Application of The Synesthetic Approach in A Layout Design Course

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ABSTRACT

In visual communication design education, teachers strive to help students understand how to generate ideas in whatever form of graphics they are trying to create. This paper focuses on how we apply the concept of synesthesia in a visual composition, specifically in the form of a page layout comprising both text and images. This research is done in a class of second-year students majoring in graphic design in a visual communication design bachelor program. Students are given an assignment to create a multi-column layout and incorporate the synesthesia concept in their design. The result is quite interesting, with some artworks showing what can be considered as universal synesthetic experience for the viewers. The artworks are then evaluated and considered for future classroom exercises.

Keywords: graphic design, layout, synesthetic approach, design process

INTRODUCTION

Layout is the arrangement of text, images and other visual elements in a design, and is typically created within a structure, such as a grid (Ambrose and Harris 2009). In most graphic design programs, layout design is typically one of the basic courses where students learn about the composition of type and image. They usually attend this course with some basic knowledge about illustration and visual semantics from previous basic design courses, but most do not yet have the skills to arrange both type and image well in a composition. Therefore, the learning process usually starts with teaching them about grid systems, which can be overwhelming that the students tend to shift their focus heavily to this more technical side of designing, thus diminishing their focus on the imagery. Therefore, even though we delve deep into grid systems and typography during the assignment discussions and reviews, this paper will focus not on those aspects, but instead on how students can maximize the interplay of images and other graphics to bring out the layout to live, instead of just making sure the blocks of text look neat and aligned.

There are many approaches that can be used in the attempt to improve the creative process, and the one chosen for this paper is the synesthetic approach. Although there have been many creative practices using synesthesia in various fields of the arts, in-depth research regarding its applications in design has been largely absent from theoretical analysis (Lee 2018). In Indonesia, this approach has been used in design courses before, including in Universitas Pelita Harapan. But up to the time of writing, not much scholarly article from the Indonesian design education institutions can be found. An example of a synesthesia-related design activity came in the form of student work exhibition held by students of Universitas Negeri Surabaya in Gedung Balai Pemuda, Surabaya, on 27 – 28 October 2018, titled Sinestesia (Farida 2019), but based on the article, it is not clear whether the works themselves were created using synesthetic approach.

Being a small study of 30 students as class participants, this research uses descriptive qualitative analysis that may not be representative and/or replicable in other settings, especially considering that this took place during the COVID-19 pandemic where we are forced to carry out our studio sessions online–where the interactions are more limited, and lecturers could not view students' work progress in person. But we do hope that this paper can offer some insights about how to increase student creativity and engagement in similar courses.

LITERATURE REVIEW
Design methods
For the designing process, the students use the "five phases of the graphic design process" as written in (Landa 2011), which are: **Orientation → Analysis → Concepts → Design → Implementation.** The methods from the book that are appropriate in a class setting are as follows:

1. Orientation: briefing students on the details of the assignment.
2. Analysis: examining the design components, organizing information, and draw conclusions to move forward to step three.
3. Concepts: generating visual concepts. The concept generation process can be started in many ways, such as using words, themes, symbols, literary devices, and others. The one that we use were inspired from the literary device—the synesthesia figure of speech—but then progressing to the wider definition of the term, as will be explained further along this paper. This is the design phase that is most connected to the focus of this paper.
4. Design: this is done by first doing thumbnail sketches, then creating roughs, followed by comprehensives.
5. Implementation: executing the final artwork in digital form and submitting the file for lecturers' evaluation.

Synesthesia
Synesthesia, in a neurological sense, is a condition in which stimulation of one sensory or cognitive pathway (for example, hearing) leads to automatic, involuntary experiences in a second sensory or cognitive pathway, such as vision. In this narrower definition, Haverkamp (2013) states that this phenomena is described as genuine synesthesia. It occurs to relatively few people, estimated to be around 3 to 5 percent of the population (Psychology Today n.d.). According to Day, S. A. (2016) as cited in (Merter 2017), there are many forms and variations of such cross-sensory association, which according to the research data collected from 1143 synesthetes, are stated to be at least 80 kinds.

