 Colour Separation, No.14 Historical Palette, No.15 Commercial Context, No.16 Concept, No.17 Random  
 Adjust-cards: No.18 Value, No.19 Saturation, No.20 Invert Hue, No.21 Invert All, No.22 Overtone, No.23 Bridge, No.24 Perfume, No.25 Scale, No.26 Pairing, No.27 Double Up, No.28 Reduction, No.29 Material  
 Review-card: No.30 Question

## 5. THE COLOUR COMBINATION CARDS IN TEACHING

A beta version of *The Colour Combination Cards* has been used in two different teaching situations at Designskolen Kolding. The material was first introduced in a basic colour class for bachelor students on first semester. The class is a cross disciplinary course with students from the departments of Fashion, Textile, Accessories, Industrial Design and Communication Design. The focus of the course is on the subtractive colour theory as described at the Bauhaus school in the 1920s (Itten 1973). A selection of *The Colour Combination Cards* was presented in a lecture and the students chose one or more of the methods to test. There was no implementation of the colour work into a design project in this

course.

Three of the students teamed up to investigate a series of methods from the collection. Because they did not have to implement the colour schemes into an actual design project they decided to investigate the methods and applied a thorough and systematic approach to the work. As a framework for their study they chose to work mainly with compositions of three colours. All these colour combinations were created freely by using the Create-card *No.12 Personal Colours*. Afterwards they compared their personal colours and identified differences in preference and taste. They set out to analyse the colour combinations by referring them to a selection of methods that originates from colour theory: *No.6 Analogue, No.7 Monochrome, No.8 Complementary, No.9 Split Complementary, No.10 Triad, No.11 Tetrad*. This way the students used *The Colour Combination Cards* not only as an inspiration to create colour schemes but also as a means to understand and analyse colour combinations.

*The Colour Combination Cards* has also been used in a course for fashion and textile students on the third semester. Here it entered as part of a long-term design project in which students would end up with a finished garment collection or textile collection. The colour work was placed in the beginning of the project and was therefore done prior to sketching on form and pattern. In this case, the students formulated their Plan as mood boards or trend forecasts, which became the fundamental starting point for the development of the entire collection. Because of the use of visual mood boards most students chose to work with variations of the Create-card *No.13 Colour Separation*. This method suggests



Figure 4 -Student's work with *The Colour Combination Cards* in the basic colour class..



Figure 5 -Student's work with *The Colour Combination Cards* in a design project on third semester.

separating colours from an image and use them as a colour scheme. After reviewing the outcomes all students made several adjustments using a wide range of various Adjust-methods.

Figure 5 shows the work of a student who created her first colour scheme using Create-card No.13 *Colour Separation* and evaluated her colour scheme to be too highly saturated for the fragile colour expression, she was trying to create. She therefore used the Adjust-method No.23 *Bridge*. This method suggests selecting two colours from the palette and mixing them in a scale of colours between the two. New colours can be picked from this scale and added

to the colour scheme. In this case, the student identified two complementary colour contrasts in a photo on her mood board and made a *Bridge* between the two. She found muted colours in this range, that became essential to her final colour scheme.

## 6. CONCLUSION AND DISCUSSION

*The Colour Combination Cards* has been introduced in connection with two courses at Designskolen Kolding. Based on the response received from the participating students and the evaluation from fellow colleagues at the student's examinations, the colour methodology will be applied in

following colour classes. The students with little or no previous experience with colour have used the method cards as concrete tool for making colour schemes as well as a navigator in the vast field of colour theory. The more experienced students have used the method cards as a means to challenge their preferred working procedure. Apart from learning the actual procedure about creating a colour scheme the students also seem to have improved their vocabulary around colour as well as their awareness of the importance of colour. The distinction between the analytic and intuitive phases has been easily accepted, probably because the students are familiar with design thinking from other subjects in their studies.

Using *The Colour Combination Cards* as a tool in design teaching has overall shown to be beneficial. The future work will now involve an intensified focus on the didactic challenges as new questions are rising; How might we optimize the teaching by distinguishing between basic colour knowledge and implementation of colour work in a design project? And how can we make the best use of *The Colour Combination Cards* in these two cases? If the material is to be taught by others, does it need any instructions and available presentations?

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## CONFLICT OF INTEREST

This research holds no conflicts of interest.

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