

Infographic Media in Shaping the Youth's Critical Thinking Ability to Cope with Social Conflict in the Age of Digital Technology

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Abstract-*The massive and fast transmission of information turned to be a dilemmatic problem to our young generation of today. Having the ability to present intact and interesting information is even a demand for people living in the era of digital technology. This study aims to seek out infographic media design which enables to shape younger generation's critical thinking skills to cope with Social Conflict in the Age of Digital Technology. This study is designed with qualitative naturalistic method, with conjunctural approaches to examine complex and historically specific. The data were technically collected through interviews, observation, literature review and questionnaires. The data validity employed triangulation on both data and method. The data analysis process is carried out in three lines of activities carried out simultaneously, which are the data reduction, data presentation and conclusion / verification. The conclusions of the study show that the use of infographic media has proven to be able to shape the younger generation's critical thinking. Infographic design is arranged as a form of information or data visualization that integrate both text and images, making it more interesting, informative, and effective. Infographic media is quite strategic as a means of shaping the critical thinking skills of the younger generation in today's digital technology era, especially in participating in social conflicts resolution in society.*

Keywords: The age of digital technology, Young generation, Infographic media.

I. INTRODUCTION

Current Industrial Revolution 4.0 era which is identical with more people using digital technology has been a custom in our today's society. Nearly people of all over the world are undergoing quite massive changes due to the use of digital technology, which consequently leading them to easily communicate and interact towards one another. Humanism theory suggests that human development is much influenced by the need to always be able to interact easily; therefore, the emergence of various information and communication technologies (ICTs) fulfill the needs of today's society.

The 4.0 Industrial Revolution which is identical with the spread of information through internet significantly overwhelms people's live aspects, currently known as the internet of things. This situation opens a great opportunity for people all over the world to use the internet within their daily interaction and communication. Any information has always been easily accessed by people of wider community including students, many people becomes informative and insightful, however, above all the spread information, people feel that they do not need to ensure the information.

The influence of digitalization allows everyone to be able to access big data from various sources of information. In the era of industrial revolution 4.0 characteristically marked with today's technological digitalization has never been related to "How to get the information" but "How to filter the information". This is influenced by a lot of available information, thus the presence of media as assisting means for human's needs in providing a complete understanding of various problems in the community, especially social problems that potentially bring a significant impact on people's lives.

In the 21st century, the younger generation should master a number of life skills and be ready to face challenges in their time. One of the needed skills is to have the ability to think critically, young people should be well-prepared to face more complex problems in the future. To refer people's range of birth years from 1981 to 1994 (Gen Y / Millennial Generation) or in 2015 that people aged between 21-34 reached 62.7 million according to the Indonesian Population Projections for 2010-2035 (BAPPENAS, BPS and UNPF, 2013: 55). According to the Inventory and Middle Class Institute (MCI) Study, in looking at the trends in values and behavior of the millennial generation in Indonesia, characteristically they tend to easily accept new ideas; tend to consider experience more important, highly skilful in information technology, and fanatical social media

users. Therefore it is necessary to have the right media to provide convenience in shaping the young generation's understanding in the 21st century as a whole and interesting, in addition as people in charge with their life success; teachers need to be able to establish their critical thinking in dealing with various complex problems.

In the global era, nearly all countries in the world are confronting with various problems and conflicts. Global influence is inevitable for all nations in the world. We need to shape a ready citizen, especially the younger citizens to cope with various problems and conflicts affected by global influences (Wahab and Sapriya, 2011: 235-236).

The massive and fast spread of information bring about problems in the lives of our young generations of today, therefore, the ability to present the intact and interesting information have been the needs for people living in the era of digital technology. The results of the study show that all current information has been visualized and made into infographic media has a higher probability in terms of speed understood and captured by the human brain. It turns out that the information presented to the brain is 99% easier if it is in the form of visuals (<https://billionairecoach.co.id/>, quoted May 25, 2019).

In the human visual system, there are three working components, namely the eye, image creation, and also the brain. In the image creation of images, and pictorial illustration become objects in transmitting message in a communicative way which will later be grasped by human visual sense. The results of visual communication produces visual perception obtained from the ability to combine between various sources of visual information.

De-Porter's study (cited in Arikunto 2006: 214), suggests that humans can absorb a learning material as much as 50% of what they hear and see (audio-visual), while what they see (visually) as much as 30%, and from those they heard (audio) as much as 20%, and from what they read only 10%. The study shows that a person's memory is only 10% of what he/she reads, 20% of what they hear, and 80% of what they see in full through audio-visual media assistance.

