A Visual Social Semiotic Approach for Investigating the Effectiveness of Multimedia Text Material
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Abstract
This paper seeks to examine interactions between users and visual elements of multimedia content, by employing a visual social semiotic approach to supplement usability criteria in exploring the effectiveness of multimedia texts. The effectiveness of multimedia content is frequently measured by criteria of technical usability. Content is comprised of, for instance, words, (still and moving) images, and sound. Words and images, as essential content, can be categorised into visual elements, whereas sound can be viewed as an audio element. Nielsen’s Designing Web Usability (2000) is valuable for examining the effectiveness of these elements. Within usability, legibility, as related to typeface and layout, is relevant for examining the textual elements, and usability of images, as related to image reduction due to download times for users’ convenience is useful for investigating the images in the text. However, interactions between users and images have rarely been explored. This is an important omission since this interaction may reveal the meanings of the images, which in turn relate to the effectiveness of the images. A visual social semiotic approach (Kress & van Leeuwen, 1996), which provides a method for investigating how viewers interact with texts, has been used to explore the interaction between viewers and images in the context of printed documents. This approach is appropriate for the images in the context of multimedia text. This approach is also valuable for examining the interaction between the user and the words, as a visual element, in addition to applying criteria to words. Therefore, a combination of usability and visual social semiotic approaches will contribute to discussions regarding the complexity of interactions between the user and the multimedia text, as a form of new media. Investigating the effectiveness of multimedia content is thus better enabled through this combined approach.

Keywords: visual social semiotics, usability studies, effectiveness, multimedia text

Introduction
In interactions with multimedia texts, the user interacts with visual elements (words and still/moving images) and audio elements. Investigating effectiveness of these elements is possible to do by applying web usability criteria (Nielsen, 2000) since both web and multimedia text have similar types of content. However, usability criteria do not allow us to explore interactions between the user and visual elements in detail since web usability tends to concentrate more on the user’s convenience with regards to download times. But since the user interacts with the visual element, there is a need to investigate the effectiveness of interaction between the user and this element. The visual social semiotic approach (Kress & van Leeuwen, 1996; Jewitt & Oyama, 2001) may be useful for exploring visual elements since this approach may reveal how the viewer interacts with the image. Even though this approach has previously only been used to apply to images in printed documents, it is also suitable for analysing the context of the images within multimedia texts.
Considering the usefulness of the visual social semiotic approach this paper explores how the visual social semiotic approach can contribute to examining the effectiveness of multimedia text material in the interaction between the user and the text, in combination with web usability. This will be addressed in the following sections by discussing the interaction between the user and the multimedia text material together with the concept of multimodality, followed by the integration of the visual social semiotic approach and web usability. Then, the sample of the study is described, followed by the application of the method. The findings and method of this study will contribute to the theoretical discussion regarding the interaction with the multimedia text, specifically, with the visual elements of the material, from a communication perspective. Moreover, this study will be valuable in providing an instrument for investigating the effectiveness of multimedia texts.

Interaction between the User and the Multimedia Text Material and the Relevance of Multimodality

In the discussion of the user’s interaction with the multimedia text, a discussion of multimodality is useful to take into account since the user faces more than one mode. Multimodal texts may be defined as texts which have more than one mode (Kress & van Leeuwen, 2001:1-2). Mode refers here to any organised, regular means of representation and communication, such as still images, gestures, postures, speech, music, writing, or a new configuration of all these elements (Kress, et.al. 2001 in Jewitt, 2004:184). According to Jewitt (2004:184), the discussion of the impact of new communication technologies on social interaction is increasingly accompanied by a discussion of multimodality, and vice versa. This also raises discussions regarding medium and mode since in multimedia, such as CD-ROM or DVD, there is potentiality to bring together the mode-aspects for gestures, movement, sound-effects, speech, writing, and images into one multimedia ensemble (Jewitt, 2004:185).

