

The Development of Instrument to Identify the Design Specification of Digital Chronological Infographic

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Abstract: Visual graphics have become increasingly important in delivering information in this present time and it is the one of new medium in the development communication methods. Among the new medium of delivery information, there are also have delivery information by using visual media which involves interaction between the senses of sight, which allows the audience to receive the information by the printed graphic. In this paper, the authors identified that the graphic designer does not have any guidelines or standards to make a good infographic especially for students who are learning in the subjects of history, known as the chronology. In order to design an infographic that a designer should know the infographic design features to be developed and this study describes the instrument that can be used by designers to identify the characteristics of sequential design infographic. The instrument that will be use in this paper is questionnaire. The respondents comprised of teachers and students who took history courses in 13 secondary schools in Bachok, Kelantan and professional graphic designers in Kelantan. This study is to describe the instrument that can be used by designers to identify the features of chronological infographic preferred by user.

Keywords: Visual graphic, Infographic, Instrument, Design features.

I. INTRODUCTION

Infographic can be expressed as a visual display that has the relevant data and concise content of what to say or what you want to tell from the graphics. From the book, "The Power of Infographics" written by Mark Simiciklas (2012) states, infographic is a mix of images, data and design in helping individuals and organizations to obtain information that is concise. Infographic also be used to achieve the things you want delivered for example to reach goals in their teaching.

Infographic has a close link between the word and the word info or information graphics, which are directly related to the delivery of information and interaction concept that printed communication. In a survey conducted by Priscilia Yunita Wijaya (1999) noted the presence of visual communication design is required. As the name implies, the design of visual communication has the purpose to convey a message that can be captured by the time correctly. One of the design elements that are essential in the delivery of design in communicating with people is the art of printing. Another opinion also states that communications can be done either orally or in writing (visual).

In the production of graphic information usually it has a text that gives a description of the items to be conveyed and also has an image or images you provide any information visualization and graphic designers must understand to be conveyed even know how to communicate using visual methods. According Segenchuk (1997), is simplified that visualization of information displayed graphically. The graphic display allows the user to understand or interpret the visual processing the information. If the users do not have the knowledge to understand graphical entities and the relationships between them, visualizing goals will not achieve. To design the effective visualization, somebody who develop and design graphical information shall know at least what the teacher or the students know and understand about the study and how to make an interaction by visual graphic with the students.

II. CURRENT ISSUES IN VISUAL GRAPHIC

The problem in visual creative value is because of the lack of creative standard in designing any type of design which has all along been plugging. Malaysia creative industry is also lacking of passion and creative talent (NurSafinas Albakry,2014).

According to the Chairman of “Kancil” Award 2012, Mitchell (2012) the country is losing the potential talents who lack of passion and creativity and drive to excel within the industry. It is getting more difficult for young talents that are willing to stay long in the industry due to lower starting salary. Young talents have realised that the level thinking of design is very low and their knowledge in constructing ideas, seems lost. They also need to understand that design is not only about creating layout for print or online, the space and colourprinciples but also the purpose, the rationale and most importantly how the whole design process and outcome can contribute to the society and country (Albakry, 2015).

This paper also discuss about the issue of visual presentation, the issues are the visual presentation always often debated in producing graphs. These problems are caused by incorrect use of graphical elements as representation in the visual presentation of information. Ab Rahaman, Nurul Nadia, TengkuSiti Meriam TengkuWook, and NoraidahSahari (2013) noted that research related to graphic design and interface is very rare conducted by graphic researchers. Therefore it is very important to run and to add empirical data to support performance related studies graphic interface for the foreseeable future.

In the chronological study, Many of the various parties have complained that the teachers still teach their student follow the school system which that emphasizes one-way communication system (talk). For the student in the classroom, that teaching system is too bored and there is because thelack of teachers to develop the interactive relationship, lack of knowledge to develop teaching aid with a new media(RahinaNugrahani, 2007).

A. The Development of Instrument to Determine the Design Statement:

Designer need identified the scope of designing before they work up with their artworks. To develop digital chronological infographic which is consequence with audience needs, designer need to organised market survey to get an appropriate data which is relate with users.

To develop digital chronological infographic, designer needs to identify the demand of users towards graphics visual. The information about users need will be identified by use questionnaire regarding to the principle of visual graphics. Donna Tersiisky (2004) asserted, the important elements in the visual graphics are line, space, shape, form, colour, texture and value. And the principles of graphic are harmony, variety, balance, gradation, emphasis, rhythm, propotion, movement and pattern. Questionnaire to develop design specifications chronological infographic is produced from a combination of several important elements and principle of design. Theelement that combined from the elements and principle of design are layout elements and graphic element.Z.APrust (1994) said the elements of layout are body type, display type,illustrations, and white space. So, the graphic layout element is can be composed of a number of factors such as the position of titles, image, picture, icons, and symbols.

Meanwhile, the instrument will also focus to all graphic elementssuch as visual design, design illustration, the design colours, the colour scheme, tones, arrangement of colour, typography for text headlines, typeface for the text content, the size of the content, the size of infographics, graphics illustration and the size and shape of the icon.The table below shows each of the requirements set out above more clearly:

B. Parameter for Chronological Infographic Design Statement:

Donna Tersiisky (2004) state, the important element in the visual graphics are line, space, shape, form, colour, texture and value. And the principle of graphic are harmony, variety, balance, gradation, emphasis, rhythm, propotion, movement and pattern. Questionnaire to develop design specifications chronological infographic is produced from a combination of several important elements and principle of design. The element that combined from the elements and principle of design are layout elements and graphic element.

