

Highlights of the Study of Sound for Animation: Designing Sound with a Low Budget

Teoh, Lee Suan Jasmine¹; Noorhayati Saad²

The Design School, Faculty of Innovation and
Technology, Taylor's University, Malaysia.

jasmineteohleesuan@sd.taylors.edu.my;
noorhayati.saad@taylors.edu.my

30 July 2020

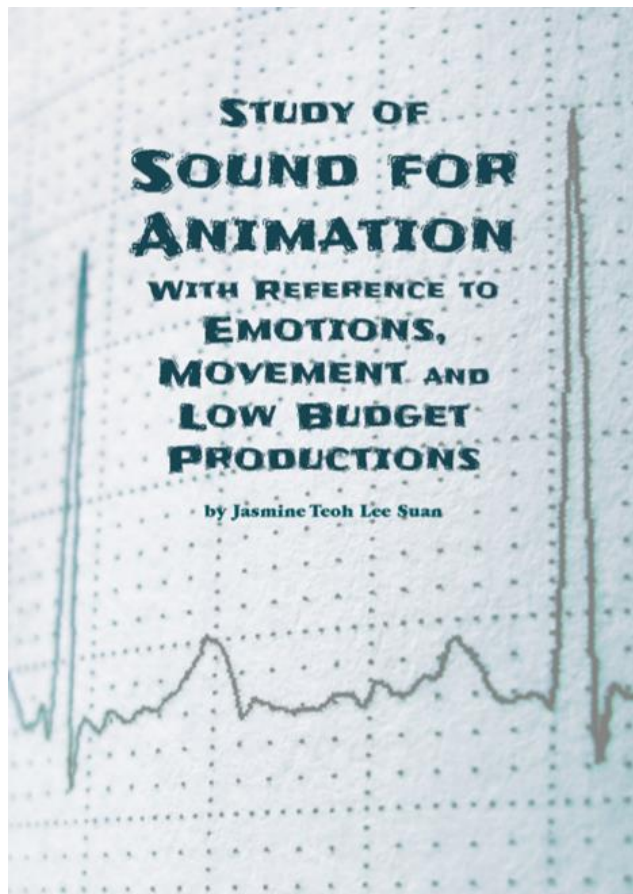


Figure 1. Study of Sound for Animation: With Reference to
Emotions, Movement and Low Budget Productions
Dissertation by Jasmine Teoh Lee Suan (2019).

Abstract There is a noticeable amount of research on sound design, with emphasis on the importance of sound in media. This article touches on the highlights of sound in animation, in terms of the challenges of sound design and how to overcome them. The researcher hypothesizes that 'Good quality sound in animation can be created with a low budget'. A new understanding on the topic of sound design and animation was proposed, while applying the knowledge from existing research by other scholars. Sound design can be accomplished with a reasonable budget and it involves the sound designer to create sound through movements and feelings. These were the conclusions made by the researcher based on the research findings that were obtained through two qualitative methods of research (online interview and visual analysis), in which the findings were presented, analysed and discussed. This article may contain faults and errors as it is still a crude study on the topic itself. Further research is needed for a more detailed justification of the current conclusions.

Key words Sound design, animation, low budget productions, sound performance, sound perception, Foley

Introduction

Sound for animation has been introduced to the entertainment industry since the year 1927 (Finan n.d.), with *The Jazz Singer* (Figure 2) as the feature film. Sound plays an important role in animation and videos, even more to the present day. "It has long been said that you do a great job in sound when no one notices it," said Gary Rydstrom (Kushins, 2016). Good sound designing is when the audience gets too absorbed into the music and sound of a video to even notice it. However, people seem to overlook the designing of sound and its importance. There is an abundance of research on sound design, with emphasis on the importance of sound in media, justifications and experiments related to sound and how it affects the feelings of audiences.

This research focuses mainly on sound for animations from Western and Asian media, with the information collected ranging from the 1990s to the present time. The communities that were being targeted through the research were mainly sound designers, animation directors that are working in the industry, and the audience of animated films. Two different types of research methodologies were used while collecting data for the research, namely qualitative research (online interview, visual analysis) and mixed research

(questionnaire). However, this article highlights the methods and findings of the qualitative research only as it correlates to the focus of the article, which is designing sound for animation with a low budget.

Problem Statement

It is no doubt that sound is important in animation. Major production studios such as Disney, Dreamworks, and Studio Ghibli take sound designing into huge account. Disney's original scores and songs for their animated films and productions have won many awards at the Academy Awards, whereas "Studio Ghibli is almost infamous for the amount of attention to detail and effort they put into crafting their movies, and it's no



Figure 2. *The Secret World of Arrietty*, Walt Disney Studios Motion Pictures.



Figure 3. *The Jazz Singer* (1927).

different for their take on the popular tale of 'The Borrowers', *The Secret World of Arrietty* (Figure 3), which rightly won several awards for animation and sound" (Karpousi, 2016). These studios pay attention to detailed animation sound effects, background music that aids storytelling as they tell us about character, place, and time, moving us in ways visuals can't, and because certain combinations of sound and visuals can evoke what neither can do alone (Andersen, 2018).

In order for the audience to be immersed in a story, they should be able to hear everything properly. According to Buff (2014), "The moment your audio is unclear, the audience will be pulled out of the story". However, it is not in everyone's capability and capacity to be able to produce good sound design, especially for studios with low budgets. Therefore, this research looks into the challenges of sound designers and animation studios in achieving sound for animation with reference to low budget productions.

The following questions, "What are the challenges of independent animation studios having decent sound design in their productions?" and "Can independent animation studios produce decent sound and music with a low budget?" were identified for the research. The research objectives are to study the challenges of sound design in independent animation studios and to learn from independent animation studios, how they overcome the challenges of sound design and incorporate what has been learnt into future projects. A hypothesis was also proposed, "Good quality sound in animation can be created with a low budget," which hypothesises that as long as anyone has the passion and design sense of creating sound, high-budget equipment is not needed to produce sound for animation.

Methodology

Based on the objectives of the research, two qualitative methods of research were used to gather data in the form of opinions and perspectives.

Qualitative Method: Online Interview

A structured interview that includes questions regarding issues concerning the challenges of sound design faced by independent animation studios was designed. The aim was to obtain qualitative information on the thoughts and experiences of sound designers who have worked on animation films. The interview mainly targeted at sound designers who are experienced and have worked on independent animation films or productions, and also sound designers who work in animation studios. A semi-structured interview was

carried out through email. This research design was targeted at professionals to elicit relevant answers, and allowing interviewees to think of their responses with sufficient time. However, the research design may be time-consuming as response might not be immediate, and selected interviewees might not respond. After receiving the replies from the interviewees, the data was studied and analysed.

Qualitative Method: Visual Analysis

This method of observation was where the researcher engaged in and interpreted the data based on observations. The data analysed was regarding how independent animation studios overcome the challenges in sound design and their ways of producing sound for animations and films. In the visual analysis researcher conducted observations on various sound designers and their methods or experiences. Upon interpretation of the data, the researcher came up with her own hypothesis and was able to have a better understanding and feel of the subject. The analysis of this research method focused on how sound designers record and create their sounds, observing the methods used and materials needed for sound designing.

Through the visual analysis, the researcher was able to experience the feeling of sound design to have a better understanding on the subject. The interpretations drawn from observations may be subjective and there might be the possibility of incomplete observation and analysis on the subject. Four videos were selected and a Google spreadsheet was created for the visual observation to be recorded. The methods, materials, environment, budget, recording equipment used, sound designing on computer, expressions of the sound designers and the comparison between the sound and the visuals were the aspects that the researcher had focused on during the visual observation. The recorded observations were followed by a thorough yet subjective analysis.

Findings and Discussion

Online Interview

The targeted samples were all contacted for the interview from 16th June 2019 to 1st July 2019. Mr. Teoh Eng Hooi and Mr. Razif Mohamed, responded to the primary emails sent by the researcher and agreed to participate in the interview. The responses of the interviewees were amended slightly by the researcher, in terms of grammar and punctuation. Sample answers by Mr. Teoh and Mr. Razif can be found in Appendix 1.

The results obtained have exceeded the researcher's expectations as the researcher was not expecting such detailed answers for the questions. The questions designed have served their purpose in obtaining information on the challenges and how to overcome

them from these practitioners. However, she noticed that the answers for question 8 did not meet her expectations and noticed that the question itself was rather faulty and too vague for the participants to be able to respond. Sample analysis can be found in Appendix 2.

Visual Analysis

The observation and analysis of the four video materials selected were completed between 23rd June 2019 and 4th July 2019. Sample visual observation notes can be found in Appendix 3. The observation of the video materials was effective and useful not only for research but for the researcher as a sound designer as well. The observation data was further analysed into the following categories based on the formal qualities of the aspect and elements. The researcher then highlighted important parts of the observation and interpreted the visuals that were shown in the videos. Sample analysis can be found in Appendix 4.

Discussion: Overall, the researcher interprets and learns that sound design is achievable with a low budget from the interview answers that Mr Razif and Mr Teoh gave, and also the visual analysis of the freelance Foley artist and Jinnyboy TV's videos. The researcher also interprets that recording Foley in sound design can be done with materials that can be found in daily life to put their body and soul into creating the sounds, and that it would be helpful to work as a team while recording the Foley, with two Foley artists and one mixer. The mixer is important as he/she listens to the sound not from the viewpoint of the sound creator but as the one watching the video (audience).

The sound designer should work closely with the visuals of the animation and make sure that the sound and animation are matched and synced. Sound designers should also consult and discuss with the director of the animation on how they want to deliver the emotions and feelings of the animation through sound. The visual analysis on the four research subject videos selected have helped in meeting one of the researchers' objectives of this research, which is to learn from independent animation studios, how they overcome the challenges of sound design and incorporate what has been learnt into future projects. This research has also answered the question of whether good sound design can be produced with a low budget, showcasing that the independent Foley artist doesn't need a large studio or expensive equipment in order to create sounds and Foley.

Conclusion

Sound design can be accomplished with a reasonable budget; it involves the sound designer to feel and create sound through movements and feelings. The conclusions made were based on the research findings, analysis and linked together with the research

objectives. The objectives of the research were met through the research findings as stated in the discussion.

The researcher succeeded in learning about the challenges that independent animation studios and freelance sound designers faced when sound designing through the interviews and visual observation. Good sound produced does not depend or rely on the recording equipment used but how creative and passionate the sound designer is in creating sound for each and every action in the animation, how much detail has been put into creating the sound. The researcher also found out from studios on how to create and record Foley, and the little tips and tricks that would be helpful when making decisions during sound designing. The experiences, challenges and advice observed and recorded could be useful to other independent animation studios as well.

This research may contain subjective claims and theories that lack thorough evidence. Therefore, a more detailed and in-depth research on the topic may be needed. The researcher hopes that further studies on sound and animation will be carried out in the future by other sound practitioners or animators, if not by herself. In an era where multimedia and entertainment are constantly improving and being acknowledged, the researcher hopes that her research would be useful to future projects and research by other practitioners, scholars and researchers from similar fields.

References

Andersen, A. (2018, May 29) Why is Sound Important? [online] A Sound Effect. Available at: <https://www.asoundeffect.com/why-is-sound-important/> [Accessed 23 April, 2019]

Buff, J. (2014, October) Great Audio Low Budget Films. [online] Indie Film Academy. Available at: <http://www.indiefilmacademy.com/great-audio-low-budget-films/> [Accessed 23 April, 2019]

Finan, K. (n.d.) The History of Animation Sound. [online] Boom box post. Available at: <https://www.boomboxpost.com/blog/2015/11/8/the-history-of-animation-sound> [Accessed 17 April, 2019]

Karpousi (2016, February 16) Sound Design in Ghibli. [online] Aeddansarchive. Available at: <https://aeddansarchive.wordpress.com/2016/02/16/sound-design-in-ghibli/> [Accessed 23 April, 2019]

Kushins, J. (2016, 24 February) A Brief History of Sound in Cinema [online] Popular Mechanics. Available at: <https://www.popularmechanics.com/culture/movies/a1>

9566/a-brief-history-of-sound-in-cinema/ [Accessed 23 April, 2019]

Mohsen, K. (2012). The importance of thematic structure in students writing cohesion. *Language in India*. 12. 64-78.

Picture credits

Figure 1 Teoh, L.S. J. (n.d.). Study of Sound for Animation: With Reference to Emotions, Movement and Low Budget Productions. Forthcoming.