But in the broader sense of the term, Merter (2017) stated that even regular, non-synesthetes people are intrinsically good at matching different sensory stimuli; dimensions such as shapes, size, lightness, loudness etc. can be associated among themselves through cross-sensory mapping. Considering this perspective, both Merter (2017) and Lee (2018) reckon that synesthesia has the potential to be developed further as a multisensory design method, as an inspiration source that can stimulate creative debate and the idea generation process.

Visual and Auditory Cross-Sensory Effect
An example of a cross-sensory mapping between visual shape and sounds that occurs in non-synesthetes can be seen in the Kiki-Bouba Effect, originally discovered through an experiment by Köhler (1929; 1947), further explored by Werner (1952), then repeated by Ramachandran and Hubbard (2001). The experiment was done by showing the subjects two shapes as shown in Figure 2. They were then asked which shape represents the sound of a non-sensical, made-up word: bouba, and which shape represent the sound kiki. The

majority (95%) of subjects chose the left as kiki and the right as bouba, even those who have never seen these shapes before. Because of the sharp angles of the shape, respondents tend to map the sound of kiki with the figure on the left, while the rounded contours of the figure on the right was associated to the rounded auditory inflection of bouba. The older experiment by Köhler used different non-sensical words: takete and baluma, but the results were essentially the same across people of different cultures and geographic locations; and most give their answers without hesitation.
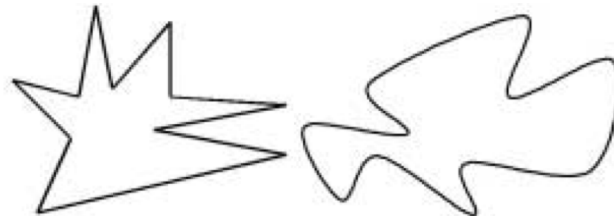

Image 1 The shapes used in the demonstration of kiki and bouba effect. (Source: Ramachandran and Hubbard, 2001)

METHODOLOGY

This research focuses on one specific assignment in the layout design course in Universitas Pelita Harapan. Students were given a design project that took nine days to complete from briefing to submission, among which there were three discussion and review sessions.

The methodology used is adapted from Classroom Action Research methodology by Mettetal (2001). The steps are: (1) identifying the question/problem; (2) review literature; (3) planning a research strategy; (4) gather data; (5) evaluate the results; (6) take action by using the findings to improve future teaching material. Steps one to four are elaborated in this section, step five is explained in the next section, and step six is covered in the Conclusion section.

Identifying the question/problem

Based on the experience of several years teaching the layout design course in my institution, I have encountered the same phenomenon time and again: that students–even ones whose talents shone brightly in their first year, mainly in the basic design studio and/or illustration courses—tend to experience some kind of creative obstacle when they first learn about grid-based layout. Since there were no hard evidence for this, I can only surmise that they are used to the more free-form, artsy projects that might start as a hobby way before they attend university—and are still reflected in the characteristic of projects in foundational design courses.

The layout design course is usually their first encounter with a more structured form of designing, where there are plenty of rules and/or principles to learn and consider, such as the calculations needed to build a grid system or to achieve a proportional type setting. Adding to that, they also need to use a desktop-publishing software that they have not mastered yet, so there is also the extra load of learning new technical skills that distracts the student from the creative side of designing. Without the extra push on the idea generation phase, students tend to focus too much on making sure the blocks of text look neat and aligned—neglecting to put enough attention to the image and graphics—that the work might end up looking flat and lacking meaning.

Therefore, the team of lecturer need to come up with ways to help students to not lose sight of the 'right-brain job' amongst all those things that rely more heavily on the left side of the brain. Hence, the main question that drives this classroom research is: how can we help students to maximize the interplay of images and other graphics among the text, to create a layout that are visually engaging?