It is quite pivotal to present infographic media oriented to shaping the younger generation's critical thinking skills in order to obtain a complete perception of various more complex and good problems.

a. Review of Related Literature

1. Infographic Media

The term "infographic" itself refers a sort of information communicated through images or visual media. Infographic is derived from the word information which means information and graphics that mean graphics. Visualization in the infographic perspective is all forms of information transmitted in visuals or images form in addition to their varied forms including textual or writing to avoid presenting non-monotonous piece of information. A hybrid of such visualization media constitutes information and is further called infographic media.

Infographics mostly contain and process data in the form of a combination between the visualized text and images or the like, considered to be more innovative and descriptive-static form. In infographic, there are visual concepts constitute of structure, systematic, flow and navigation embodiments; these are the underlying important parts of a visual communication science (Taufik Mohamad, 2012: 158).

Graphic information or infographics concerns about information data or knowledge in graphical visual representations intended to present complex information in quickly and clearly accessed (Newsom and Haynes, 2004: 236). A news or research result published through print and electronic mass media requires infographics not only it is important for news, but it also attractive to media. The use of colors, compositions and other visual elements takes into account the uniqueness and distinctiveness of a media (Saptodewo, 2014).

Several identifiable characters of infographics (Taufik Mohamad, 2012, p. 159-160), including: a) it is an objective source of information that provides proper understanding in the form of open and free information; b) it provides an easily understandable and coherence of an event; c) the content of information is presented in the form of good visual art; d) its function is to seek out or create a precise graphic element; e) it enables to provide expression of sensational visual language; f) it is a selected information adjusted to the needs (recipients) to be delivered. Thus, infographics is the typical visualized information or data constitutes of correct information, in a good visual form by combining visual texts and similar images, making it more interesting, informative, and effective.

2. Critical Thinking

In current digital technology era, critical thinking skill plays an important role to filter out the fast flow of information into more correct and reliable information. One of the 21st century skills is

critical thinking applied to complex problems. This circumstance reflects implication for human's ability to deal with various social life problems (problem solving-oriented).

Critical thinking is an intellectual process by making concepts, implementing, synthesizing, and or evaluating the obtained information from observation, experience, reflection, thought or communication as a basis for believing and taking an action (Seriven and Paul cited in Suwarma, 2009: 11). Additionally, Surya (2011, pp. 131) suggests that critical thinking is an active, persistent, and careful consideration activity of a belief or any form of acquired knowledge viewed from sustainable and concluding various angles of reasons. While Johnson (2010: 100) emphasizes that critical thinking is an organized and clear process used in human's mental activities such as problem solving, decision making, analyzing assumptions, and scientific discoveries. Critical thinking concerns an activity of analyzing ideas or thoughts in a more specific direction, distinguishing them sharply, choosing, identifying, studying and developing them in a more perfect direction (Wijaya, 2010, p. 72).

Critical thinking is about human's ability to analyze a topic, information, ideas or thoughts and knowledge carried out objectively, logically, reflective, organized, systematic and productive to shape an understanding, belief and consideration in evaluating and making decisions, which is a problem resolution oriented means.

According to Ennis (cited in Maftukhin, 2013, p. 24), there are five indicators for critical thinking skills as follows:

- a) Elementary clarification, which is; (1) identifying or formulating questions, (2) analyzing arguments, and (3) asking questions and answering questions for clarification and / or challenging questions.
- b) Providing reasons for a decision, among others: (1) testing credibility of a source and (2) observing and considering the results of observation.
- c) Inference, among others: (1) making a deduction and considering the results of deduction, (2) making an induction and considering results of the induction, and (3) making and considering value of the decision
- d) Further Clarification (Advanced Clarification), among others: (1) identifying terms and considering definitions and (2) referring to implicit assumptions.
- e) Supposition and Integration, among others: (1) considering and logically thinking of the premise, reasons, assumptions, positions, and their other unapproved proposals or that making them feel hesitant without making disagreements or doubts disharmonizing their minds, and (2) combining other abilities and dispositions in making and maintaining a decision.