Figure 2 The Jazz Singer. (1927, October 6). Retrieved from <https://www.imdb.com/title/tt0018037/>

Figure 3 Blair, G. J. (2012, February 21). 'The Secret World of Arrietty' Wows Japan with \$8.1 Million U.S. Opening. Retrieved from <https://www.hollywoodreporter.com/news/secret-world-of-arrietty-japan-studio-ghibli-293036>

Appendices

1. Have you faced any challenges while working on animations / films in terms of sound designing?
Definitely.

2. What are the challenges that you have faced while designing sound? It would be great if you could elaborate your experience.
The most common challenge would be trying to understand the director/client's vision because not everyone is well versed with the audio terms.

3. Do you have any experiences on working with animators/ animation producers? Do you think it is important to understand what the animation producer wants to deliver through sound? If so, why?
Normally working with animations/films, I will work more closely with the director. This is because he has the best idea on how he wants the sound to work with the visuals. He is there to make sure we are all working towards the same direction.

4. In your opinion, what are the challenges of independent animation studios having decent sound design in their productions?
Compared to visual studios, I think it is harder and more expensive to build a sound studio. I think in animation you will probably need a powerful computer and that is it (I could be wrong...) but for sound you need to consider building a proper studio with soundproofing and acoustic treatment. That would cost a lot. For bigger projects you might even need a space for a Foley stage. It all depends on the project's budget of course.

Appendix 1 Sample interview answers.

Challenge 1: Budget. From the answers of the interviewees, the researcher analysed and interpreted that one of the main challenges faced by independent animation studios on producing sound is the budget. This can be seen clearly in the answers of both the interviewees at question 4. Mr. Teoh states that it is more expensive to build a sound studio compared to an animation studio and that a Foley stage might be needed as well, which is because sound studios require acoustic treatment so that there will not be any extra noises captured in the recordings of the sound. Mr Razif added on the fact that most designers opt for sound libraries if they have budget constraints, while most of the budget in the production is used for visuals, therefore the budget for sound is usually kept to a minimal and the quality of production of sound will not turn out as well. Sound libraries may be a good way to avoid a big budget, however it may lack originality and passion from the sound designers themselves as sound libraries contain pre-recorded files of specific sounds (more will be discussed in section 5).

Therefore, the important factors that affect the budget are the acoustic treatment for the studio and the ratio of budget split between the visuals and sound. To lessen the budget, the researcher suggests renting a bigger studio with acoustic treatment only when needed and finding alternative methods of improving the sound quality and background noises through editing. As mentioned by Mr Razif in his answers for question 5, "most of the sound design work happens on the computer", the research interprets that recorded Foley sound is able to be edited so that the background noises in a studio that has not been treated acoustically may be removed through editing.

Challenge 2: Time. Other than that, sound designers also face the challenge of not enough time working on the sound in a project. This is because the sound is usually left for last in the post-production part of the project, as mentioned by Mr Razif in question 1 where sound "will only come late in the production timeline" and brought up again in question 4. The researcher speculates that sound is left for last because most production plans give more time to complete the animation and visuals as they think it is more important than sound. They may also outsource sound studios to complete the soundtracks if they don't have enough time to work on it themselves, but with this, the budget will increase.

From here, it is noticeable that time and money are linked evidently. Mr Teoh does not state that time is one of the major challenges, however he does say that time is his only cost after he owns the appropriate equipment for sound designing in question 6. By not planning enough time for sound production and design in a project, less detail and effort is put into the making of sound, resulting in a lower quality sound production. The visuals that have been prepared deliberately may also be affected if the sound quality is bad or doesn't match the animation well.

Appendix 2 Sample interview analysis.

Research Subject 1. HOW FILM SOUND EFFECTS ARE MADE.

Visual Analysis of Sound Recording and Designing in Different Types of Studios					
				Formal Qualities	
Methods Used	Materials Used	Environment	Expression	Budget/Cost	
Recording foley by using different types of materials (physical objects) and involving his entire body, mimicing the movements in the scenes, listening to the sound using headphones as he records	Carrots, cloth, hamster cage fillings, pillows, stones + grass rug, horse reins, horse hooves, paint brush, wig, fake nails, aluminium, sand, rubber, rubber balls, boots, charcoal, leeks, roast chicken, food wrappers, fortune cookies, paper, scissors, teacups, plants	Controlled studio environment, looks like a garage or basement, contains curtains (for sound absorbing?) and recording equipment, a lot of materials.	Very serious, concentrating on the visuals on a screen while recording the audio. At one part, the foley artist exclaimed 'good', after recording a sound and smiled.	Cost is not stated. Most materials used can be found around the house or in a grocery store. Professional recording equipment (microphones), controlled studio environment (possibly with acoustic treatment).	
				Other	
Recording Equipment	Editing on Computer	Sound-visual Comparison	Experiences	Challenges	Advice
Recorded into digital audio station by a foley recordist (mentioned by foley artist). Equipment present in video: Standing microphone, portable microphone, headphones	Mentioned by foley artist that the editing will be done alongside the foley clips in post production	Mentioned by foley artist that sounds are created by watching the action on screen on at a time, visuals are not present in video but captions relating to the foley are present, the foley artists is observed to be looking at something while recording and creating sounds	He went to a grocery store (because grocery stores solve a lot of foley problems) and got a seaweed sheet, flipped a bicycle upside down, spinning the wheel of the bike while running the seaweed along the rails to create the fairy wings fluttering sound	Creating fantasy sounds like fairy wings	Layering sounds is very important in foley: when an actor smashes a plate you get a plate and smash it

Appendix 3 Sample observation notes.

Methods. The methods used for recording and creating sound were mostly by using everyday items as props and materials, recording in a studio by using their whole bodies to create sound. This shows that anyone can make sounds if they have the creativity, passion and determination to do so.

Materials. Materials such as paper clips, vegetables, sand and pillows were used repeatedly in the videos that showed the creation process of Foley. This shows that a big budget is not needed to design sound.

Environment. The surrounding that is common in these four videos is a studio setup with recording equipment, monitors and materials. The differences between them are the size, acoustic treatment, absorbers.

Expressions. While recording and creating sound, the faces of the designers were glued to the screen as to match the sound and visuals well. Everyone had a concentrated face and were focused on listening to the sound. This shows that sound designers really need to listen and feel the sound properly, and experiment many times till they get the right sound that they want.

Recording Equipment. The recording equipment shown in the videos were mostly standing microphones, with some studios having portable smaller microphones. The model of the microphones was not recognised by the researcher as the researcher is not well-versed in this.

Editing. Only one video showed the process of editing the sound on the computer, and the sound designer in the video shared a few programmes to try out for music composition and sound design. Editing in post-production is important and the sound has to be interrelated closely to the animation.

Sound-visual Comparison. Three videos of the sound design processes included visuals to compare with the sounds made, to prove that the sound design created works well with the visuals. All four of the videos showed that while dealing with sound and visuals, it is plausible to have a monitor or projector to look at while creating and designing the sound.

Budget/Cost. Budget and cost of sound designing and recording equipment were not stated in any of the videos, however, the main expenditure observed would be the studio setting and acoustic treatment of the studio, with the recording equipment next.

Appendix 4 Data analysis of observation data.

Empathy for Fictional Characters

Teoh, Hoong Boon Julius¹; Noorhayati Saad²

The Design School, Faculty of Innovation and Technology, Taylor's University, Malaysia.

juliusteoh@gmail.com;
teohhoongboon@sd.taylors.edu.my;
noorhayati.saad@taylors.edu.my

30 July 2020



Figure 1. Comparison images of A2 from the game Nier: Automata. Being a precursor android model, A2 shows very little emotion initially. With the exploration of her story, the player gets to see her emotions come to the surface and with that, her expressions as well.

Abstract Character design is often regarded as one of the most popular mediums in the field of creative multimedia. Reasons for this can range from aesthetic appeal to affinity towards the characters. A decent amount of research and study has been done throughout the years, formulating a basic pipeline and standard for a good character design. One such standard is that of storytelling via a character and creating characters that are relatable, believable, and invoke empathy in the observer. This research delves into how a character conveys and aids in the development of a story and the value behind creating believable and relatable characters. Data from various demographics was collected via an online survey and a visual analysis was conducted. Based on the findings, the researcher discovered that while the general audience may not have experience in design or media, they are still able to appreciate well-developed characters. The visual analysis also shows that recent characters designed to carry a fair trace of storytelling and elements to make them seem more believable or life-like. Hopefully these findings helps in enlightening up and coming as well as adept character designers in the value of creating deeper, more meaningful characters.

Key words Character design, narrative, concept art, game design, player engagement.

Introduction

Good character design relies on well thought out personality and convincing visuals, of which appearance that resonates with the ongoing narrative plays a part in keeping a character interesting. Brenner (2016) explains that it is in the familiarity these characters can manifest that we can empathize with regardless the character is human or not. But why does representing human qualities in a character make it that much appealing to the crowd? What about witnessing a character's growth causes the audience to empathise more with said character? This research aims to shed some light on the appeal factor of a character that has a design or appearance that is resonant with the narrative and how growth conveyed through character design can help enrich the story experience.

Problem Statement

Characters are a crucial element in storytelling in any medium. Storytelling regardless of context, lore or setting always leans on having a well designed central protagonist in order to draw in viewers. Often these

protagonists are designed to be the shining knight or underdog turned hero who is meant to be a driving force for determination, strength and perseverance. In essence, the protagonist is characterised as the one who pursues the main objective of the story (Hull, n.d.).

That being said, one thing that an audience often takes for granted or rather, overlooks, is when a character is not the best of the best. When a character goes through growth and change. When they, in their weakness, do something that is not representative of them or even when they obtain a physical visual flaw like a scar or missing limb that alludes to a past mistake. It creates an avenue for improvement, and by extension, a more layered character grounded in reality as noted by Lamb (n.d.). It is particularly then when these characters prevail despite the circumstances, when they persevere despite the chaos that really resonates with the audience (Ackerman, n.d.). It is in these irregularities that we often find the characters we empathize with the most.

In the spirit of curiosity, the researcher embarked on a study of the nuances in this form of narrative storytelling, one told through visual representation on a character itself and why an audience's experience is enhanced by these little details. This research explores the effects of these characters and studies the effects of evolving visual elements and design on the viewing audience and its ability to inspire empathy.



Figure 2. Comparison images of Filo from *The Rising of the Shield Hero* anime. A character whose overall appearance remains mostly the same, save for the acquisition of equipment through various points of the story. While Filo's outward appearance is still similar from her debut to the end of the first season of the anime, Filo's most notable change is her gradual development of determination and that practically all of her equipment has a story bit related to it. This is true from the clothes she wears on her back to the cowlick hair she gets later in the story.

Methodology

The author decided on a hybrid of qualitative and quantitative research for the study. Quantitative research in the form of a survey was used to get a statistical view on the trends in narrative and character design in recent media. Conversely, visual analysis was used for qualitative research to get a glance into what exactly the

character design trends utilized by modern media are and what they convey or represent.

The survey form gathers numerical information on the general viewer awareness of character designs as well as their opinion on it. The purpose being to get an insight on the viewing habits and tendency to notice changes in character designs as well as whether or not they can relate it back to the story. Likewise, the data gathered from this instrument allowed the researcher to get a general idea and overall view from the community regarding their impression on character design. Moreover, the author used this instrument as a platform to obtain additional data for the visual analysis, namely to see if what the researcher finds is resonant with the opinion of the average observer. The survey was conducted through Google Forms via sharing of the form link into community groups. No specific location was necessary as the survey was carried out in an online environment. The target audience for the questionnaire was the general audience who spend a considerable amount of time consuming story-filled media. The end goal being to gain numerical data for a statistical view on the observation habits of the average consumer and their tendency to notice changes in the character design.

The visual analysis consisted of an analysis of five characters from recent media that exhibit design changes and additions in accordance with character development or designs with significant narrative suggestion and breaks down the representations implied in the design. The researcher observed various elements of the characters from their attire, stature, mannerism and involvement in the story. During which, notable story related developments were studied and the overall representation of the character was observed.



Figure 3. Comparison images of Kratos from the *God of War* game series. Kratos is a character that crosses through the ages. From his first debut in ancient Greece in the first game, to his return in the recent installment, Kratos' story is one that involves history itself. As he grows his arsenal through the games, so too does the burden he bears from the mistakes he makes from past to present.