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Meanwhile, the instrument will also focus to all the graphic elements which is visual design, design illustration, the design colors, the color scheme, tones, arrangement of color, typography for text headlines, typeface for the text content, the size of the content, the size of infographics, graphics illustration and the size and shape of the icon. The table below shows each of the requirements set out above more clearly:

C. The Fundamental of Graphic Layout:

The position of title, image, icon and symbol is probably locate in six position such as head, middle, bottom, right and left of the interface. The position of Title, image, Icon and symbol will be decides by users through questionnaire that were distribute among them. The questionnaire that was develop, had validate by a particular expertise in graphic visual. Below is shown the example of questionnaire that was develop to measure the demand of user to locate the position of basic infographic parameter such as title, image, icon and symbols.

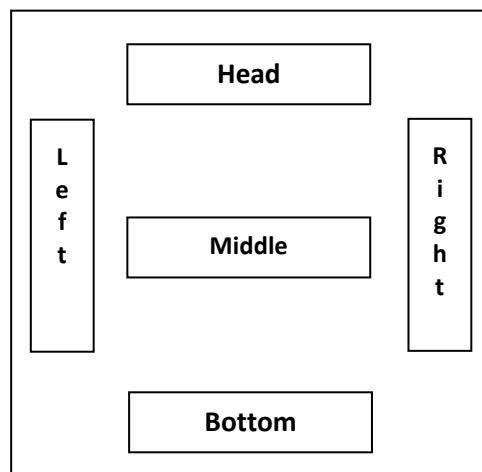


Fig 1. The location of principle infographics elements

TABLE 1: INSTRUMENTS TO MEASURE THE DEMAND OF USERS AGAINST TITLE

No	The Location of Title	1	2	3	4	5
1	Head					
2	Middle					
3	Bottom					
4	Right					
5	Left					

Legend:

1 = Very Not Encourage
 2 = Not Encourage
 3 = Not Sure
 4 = Encourage
 5 = Very Encourage

TABLE 2: INSTRUMENTS TO MEASURE THE DEMAND OF USERS AGAINST IMAGE

No	The Location of Title Image /	1	2	3	4	5
1	Head					
2	Middle					
3	Bottom					
4	Right					
5	Left					

Legend:

1 = Very Not Encourage
 2 = Not Encourage
 3 = Not Sure
 4 = Encourage
 5 = Very Encourage

TABLE 3: INSTRUMENTS TO MEASURE THE DEMAND OF USERS AGAINST IMAGE

No	The Location of Icon / Symbol	1	2	3	4	5
1	Head					
2	Middle					
3	Bottom					
4	Right					
5	Left					

Legend:

1 = Very Not Encourage
 2 = Not Encourage
 3 = Not Sure
 4 = Encourage
 5 = Very Encourage

D. The Elements of Graphic Design:

To measure the demand of users against visual graphics elements, designer need to identify an appropriate elements which is construct the visual graphics itself. Through intensive literature review, it's finding the crucial elements which construct graphic design. The crucial element that construct graphic design such as visual design, illustration design, colour design, scheme of colours, tone of colours, composition of colours, size of infographics, infographics illustration, size and shape of the icons. Table 2 shown graphic elements with their each construct.

TABLE 4: THE ELEMENTS OF GRAPHIC DESIGN

Visual Design	Illustration Design	Colour Design
Illustration	Background illustration	Primer
colour	Raster illustration	Secondary
Typography	Fantasy Illustration	Tertiary
Animation	Decorative Illustration	
Graphic	Contra Illustration	
Size	Deformative Illustration	
Icon		
Colour Scheme	Colour Tone	Colour Composition
Achromatic scheme	White, (100%)	One Colour
Monochromatic Scheme	White, (darker 5%)	Chroma
Analogous scheme	White, (darker 15%)	Neutral
Extended analogous scheme	White, (darker 35%)	
Complimentary scheme	White, (darker 50%)	
Split complimentary scheme	Black, (100%)	
Triadic scheme		
Contrasting Scheme		
Infographic Size	Graphic Illustration	Size and shape of the icon
A0 (841mm x 1189mm)	Easy Graphic	Big
A1 (841mm x 594mm)	Complex Graphic (Image 2D, 3D)	Medium
A2 (594mm x 420mm)	Photograph	Small
A3 (420mm x 297mm)	Drawing	Cartoon shape
A4 (297mm x 210mm)	Cartoon	Circle shape
	Diagram	Square shape
	Graph and chart	
	Font	
	Poster	
	Logo	
	Icon	

Table 4 shown elements of graphics design with their each constructs. All of the features were identified through intensive literature review and analysis documents. According to the constructs of graphics design, designer needed to determine the tendency among users to choose particular elements in order to develop digital chronological infographic. Digital chronological infographic is a medium to convey chronology information such as historical or any information related with time line narrative or story. Therefore, designer will collect data to measure the demand of user against each construct of graphics design. Then, the data will analyse to get an approximate user demand. Base on analyses, design statement or design specifications will be develop as a bench mark to develop digital chronological infographics.

III. CONCLUSION

Infographic not only viewed as material to describe information about an organization data , but it can also be used for learning, especially in a chronological narrative for describing the historical subject. The study is expected to show the graphic specifications corresponding to design and develop a timeline infographic based on user requests. With an ideal instrument in the form of data collection, methods of teaching using graphic information will be more attractive as long as the designer use the suitable graphic keeping with the theme. Using the appropriate instruments also allow graphic designers to produce designs easily connected with concepts based on user requirement without limiting the creativity of a designer.

It can be concluded that each design should be based on the suitability of its use. This is because the information have different content and designers need to know that each age has a different level of visual acceptance. To produce the design of infographic for teaching, the designer should design the graphic follow the specifications set by the teachers themselves. This is because experienced teachers know the skill level and the needs of students in receipt of an instruction. The designer must know all the element and principle of design and focus more to the layout of the design, the use of colour, the use of image and icon to make a good chronological infographic.

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