PROCESS JOURNAL
"HOW COLOUR IMPLIES EMOTION AND BEHAVIOUR?"

BY BOYU XU

Visual Mapping：Analysis and Presentation through graphics

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Catalogue

1. Introduction

My research question is "HOW COLOUR IMPLIES EMOTION AND BEHAVIOUR?"
According to this topic, three specific points are researched by visual mapping.
- What is the connection between colour, emotion and behaviour?
- How do colour, emotion and behaviour relate to each other?
- How to express relationships between colour, emotion and behaviour?

Around these issues, first of all, I did some research to get some references.

Reference:
ANGELA WRIGHT FRSA ——— "COLOUR AFFECTS" SYSTEM

Angela Wright began to explore seriously the mystery of how colour influences mood and behaviour in the 1970s. Until then, the effects of colour were generally considered to be completely subjective, and therefore impossible to predict.

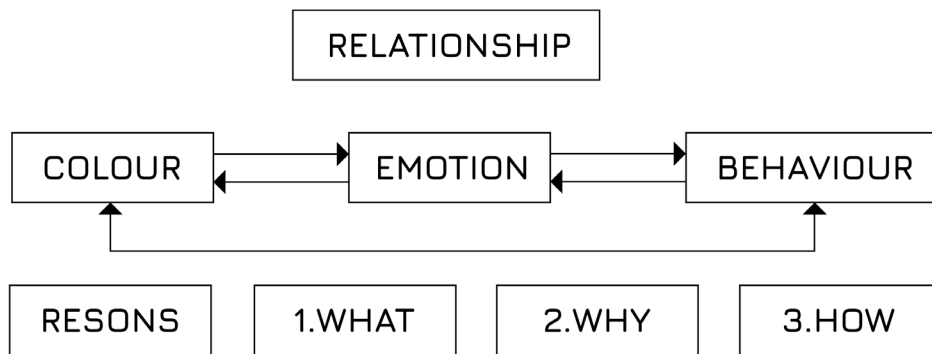Wright's theory has an important influence on the research of colour.

She published a book, named *The Beginner's Guide To Colour Psychology*. Chris McManus, who is a professor of psychology in University College of London, wrote a foreword to this book, said that "What is important about Angela is that she has a 'good eye for colour', and that, like any scientist, she likes continually to ask, 'Why?' When she sees colours that work well together, she asks why their particular combination is successful, she asks why the multitudes of blues are all different from one another in their effects, and she asks why the same colour works well in one environment…but not in another."
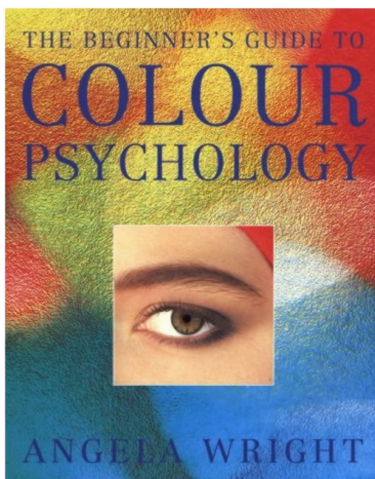
Summary:
To conclude, there must be some kind of fixed connection between colour, emotion and behaviour. This connection encourages people to choose one colour or use one emotion when doing certain behaviours. In addition, there is also likely to be the conflicting results between behaviour, emotion and colour. These coherence and conflict are the aspects which I need to study.

2. Analyse the topic

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                    ┌─────────────────┐
                    │  RELATIONSHIP   │
                    └─────────────────┘

┌──────────┐      ┌──────────┐      ┌──────────────┐
│  COLOUR  │ ───► │ EMOTION  │ ───► │  BEHAVIOUR   │
└──────────┘ ◄─── └──────────┘ ◄─── └──────────────┘
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┌──────────┐  ┌──────────┐  ┌──────────┐  ┌──────────┐
│  RESONS  │  │ 1.WHAT   │  │ 2.WHY    │  │ 3.HOW    │
└──────────┘  └──────────┘  └──────────┘  └──────────┘
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About the relationship of behaviour, emotion and colours, I tried to interview students to ask questions about behaviours in one day, and asked questions around "WHAT IS BEHAVIOUR(EMOTION OR COLOUR)?", "WHY CHOOSE THIS ONE?", "HOW DO YOU THINK?".

Summary:
Six students from the GSA were the ones which I interviewed and they would give me a detailed timeline of their one day in Glasgow. They would also give me detailed descriptions of events and how they had affected by these events or behaviours. Specifically, it could be divided into two questions. The first one was how their emotions to be affected by behaviours, and the second was which colour they would choose to illustrate themselves in that time.