Findings and Discussion

From the data collected, we can surmise that there is a value to spending the extra time to develop and relate a narrative to characters. The survey data (Appendix 1)

shows that almost 60 percent of people always pay attention to how a character looks and an above average of participants also expressed that they enjoy characters with designs that change in accordance to a narrative or situation. Some have even expressed that it gives a feeling of progression in the character, stating that it applies more dimensions to said character, as well as giving a sense that the character matures or learns compared to the beginning. This can be attributed to investment and empathy in the character, which Lankoski (2011) describes as something that happens when said characters goes through situations, has a familiar goal or development that the observer can empathise with. This in turn also makes it such that the observer thinks to contemplate on the development the character has gone through.

It can also be surmised that this sort of storytelling leaves an impression in the audience as the researcher has experienced some participants from the survey stating that they are unable to rate unbiasedly via appearance as knowing the character's story has given greater representation and meaning to the visuals portrayed in later appearances. This impression can also vary from a case to case basis. What one person says to be a minor progression in a character can appear much greater to someone else. These responses can also be somewhat related back to the research done by Lankoski (2011) where impression with a character can be attributed to the affinity to a character from how much they know the character and how much they can relate or empathise with them. And much like how affinity for something can vary between people, so too can the impression perceived by each individual.

From the data gathered there is a clear appreciation for narrative development in characters. While not well versed in the theories of character design, the participants can voice their satisfaction or lack thereof even if they cannot quite explain their reasoning in detail. This is evident from certain participants being able to state things like what aspects of a character they notice first and roughly rate how much they think a character has progressed via first glance appearance yet only briefly state the reasoning to their impression with minor elaboration.

One of the things the participants mentioned was whether or not a character is familiar or relatable, which is something mentioned by Ekström (2013). According to Ekström (2013)'s theory, using existing stereotypes in the real world and applying it to character designs creates familiarity that can be relatable by the audience. In order words, the use of stereotypes makes it such that an observer can compare something fictional to real life, be that fashion, personality, or outlook. Characters are essentially an extension or mirror of the world we know and we empathize with characters because we too, are characters (Tran, 2019). Another point that can be surmised from the findings is that relatability and familiarity is a common trait that an audience pays

attention to. It can also be said that it helps in the process of inspiring empathy for characters as well. This is evident survey data, where when being asked about the participant's stance on changes in a character's design with regards to the narrative, a good sum mentioned that they support it if it pertains to the story but also that it signals growth or change, making it more believable and enabling an observer to project themselves onto the character. This response or empathy can be attributed to multiple theories. One is the area of psychology as put forth by Nieminen (2017) which describes a methodology of creating a character that carries a convincing human-like personality that also influences their outward behaviour and appearance. This setup can also consist of backstory, motives, attributes, and minor habits. Should the designated personality or setup be synonymous with some of the viewer's own, this could spark an affinity for said character and thus, make it such that the viewer supports the character in question and in some cases, even see themselves as the said character.

Aside from psychological relatability, there is also the theory that the viewer is drawn by the design of the character, where inner personality can influence outer appearances Nieminen (2017). One such method of representation can be in the form of shape design as put forth by Ekström (2013). The methodology of shape design essentially boils down to creating a feeling using a specific set of shapes. According to Ekström (2013), a viewer often relates back to the stereotypes established in real world for reference when observing a character. This suggests that it is possible for a viewer to be drawn towards the aura that a character exudes from their outward appearance and actions, which could be a standard by which the survey participants used to decide on their rating for the character comparison.

Conclusion

With regards to the objective of learning the effectiveness of nuanced or narrative design in affecting a character's appeal, the researcher has discovered that relating a character's design to a story narrative can improve a character's potential to appeal though with varying rates of success depending on what is being represented. It is also discovered that when done right, the state of appearance of a character can have new meaning for some observers and increase their empathy for the character. In terms of the objective of learning how to create characters that can invoke empathy and soul rather than being superficial, the researcher finds that there are many working parts that go together in order to make this kind of character design successful or effective. The literature that was reviewed for this study revolved around a specific topic or area for character design, but ultimately all these areas lean on one another to study the effectiveness of a character. The findings from this research also present a similar case, as participants often give the sentiment of a change

in character's design needing to be justified by a convincing narrative to feel right.

In conclusion, the findings acquired in this study has satisfied the researcher's initial question on whether or not a character whose design evolves with the narrative bears greater appeal. The findings and data acquired support the research objectives of nuanced character designs enhancing a character's appeal and creating characters that have deeper stories attached. All in all, the researcher has gained insight into what the character design pipeline is like and how narrative can be applied to it to create a more multidimensional character.

References

Ackerman, A. (n.d.). When Flaws Go Too Far: Avoiding Unlikeable Characters. WritersDigest.com

Brenner M. (2016). Lessons in Story Design from Pixar's Creative Team. Ceros Originals.

Ekström, H. (2013). How Can a Character's Personality be Conveyed Visually, through Shape. Diva Portal.

Hull, J.R. (n.d.). The True Definition of a Protagonist. NarrativeFirst.com.

Lamb, K. (n.d.) Making Heroes Heroic - Why Flaws are Important - Kristen Lamb. authorkristenlamb.com

Lankoski, P. (2011). Player Character Engagement in Computer Games. School of Art and Design, Aalto University, Finland.

Nieminen, M. (2017). Psychology in Character Design: Creation of a Character Design Tool. South-Eastern Finland University of Applied Sciences.

Tran, R. (2019 March 29). Illustration Master Course - Ep. 2: CHARACTER DESIGN. RossDraws.

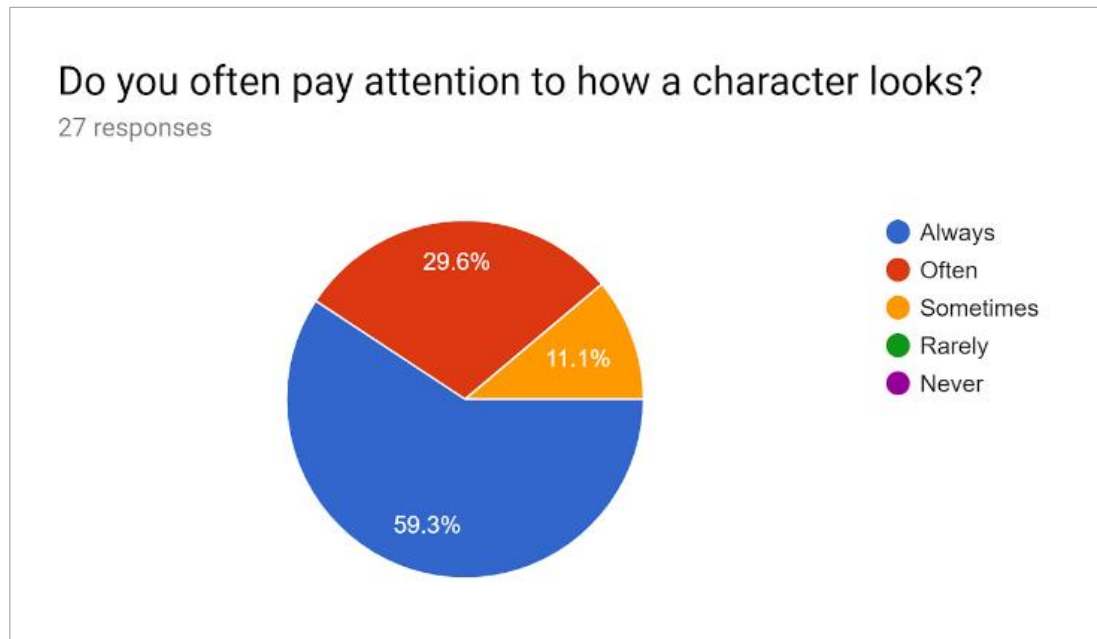
Picture credits

Figure 1 PlatinumGames (2017) YoRHa Type A No.2 [NieR: Automata]. Square Enix.

Figure 2 Kinema Citrus (2019) Filo [The Rising of the Shield Hero]. Crunchyroll. Funimation.

Figure 3 SIE Santa Monica Studio (2005) Kratos [God of War]. Sony Interactive Entertainment.

Appendices



Appendix 1 Graph tabulating the results of participants who observe a character's appearance.

Exploring Children's Learning Experience Created by Design Elements in Interactive Books

Saraswati, Katarina Indira Dyah¹;
Koh, Chai Lin Pouline²; Yip, Jinchi³

The Design School, Faculty of Innovation and
Technology, Taylor's University, Malaysia.

katarinaindiradyahsaraswati@sd.taylors.edu.my;
pouline.koh@taylors.edu.my; jinchi.yip@taylors.edu.my

30 July 2020



Figure 1. Sample of a pop-up interactive book.

Abstract Books play an important role in the teaching and learning for children. Unfortunately, digital devices are slowly taking a steady control over individual lives, making books become a less important learning tool. Despite the children's book industry innovating and revolutionising to bring children back to reading books in print, there has not been much attention paid to the interactivity among children and the design elements used in interactive books. Through observation, this study examined the learning experience through interactive books with two groups of Malaysian and Indonesian children aged between 5 and 8. In addition, the influence of design elements to these children when reading the books were further investigated. Results revealed that when reading interactive books, response is the most significant compared to interactivity and engagement. The spontaneous responses are associated with the design elements used in the interactive books. The elements of surprise created by pop-ups and pull-tabs are the most appealing ones to the children. Not only were they visually engaged with these elements, they also interacted and actively responded with each other during the reading process. The findings of this study show that children's learning experience can be a more enjoyable process if emphasis is paid to using appropriate design elements when designing an interactive book.

Key words Graphic design, interactive books, interactive elements, childhood reading, learning method of children

Introduction

Reading is an extension of children's earliest experiences. Okeke (2000) reaffirms that the art of reading is a priceless instrument for everyone. 21st century reading includes the use of a variety of reading platforms, offering a variety of interacting ways with text and the narrative being conveyed. In our society today, while technology is slowly taking a steady control over individual lives, the reading habit is fast vanishing into thin air (The Hindu, 2004). This shift has triggered worry about the ability to read and experiencing print books. Several lines of research suggest that experiences such as shared reading using digital storybooks may not offer the same rich language and bonding experience that occurs when children are nestled in their parents' arms reading a print storybook (Reich, et al., 2016; Barzillai, et al., 2018).

In recent years, the children's book industry has been innovating and revolutionising to bring children back to reading print books, such interactive books, that enrich children's development in language and literacy skills (Hood et al., 2008; Fletcher & Reese, 2005; Mol et al., 2008). This shapes their views of reading as a time of attention and connection, and increase their enjoyment and interest in reading (Baker et al., 2001). However, there has not been much research about the implications for the way children learn to read deeply and evaluate information through interactive books and how the design elements influenced the reading experience. Sue Asquith, early years adviser at National Day Nurseries Association (NDNA) said: "Lifting the flaps, for example, supports physical development and also helps children to understand how to handle books. Discussing the content of the book also helps their communication and language."

Problem Statement

Living in an era that has no limitation in accessing technology and screen media, children's learning process can be interfered tremendously. They are familiar with digital devices that are rapidly becoming their tools of culture at home, school and in the community (Lauricella & Wartella, 2011). With the existence of interactive e-book, there is a shift in the way children learn as it is more convenient and accessible. An online survey stated that more than 2000 parents reported that their children use e-books often and independently: more than one in four parents (29%) reported that their child uses e-books several times or more each week, and the vast majority (88%) reported that their child sometimes uses e-books alone (Etta & Kirkorian, 2018). In addition, 69% of parents agree that tablets can be used to support learning and creativity (Marsh et al., 2015).



Figure 2. Sample of Interactive books with Flip-flaps & Pull tabs design elements.

Although this may be true, most parents still prefer that print books are still the best format for children. Specifically, more than half (52%) of the parents who prefer print say their child likes turning pages, whilst 43% say their child likes to own a print book and 41% say their child likes choosing books from the library (Kucirkova & Littleton, 2016).

Therefore, as a future designer, interactivity should be one of the important aspects to be considered when

designing an interactive book for children to create a meaningful reading experience.

Methodology

In this study, observation was conducted on two groups of children to examine their learning experience and to further identify which design elements influence their experience when reading interactive books. The two groups were compared to one another in the study.

Group 1 was made up of four Indonesian children, while Group 2 consisted of four Malaysian. All the children were between the ages of 5 and 8. The age range was considered suitable for using interactive books, which means that the children will naturally respond and react when the observation take place. There were no specific requirements when selecting the respondents other than age. In the first place, there were eight Indonesian children joining the observation but narrowed down into four to equalise with the number of Malaysian children.

Four books with different types of interactive elements, such as pop-up, move-and-pull and flip-flap, were used in the observation (Fig 3).