Also, with regard to meaning-making in these media, compared with print-based material, there are some differences for the designer and the user. The shift from the page in printed documents to the screen raises a changed compositional relationship between images and words on the screen. The words have become a visual element, which Jewitt (2004) calls “a block of space”, which creates textual meaning beyond its written content. For instance, a block of words may be placed in a different part of the screen such as on the left, right, top, or bottom of the screen (Jewitt, 2004:185). Since elements such as images and words become a pivotal component in a multimedia text, they become an essential element for users to interact with (Jewitt, 2004:189). Within the concept of multimodality, several elements together form a representation which derives its meaning from the combination of these elements, rather than the separate elements themselves.

Visual Social Semiotics applied in support of Usability Studies

The concept of multimodality in multimedia texts is valuable for examining the effectiveness of the text since examining the text means investigating its elements. This importance can be seen in web content usability which considers every element of the web content to be examined. This will also be supported by the visual social semiotic approach which can reveal meanings

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1 Medium refers to how texts are disseminated, such as printed book, CD-ROM, or computer application (Kress, et.al. 2001 in Jewitt, 2004:184).
of the user’s interaction with the visual elements. This section will investigate how these methods support each other in examining the multimedia text even though they have different characteristics.

For the purpose of this paper, the definition of usability itself taken from the International Organization for Standardization (ISO) which is ‘… the effectiveness, efficiency and satisfaction with which specified users can achieve specified goals in particular environments...’ (ISO DIS 9241-11 in Faulkner, 2000:7). Effectiveness means that the user is able to carry out the intended task (Faulkner, 2000:7). Efficiency refers to total time of the user in accomplishing the task (Faulkner, 2000:7). Satisfaction of the user refers to acceptability and comfortability of the system to the user, and whether they prefer one system over another (Faulkner, 2000, p. 8). Usability is not a single angle, but it has attributes: learnability (the system is easy to learn), efficiency (once the user has learned the system, a high level of productivity is possible), memorability (the system should be easy to remember), errors (the system should have a low error rate), and satisfaction (the system should be pleasant to use, so that users are subjectively satisfied when using it, they like it (Nielsen, 1993:26). Although these concepts apply to usability in general, they also apply to web usability (Nielsen, 2000; Kristof & Satran, 1995; Galitz, 1997, Galitz, 1993). The aspect of web usability that will be examined here is content usability which focuses upon visual elements (words and images). Since this paper focuses on visual elements of the multimedia text, web usability which will be examined is web content, focusing on visual elements (words and images). In general, Nielsen (2000) notes that usability is an important aspect for users in operating multimedia since they need effectivity in accessing it. When users access multimedia texts, content is a very significant component since they access multimedia to search the content. Regarding content, usability concerns elements such as page titles, headlines, legibility, images, animation, video, and audio (Nielsen, 2000). In this paper, page titles, headlines and legibility will be grouped under the classification of ‘words’. This discussion is followed by usability of images (including animation and video), and composition of text.

With regard to words, the legibility is relevant here. Legibility concerns typeface and layout of the text. According to Galitz (1993:251-253; 1997:128-131) there are four aspects which play an important role in legibility on screens. These are: (1) typeface, (2) type style, (3) size, and (4) consistency. Typeface should be visually simple and clear. Using Sans Serif fonts, for instance, Arial, is recommended to support readability on screens. Style includes regular, bold, italic, outlines, shadows, and different weights. The chosen styles should create unity in design. Galitz advises to use no more than two styles, for example regular-italic and regular-bold. The number of different sized words in a text should be considered as part of the readability of the text. Consistency builds a constant hierarchy and convention for using typeface, style, and size, which aids legibility.

Images can be either still or moving. The important thing in the integration of images is deciding how integration supports the composition. Nielsen’s designing Web usability study (Nielsen, 2000:134-135), in discussing images, focuses on problems relating to image reduction due to download times for users’ convenience. Moving images in the context of multimedia may be in the form of animation or video. Visualizing three-dimensional structures is important for certain images since the computer screen is two-dimensional and three-dimensional images make it easier for
users to visualize their spatial structure (Nielsen, 2000:146). For example, user attention may be attraction by a one-time animation (for example, a text which slides in from the right, grows from the first character, or gradually becomes larger) but never by a continuous animation because moving text is much harder to read than static text (Nielsen, 2000:147). Even though those animations are applied to the Web, they can also be applied in CD-ROMs. Video is also good for showing things that move, for instance a demonstration (Nielsen, 2000:149). Several elements that have to be paid attention in preparing video for inclusion in a multimedia text are how information is explained, clarity of structure (Garand, 2001), and size and duration of the video (Kristof & Satran, 1995:111).