3. Collect data

I interviewed six students in GSA, and organised the recording by illustrations.
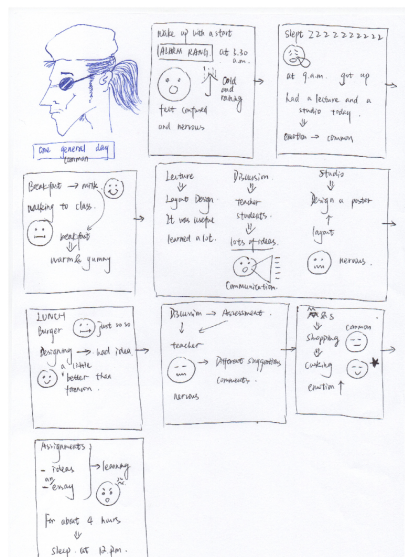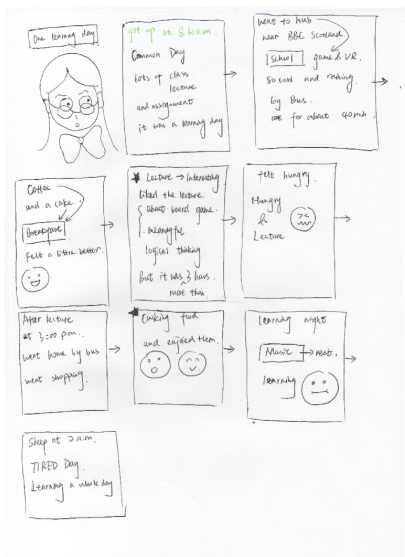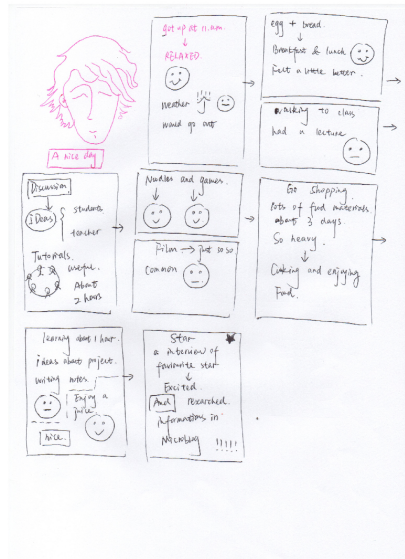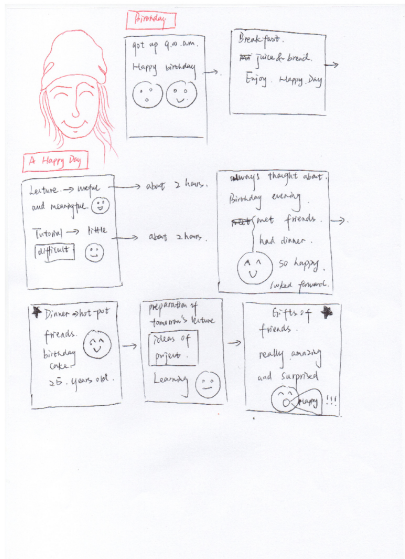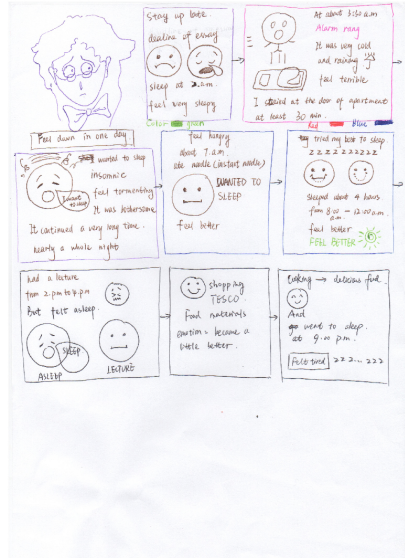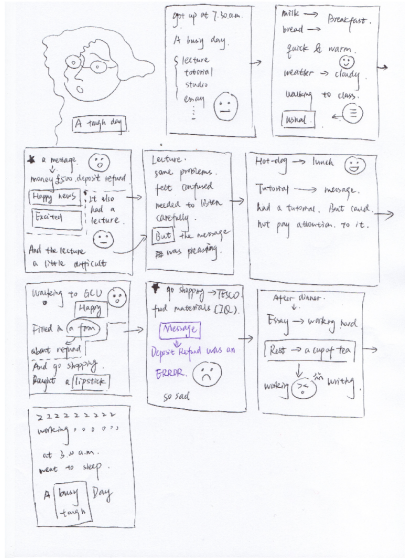
Summary:
Actually, this step had already began to analyse and organise the data, writing down some key words and emotional icons were graphic representations.

4. Analyse date

4.1. Qualitative Analysis
About the analysis of data, Interpretative phenomenological analysis (IPA) was the most important method I wanted to point out.