Review literature
In this step, the team of lecturers have done literature review to find ideas about how we can solve the problem and enhance the overall learning process, the result of which is summarized in the previous section. Considering that our students have experience in doing projects using some types of figures of speech during their basic studio—such as simile, metaphor, synecdoche, hyperbole, and antithesis—we look further on this path in order to maintain flow and continuation of learning materials from previous courses, while giving students a familiar yet new ways of exploration. The concept of synesthesia we end up using is inspired by the literary figure of speech, but upon further study, we found deeper concepts that goes back to the neurological condition as explained in the previous section of this paper.

Most visual composition usually have some form of synesthesia to a certain degree, whether the creator is aware of it or not. But the term synesthetic in this paper specifically refers to the conscious effort used during the concept generation phase of the design process, thus becoming a basis of evaluation for the resulting artworks.

Planning a research strategy
They are given an assignment to design a seven-column advertorial (a common newspaper format and size for a half-page ad) that promotes a musician of their choice. The size of the page and the grid system are fixed, as are the components that they have to incorporate as below. A minimum of three images are required, and the ratio of text to images that they need to compose is around 60% : 40%.

We try applying the synesthetic approach in the design process by preparing an assignment brief that offers creative freedom but also have some design constraints to have a more focus on the evaluation of the result. Among the formal elements of two-dimensional design: line, shape, color, and texture (Landa 2011, 16), we reduce the influence of color and direct their attention more on the exploration of the other three elements: line, shape, and texture. Therefore, the design is made in grayscale, as in a one-color newspaper. During the concept generation phase, they are instructed to listen to some songs by the musician they selected, then translate it into visuals for the layout.
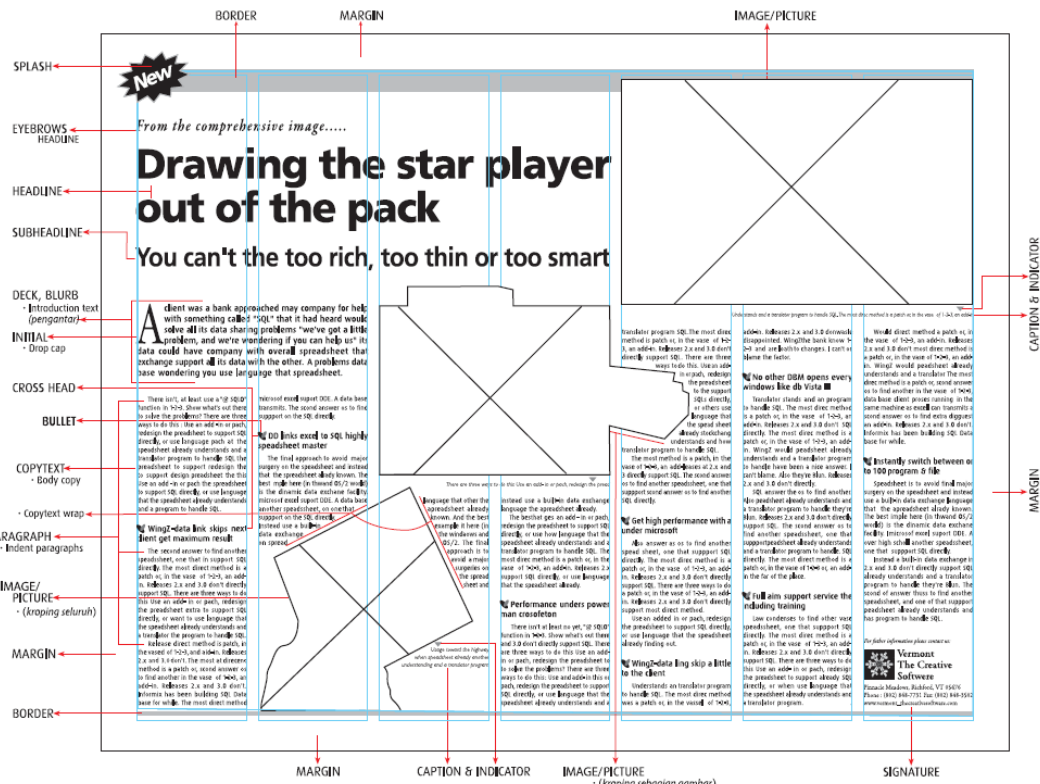
Image 2 The assignment brief explaining the layout anatomy (Source: Winoto Usman, 2020)

Gather data

The time given to finish this assignment is nine days, with three review sessions during each design stages (sketches, roughs, and comprehensives) that are done together among all the students and the lecturers class using Mural as the platform. Mural is a digital workspace for visual collaboration ("Mural.co" n.d.), where we can 'pin-up' artworks on a big virtual wall for all to see and discuss about.