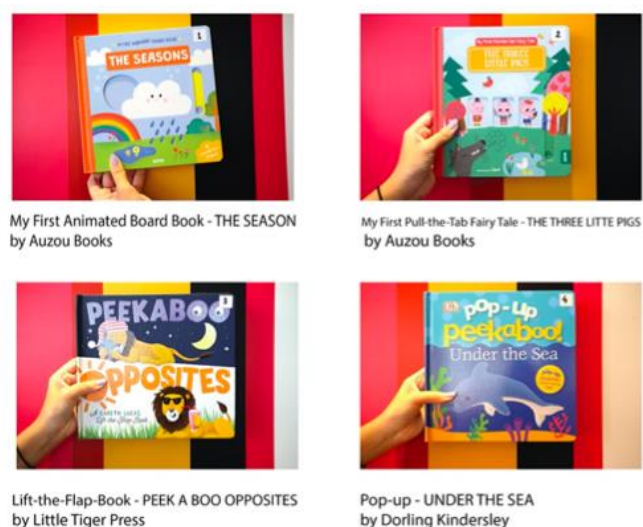


Figure 3. Four samples of interactive books are given to respondents during observation study such as Book 1 (left top), Book 2 (right top), Book 3 (left bottom), and Book 4 (right bottom).

The session was divided into two, with a total of 30 minutes spent on observation and followed by a 15-minute interview with each group. The first session was a reading session, whereby the children were asked to read and go through all the books, and it was timed using a timer. The second session was an interview, where each respondent was asked some questions regarding the books they had read during the observation. A set of questions used during the observation was adopted from a few research with a similar study.

1. Which book do you like the most?

2. Do you understand what the book is about?
3. What makes you like reading it?
4. How do you feel after reading the book?
5. Do you learn much after reading it?

Findings and Discussion

This research aims to examine children's learning experience from interactive books. The children's ages were between 5 and 8 years old. The design elements that influenced these children the most when reading the books were investigated. The respondents were divided into two groups and this is shown in Table 1 (Appendix 1).

Influence of Different Elements in Learning Experience

Engagement. Findings show that the respondents needed more time to read the books because they repeatedly read the previous pages over and over again. Then, they spent more time looking at the books that they like rather than trying to read the other books, because the story and genre of that particular book appealed to them. Almost every respondent completed their reading on all the provided books. Sidner et al. (2004) consider engagement as "the process by which two (or more) participants establish, maintain and end their perceived connection during interactions they jointly undertake". While in the field of education, engagement may be considered as the "behavioural intensity and emotional quality of a person's active involvement during a task" (Reeve et al., 2004).

Interactivity. It was observed that the design elements influenced children, creating an interactivity between themselves and the book, and even with the other respondents while reading together. Some respondents were curious about the contents inside the flip-flap books and proceeded to open them up to find out, indicating interactivity between the respondents and the books. The flip-flap books were repeatedly opened and closed, and tabs of pop-up books were pulled up and down for them to see movement or changes of pictures. Barker (1994) and Sims (1997) considered interactivity in learning as "a necessary and fundamental mechanism for knowledge acquisition and the development of both cognitive and physical skills."

Responses. Findings from the observations show that design elements in interactive books influence children to naturally respond in the form of gestures or conversations when reading take place. Some respondents laughed and smiled throughout the reading session. Even more, respondents reacted in surprise and amazement through expressions like "Wow" and "Aaa" when they saw a pop-up. They further reacted by showing the pop-ups to other respondents. They were also surprised at having found hidden pictures in those

books through the pop-up effect. From the field of literacy studies, we draw upon the reader Response framework (Rosenblatt, 1978) in order to describe children's reading experience of literacy texts because this approach has developed a transactional theory of literacy reading that considers the readers to be an active partner in the creation of meaning who contributes to it with experiences and emotions.

The Influence of Design Elements in Interactive Books on Indonesian and Malaysian Children

After an in-depth analysis, the design element that really appeals to the children is the element of surprise. The moving process of the character gives an enhanced meaning to the understanding of the children to the story itself. Pop-ups and pull tabs seem to be effective interactive elements to be used in the interactive books. Next is character design, with most illustrated children's books consisting of animals rather than human characters. With animals, there is no ethnicity, background, religious faith, or any of the other details that otherwise define a human character and set them apart. Due to this, they have a broad appeal as they can apply to every demographic (Moore, 2019). Similarly, Book for Children (2019) stated that animals are inherently interesting because there are so many different species of various sizes, fascinating colours, shapes, features, habits, habitats, and more. Also, it helps children to be more flexible on how they think about the animals that leads to imagination.

Indonesian Children. It seems that all four were quite familiar with the term *interactive books*, even though they rarely or had never used it. Almost all the respondents (except R2), were clear with the message conveyed inside the book and they were able to follow through the story in all the pages, while R2 was a little bit confused with some words. Overall, the respondents chose Book (2) as their favourite book and followed by Book (4), Book (3) and lastly Book (1). R1 and R3 mentioned that Books (2) and (4) were their favourite. R1 liked the part where the wolf jumps into the hot tub and found it funny that the octopus can move. R3 liked where the dolphin character pops up.

Malaysian Children. It was discovered that the Malaysian respondents are not familiar with the term *interactive books*. Most of the respondents except R6 are quite confused with some particular words or storylines and they had trouble following through the story in the pages. Only R6 was able to explain very well the story in one interactive book. Uniquely, the Malaysian respondents picked Book 2 as their favourite, followed by Book 4 and then Book 3, similar to the Indonesian respondents. None of the respondents from the two groups chose Book 1.

Conclusion

The study was a descriptive and contextual qualitative study through an observational study to achieve the research objectives. In this research, findings showed that interactive books hugely influence children's learning process. Each design element played a part in a different approach and it results in the increase of reading engagement, interactivity between the reader and the book, as well as the various responses from the children. According to the results, the element that appeals to the children the most is the element of surprise. The movement of the characters enhances the stories' and children's understanding of them. Pop-up and pull tabs seem to be the effective interactive elements to be used in such books. Moreover, these elements provide the opportunity for children to experience directing the characters with their own hands.

This study shows that design elements influence children's engagement with interactive books. The children were engaged with the books that they liked and went through them several times. The reason is that familiarity with the characters from the titles and the interactive elements allowed them to delve more into the stories. The interactivity between the children was also affected by the element of surprise and character involvement. When they found something interesting or funny, they were likely to share it with their peers. Other than that, the children were also curious to find out how the element of surprise worked. Response was the most significant, where the children spontaneously reacted when they found something surprising and amazing to them. At that point, the design elements played a huge part in influencing the children to pay attention to what they were doing at that time and the excitement they felt completed the reading experience. The findings of this study may increase awareness in children's book designers and teachers to make interactive reading as a means to increase literacy with an enjoyable learning experience.

References

- Baker, L., Mackler, K., Sonnenschein, S., & Serpell, R. (2001). Parents' Interactions with Their First-grade Children During Storybook Reading and Relations with Subsequent Home Reading Activity and Reading Achievement. *Journal of School Psychology*, 39(5), pp. 415–438. Available at: <[https://doi.org/10.1016/S0022-4405\(01\)00082-6](https://doi.org/10.1016/S0022-4405(01)00082-6)> [Accessed 20 September 2018].
- Barker, P. (1994). *Designing Interactive Learning. Design and Production of Multimedia and Simulation-Based Learning Material*. Dordrecht, The Netherlands: Kluwer Academic.
- Barzillai, M., & Thomson, J. M. (2018). Children Learning to Read in a Digital World, 23(10). Available at: <<https://journals.uic.edu/ojs/index.php/fm/article/download/9437/7600>>
- Book for Children. (2019). Retrieved from: <http://www.books-for-children.com/articles/why-are-the-characters-in-so-many-illustrated-childrens-books-animals-instead-of-people/>
- Etta, R.A., & Kirkorian, H.L. (2018). Children's Learning From Interactive EBooks: Simple Irrelevant Features Are Not Necessarily Worse Than Relevant Ones. *Journal of Frontiers in Psychology*, 9(2733).
- Fletcher, K.L., & Reese, E. (2005). "Picture book reading with young children: A conceptual framework," *Developmental Review*, volume 25, number 1, pp. 64–103. Available at: <<https://doi.org/10.1016/j.dr.2004.08.009>> [Accessed 20 September 2018].
- Hood, M., Conlon, E., & Andrews, G. (2008). "Preschool home literacy practices and children's literacy development: A longitudinal analysis," *Journal of Educational Psychology*, 100(2), pp. 252–271. Available at: <<http://dx.doi.org/10.1037/0022-0663.100.2.252>> [Accessed 20 September 2018].
- Kucirkova, N., & Littleton, K. (2016). *The Digital Reading Habits of Children. A National survey of parents' perceptions of and practices in relation to children's reading for pleasure with print and digital book*, pp. 6. Available at: https://www.researchgate.net/publication/299563417_The_digital_reading_habits_of_children
- Lauricella, A., & Wartella, A. (2011). *Children, Media and Race: Media Use Among White, Black, Hispanic, and Asian American Children*. Evanston, IL: Center on Media and Human Development, School of Communication, Northwestern University. <http://web5.soc.northwestern.edu/cmhd/wp-content/uploads/2011/06/SOCconfReportSingleFinal-1.pdf>
- Marsh, J., L. Plowman, D. Yamada-Rice, J. C. Bishop, J. Lahmar, F. Scott, A. Davenport, A. Davis, S., French, K., Piras, M., Thornhill, S., Robinson, P. and Winter, P. (2015). *Exploring Play and Creativity in Pre-Schoolers' Use of Apps: Final Project Report*. Available at: www.techandplay.org > [Accessed September 2016].
- Mol, S. E., Bus, A. G., de Jong, Maria. T., & Smeets, D. J. H. (2008). "Added value of dialogic parent-child book readings: A meta-analysis," *Early Education and Development*, 19(1), pp. 7–26. Available at: <<https://doi.org/10.1080/10409280701838603>> [Accessed 20 September 2018].
- Moore (2019). *Why is Animal Fiction Important?* Available at: <<https://home.oxfordowl.co.uk/blog/why-is-animal-fiction-important/>>

Okeke, N.E. (2000). Effects of Exposure to In Text Vocabulary Recognition Strategies on Secondary School Students' Performance on Reading Comprehension in Awka Education Zone. M.Ed. project: University of Nigeria, Nsukka.

Reeve, J., Jang, H., Carrell, D., Jeon, S., & Barch, J. (2004). Enhancing Students' Engagement by Increasing Teachers' Autonomy Support. *Motivation and Emotion*, 28(2). Available at: <https://dx.doi.org/10.1023/B:MOEM.0000032312.95499.6f>

Reich, Yau, J.C., & Warshauer, M. (2016). Tablet-based ebooks for young children: What does the research say?" *Journal of Developmental & Behavioral Pediatrics*, 37(7), pp. 585–591. Available at: <https://doi.org/10.1097/DBP.0000000000000335> [Accessed 20 September 2018].

Rosenblatt, L.M. (1978). *The Reader, the Text, the Poem: The Transactional Theory of the Literary Work*. Carbondale, IL: Southern Illinois University Press.

Sidner, C.L., Kdd, C.D., Lee, C., Lesh, N. (2004). Where to look: A study of human-robot engagement. *Proceedings of the 9th International Conference on Intelligent User Interfaces*, ACM, pp. 78–84.

Sims, R. (1997). Interactivity: A forgotten art? *Instructional Technology Research Online*. Available at: <http://intro.base.org/docs/interact/>.

The Hindu. (2004). Whither the Reading Habit?. Online India's National Newspaper, Monday, July 12. Available at: <http://www.hinduonnet.com:80/thehindu/mp/2004/stories/200407120250300.htm>

Picture Credits:

All images courtesy of the author.



Appendices

	Respondent	Age (years old)	Gender
GROUP 1 <i>(Indonesian Children)</i>	R1	5	Female
	R2	6	Female
	R3	7	Female
	R4	8	Male
GROUP 2 <i>(Malaysian Children)</i>	R5	6	Female
	R6	7	Female
	R7	8	Female
	R8	8	Male

Appendix 1 Table 1. Background of respondents in the observation study

The Role of Whitespace in Visual Communication Design

Aminath, Rausha¹; Koh, Chai Lin Pouline²; Yip, Jinchi³

The Design School, Faculty of Innovation and Technology, Taylor's University, Malaysia.

raushashareef@gmail.com;
pouline.koh@taylors.edu.my; jinchi.yip@taylors.edu.my

30 July 2020



Figure 1. Magazine article on a café.