Reference:
Interpretative phenomenological analysis (IPA)
Jonathan A. Smith, who wrote an essay called *A practical guide to using Interpretative Phenomenological Analysis in qualitative research psychology,* said that "The analytical process in IPA is often described in terms of a double hermeneutic or dual interpretation process, because firstly, the participants make meaning of their world and secondly, the researcher tries to decode that meaning - make sense of the participants' meaning making (Smith & Osborn, 2008). In other words, IPA researchers try to understand what an experience (object or an event) is like from the participant's perspective."
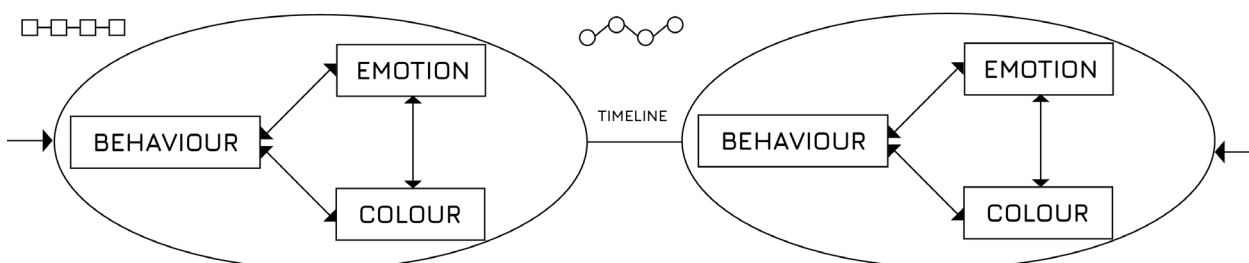
Summary:

Therefore, in this research, I tried to analyse the connection between students' behaviours, emotions and colours in each time point, and how these influences affected the following behaviours. I tried to stand on each student's position, and thought these questions.

- What behaviour, emotion and colours?

- Why choose them?

- How to describe them?

4.2. Context and Formulating an interview
In the context, I referred to lots of things. Either everything that interview revealed (all the little threads I could find). Or alternatively, it could refer to a conclusion of their own day they offered.

summary:

According to many details of interview, different informations could be analysed and organised and all these could help me make a conclusion.

5. Visual representations

5.1. Visual Variables
Reference:

<u>Jacques Bertin's Visual Variables</u>

In his Semiology of Graphics, Jacques Bertin sets out what he terms visual 'variables' that can be applied to particular aspects of a 'graphic representation', resulting in particular effects.

It has seven aspects, including position, shape, orientation, colour, texture, value, size.

In my opinion, size, colour and position are the vital aspects which must to be highlighted.

Thus, my sketch of visual mappings are as follows.
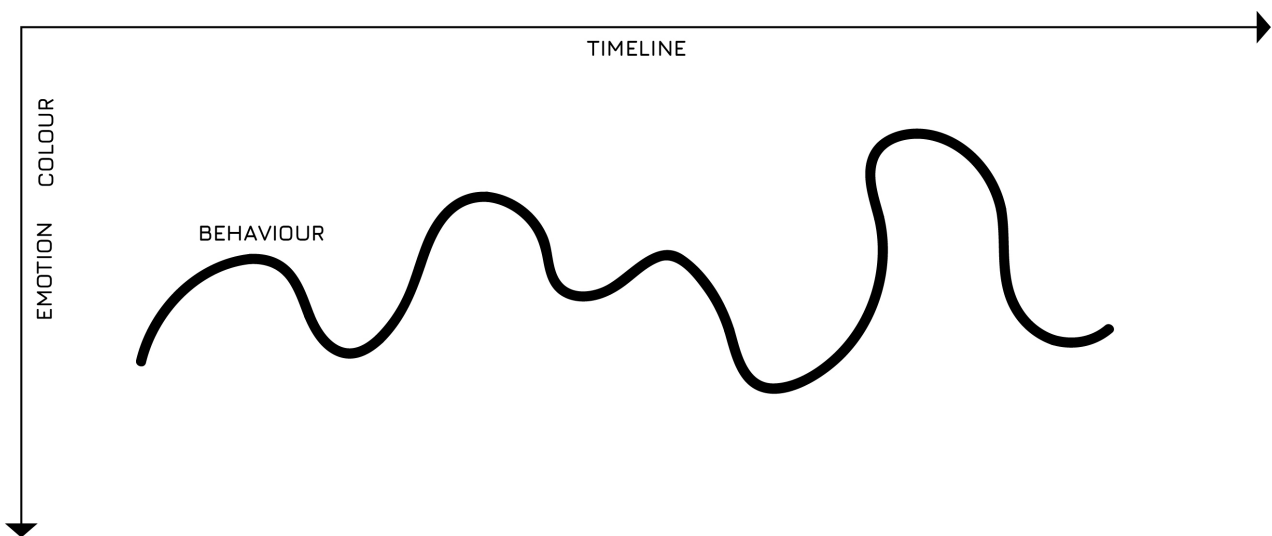
The first one combined the emotion and colour, the changing of the emotion was the changing of colour, and highlighted the relationship between the behaviour and emotion.
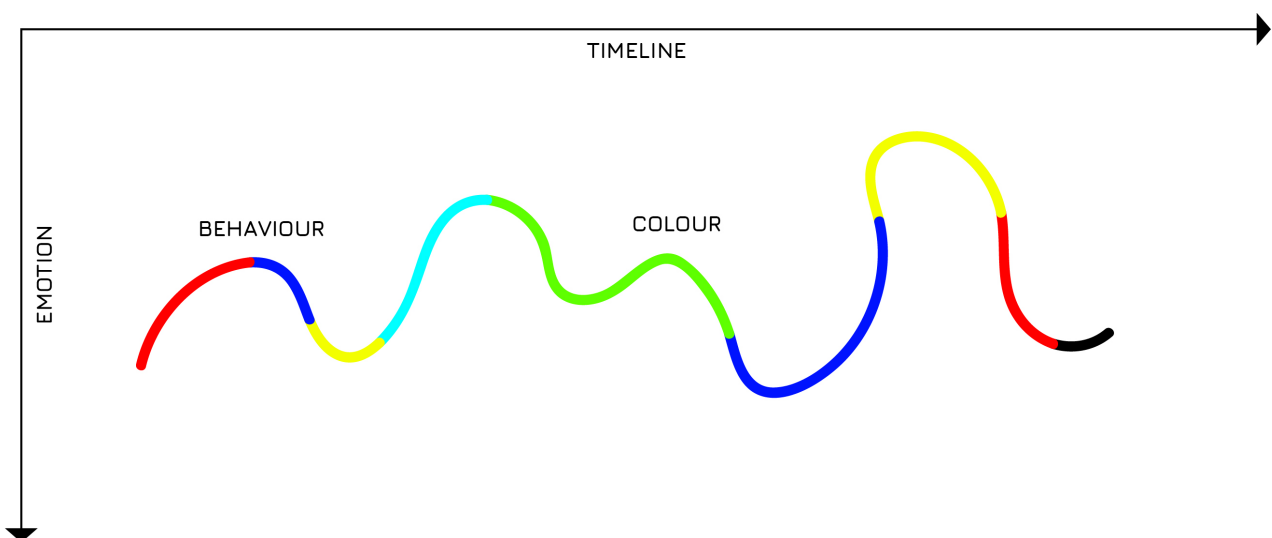
The second one added colours in the line of emotions, and expressed the relationship of three variable.