After all the works are progressively assessed and given feedback, student execute the final artwork containing revision and refinements as needed, and the files are submitted digitally in the classroom management system used by our institution: Microsoft Teams. The team of lecturers then evaluate the artworks using three criteria:

1. Idea: creativity of the exploration of ideas, the visual semantics
2. Structure: visual hierarchy, organization of information, typographic legibility and readability.
3. Craftmanship: quality of the execution, neatness, attention to details.

Among these three criteria, the one that is relevant for the scope of this paper is the first, because it relates to the idea generation process. The other two will be excluded from this discussion. The evaluation starts with the lecturers listening to the song/music that inspired each work to sense whether there is a congruent synesthetic connection between the auditory and the visual. Granted, there is a degree of subjectivity to this method, but we are striving to make the evaluation process more objective by discussing our sensory response both among ourselves (during grading) and with the students (at the feedback session after the grades are published). We are looking for a more universal cross-sensory response in line with the *Kiki-Bouba effect* as explained in the Literature Review section.

RESULTS & DISCUSSIONS

The majority of the 30 class participants were able to achieve a degree of auditory-visual congruence in their work, with 21 students (70%) getting a grade of 80/100 and above for the 'idea' criterion. Among those, 12 students (40%) get marks of 90-100. This result is encouraging, showing that most of them can apply the synesthetic approach.

These are the three artworks were deemed to have the most objectively sensed, congruent auditory to visual translation. Each will be discussed in more detail below. To have an experience of the cross-sensory effect, it is best to try searching for the music that inspires these designs and listen to them while viewing the artworks; but for people who are already familiar with them, just looking at these visuals while imagining the song in your head is probably enough to grasp the auditory-visual congruence.

Image 1 uses James Brown as the subject. James Brown is an American singer, songwriter and bandleader who is known as the 'Godfather of Soul' and is one of the most iconic figures in the funk and soul genre (Biography.com n.d.). This design was inspired by one of his most successful songs, titled "I Got You (I Feel Good)." The multitude of overlapping trapezoid shapes with different values of gray visualizes the sound of horn instruments, while the zigzag lines represent the quick, rhythmic change of notes, and as the designer put it, 'James Brown's electrifying voice'. The radial composition of the trapezoids, starting with a narrower width at the center of the image of James Brown jumping in mid air and progressively grows wider as it radiates, give the impression the loud dynamics of the music while serving as a visual emphasis for the figure of the musician. The uplifting, cheerful notes are represented by the overall composition of the layout, strengthened by the gesture of the musicians where the jumping move indicates the groovy happiness of the lyrics 'I feel good'. The more subdued vertical shapes at the back, that almost matches the columns of text but are deliberately made to have different widths, slanted top sides, and small differences of value, completed the composition by filling it with a softly dynamic background that balances and complements the busyness of the top part of the design.

Image 1 Student work based on soul-funk music by James Brown (Source: Bernard L. Sitompul, 2020)

The second artwork below is based on the music by the Indonesian band called Shark Move. They played psychedelic rock genre in the 1970s, and produced their one and only album titled *Ghede Chokra's* (Sicma n.d.), that is the inspiration of this student work. Psychedelic rock, a genre that were popular around late 1960s coinciding with the hippie movement, was inspired by hallucinogens such as marijuana and LSD; and the music reflects drug-induced states through the use of electronic sound effects and recording effects, and intense volume (Encyclopedia Britannica n.d.). Psychedelia is a cultural movement that influences not only music, but other cultural products as well, including visual