The strength of usability of content is that this method can investigate the effectiveness of each of these visual elements for ease of access for the user in interacting with the multimedia text. On the other hand, this method does not concern itself with how the user interacts with the visual elements to reveal the meaning of these elements. Meaning is important in investigating the effectiveness of the content since it can tell us whether the visual elements are appropriate for the user in this interaction.

The groundbreaking work on “reading images” from Kress and van Leeuwen (1996) which mentions printed documents as its example, may be valuable to examine users’ interaction with images from multimedia texts. Jewitt & Oyama (2001:140) note that this relationship consists of three meanings: representational, interactive, and compositional meanings. Representational meaning is conveyed by the participant depicted, for instance, people, place, and things (Jewitt & Oyama, 2001:141-145). Interactive meaning refers to particular relations between viewers and the world inside the picture frame (Jewitt & Oyama, 2001:145-147). Compositional meaning is determined by layouts of composite texts (Jewitt & Oyama, 2001:147-153). Firstly, in terms of representational meaning, there are narrative and conceptual structures. The first structure is determined by the availability of vectors, such as lines which connect participants, whereas the second structure is not determined by vectors (Jewitt & Oyama, 2001:141-145). Secondly, interactive meaning consists of contact, distance, and point of view. Contact is made by people, who from inside the picture, look directly at the viewer. In this way they make contact with the viewers, establishing an (imaginary) relationship with them. Distance is depicted by size of frame of shot. Point of view can be depicted by, for example, frontal angles, which are used to increase audience identification and involvement with represented participants (Jewitt & Oyama, 2001:145-147). Thirdly, compositional meaning has four resources, namely information value, framing, salience, and modality. Information value concerns the placement of the composition elements. Framing signifies whether elements belong together or are separated from each other. Salience can specify that some elements are more eye-catching than other elements. Modality refers to the similarity of the object to reality (Jewitt & Oyama, 2001:147-153).

In addition, concerning the composition of material in web design usability studies, elements such as words and images are put together in order to get a functional composition. Those elements should be easy to understand by the user. The composition should facilitate the user in accessing the content. Therefore, effective composition means that the interaction between the user and the material of the multimedia text is effective (Kristof & Satran, 1995:116-122). This means the user can
accomplish his/her intended task. However, previous studies about the relationships between words and images have mainly been conducted in connection with printed documents. For instance, Barthes (1977) examines the relationship between words and images in newspapers and printed advertisements. Another example is Bouwhuis (2000) who focuses on the relationship between words and images in graphical software packages. Kress & van Leeuwen (1996) investigate the relationship between words and images in media such as advertisements and books in what they call “the meaning of composition”. The Kress & van Leeuwen study regarding the compositional meaning, however, examines the composition in the multimedia text, and this study describes how the elements are put together in a composition, which creates particular meanings.

Integrating the usability of content and visual social semiotics, then, is valuable for investigating the effectiveness of the content of multimedia texts. The limitations of usability of content in examining the user’s interaction with the visual elements can be compensated by visual social semiotics since this method may reveal meaning of the visual element in the user’s interaction with this element as well as composition of these elements. On the other hand, if only visual social semiotics are used for this examination it will be insufficient since to investigate effectiveness there is a need usability criteria. In addition, in examining some elements usability of content plays an important role, for example legibility. Therefore, the combination of these two methods is valuable to explore effectiveness of the text.