5.2. A Language-Based Approach to Graphic Representation
Reference:

The Language of Graphics

An essay called *The Language of Graphics,* wrote by Jörgg von Engelhardt, said that a graphic representation is a visible artifact on a more or less flat surface, that was created in order to express information (Jörgg von Engelhardt, 2002).

Thus it could be seen that using graphic languages was a vital step in visual mapping.

It could be summarised as three questions:

- How to generalise contexts by graphic languages?

- How to use graphics to tell stories?

- How to deliver informations correctly and clearly?

Therefore, many icons had been designed to express the researches.

Using some behaviour, emotion and colour icons as examples:
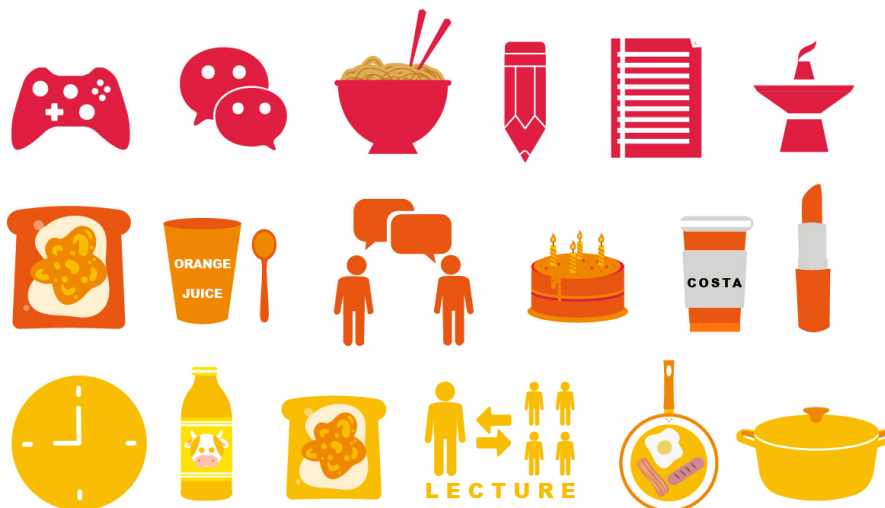
· Behaviour icons:
Behaviour icons were flat design graphics which were used to describe the event in that time.

· Emotion icons：

Emotion icons were the expression packages which could be used to illustrate moods, like happiness or sadness.