Abstract Designers use whitespace as a design element to create visual aesthetics and enhance layouts. However, most designers fail to consider the importance of whitespace in readability and navigation control. There are limited research studies on its importance and role in enhancing layouts in relation to these functions. To study the role whitespace plays in designs, this study was conducted by adopting a visual analysis of 4 layouts and a survey of 54 respondents. Evaluation of Active Whitespace (AWS), Passive Whitespace (PWS), the readability and navigation control were conducted by providing samples with manipulation of different levels of whitespace. Notably the results showed that although a significant number of people prefer access to more information which they see as a guide for good navigation, the majority believes that the less they see, the more they can focus resulting in easier readability and navigation as it created a simple and aesthetical layout for viewers. The results indicate that there is a significant importance of whitespace in the readability of websites, articles and posters.

Key words Whitespace, graphic design, advertising, design principles, visual communication

Introduction

At the point of technological advancements reaching to new heights, whilst the competition in information transfer is becoming rapidly high, all designers are working on ensuring their layouts are communicating effectively and keeping viewers engaged. With this in mind, it is to be noted that one of the most important and overlooked design elements to creating effective layouts is whitespace (Coates, 2014). Often having different definitions, whitespace in this research is defined as unmarked space in designs, spaces between lines, paragraphs, images, and different elements (Hegde, 2017).

Designers often use whitespace to create the feeling of elegance and sophistication (Boulton, et al., 2007) and many viewers often relate whitespace to sophistication, exclusivity and luxury as the notion, *less is more*, is comparatively the most well-known design aspect among designers as well as the viewers. While it is being applied to different fields of design, the effects of whitespace has not been studied in depth to achieve the full potential of its use. Along with disproving the misinterpretations of the role of whitespace, the study aims to prove the hypothesis that whitespace in a work of design increases the effectiveness of delivering information.

Problem Statement

As the world develops and becomes more interconnected, there is a high degree of competition in the field of information transfer. While it is vital to understand the concepts that aid in making the process of information transfer better by keeping the readers engaged, it is essential to explore and study the design elements at play in making layouts better. Seeing that it takes only 2.6 seconds for most users to land on the most important area of any layout (Laja, 2019); creating layouts that focus on and grabs the reader's attention is crucial in this market. The true potential of whitespace is often neglected by designers and further study is needed in this field.

With that in mind, researchers such as Soegard (2018); Coates (2014); Pracejus, Olsen, & O'Guinn (2006) have studied the importance of whitespace in a design layout and placing an emphasis on the misinterpretations of whitespace in design. Research has been conducted aimed directly at whitespace in websites and phone applications and also how whitespace affects consumers perception of value (Pracejus, et al., 2006; Coates, 2014). It was concluded by these researchers that designers often have a sophisticated understanding of whitespace and its use. Whitespace is often referred to as making the layout more sophisticated, elegant or creating a perception of high quality and value. Most research works focus on the interpretations derived from whitespace and less on its effect on user experience. Thus, this research comprehensively studies in depth effects of whitespace on user experience with regards to readability and navigation in websites, magazine articles and posters, with the aim of improving future visual communications through design.

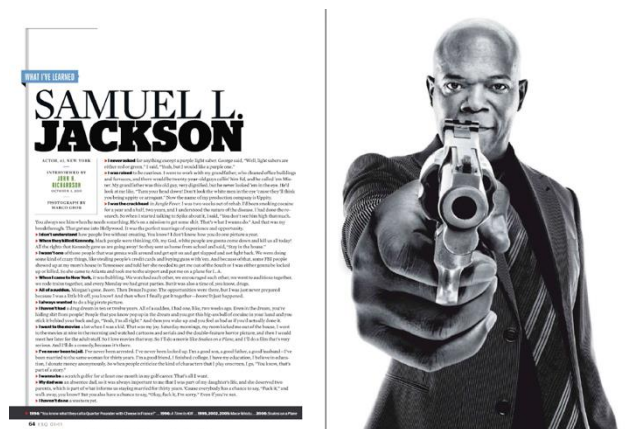


Figure 2. Magazine Article on Samuel L. Jackson.

Objectively, this research intends to address the following two questions: "How does whitespace help in delivering information effectively in print and on screen design layouts?" and "How does Whitespace affect readability, navigation and visual aesthetic in printed and screen layouts?" Following the intended questions the research aims to examine the effectiveness of whitespace in visual communication, by examining the

effects of whitespace on readability, navigation and visual aesthetic and perception in print and on screen design layouts. This collectively aims to prove the hypothesis that whitespace in a design increases the effectiveness in delivering information.

Methodology

Two methods were employed for this study. Firstly, a comparative visual analysis was conducted on a total of four layouts. The comparison was divided into two subsections, for on screen medium, two website landings (Refer to Samples 1 and 2 in Appendix 1) were visually analysed and for printed medium two sample of magazine articles (Refer to Samples 3 and 4 in Appendix 2) were visually analysed. The data collected was treated with descriptive and comparative analysis. Secondly, user experience of manipulated whitespace was studied in depth through a survey of 54 viewers. The survey implemented a questionnaire in comparing four different layouts, followed by questions directed at studying readability, navigation, aesthetics and perception of viewers.



Figure 3. Article design.

Comparative Visual Analysis - Firstly, analysis was done of a web collection of layouts, implementing the most recent and popular websites and articles. A secondary data collection was done on previous research

work on whitespace, assisting in preparing for visual analysis through the study of different visual elements in design. The visual hierarchy was based on the design elements and would be extensively analysed through the study of proximity, emphasis, and balance. After gathering the data from the visual analysis, the four samples were assessed on readability, navigation, hierarchy, visual aesthetics, and a conclusion was drawn.

Survey - In order to examine the viewers' preference on readability and navigation, a survey was designed and conducted through Google forms. In the survey, samples of the landing pages of website design were created to investigate the viewers' preferences. Surveys were shared through social media platforms in order to target audiences who are familiar to new and trendy visual communication tools and are familiar with the layouts presented allowing accurate data collection.

Through the secondary data collection from previous research and based on the research on navigation, readability, aesthetics and perception, alongside user experience, questions were framed to target the hypothesis. Data from the filled forms were then extensively analysed through statistical treatment. As social media has become the hub for information transfer and this research involves effective visual communication it is vital to target the audience that are mostly active on this platform. The demographic study on the use of social networks by Chaffey (2019) on the global social media research analysed that people aged between 16 - 34 were the most active on social media platforms, which shaped the demographic age for this study between the age of 16 - 30.

Findings and Discussion

Comparative Visual Analysis - In Table 1 (Appendix 1), the comparative analysis of both websites could conclude that existence of PWS in websites allow easy access to navigation and allows content clarity. A look at the presentation of PWS and AWS level in both layouts were considered and the results show a higher level of PWS presented in Sample 2 where the call to action button was easier to locate than in Sample 1 where PWS was comparatively much lower. The navigation and call to action button being the main components of a website landing page, portrayed the success of its accessibility by implementing PWS which shows the fundamental role whitespace plays in a website layout.

A general finding indicates that AWS allows easy and better readability while affecting visual perception as well. As shown in Table 2 (Appendix 2), although both articles implement AWS and PWS, the assessment of readability through the analysis of typographical aspects resulted in contrasting speeds in readability and reader fatigue between the two articles. The most notable difference between the two articles is the level of

AWS presented and thus provides rationale to the claim of AWS affecting readability.

Looking at the prominent findings from both analysis, although in all layouts AWS and PWS were assessed, the research findings showed that PWS particularly played a big role in website navigation and the call to action button whereas AWS played a big role in readability of both websites and articles. The navigation bar and call to action button was easier to locate with noticeably high levels of whitespace surrounding it, compared to the one with less. Text surrounding high levels of whitespace was found to be aesthetically pleasing as well as more easily readable than the one with comparatively less whitespace.

Survey - Prominent findings notably contributed to the same conclusion driven from Comparative Visual Analysis. Based on the overall findings from the survey, the respondents were having difficulty in reading the content that consisted of less whitespace and was generally perceived to be less aesthetically pleasing. When asked about revisiting the website most respondents opted to revisit Sample 5 (Appendix 3). The most common reason for the choice was that the webpage simply looked clean, easy to navigate and had easy access to the content with less distractions.

The most common answer received was that it "looked simple" and the idea of simplicity is comparatively considered good among the majority of people, especially when it comes to access to information. People favour the sense and ease of access to information with less hassle. However, although Sample 5 had garnered a majority in simple and fast access to the content compared to the navigational aspect, focus on the products allowed some to opt for Sample 6 (Appendix 4). A notable answer from a participant stated that although Sample 5 was visually appealing and looked simple and easy to read, Sample 6 had more focus options to navigate which therefore provided a subjective approach on crowded layouts on navigation.

All in all, the two methods arrive to a similar general finding; a high level of whitespace allows an increase in engagement of user preferences and thus a high level of effectiveness on the layout. The presentation of whitespace leads to an increase in user revisits and allows more information to be spread through these layouts, which would be extensively beneficial to web designers. However, despite the advantages whitespace poses to revisits, a significant amount of people are affected by the level of information presented in minimal layouts, allowing them to choose a layout with more information and less whitespace effectively. Despite this, overall results show that, implementation of whitespace in any layout would result in an overall increase in content visibility and viewers preferences, increasing the effectiveness of the layout in delivering the information.

Conclusion

In whitespace there is a lot more than nothing (Pracejus, et al. 2006). Whitespace is not just neat and nice, is it effective and valuable (Hegde, 2017). Although often regarded as an element to create visual aesthetic and consumer perception of high quality and sophistication, whitespace has numerous implications on layouts. It has many uses and is often regarded as a key element of design by many successful designers (Coates, 2014). This research thus studied how whitespace helps in delivering information effectively in print and on screen design layouts. The study also examined the effects of whitespace on readability, navigation, visual aesthetic and perception in print and on screen layouts in order to study the broad effect of whitespace in visual communication.

The research concludes the presented hypothesis that whitespace in a design layout increases the effectiveness in delivering information, is accurate. Overall this study has uncovered the important relationship whitespace creates in readability, visual hierarchy and navigation to that of viewers' perception and preferences by increasing visual aesthetic. These elements work together in increasing user engagement and experience, resulting in effective visual communication. The study presented provides a foundation for many designers for future design improvements to improve and increase user experience. This research has proved that whitespace is a design tool that if implemented well would enhance readability in any layout.

References

- Bachvarova, V. (2018, December 11). The power of empty space in UI design. Retrieved from <https://uxplanet.org/https-medium-com-viktorija-bachvarova-the-power-of-empty-space-in-ui-design-14f14f8b203>
- Boulton, M., McKnight, T., Ivins, J., Fisher, C., Wagner, J., & Hogan, L. (2007, January 9). Whitespace. Retrieved from <https://alistapart.com/article/whitespace/>
- Bradley, S. (2009, July 29). Whitespace: Less Is More In Web Design. Retrieved from <http://vanseodesign.com/web-design/whitespace/>
- Chaffey, D. (2019). Global social media research summary 2019. Retrieved from <https://www.smartinsights.com/social-media-marketing/social-media-strategy/new-global-social-media-research/>
- Coates, S. (2014). White Space: An Overlooked Element of Design. Retrieved from
- However, with any research, there are limitations and this research is not without its shortcomings. The respondents were limited due to the researcher's tight control over the form distribution. The data provided by the participants might be influenced by other factors such as colours. Despite the limitations, there is a clear conclusion on the viewer experiences with regards to whitespace. Another limitation is the unavailability eye tracking equipment to study eye movement, related to viewing experience.
- A future research endeavour can expand on the recommended situations and layouts in which whitespace would be most appropriate. While whitespace is assumed to be effective under all circumstances, there are situations in which the implementation of whitespace results in floating content within the layout. In advertisements specifically, if not used effectively, white-space leads to the product at hand appearing cheap or less exciting and currently, whitespace is often used ineffectively in advertising (Olsen et al, 2010). Therefore, a study on the level of whitespace to be implemented in different situations and different types of layout could be explored to avoid the ineffective use of whitespace. Furthermore, studies could also be targeted on how layouts with less whitespace results in better navigation for some people although it poses a limitation for others. This research has also shown data on how some people see a layout with too much content as a barrier to navigation, whilst others may see it as a pathway to better navigation. Developing in this similar school of thought, research studies could focus on how whitespace could be implemented in any form, for any type of design.
- https://digitalcommons.wku.edu/cgi/viewcontent.cgi?article=1461&context=stu_hon_theses
- Hagen, R., & Golombisky, K. (2017). White space is not your enemy: a beginners guide to communicating visually through graphic, web & multimedia design. Boca Raton, FL: CRC Press, Taylor & Francis Group.
- Hegde, P. (2017, October 19). Importance of White Space in Design. Retrieved from <https://blog.prototypr.io/importance-of-white-space-in-design-5a40c0e65bfd>
- Laja, P. C. (2019, September 2). First Impressions Matter: Why Great Visual Design Is Essential. Retrieved from <https://conversionxl.com/blog/first-impressions-matter-the-importance-of-great-visual-design/>
- Olsen, G. D., Pracejus, J. W., & Oguinn, T. C. (2012). Print advertising: White space. *Journal of Business Research*, 65(6), 855–860. doi: 10.1016/j.jbusres.2011.01.007
- Pracejus, J. W., Olsen, G. D., & O'Guinn, T. C. (2006). How Nothing Became Something: White Space,