**Sample of the Study**

In this study, the example of the multimedia text was taken from SM 1120 Drawing course from the Faculty of Art and Design at the Institute of Technology, Bandung (ITB), Indonesia, in Semester 1, 2004. The multimedia text has three sections, namely Introduction, Tutorial, and Application. The multimedia text also provides references, profiles of the lecturer of the course and the designer of the multimedia text, and directions on accessing the multimedia text. The research sample comprised 20 students in this course from different study programs in that faculty, namely Visual Art, Craft, Interior Design, Visual Communication Design, and Product Design study programs. A questionnaire, using a Likert scale, with regards to the interaction between the user and the multimedia text material was given to the students, as the users of text.

**Application of the Instrument: Analysis of the interaction between the User and the Visual Elements of the Multimedia text Material**

In this paper, investigating the effectiveness of the visual elements of the text is divided into three parts, which are words, images, and composition of multimedia text. This study employed the usability of content in the analysis to see the effectiveness of those elements. In addition, the visual social semiotic approach, focusing on the contact concept within the interactive meaning and the salience and framing concepts within the compositional meaning were used in analysing the visual elements. This mixed approach was applied to the data to see the contribution that each method made to the effectiveness of the material.

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2 This course is one of the core courses at the Common Preparatory Level, Faculty of Art and Design, Institute of Technology Bandung, Indonesia. This course concerns building a practical foundation in drawing two-dimensional objects from natural organic forms. In addition, this course is aimed at training students logically in studying body movements resulted from configuration changes of internal organs.
The words

The users’ responses showed that, generally, the words in the titles, the subheadings, and body of the multimedia text were readable, and that these word elements were well-composed. This was shown by the “agree” responses from the questionnaire (80% for the titles, 65% for the subheadings, and 55% for the body texts). Those responses mean that the words used for the titles, the subheadings, and the body texts were effective in the interaction between the user and these elements. According to usability point of view (Nielsen, 2000; Galitz, 1993), this was effective because the titles were specified, which can represent the content of the multimedia text (example [1]). The title indicated that the content was about drawing. As well, the subtitles of the three sections were also specified, indicating the content of the sections, which were Introduction, Tutorial, and Application (examples [2], [3], [6]).
The chosen typeface and type style were also aimed at ensuring legibility by using Sans Serif fonts, utilizing no more than two styles, and using appropriate font size (Galitz, 1993; Nielsen, 2000). In the multimedia text of the current study, Arial, as one of Sans Serif fonts, was employed in this multimedia text. The type style, in general, was regular, even though some words had two type styles, which were regular-italic and regular-bold for emphasis. The font size used, in general, was 12pt, which was readable. The words in the multimedia text were also consistent in using the same typeface, type style, and font size. In addition, this effectiveness was supported by choosing important information at the beginning of the section and choosing black words on a white background and still words (Nielsen, 2000). This legibility can be viewed in example (2) to (6).

Regarding the attractiveness, the users’ response showed that, generally, the words in Tutorial section were attractive (examples [3] to [5]); however, the user was neutral with regards to the attractiveness of the words in the Introduction and Application sections (example [2] and [6]). The words in the Tutorial section were more attractive than the words in the two other sections since there were some textual icons in the video and the slide windows, which attracted the user when accessing this section, whereas the
other sections did not have this element. The attractiveness of the word elements was supported by the availability of the big fonts, the captions, and the bold fonts, even though to understand the content the user may need to read all text. Providing these elements refers to the concept of salience since these elements of words were chosen in order to make them more eye catching than the other words. Salience can be achieved by applying different size or colour to intended elements (Kress & van Leeuwen, 1996; Jewitt & Oyama, 2001), as shown in the examples of multimedia pages (example [2] to [6]). Since these elements attracted the user, they were more salient than the other word elements. Salience in the composition of these words was able to create a hierarchy of importance among the word elements, selecting some words (in bold or as captions or in big size) as more important, more worthy of attention than the other words. Salience appeared as a result of interaction among the words composition. Big font was seen as large font since this can be compared to the other font sizes in the word composition. This also applied to caption and bold fonts in the composition. As a result, judging from the users’ responses, the words in the multimedia text were mostly readable. This investigation also showed whether the type style, the font, and the size of words in the multimedia text were appropriate for the user. Providing eye-catching word elements also supported this interaction. However, usability of words did not examine how this attractive element interacted with the user in terms of revealing meanings of this element within the user’s interaction with this element. The concept of salience, within the visual social semiotic approach, can analyse this aspect since this concept can explore meanings of image composition. In the context of the multimedia text, words become visual elements (see Section 2) so that this concept was effectively used to examine where words were placed to be more salient than the other words within a composition by providing bigger font sizes and/or bright colours. Therefore, salience was a valuable concept to examine words elements within the text, even though previously within the visual social semiotic approach, this concept had been merely applied to images. Hence, this investigation showed that the collaboration of the study of legibility and the concept of salience were appropriate to study the effectiveness of the words in the multimedia text.