· Colour icons：
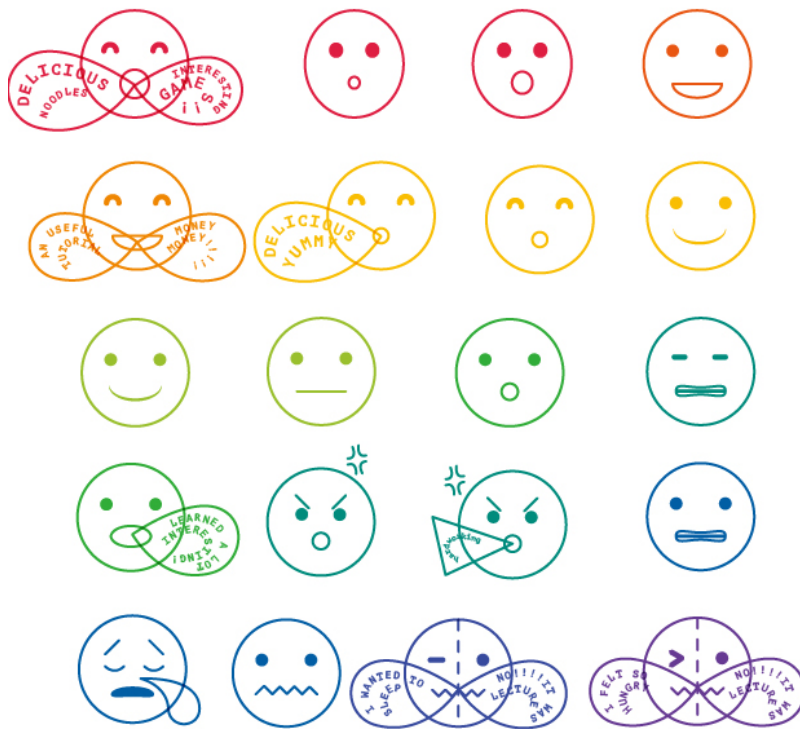
A LITTLE TIRED

BEGINNING OF ONE DAY

ASSIGNMENT

WALKING SHOPPING

NEARLY DEADLINE

COOKING BY MYSELY

DRINK

TASK

ESSAY

FELT A LITTLE BETTER

SHOPPING

TIRED ASLEEP

COMMENT ASSESS

PEACEFUL

DEPRESSED

WARM YUMMY

Colour icons were the reasons about choosing the colour and students' ideas about that colour.

In addition, I specially prepared some phrases to explain these icons.

Summary:
Graphic icon was the main method which I used in my visual mappings to express my ideas. And my goal was choosing an exact and visualised way to deliver informations. Moreover, some short text descriptions were used to enhance the delivery of information.

6. Visual mapping

6.1. The First Mapping
Title: The relationship of behaviour and emotion in one day through the research of six students in GSA.
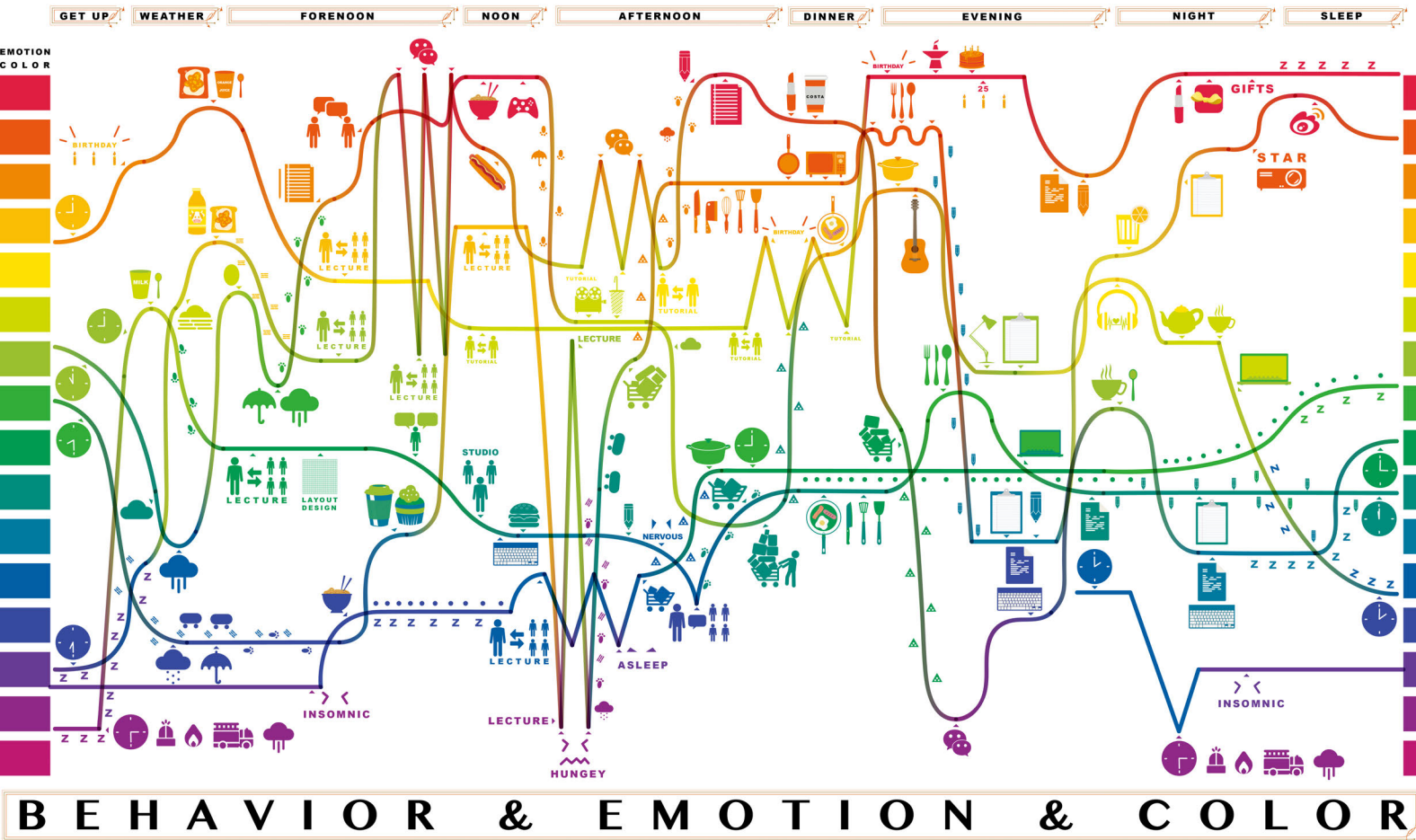
Conclusion：