Critical thinking is urgently important in today's digital technology era, to convey, select, understand, and evaluate all easily accessed information through digital technology. Thus, our attitudes to those sophisticated technology is avoid as much as possible all negatively transmitted irresponsible news and information, including hoaxes, hatred, radical comments on post and complains. Those attitudes surely trigger conflicts within the society. Many of the occurring conflicts are so far due to misunderstandings, spreading fraud information where people who in charge with the news feel do not need to do cross checking or evaluating the truth.

A lot of social conflicts that has been occurred lately arise from social media; people would rather spread and transmit various fraud contents, news and prejudices on social media. Despite the fact it violates the correct use of social media which in many of cases has been used to shape people's understanding and attitudes in rightly guided manners. The present of social media in our current world has been quite helpful to create more ease in reaching wider layers of society. It is partly of the social media's important role to shape people or more specifically the younger generation's critical thinking, bearing in mind, the youth are prepared to be able to hold social function as problem solvers within their society.

II. METHOD

This study is designed with qualitative methods to data obtained naturalistically; occur scientifically within their normal situations and are free from manipulation, which naturally emphasize descriptions. This study applied Stuart Hall's conjunctural approach which is "a complex, historically specific domain, of a crisis that influences in different ways a unique socio-national formation as a whole" (1988: 127). The researcher obtained the data sources from informants, all related events and document archives that can provide answers for the research questions. The study was conducted in collaboration with The Indo Strategy Foundation (TISF) in Jakarta, which has conducted a public policy review to research subjects of 20 students from Sebelas Maret University and 10 agrarian activists. Data collection techniques used to obtain and compile data of this study are interviews, observations, document analysis study and questionnaires. The data validity applied data

triangulation and methods, the two methods were applied to complement any possible lack of data from a single source or method. The data may be supplemented with data from other sources or methods. In this way, the data obtained from the informants' answers are valid to be used. The process of analyzing qualitative data cover the processes of extracting meaning reflected from the data of both written and images. The qualitative data analysis consists of three lines of activities that simultaneously carried out, they are the data reduction, data presentation and conclusion / verification (Miles and Huberman, 1984, p. 21-22).

III. RESULTS

a. Media Infographic Design

In this study, the use of infographic media aims to shape younger generation's critical thinking. The infographic media is a considerable media where the research subjects were involved in several constructive activities such as recognizing, identifying, analyzing, reconstructing thinking, and making inference on various addressed topics, problems, conflicts. Critical thinking is an inevitable skill in which young generation should acquire and trained with to cope with all possible impacts brought by Industry 4.0 Revolution, one of which is on the negative impacts of fraud information spread on social media.

Pandu Y Adaba, a researcher from LIPI institute defines infographic as a collection of data in images form. It is our duty as educators who need to foster positive characters to the youth of millennial generation, and to always remind them that the nation's future is in their hands. That is why, teaching them about critical understanding towards social problems is quite necessary. One of the possible and effective means to shape their critical understanding is through infographic media. Infographic media displays various easily understood, systematic, communicative information and knowledge in images forms. The youth will be surely more interested in social problems or gaining information displayed through images and illustrated media. Among the strategies used to shape the youth's critical thinking are the infographic media presented the national leaders, history, policies, various conflicts and other social conditions.

Meanwhile, Bagas, who is an infographic media expert from Padjajaran University, suggests that infographics can provide a reader's comprehensive, communicative understanding. An infographic media should ideally constitute simple illustrations, with important subjects, information on subjects, not in fragmented way in order the information can be easily grasped. Additionally, it should consider the easily understood language by common, especially those of millennial language styles.

This study analyzes infographic media themed with Dynamics of Policy and Agrarian Conflict, which contains an understanding of: (1) Conceptual Map which comprehensively explains the Flow of History, Policy and Conflict (2) Understanding on the Concepts constituting of basic terms and misconceptions, (3) Agrarian History Track; (4) Dynamics of agrarian policy from time to time; and (5) Agrarian Conflicts in the Future

The compiled infographic design aims to shape the critical thinking of the younger generation to deal with social conflicts, among others;