**The images**

In the multimedia text of the current study, the images depicted humans, animals, plants, icons, and other elements. The images were also presented in still and moving forms. Moving images can be seen in the animation and the video. In analysing these images, the still images will be discussed first, followed by the moving images.

In general, the users’ responses indicated that the user was able to interact well with the images from the multimedia text, in particular, the icons were easy to recognize, the background image supported the content, the images in the three sections were attractive, and the images helped the user to understand the content. This can be seen in example (7) to (9) below. This implied that, generally, the images in the multimedia text were effective for users in their interaction with the images. Also, the user responses indicated that the image in the multimedia text was useful to explain something about

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3 The images in the category of others are performed in drawing elements, such as arrows, shapes, dots, lines, circles, squares, frames, and shadows; imaginary animates; and inanimate objects, such as atoms, ice and metal crystals, outer spaces, planets, pencils, charcoal, pastels, erasers, papers, sprays, pallets, easels, paintbrushes, student identity forms, bottles, artworks, displays, folders, pots, baskets, and houses.
the words, including describing processes or as examples (Nielsen, 2000:160; Kristof & Satran, 1995:116-122). The animation was also useful to help the user in understanding the content, since the transition will be much easier to understand (Nielsen, 2000:145). The background image of the text was effective as it was provided in a contrast colour to the text, which will not distract the user in differentiating the words and the background image. The background image will not distract the user in reading the words either because it had semi-transparent colours.

As stated already, the images in the three sections of the multimedia text, in general, were attractive. This means the images were more eye catching and more interesting than the words. This was supported by colour and size of the images in the composition. Since the images were more eye catching and more interesting than the words, the images became more salient than the words. Similar to the salience of some word elements, the salience of those images was achieved since they are compared to other elements in the multimedia text pages, which were the words, and the other images.

In addition, regarding the user responses, some images in the multimedia text can also relate to the user as the viewer of the image. This relation was created by the images which look directly to the user through their eye lines even though this was an imaginary relation. This type of image was called an *image act* (Kress & van Leeuwen, 1996:124) and referred to the concept of *contact* (Jewitt & Oyama, 2001). In the multimedia text of the current study these images were presented by humans, animals, or imaginary animates (see examples [10] to [12]). In this multimedia text, however, the number of this type of images was less than images which did not form an
imaginary relation with the user. The responses from the questionnaire showed that, in general, the user was neutral about whether the images related to them which may be due to the limited number of images which can make imaginary relations with the user through their eye lines. More specifically, less than 50% of users have a positive response to this relation.

Regarding moving images, in general, the response implied that the animation was more attractive than the still images and the words. The animation in the multimedia text of the current study was a one-time animation, in the opening page of the text. Another example of animation here was text sliding in from the top and the left, or text sliding by employing horizontal transition and utilising dissolves for transition. The animation, including the still images within, can assist the user to understand the content. However, there were some contrasting responses to viewing the animation at the beginning of the multimedia text, where the animation did not help the user to understand the content.