If I combined emotion and colour in the research, I just had two variable in the mapping. The one is behaviour, and another is emotion(colour).

In this assumption, I assumed the direct relationship between colour and emotion. In other ways, I assumed that bright colour meaned good mood and dark colour meaned bad mood. Under this assumption, we could draw some conclusions.

- All students basically had mood swings in one day.
- Good emotion was accompanied by warm colour, and bad mood with the cold one.
- The emotions of students were different in the face of the same behaviour occurring at different times of the day.

6.2. The Second Mapping

Title: The relationship of behaviour, emotion and colour in one day through the research of six students in GSA.
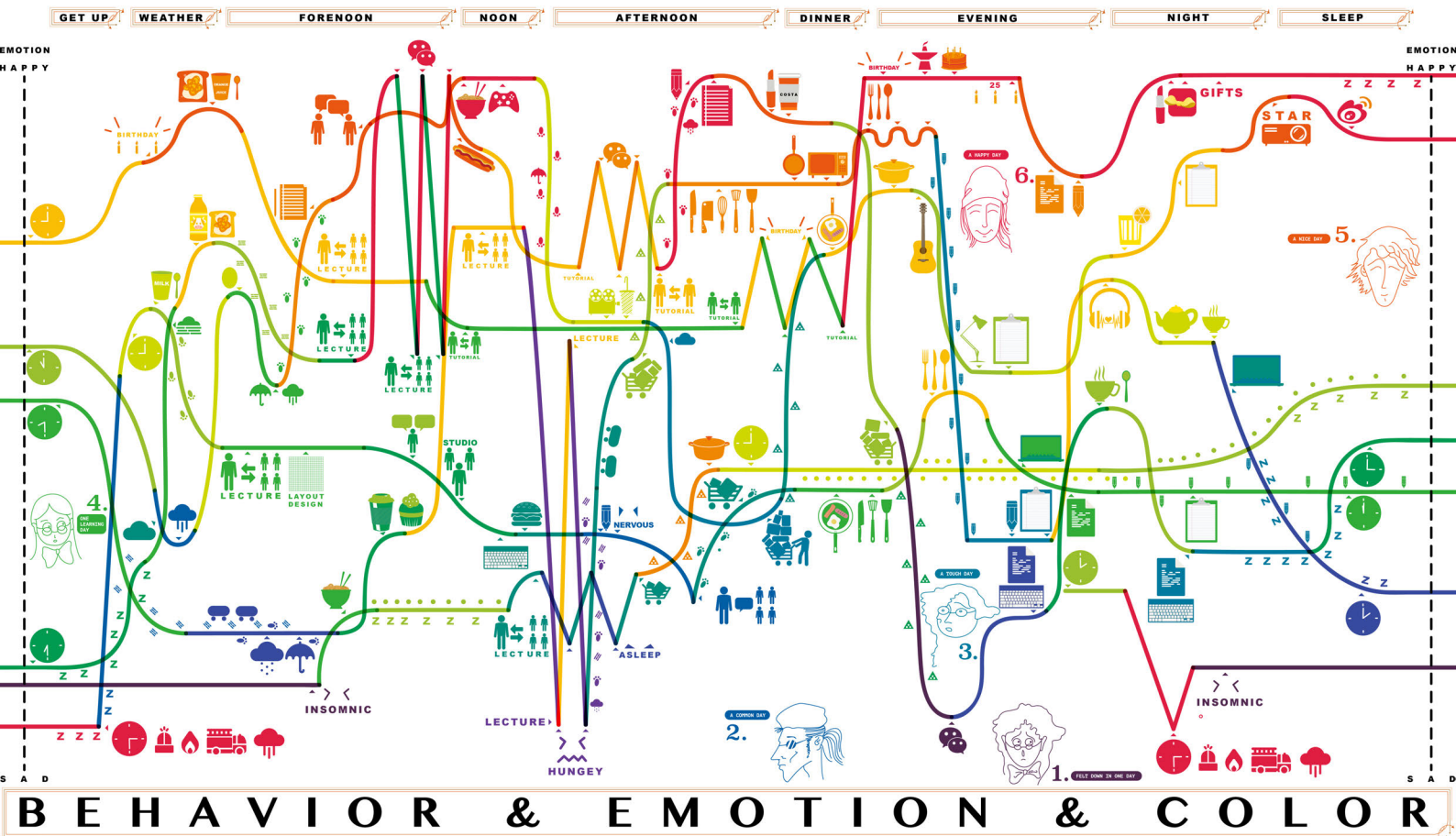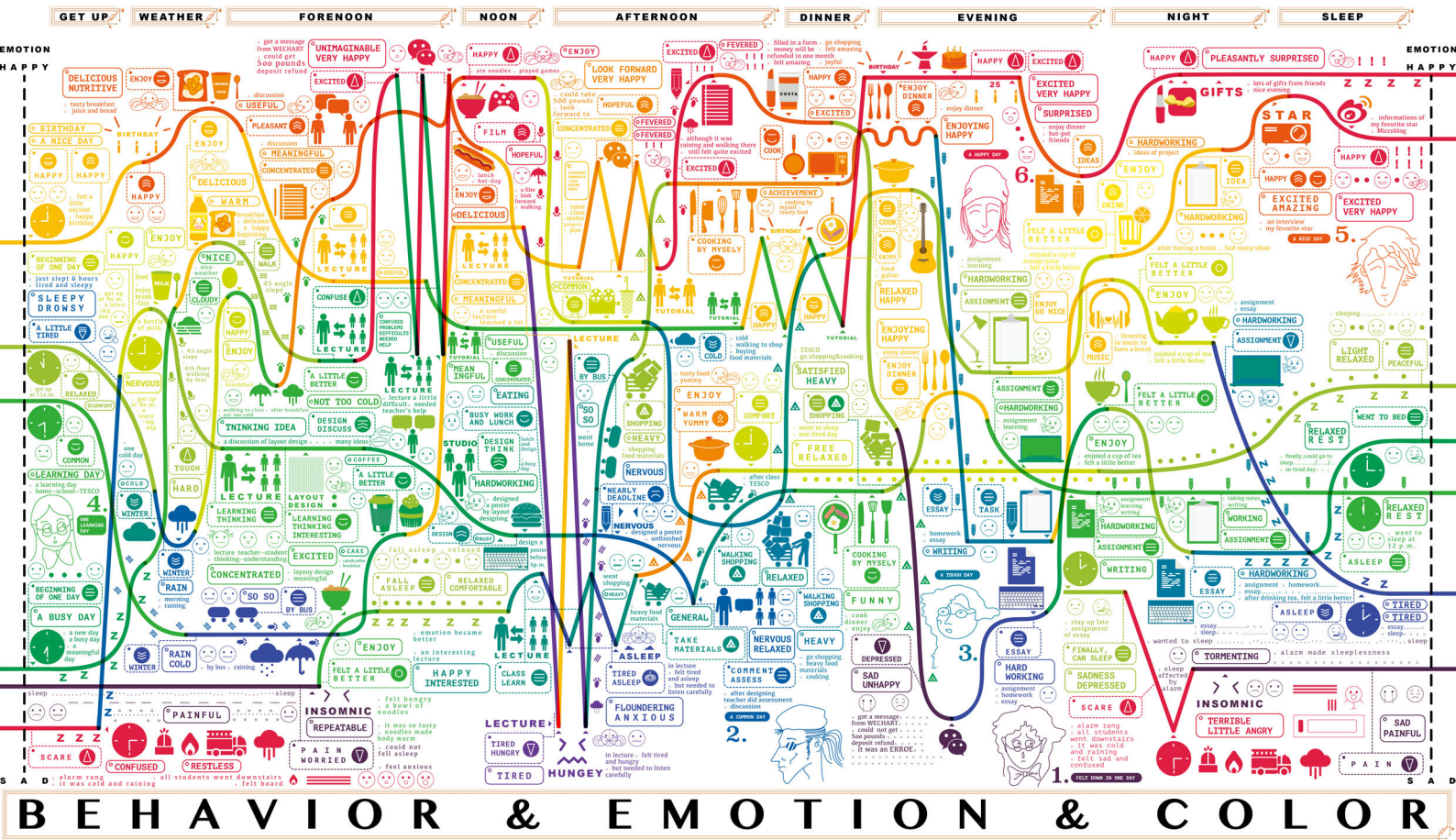

Conclusion：
- In most cases, motions and colours were consistent.
- Irritating colours were accompanied by emergencies, like red was connected with the alarm rang.