Rhetoric, History, and Meaning. *Journal of Consumer Research*, 33(1), 82–90. doi: 10.1086/504138

Sharma, N., & Varki, S. (2018). Active White Space (AWS) in Logo Designs: Effects on Logo Evaluations and Brand Communication. *Journal of Advertising*, 47(3), 270–281. doi: 10.1080/00913367.2018.1463880

Soegaard, M. (2018). The power of white space. Retrieved from <https://www.interaction-design.org/literature/article/the-power-of-white-space>

Staff, C. B. (2012, November 21). The importance of whitespace in web design. Retrieved from <https://www.creativebloq.com/design/importance-whitespace-web-design-11125952>

The Best Way to Increase User Engagement on Your Website. (2019, January 15). Retrieved from <https://www.crazyegg.com/blog/increase-user-engagement-website/>


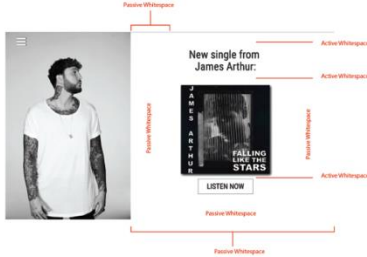
Picture credits

Figure 1 Lancaster, E. (Photographer). (2013, November). Cafe Divan [digital image]. Retrieved from <http://www.erinlancaster.com/#/magazine-layout/>

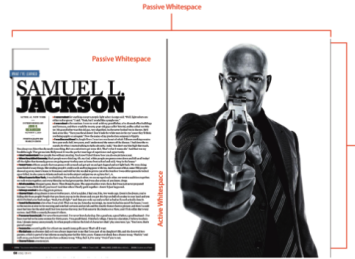

Figure 2 Richardson, J.H. (Photographer). (2011, January 1). What I've Learned: Samuel L. Jackson [digital image]. Retrieved from <https://classic.esquire.com/article/2011/1/1/what-ive-learned-samuel-l-jackson>

Figure 3 Bowes, B. (Photographer). (2019, January 9). Typography Posters [digital image]. Retrieved from <https://www.behance.net/gallery/74617291/Typography-Posters>

Appendices

		SAMPLE 1	SAMPLE 2
Image			
AWS & PWS Presentation			
AWS & PWS		More AWS than PWS	Extensive PWS, Equal AWS
Typography	Leading	Narrow	High
	Kerning	Normal	Normal
Navigation Bar		Lost in the image	Visually Noticeable on the image
Hierarchy		Title, brand (proportion) Arrangement Unclear	Usage of PWS top to bottom movement
Design Elements	Balance	Title and Image too heavy	Text content and Image Balanced
	Emphasis	Brand & Title	Album art and call to action
	Proportion	Main title & Visual high Proportion	Neutral level of all content
Content Visibility		Title visible, small text lost, call to action visible	Content Clarity

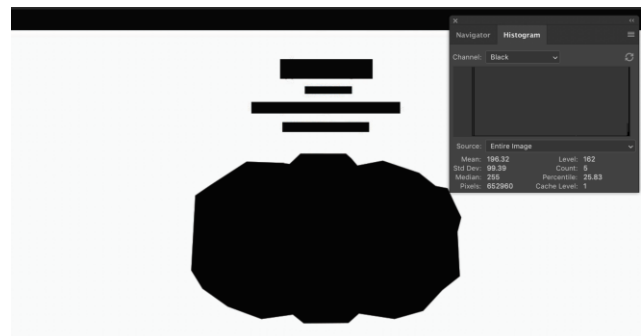
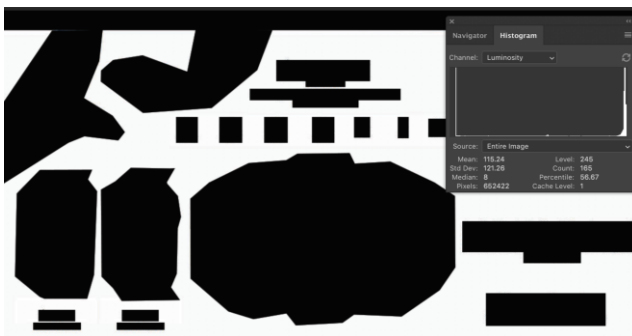
Appendix 1 Table 1 Samples 1 and 2 Analysis

		SAMPLE 3	SAMPLE 4
Image			
AWS & PWS Presentation			
AWS		Limited	Extensive Level
PWS		Acceptable	Limited
Typography	Leading	Very Low	Double Spacing
	Kerning	Low	Extremely High
	Alignment	Aligned to Left	Aligned to Left
	Line Length	Above 80 Characters	Below 60 Character
Navigation		Difficult	Easy
Hierarchy		Presented	Presented
Design Elements	Balance	High Cluster of text on left	Excellent Level
	Emphasis	Title & Image	Title & Content
	Proportion	Directing eye to Image	Directing eye to title to small text

Appendix 2. Table 2 Samples 3 and 4 Analysis



Appendix 3. Sample 5: Website Landing Page



Appendix 4. Sample 6: Whitespace percentage histogram

The Preliminary Findings of UX Design on Social Media

Saputra, Tamara Audrey¹; Noorhayati Saad²

The Design School, Faculty of Innovation and Technology, Taylor's University, Malaysia.

tamaraaudreysaputra@sd.taylors.edu.my
noorhayati.saad@taylors.edu.my

30 July 2020

Many social media that had once gained fame, have now suddenly dimmed and vanished. However, there are similar social media that have remained shining. Social media has become an integral part of our lives that we spend hours on it. This article reveals the preliminary findings of the influence of the user experience on social media engagement and the elements of user engagement that support the viability of social media. Consequently, the research answered the questions of how UX design influences user engagement in social media and the elements that help to sustain its viability. In this context, user engagement refers to both passive consumption and active participation within the social media platforms. An online survey with 136 participants and visual analysis of three established social media, namely Facebook, Instagram, and Snapchat was conducted. Analysis of the survey responses showed that UX design influences user engagement through both pragmatic and hedonic qualities. Meanwhile, the visual analysis demonstrated patterns of persuasive and emotional design. Based on the results, it emphasizes the need for creating an application that is not only usable but also exciting and also to integrate persuasive and emotional design in order to remain viable in the market.

Keywords User experience, design, social media, persuasive.

Introduction

Everything that seemed impossible to be achieved has been mostly realized through the development of technology. That includes the way we communicate today. Previously, distance and time were the great barriers to communication, however, today almost everyone around the globe could stay connected. This is all due to online social networks. Social media have become an integral part of our society that 3.2 billion people are active daily users (Tjepkema, 2019). On average, users spent around 2 hours and 23 minutes per day on social media (Globalwebindex, 2019). It has turned into a habit, where we do it with little to no conscious thought (Morsella et al, 2008), favouring social media firms. Therefore, the ability of a product to be able to cultivate user habit becomes crucial for its survival. However, what drives engagement in the context of social media? The factors revolves around the experiences and values that users get when interacting with the product (Oza, 2017). Nevertheless, several applications still failed and withdrew from the market.

Thus, this article reveals the preliminary findings of the influence of user experience in the context of social media as well as the elements of user engagement implemented by established social media firms such as Instagram, Facebook, and Snapchat.

Problem Statement

According to Don Norman and Jakob Nielsen, "The first requirement for an exemplary user experience is to meet the exact needs of the customer, without fuss or bother." (Norman & Nielsen, 2016). This statement is particularly true in the case of mobile based apps such as Instagram, Snapchat, Facebook and etc. "A very good and efficient user experience design for the development of a mobile application is vital to creating experiences that are engaging." (Oza, 2017).

The intensity of the user engagement towards these social platforms are evident in a research conducted by Flurry Analytics, where the average U.S consumer spends 5 hours a day on their devices and 95% of it is spent in apps such as Facebook, Youtube, and etc. (Khalaf & Kesiraju, 2017). In fact, in a study conducted by Deloitte in 2015, it is suggested that checking social networks is the first thing that most people do (Deloitte, 2015).

However, not all online social media (OSM) lasted to such position. For example, MySpace, whose downfall was partly due to lack of efficiency and consistency (1THING, 2017). For that reason, this article reveals how OSM in particularly Instagram, Facebook, and Snapchat have designed their UI/UX to increase their user engagement and the importance of it in order to maintain their visibility.

Methodology

Research Design

The data was collected from online survey and visual analysis that covered both qualitative and quantitative methodologies.

Online survey allows faster feedback and is less biased (FluidSurveys, 2014). It also allows the researcher to reach participants from across the globe in the most efficient way. The online survey questionnaire targeted both female and male gender with the age of at least a minimum of 13 years old; aligning with the law of Children's Online Privacy Protection Act (COPPA).

Visual analysis was conducted to analyse, identify, compare and contrast the ways Instagram, Snapchat, and Facebook designed their application to captivate the users' attention and encourage user engagement. Especially, in achieving the four targeted behaviours (Fogg & Iizawa, 2008). In order to analyse the components, screenshots of the app were taken and the

elements of user engagement such as the persuasive and emotional design were examined.

Research Instrumentation

Instagram, Facebook, and Snapchat have been chosen as the subject of the research due to their success in the market. All three platforms are ranked in the top 10 most popular social networks (GlobalWebIndex, 2018). Facebook is in the first position with 2,375 million active users, Instagram at 1,000 million active users, and lastly Snapchat with 294 million active users as per July 2019 (Statista, 2019). Hence, these applications became an ideal study subject to analyse.

The questionnaire has three different segments. It opens with screening questions to acquire the participants' demographic data and if the participant has been a user of any of the social media mentioned. If the participants do not fulfil the criteria, they cannot continue the survey. This ensures that it reaches the correct target. The next segment is regarding the hedonic and pragmatic qualities the users experienced when using the app(s). Participants were instructed to fill only the apps that they have used previously. The measurement used was the User Experience Questionnaire (UEQ) which is a tool used to measure user's subjective impression towards the user experience of a particular product. However, the compressed version of the User Experience Questionnaire (UEQ-S) (Schreep et al, 2017) was used for more efficiency. The last section of the questionnaire asked the reasons as to why participants disengage and further recommendations for improvements.

Fogg and Iizawa's (2008) four persuasion goals was the foundation of the visual analysis. The four persuasion goals include creating a personal profile page, inviting friends, responding to others' contributions, and return to the site often. If any of the goals stated, failed to be attained, there will be a higher chance to fail in the market (Fogg & Iizawa, 2008).

Research Participation

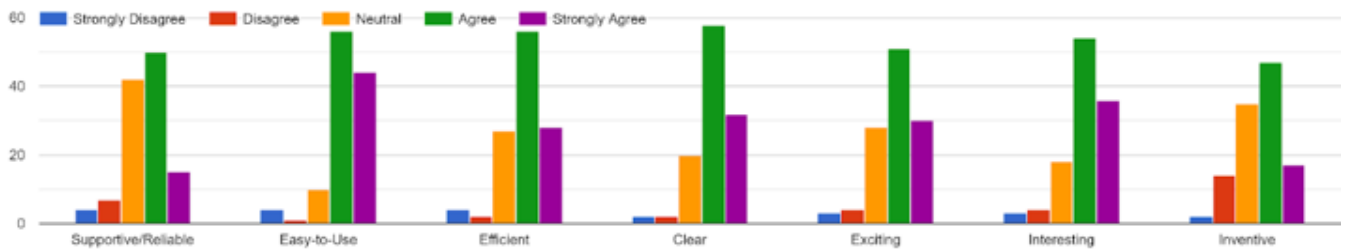
The criteria set does not involve nationality, race, or job status as the survey aims to gain the collective insights of social media users. To acquire random samplings of participants, the online survey was distributed on several online platforms such as SurveySwap and online forum groups to reach people from any part of the world.