Since the users’ response indicated that the animation was attractive, it implied that the moving images and the moving words at the beginning of the multimedia text may be chosen in order to get attention from the user since these elements are seen as important elements. This also related to the concept of salience from the visual social semiotics approach as discussed for the words and the still images. The animation at the beginning of the multimedia text was important since it showed that the institution, which was ITB, provided the multimedia text for students in the relevant course, which was SM 1120 Drawing. Also, this animation led the user to the title page, where this was significant information for the user regarding the content of the multimedia text. In addition, the animation which led the user to the first page
of the *Introduction* section showed the user about the importance of the first page of the first section. This was due to the information provided in this page, which was an introduction to the first section and division in this first section, called *Basic Theory* and *Preparation for Practice*. This kind of animation can also be found in the *Tutorial* section, leading the user from the end of the first section to the beginning of the second section. Besides that, the animation in showing examples of images was also aimed at making these images more salient, giving a significant example to the user.

Thus, it seemed that the concept of salience from the visual social semiotics approach could also be applied to moving images since those were provided to catch the user’s attention. The moving of the images had been integrated in the multimedia text and had shown different degrees of salience in comparison to the other elements. However, this did not mean that the other elements are less important. When the multimedia page was already still, there were new salient elements. Hence, the animation in the current study was salient which showed the user the introduction to the multimedia text, the sections, and emphasises the example images.

In addition to the animation, the user viewed that the images in the video, generally, were relevant in giving demonstrations and they were easy to access. This is because drawing tutorials requires a demonstration about drawing processes. The video can show this drawing process with movement, which can show the user a live action (Nielsen, 2000:149). Teaching the user about the drawing process in this way would be less costly with a clear structure than showing this experience in a drawing studio (Kristof & Satran, 1995:110-111; Garand, 2001). The users’ responses to the drawing demonstration on the video showed it was relevant to the content and it was easy to access. Therefore, similar to the animation, the video in the multimedia text, in general, was effective enough for the interaction between the user and the material. In addition, regarding the quality of the animation and the video as well as the duration of the video, generally, the user showed neutrality. Regarding the responses about the duration of the video, Kristof & Satran (1995:111) note that duration needed to be considered in the integration of this element into the multimedia text. In general, the responses showed neutrality when the duration was too short, which implied the duration of the video in the current research was long for some users and short for others.

The examination of the user’s interaction with the image, whether it was still or moving (in the form of video and animation), indicated that usability of images could be used to examine these elements whether as (part of) body text or background. However, this method did not examine relationships between the images and the user. The concept of contact within the visual social semiotic approach, however, can explore this kind of relationship in terms of whether the image can relate to the user directly even though it was in an imaginary relation. In addition, since usability of images did not examine the user’s interaction with the salient image within a composition, the concept of salience was also useful. Therefore, the limitation of usability of images in terms of examining the relationship between the image and the user can be covered by the concept of contact and salience, so that usability of images and visual social semiotic approaches support each other in examining the effectiveness of the image.
The Multimedia Text Composition

Analysis of the composition of the multimedia text in the current study focused on the composition of the words and the images first and then the composition of the whole elements in the multimedia text. Firstly, concerning the words and the images, usability of content looked at the function of the words as explanation of the images, and vice versa, and the function of the images as illustration and example of the words. This study allowed for examination of this composition in terms of functionality so that the user was able to have easy access to the multimedia material (Nielsen, 2000).

Regarding the composition of words-images, generally, the users’ responses indicated agreement with regards to the attractiveness of images rather than words, the usefulness of putting the images with the words in facilitating the user to understand the content, viewing the images as the first element seen to help understand the words, and the different interaction for the user with regards to words, images, or animation. The responses implied that the images can motivate and assist the user to better access the material.

Secondly, regarding the whole multimedia text, the general response from the user indicated that the textual material was of high quality, the multimedia text was easy to access, and the way the whole multimedia text was organised was easy to understand and helped the user to understand the course. In general, users showed their neutrality as to whether the composition was well-organised. Only 40% respondents agreed with this, even though they replied that they were able to interact well with the images and the words in the multimedia text.