6.3. The Final Mapping

Title: The relationship of behaviour, emotion and colour in one day through the research of six students in GSA.

In the final mapping, I added many details to describe the relationships of three variable.

7. Analyse mapping and make a conclusion

7.1. Previous Studies

Firstly, I should point out a reference which I mentioned before, called *colour affects system*, which researched by Angela Wright, it also had another mane, called *the Wright Theory*.

In her research, she also had a question was how does colour influence mood and behaviour.

And she got some summaries, it could be listed as follows.

1. Each hue affects distinct psychological modes
2. The psychological effects of colour are universal.
3. Every shade, tone or tint can be classified into one of four colour groups.
4. Every colour will harmonise with every other colour in the same group.
5. All humanity can be classified into one of four personality types.
6. Each personality type has a natural affinity with one colour group.
7. Response to colour schemes is influenced by personality type.

These summaries were put forward in 2008.

Wright's research emphasised the connection between colour and personality type, and after that making a relation to behaviour.

7.2. the Conclusion of my Research

Actually,I had to be honest that I agree with *the Wright Theory,* different personality type had the different preference in colour.

However, in my research , I did not have a point about personality type, I just pointed out the behaviour, emotion and colour.

And I got the following conclusions:

About emotion:
- If student had a nice mood in the morning, and the basic feeling of a day would not be bad.
- If student had a down mood in the morning, and the basic feeling of a day would be bad.
- If student had a complex thinking in the same time, it meaned two or more behaviours were done at the same time, he or she would had an undulating emotions.
- If student encountered an irritative even, the emotion would be changed a lot, like alarm rang.

About colour:
- Red meaned emergencies. (alarm rang)
- Red, orange and yellow also meaned happy and enjoying behaviours.
- Blue and bottle green meaned some behaviours were tough or hard. (heavy food materials in shopping; essay assignment)
- Green and light green meaned relax and common events.
- Black meaned some terrible events. (insomnia)

About behaviour:
- When student had lunch or dinner, he or she always had a nice emotion in that time.
- If student did somethings which he or she were interested in, he or she would have a nice emotion to go to sleep.
- If student worked hard at night, he or she always felt tired and just had a common or a little down emotion to bed.
- Good news or bad news had a big influence on student's emotion and choosing colours.

The relationship of three variable:
- Firstly, in most cases, motions and colours were consistent.
- Secondly, in many special cases, like some irritative events, red or black would become the first choice. So it meaned sometimes excited behaviours and terrible ones all chose red to express.
- Thirdly, If the same behaviour occurred more than once a day, the mood and the colour of the selection before this event had a significant impact on current behaviour. Therefore, different emotions and colours had been chosen by students when walking on the same way in one day.
- Fourthly, nice emotions would continue for some time. For example, if student had a break in the period of studying, a little better emotion and a bright colour would be chosen in a period of time.

- Fifthly, if student had a good emotion in one day, bright colour s would be chosen to express all behaviours.

Therefore, on the one hand, emotion and colour had a hint to behaviour, and this hint effect was persistent. On the other hand, behaviour or event also influenced on emotion and colour, in my research, good news helped student to have nice emotions and comfortable colours, and bad news would be followed by irritating colours.

8. Interesting points and challenges

Interesting points:
- In my research, essay assignment was tough for each student, and they always chose dark blue to express it.
- Irritating colours were always used to express some news which had a big influence on students.
- Eating was an exciting event for human beings.
- Most students thought weather was a problem to influence their emotions in daily life.

Challenges:

- In my research, I had three variable and these did not have a unitive standard, so the organisation of three variable was a vital problem to me, I tried many methods and chose the current one.
- My mapping was just the representation and organisation of my data, so the conclusion was too circumscribed and just the beginning of this topic. How to find a point to enhance the research is a confused problem to me at present. For example, whether I should advance my research and research a question like how do the irritating colours influence on behaviours.

9. Reference
Wright, A., 2008. *The Beginner's Guide To Colour Psychology.*

Smith, Jonathan A., 2012. *A practical guide to using Interpretative Phenomenological Analysis in qualitative research psychology.*

Engelhardt, J., 2002. *The Language of Graphics. A framework for the analysis of syntax and meaning in maps, chats and diagrams.* 197(2). 11-13.

Wright, A., 2008. COLOUR AFFECTS. *The Wright Theory. A Theory of Colour Psychology and Colour Harmony.* Available at:
http://www.colour-affects.co.uk/the-wright-theory [Accessed 2008]

10. Appendix
Icons and Student image:
Behaviour icons; emotion icons; colour icons