1. Conceptual Map;

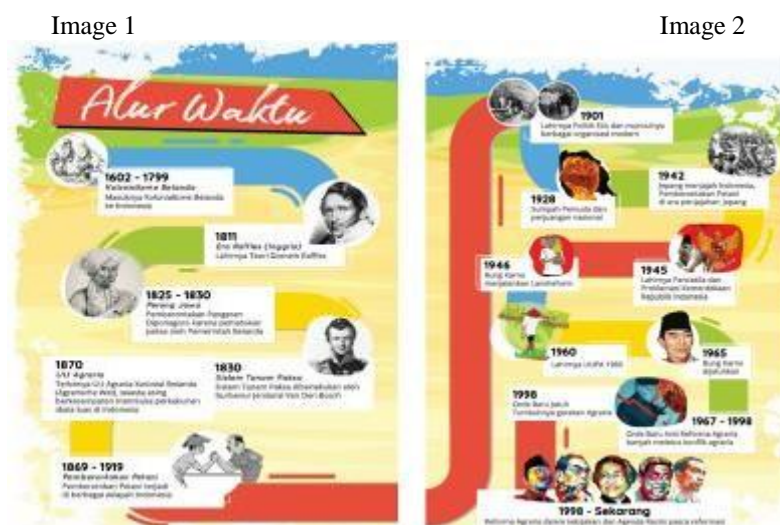


Figure 1. Conceptual Map

The target of infographic media readers is the younger generation, especially the millennial one. The youth need to be tested with social problems in order that they are trained to have a correct understanding of the historical process, policy and conflict resolution.

A systematic infographic media which provides complete information about the agrarian policies of historiography through historical trajectories, figures who play a role and the issued policies. The infographic exhibits the dynamics of policy and cases using explanatory techniques and visualizing into an infographic media. Infographic media constitutes of easily understood complex agrarian conflict, readable and easily grasp information with image and colorful variations. Introducing basic terms used by youth of millennial generation, i.e., agrarian reform, land reform, land redistribution, absent land, conversion etc., presented in various illustrative, interesting, systematic, communicative and easily understandable images.

b. Infographic Media to shape the Young Generation's Critical Thinking in dealing with Social Conflict

A Comprehensive explanation of the dynamics of history and policy is the key success of resolving social conflicts. The strategic goal of expanding this understanding is the younger generation (students), bearing in mind, they are part elements of society who easily accept and adapt to new ideas, skillfully in mastering information technology and social media. Thus, the use of infographic media shapes the younger generation to understand various problems and social conflicts in the society.

This study reveals that the use of infographic media is an effective means to shape the youth's critical thinking; it encourages students implementing the agrarian reform. The choice of infographic media is quite appropriate approach, it is evidenced by some statistical analysis as follows, of 98% respondents suggest that infographic design was able evokes readers or students' imagination, which assumes that infographic media is an effective way to comprehend students about various policies and complex problems, for it combines between text and images. Furthermore, of 87% students increasingly have a reading interest after reading infographic designs, which evokes their curiosity in learning about people's rights to agrarian resources. This is a good start towards the process of shaping students' ability to think critically about social problems. Moreover, students are given the opportunity in analyzing the arising various policies and providing reasons for the issued policy decisions, such evident can be found from the statistical analysis of 83% students' ability in analyzing the agrarian issues.

The results of the study also showed that students considered the infographic media as having many advantages, including: (1) data in infographic media were more reliable and valid, as much as 97%; (2) images are easier to remember, as much as 89%; (3) infographic media are easier to understand in addition to more entertaining, for they combine images and text, as much as 95%; (4) easy to use digitally, as much as 91%; (5) infographic media can be distributed to various electronic media and social media, thus other people can easily learn, as much as 88%; and (6) infographic media can increase the readers' sense of social concern, towards the victims of agrarian conflicts in Indonesia, as much as 91%

The use of infographic media becomes more meaningful not only in the process of gaining new knowledge, but also in shaping students' critical thinking ability and encouraging the youth's active role in developing problem resolution oriented action plans. Infographic evokes students' awareness in maintaining the benefits of agrarian sources for the greatest prosperity of the people. After reading infographic media, students were able to share their ideas as the efforts in resolving the agrarian conflicts, and they were able to provide a judgment of the agrarian policies undergone by the government. In addition, students were also able to provide significant resolutions over the agrarian policies in the future.

Information transmitted into the illustrated images data significantly attracts the youth's attention, since they think that image is more informative, interesting, entertaining, and easily understandable. The infographic media commonly arranged systematically with a variety of interesting graphics, which is easily grasped by students. Information displayed in the form of infographics shapes the readers' beliefs so that they are easier to believe, and which affect students' perception on the importance of the learned topics. Through the infographic media the younger generation has more intact and systematic knowledge, with a comprehensive flow of thinking.

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