In addition to investigation through the usability study, the elements in the composition showed different degrees of salience, as discussed earlier. Also, the user response referred to the concept of framing, indicating whether elements of the composition were separated (disconnection) or represented as belonging together (connection) (Kress & van Leeuwen, 1996:214-218; Jewitt & Oyama, 2001:149-150). Since the response regarding the integration of the words and the images in the multimedia text indicated neutrality, it implied that some of the words and the images in the multimedia text connected with each other and some of them did not (disconnect). In the multimedia text of the current study disconnection was signified by empty space, contrasting colour, and lines or borders between elements, whereas connection was indicated by similarities and patterns of colours and forms, vectors that connect elements, and absence of framelines or empty space between them (Kress & van Leeuwen, 1996:214-218; Jewitt & Oyama, 2001:149-150). Disconnection and connection of elements in the multimedia text can be seen in example (1) and (2).

In example (1) the words on the top-right did not connect to the words in the middle (the title of the multimedia text) since there was empty space between them. Also, the words on the bottom-left did not connect to the chart the image, due to the availability of colours and framelines around those words. In this example page, the textual and graphical icons in the menu were separated from the multimedia page by their framelines, contrasting colours, and contrasting forms. Separating icons in this way was appropriate with the intention of the designer of the text to create understandable icons. Also, in this example page, the images of a hand and a pencil connected with the image of a lion’s head as indicated by a vector which was created by the hand through the pencil. This vector can show an event, which in this case was a drawing process.
In addition, in example (2), the textual icons *Teori Dasar* and *Persiapan Praktek* were also detached from the multimedia content by framelines and contrasting colour. However, the user was able to recognise that those two textual elements were icons since they had different characteristic if a pointer passed through those elements, and they had similar patterns signifying connection.

This investigation indicated that both usability of content and the concept of framing within the visual social semiotic approach were useful for examining effectiveness of composition of the multimedia text. Usability of content can be used to investigate the word-image composition and the whole text composition. However, the weakness of this approach was it did not study the integration of word-image composition in terms of whether they belong together or were separated from each other. This was important to examine since it can give information about effectiveness of the composition. *Framing* was appropriate to examine this aspect so that this concept can support usability of content in exploring the composition.

**Conclusion**

This study showed that a combination of usability studies and visual social semiotic approaches can be used to investigate the effectiveness of the visual elements in interactions between users and the multimedia text material. Web usability criteria can be applied in the context of multimedia texts since it can examine the content of the text, including the composition. However, there were several aspects that cannot be explored by this method such as how the visual elements of the text can relate to the user, how the salient element in a composition was provided for the user’s interaction, and the integration of elements in a composition. These aspects, however, can influence the effectiveness of the text and need to be considered in the investigation. Within the visual social semiotic approach, the *contact* concept is significant for analysing whether the images from the text can relate to the user by their eye lines directly. Also, the *salience* concept is useful for investigating the user’s interaction with the words, images, word-image, and text composition in relation to whether some elements are more salient than the others. Besides that, the *framing* concept is valuable for examining the user’s interaction with the word-image and the text composition with regards to whether the elements belong together or are separated from each other. In the study that this paper is draws on, this mixed method approach showed that the most effective element in the example of multimedia text was the (still) words-images composition, and that not all of the elements in the text were effective in this interaction.

The integrated method can contribute to the theoretical discussion with regards to the interaction with the multimedia text. The main contribution is that the method combines studies from different points of view within a communication perspective. Using a visual social semiotic approach can give us insight into visual communication aspects in accessing the text material since the visual analysis can also play a significant role in this activity.

In a practical sense, the multi-method approach in the study has some significance. Firstly, by applying this method, the effectiveness of multimedia can be shown. Furthermore, the results can contribute to the course developer responsible for developing multimedia text for that institution. And it can contribute to the higher levels of organization, for instance the related institution. Additionally, the results also allow for the evaluation of the
effectiveness of similar multimedia texts, as well as different types of multimedia text, other than educational texts.

For further development it is possible to apply another concept within the frame of interactive and compositional meaning, to the other meaning of the visual social semiotic approach, which is representational meaning. Also, it may be possible to create other settings for research instruments as well as investigate other types of multimedia text, other than educational texts. However, it is possible that different characteristics of multimedia texts may need a (slightly) different integrated method.

References