art. Psychedelic art usually features strong color palette, flamboyant or wavy lettering, and multicolored swirls; that altogether can form optical illusions and illusive geometric lines (Artincontext 2021). Since this assignment should be in grayscale, the element of color that heavily characterizes this style cannot be used. But the student still managed to achieve some psychedelic qualities by mimicking the wavy, repetitive lines and shapes that looks like the ones usually seen in optical art. This kind of strokes are used for both illustrative purpose (on the musicians' long, wavy hair), extending to the decorative part on the bottom that indicates sea waves, and finally on the soft, marble-like background. The lettering of the headline also harmonizes well with the illustration, looking like a smoke that hovers above the musicians. The overall look creates a surreal, hallucination-like visuals where the objects look distorted, resonating the music's swaying music, mellow sounds of flute, and occasional bursts of electric textures from the electronic instruments and effects.
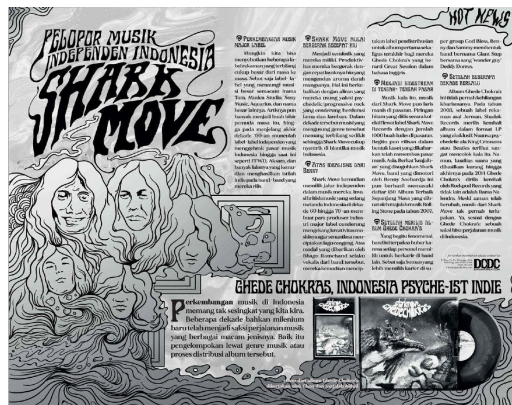

Image 2 Student work based on psychedelic rock music by Shark Move (Source: Angel Cristina, 2020)

The third and final artwork that will be discussed here is based on Billie Eilish, an American singer and songwriter that is said to be genre-bending, and known for her brooding style which is fused with mystery and funk (Vyas 2020). As a side note, she has genuine synesthesia—she thinks visually with everything she does: what color, texture, shape, number, or day of the week it is; and describes her songs in color and texture, such as "Bury A Friend" as gray, black, brown (anything dark), while "Xanny" is more velvety, like the texture of smoke (Nattress 2019).

The design in *Image 3* is specifically based on Eilish's song titled "Listen Before I Go", about a person who has is on the verge of committing suicide and is based on the artist's own experience with depression (Story of Song n.d.). The student represents the dark meaning of the song by using black background, with only hints of lighter gray at the corners. A visual component that is quite strong in this composition is the liquid stretching from side to side, which semantically can be perceived as tears or blood. It seems to slowly drip down in some parts, in line with the slow tempo of the song. The fade-out effect on the bottom left image is used to indicate the fading of life from a dying body, giving the figure a ghost-like appearance. The other images showing Eilish's sad and gloomy resonate the meaning of the song by way of human gestures and expressions, which can be understood universally by most people. The images themselves don't have a strong emphasis by contrast in size or brightness, resonating the dynamic of the music that doesn't have dramatic changes in dynamics, but dominated by soft vocals or whispers and ambient background music. The foggy and blurry effect, including the one on the wavy headline, is meant to represent the state of mind of a depressed person, who is not in a condition to think clearly. The overall look manages to visually convey the auditory qualities of the song.

Image 3 Student work based on Billie Eilish's song (Source: Elizabeth, 2020)

CONCLUSION

Embarking from the question of 'how can we help students to maximize the interplay of images and other graphics among the text, to create a layout that are visually engaging?' as written in the Methodology section, the results of this classroom project show that synesthetic approach can definitely be an option for the idea/concept generation phase of the design process. The majority of students were able to balance their focus between the type setting and the image creation, thus creating a visually attractive and meaningful composition featuring a degree of perceptible auditory-visual synesthesia. Of course, there is also a part of the class that did not achieve this, but considering that more than half did, I think this approach has strong potential to be used in a more formal and academic ways, in many kinds of design projects. There are already many instances of student projects that uses different sensory inputs and outputs—for example, using the sense of smell or touch as the input, and visualizing the output as swirls of abstract colors, without using the element of shape. Therefore, what I essentially recommend is not just doing the practice; but putting more academic rigor in the project planning and evaluation so that it can be better documented and reported academically.

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