Findings and Discussion

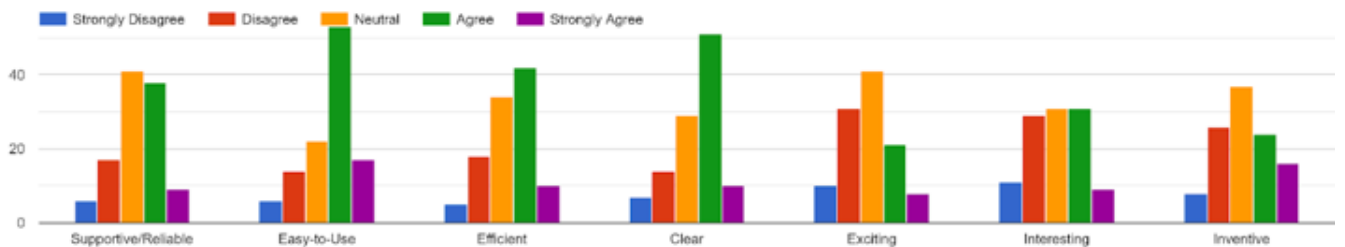
UX Design and Its Influence on User Engagement in Social Media

The ideal user experience should be both usable and exciting (Sutcliffe, 2016; Lalmas et al, 2014). It should cover both pragmatic and hedonic qualities. Instagram

Instagram:



Facebook:



Snapchat:

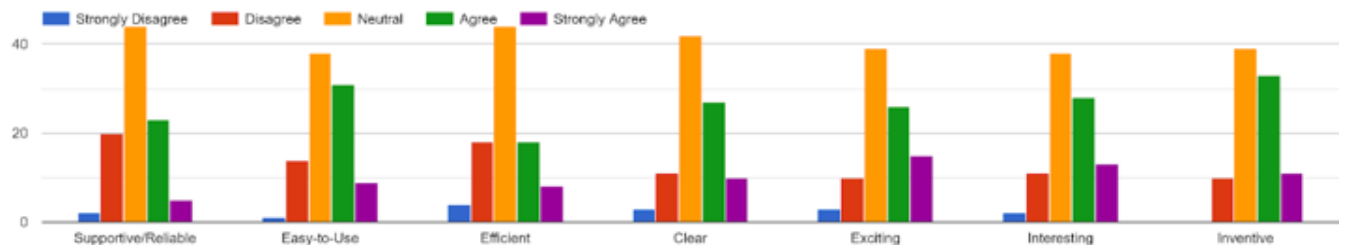


Figure 1. Instagram (top), Facebook (middle), and Snapchat's (bottom) User Experience Questionnaire Results

achieved positive responses from the survey respondents in both qualities. It also scored the highest in user activity and lowest in disengagement. This result builds on existing evidence of the relationship between user experience and user engagement.

Facebook scores well in its pragmatic qualities but lacks in its hedonic qualities (Figure 1). However, Facebook was voted second as the app that respondents are most active in (14.7%). This aligns with O'Brien and Tom's (2008) findings, which claimed that there is an inherent baseline of usability in engaging application although usable application is not always engaging.

On the other hand, Snapchat has positive hedonic responses. However, it may not be sufficient in the long

run because according to the findings, most respondents (52.1%) opted to disengage with the application due to lack of interest and also usability problems. In the long run, perceived usability will be more influential and is a common reason for deteriorating UX (Lingaard et al, 2011; Hart & Sutcliffe, 2013). Therefore, "Users are more tolerant of minor usability issues when they find an interface visually appealing." (Kurosu & Kashimura, 1995) is more appropriate in the context of short term exposure. From this result, it could be implied that it is not enough to excel in one type of quality.

An application should be able to serve its purpose and is useful to give significance to the users. If it failed to convince its importance, continuation will be unlikely. In the case of Facebook and Snapchat, majority of disengagement reason is because their friends are no

longer active. "The main reason people joined social network was to connect with people they knew: friends, family members, colleagues and acquaintances" (Estes et al, 2009). Therefore, when many of the users' friends decided to leave the platform, the application loses its main purpose.

User Engagement Elements for Sustaining a Social Media Viability

To make checking an app as a habit, services must be able to alter the users' behaviour and lead them to the desired targeted behaviour. All the three services share the same target behaviour as outlined in Fogg and Iizawa's study (2008), which is creating a profile page, invite friends, respond to others' contributions, and finally return to the site often. This could imply that even after a decade the core structure of online social networks remained the same and relevant. To achieve the targeted behaviours, all three services have adopted the persuasive technology tools and the fundamentals of human behaviour theory covered in Fogg's Behaviour Model (Fogg, 2009). This is evident in how all utilized tunnelling techniques guide users through the account information-related processes. Another persuasive technique that is used is the suggestion techniques integrated into their friend requests page to increase the likeliness of the user to add friends.

Conclusion

This preliminary findings gave a sneak peek into the influence of UX design on user engagement in the context of social media usage as well as the user engagement elements that could help to sustain social media viability. Based on the quantitative and qualitative analysis of major established social media platforms such as Facebook, Instagram, and Snapchat, it can be concluded that UX design influences user engagement through two factors: pragmatic qualities and hedonic qualities. The ideal UX design that directly correlated with a higher chance of user engagement, would cause its users to perceive both qualities as excellent. Therefore, when designing an application that is user centred, it is important to find a balance between creating a usable and experiential service.

However, apart from how an application is designed, there is a stronger desire for feedback in the form of socialization between humans through technology, as social media is based on user-generated content and its core value is to connect with the people they know. Hence, users may opt to disengage with the service when the people they know decided to convert to other services. As to them, the service is no longer useful and has lost its purpose.

Subsequently, in order to remain viable, the result from the visual analysis showed that social media services have thrived to keep users engaged through persuasive and emotional design. That would subconsciously

encourage users to actively contribute to the community and make them reluctant to convert from the platform.

Future studies could delve deeper into the relationship between UX design and stages of engagement focusing on the context of social media which also identifies the attributes that exist within each particular engagement stage. Moreover, further research could also expand this research by gathering a larger random sample size with less bias towards the younger audience.

References

Tjepkema, L. (2019, June 3). 5 Big Social Media Predictions for 2019. Retrieved from <https://www.emarsys.com/resources/blog/top-5-social-media-predictions-2019/>.

Morsella, E., Bargh, J. A., & Gollwitzer, P. M. (2009). *Oxford handbook of human action*. Oxford: Oxford University Press.

Oza, H. (2017, October 17). Importance Of UI/UX Design In The Development Of Mobile Apps: Hyperlink Infosystem. Retrieved from <https://www.hyperlinkinfosystem.com/blog/importance-of-uiux-design-in-the-development-of-mobile-apps>.

Fogg, B. (2009). A behavior model for persuasive design. *Proceedings of the 4th International Conference on Persuasive Technology - Persuasive 09*. doi: 10.1145/1541948.1541999

Fogg, B. J., & Iizawa, D. (2008). Online Persuasion in Facebook and Mixi: A Cross-Cultural Comparison. *Persuasive Technology Lecture Notes in Computer Science*, 35-46. doi: 10.1007/978-3-540-68504-3_4

Statista. (2019). Global social media ranking 2019. Retrieved from <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>.

Schrepp, M., Hinderks, A., & Thomaschewski Jörg. (2017). Design and Evaluation of a Short Version of the User Experience Questionnaire (UEQ-S). *International Journal of Interactive Multimedia and Artificial Intelligence*, 4(6), 103. doi: 10.9781/ijimai.2017.09.001

Sutcliffe, A. (2016). Designing for User Experience and Engagement. *Why Engagement Matters*, 105-126. DOI: 10.1007/978-3-319-27446-1_5

Lalmas, M., Obrien, H., & Yom-Tov, E. (2014). Measuring User Engagement. *Synthesis Lectures on Information Concepts, Retrieval, and Services*, 6(4), 1-132. DOI: 10.2200/500605ed1v01y201410icr038

Kurosu, M., & Kashimura, K. (1995). *Apparent usability vs. inherent usability. Conference Companion on Human Factors in Computing Systems – CHI 95*. DOI: 10.1145/223355.223680

FluidSurvey. (2014, October 31). *Five Reasons Why Online Surveys Are So Popular*. Retrieved from <http://fluidsurveys.com/blog/why-online-surveys-are-so-popular/>

GlobalWebIndex. (2019). *Flagship Report 2019. Social – GlobalWebIndex’s Flagship Report on the Latest Trends in Social Media*. Retrieved from [https://www.globalwebindex.com/hubfs/Downloads/2019Q1 Social Flagship Report.pdf](https://www.globalwebindex.com/hubfs/Downloads/2019Q1%20Social%20Flagship%20Report.pdf) Heimans, R. (1996). *Gloves off (Tom Uren)* [oil paint on canvas]. Canberra: National Portrait Gallery. <http://www.portrait.gov.au/portraits/2000.36/gloves-off-tom-uren>

Hart, J., Sutcliffe, A. G., & Angeli, A. D. (2013). *Love it or hate it! Proceedings of the SIGCHI Conference on Human Factors in Computing Systems – CHI 13*. DOI: 10.1145/2470654.2481282

Appendices

User Experience and Social Media Engagement

Hi! I'm a design student researching the relationship between social media's UX design and user engagement. By conducting this survey, I hope to understand UX design's influence on user engagement as well as its importance in sustaining social media's visibility. Your honest response will truly be appreciated, thank you for participating!

***Required**

How old are you? *

Your answer

Which social media app are you MOST active on? *

☐ Instagram
☐ Facebook
☐ Snapchat
☐ None of the above

Based on your answer, how long in a day do you spend your time on that app? *

☐ Not Applicable
☐ 15 - 30 mins
☐ 30 - 60 mins
☐ 1 - 2 hrs
☐ Other:

Next

Page 1 of 4

Appendix 2.1 Online Survey Questionnaire

User Experience and Social Media Engagement

***Required**

How would you describe your experience when using the following apps?

Please fill ONLY the app(s) that you are using. Thank you!

Instagram:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Supportive/Reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easy-to-Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exciting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inventive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Facebook:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Supportive/Reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easy-to-Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exciting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inventive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix 1.2 Online Survey Questionnaire

Snapshot:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Supportive/Reliable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easy-to-Use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exciting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inventive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Have you ever stopped using any of these apps? *

☐ Yes

☐ No

Back Next

Page 2 of 4

Appendix 1.3 Online Survey Questionnaire

User Experience and Social Media Engagement

*Required

UX and Disengagement

If yes, which app(s)? *

☐ Facebook

☐ Instagram

☐ Snapchat

Why? *

Your answer

What improvements could be/have been done for you to use the app(s) again? *

Your answer

Back Next

Page 3 of 4

Appendix 1.4 Online Survey Questionnaire

Cultural Identity and Promotional Designs in Kota Kinabalu, Sabah

Wong, Zen Yee Zoe¹; Koh, Chai Lin Pouline²;
Yip, Jinchi³

The Design School, Faculty of Innovation and
Technology, Taylor's University, Malaysia.

zoewongzy.my@gmail.com;
pouline.koh@taylors.edu.my;
jinchi.yip@taylors.edu.my

30 July 2020



Figure 1. The city of Kota Kinabalu (KK) situated in Sabah, Malaysia.

Abstract With the tourism boom happening in Sabah, its capital city Kota Kinabalu (KK) has improved its necessary and supporting infrastructure in the industry. However, when those infrastructures outshine the original cultural identity of KK, not only the perception towards the cultural identity of KK seem unclear among the younger generations and tourists, many of its existing promotional designs are found duplicated from other parts of the world. This is perceived to be lack of originality. It is believed that cultural identity translated through creative works are highly associated to economies of innovation and tourism. Thus, in this research two focus groups and a total of 104 surveys were conducted with the objective to examine the perception of the cultural identity and its existing promotional designs in KK. Results showed that the tourism advertisements overshadowed the cultural identity of KK where its actual identity was hard to be identified among the respondents. The research also disclosed that the respondents are only able to distinguish the cultural identity of KK through mural artworks done by locals, but not historical heritage artifacts. The findings provide insights and consideration for the town council and local artists to rethink the importance of preserving KK's cultural identity as a consequence to the continuous growth of tourism in the city.

Key words Cultural identity, promotional design, Kota Kinabalu, tourism, city branding

Introduction

In the recent years, tourism in Sabah has set a record with the highest tourism receipts ever at RM8.342 billion on the back of a record high 3.879 million arrivals (Vanar, 2019). This boom is further enhanced by Sabah adding 19 more new direct international flights, including the reinstatement of the Kota Kinabalu-Bangkok flight by the Thai Wing of Air Asia in 2018 (Chan, 2019). As Sabah's capital city of Kota Kinabalu (KK) continues to copy other cities to accommodate tourists, it might pay to realize that the way it used to be may conjure good reasonings for visiting the past, and keeping what used to be its Sense of Place (Kler, 2013).

The lack of cultural identity of KK is more obvious when compared with the Penampang town from the neighbouring Penampang District in Sabah, where most of the cultural villages and organizations are located, due to the majority of population being the ethnic Kadazan-

dusun. From the observation of Prof. Dr. Ismail Ibrahim, former Dean of the Faculty of Psychology and Education of University Malaysia Sabah, efforts to perpetuate indigenous cultural art are grossly lacking in Sabah (Chin, 2009). The quest in preserving and creating understanding towards the cultural identity of Sabah in local promotional design is more difficult when most Sabahans themselves are not clear of the histories of the state itself. This situation is coupled with the fact that the Malaysian History syllabus does not give equal emphasis to the historical origins of Sabah and Sarawak (Sokial, 2014).

Problem Statement

Cultural identity refers to identification with, or sense of belonging to a certain group based on various cultural categories, including nationality, ethnicity, race, gender, and religion (Chen, 2014). Growing up in Kota Kinabalu (KK), despite the history and culture of the city, it is realised that most promotional designs around the city do not really express the cultural identity of the city itself.



Figure 2. The Marlin Statue located on a roundabout in KK.

Furthermore, a lot of the promotional designs seen in Sabah are similar in aesthetics as any other parts of the world (Chin, 2009). Despite the problem being raised since 2009 by Prof. Dr. Ismail Ibrahim, former Dean of the Faculty of Psychology and Education of University Malaysia Sabah, not much effort has been done to retain the cultural identity of Sabah (Chin, 2009). However, recently there are events and projects organised by local creatives to create platforms for local artists, such as the Jesselton Artisan Market (Carrybeans, 2017).

Therefore, through this research, the researcher looked into how the cultural identity of a place and its people can be preserved. Objectively, this research aims to further create an understanding towards the culture to the locals as well as tourists through effective promotional design.

Methodology

Mixed methods were employed in this study. To identify the cultural identity of KK, interviews with specialists in the field were conducted. Two focus group interviews and a survey were carried out to examine the perception of the cultural identity and to evaluate the promotional designs found in KK among Malaysians and tourists.

The first focus group consisted of four Year 1 design students, while group two consisted of three students from various backgrounds, specifically two A-levels and a Culinary student. All participants do not have much in-depth understanding of, nor have they been to Sabah. The focus group discussion was divided into three sections. First, they were to identify the place where the promotional designs were found. This was to allow participants to have an idea how cultural identity can be implemented in promotional designs. Images of some promotional designs found in Sabah, mostly KK (Fig. 2 and Fig. 3), were shown to and evaluated by the participants. This was to examine their perception of the cultural identity of KK through existing promotional designs in the city. This was followed by a short interview about the importance of implementing cultural identity in promotional designs. The data collected was also treated with thematic analysis approach.



Figure 3. An 'I Love KK' statue located at the waterfront of KK

Surveys were distributed among Malaysians and tourists to understand how they perceive the cultural identity of KK. No age restrictions were set in order to get a more generalised audience. A total of 102 responses from participants of different backgrounds were gathered. The online questionnaire was conducted via Google Forms that was distributed through social media platforms. The questionnaire was divided into two sections. The first section consisted of four questions to understand the background of the respondents. The second section consisted of nine questions, in which the respondents must rate from 1 (strongly disagree) to 4 (strongly agree) of whether the promotional design in the images attached is able to reflect the cultural identity of KK. The images chosen were a mix of mural, historical heritage, architectural buildings, and statues found around KK. Descriptive analysis was used to analyse the data collected.

Findings and Discussion

Results (refer to Appendix 1) showed that both groups of respondents were having difficulties in perceiving the cultural identity of KK when images of promotional designs of the city were shown to them. A majority of the respondents among the two groups failed to recognise the city, or even the state based on the images shown. This is a big contrast as they are able to perceive where the promotional designs of a South East Asian country and of a state in Malaysia successfully. Both groups came to an agreement that some of the promotional designs of KK shown to them are too common as it has similar aesthetics of those designs that can be found in any other place.

“RA 2: It feels like not Malaysia, maybe somewhere around China or European countries....”

“RA 7: I don’t think it has its own element...it doesn’t reflect much of Sabah’s element inside.”

Findings revealed that respondents from both focus groups agreed that implementing cultural identity in promotional designs is an important factor in creating an understanding towards the place. A majority of them highlighted that a lot of people will be able to identify the nation’s culture, which then will trigger their urge to learn more about the culture, with strong cultural identity in the said designs. They also pointed out that having significant cultural identity in the works of design can further boost the tourism sector of the place.

“RA 4: ... a lot of people can easily identify the nation’s culture...you can strongly promote your country.”

“RA 7: ...it actually reflects an entire place...in order to let tourists know about this place it’s to have something really relevant and special to represent the place.”

In addition, the respondents were asked to rate from 1 (strongly disagree) to 4 (strongly agree) of whether the promotional design shown in the image reflects the cultural identity of KK. A majority of the respondents chose the Sabah Tourism Board Office reflects the least of cultural identity of KK, with 9.7% (n=10) of respondents strongly disagree. In contrast, the Atkinson Clock Tower and the Sabah Art Gallery building has the least people to strongly disagree with only total percentage of 1% (n=1) each. Furthermore, a total of 30.1% (n=31) of respondents disagree that the cultural identity of KK is reflected through the Sabah Tourism Board Office. The percentage of disagreement is tightly followed by the Atkinson Clock Tower and the Sabah Art Gallery in a total of 27.9% (n=29) respectively. In contrast, the mural art by a local graffiti artist has the least percentage of disagree by the respondent at 9.6% (n=10).

In short, as the relationship between cultural identity and tourism nowadays is inseparable (Urosevic, 2012), the perception of tourists towards the cultural identity of a place is important when creating a promotional design. From the focus groups conducted, they had difficulties in perceiving the cultural identity of KK through images of KK’s promotional design. This is a big difference as they are able to identify the promotional designs of other places effectively. Both groups agreed that some of KK’s promotional designs shown have similar aesthetics to those designs that can be found in other places. Besides that, murals are able to reflect the cultural identity of KK the most according to data collected from the survey. However, most heritage buildings were thought to not reflect the city’s cultural identity. This may be due to the lack of promotion which leads to their history being forgotten.

As stated by the interviewees in this research, when implementing cultural identity in works of design, research and understanding must be done beforehand. In this context, education plays an important role. Understanding history is crucial because it helps us to understand where we came from and where we are heading. Recently, succeeded local designers bring upon platforms for other local creatives to showcase themselves. This encourages local creatives to become more aware of the cultural identity of KK, if not Sabah. It should be noted that preserving cultural identity effectively through promotional designs is not just the responsibility of designers only, but everyone else as well.

Conclusion

This research was exploratory and descriptive, employing mixed methods in the study. It applied an inductive approach to achieve the research objectives. On the overall, respondents were able to perceive the cultural identity of KK the most through modern mural artworks. In contrast, heritage buildings, such as the Atkinson Clock Tower, were thought to be unable to reflect the cultural identity of the city despite the historical relationship between KK and the British colonists in the 1900s. This is due to the image branding that has been done to the city and state through tourism advertisements, which ironically overlooked the history of the place. Consequently, respondents such as tourists perceived the cultural identity of KK only with the cultural elements of Sabah’s ethnicity and nature.

It is evident that there is a great need in educating the locals about their own culture and history, as well as promoting the history of the city itself. By doing so, the local art and design community plays a key role in preserving the cultural identity of KK through providing platforms for local artists to promote themselves. This can be seen through the various platforms that were organised, such as the Jesselton Artisan Market. Besides that, visual identity of a place has to be taken into consideration when creating promotional designs for a

place. Designing the visual identity is an effort and appropriate action must be taken in order to effectively promote tourism (Faedhurrahman, & Tohir, 2018). Hence, education and research should be done by the designers and artists beforehand when using cultural elements in their works.

The researcher hopes to be able to create an awareness in understanding the importance of preserving the cultural identity, as well as the cultural heritage of KK. After all things considered, it should be noted that the responsibility in preserving the cultural identity of a place does not lie on designers and artists only but also by the community as each one plays a significant role in preserving the cultural identity of a place.

References

- Carrybeans. (2017). Interview: Aaron Lam talks art, culture and the Jesselton Artisan Market. Retrieved from <https://www.carrybeans.com/happenings/interview-aaron-lam-jesselton-artisan-market/>
- Chan, J. (2019, Feb 19). Sabah hits record-breaking tourism numbers. Malay Mail. Retrieved from <https://www.malaymail.com/news/malaysia/2019/02/19/sabah-hits-record-breaking-tourism-numbers/1724459>
- Chen, V.H.H. (2014). Cultural Identity. Key Concepts in Intercultural Dialogue, (22). Retrieved from <https://centerforinterculturaldialogue.files.wordpress.com/2014/07/key-concept-cultural-identity.pdf>
- Chin, M. (2009, Dec 06). Efforts to popularise cultural art lacking in Sabah. Daily Express. Retrieved from <http://www.dailyexpress.com.my/read.cfm?NewsID=266>
- Faedhurrahman, D., & Tohir, M. (2019, July). Visual Identity and Promotional Design for Bekasi Tourism. 5th Bandung Creative Movement International Conference on Creative Industries 2018, Bandung, Indonesia. Retrieved from <https://www.atlantispress.com/proceedings/bcm-18/125910927>
- Kler, B.K. (2013). Nurturing Sense of Place: Twenty Years of Tourism Development in Sabah, Malaysia. 6th International Conference of the Asian Academy of Applied Business 2013, Bandung, Indonesia. Retrieved from https://www.researchgate.net/publication/256663016_Kler_BK_2013_Nurturing_Sense_of_Place_Twenty_Years_of_Tourism_Development_in_Sabah_Malaysia
- Sokial, R.N. (2014, Jan 22). Fighting to preserve our heritage. The Star Online. Retrieved from <https://www.thestar.com.my/opinion/columnists/okbah/2014/01/22/fighting-to-preserve-our-heritage>
- Urosevic, N. (2012). Cultural Identity and Cultural Tourism: Between the Local and the Global (A Case Study of Pula, Croatia). Singidunum Journal of Applied Sciences, 9, 67-76. Retrieved from https://www.researchgate.net/publication/274132826_Cultural_identity_and_cultural_tourism_Between_the_local_and_the_global_a_case_study_of_Pula_Croatia
- Vanar, M. (2019 Feb 10). Sabah tourism sets new record in 2018, with China tourists leading charge. The Star Online. Retrieved from <https://www.thestar.com.my/news/nation/2019/02/19/sabah-tourism-sets-new-record-in-2018-with-china-tourists-leading-charge>

Picture credits

Figure 1 Map State of Sabah [Online Image]. (n.d.). Retrieved September 14, 2019, from <http://www.wonderfulmalaysia.com/map-state-sabah-malaysia.htm>

Figure 2 Motion, A. (n.d.). *Roundabout with Marlin Statue*. [Photography]. Retrieved June 13, 2019, from https://www.molon.de/galleries/Malaysia/Sabah/Kota_Kinabalu/Waterfront/img.php?pic=19

Figure 3 Lan, L. (2017). Sabah aiming for global acclaim. [Online Image]. Retrieved June 13, 2019, from <https://www.nst.com.my/news/2017/02/215749/sabah-aiming-global-acclaim>

Appendices

Focus Group 1		
Respondent Label	Origin	Education Background
RA 1	Indonesia	Bachelor Degree
RA 2	Johor, Malaysia	Bachelor Degree
RA 3	Selangor, Malaysia	Bachelor Degree
RA 4	Brunei	Bachelor Degree
Focus Group 2		
Respondent Label	Origin	Educational Background
RA 5	Selangor, Malaysia	A-Levels
RA 6	Bangladesh	A-Levels
RA 7	Selangor, Malaysia	Bachelor Degree

Appendix 1 Table 1. Description of respondents in focus group discussion.