

## INTERPRETATION OF STUDENTS ABILITY TO IDENTIFY HOAXES AND INFORMATION DISORDER DURING THE COVID-19 PANDEMIC

Yulius Hari<sup>1</sup>, Darmanto<sup>2</sup>, Budi Hermawan<sup>3</sup>, Melvie Paramitha<sup>4</sup>

<sup>1,2</sup> Informatics Engineering, Widya Kartika University (Indonesia) <sup>3</sup> Mandarin Language Studies, Widya Kartika University (Indonesia) <sup>4</sup> Accounting, Widya Kartika University (Indonesia)

---

### ABSTRACT

*Hoax news becomes a new problem in society, which often biases original information. Meanwhile, social media has now transformed into one of the main media for exchanging information and communicating in Indonesia, especially in the era of the COVID-19 pandemic. This research is applied research that tries to answer the challenges in the pandemic era where we also experience massive distortions of information due to changes in all online communication media. As the subject of this research are students in their teens at the high school level. Teenagers are the subject of research because they are the biggest users of social media and are in the phase of forming an identity so that it is easier for them to accept wrong information without being clarified first. As a sample in this study amounted to 93 vocational students in Surabaya. The results of this study indicate that most of the students lack good literacy so they are still unable to identify hoax news, and they tend to be catalysts in spreading the hoax news.*

**Keywords:** Hoax, interpretation, information disorder.

### 1. INTRODUCTION

Fake news or commonly called hoax is news that is intentionally made to disguise the original news (Stanley et al., 2021). The first hoax news recorded in history began in 1661. The spread of hoax news can also be spread in any form, ranging from words that come out of the mouth, news printed on paper, and others (Bonet-Jover et al., 2021). Along with the development of communication technology, the spread of hoax news occurs very quickly, which was initially only known by a small area, can develop in the wider community (Saputra, 2020). Hoax news can enter any field, for example in the academic, religious, health, technology, and political fields (Sumardi et al., 2019).

Amid the COVID-19 pandemic, the number of Hoax news has increased sharply and poses the danger of various interpretations, related to handling policies, to drugs used to deal with COVID- 19 (RAHAYU, 2020). This makes the danger of fake news even more real because errors in the interpretation of this news have fatal consequences (Rizky & Tarmizi, 2020).

Communication using new media or internet technology can reach directly and quickly to all parties which are currently widely enjoyed (Zakharov et al., 2019). Society has experienced a change in mindset towards an increasingly critical in responding to existing conditions, quickly. Currently, social media has become a new platform for sharing news and information quickly with the help of the internet and changing paradigms in society. Social media has transformed into one of the main means of exchanging information and communication in cyberspace (Awaliyah et al., 2021). However, with all the ease in communicating, a new negative impact emerged, namely hoaxes. Especially during this pandemic, the number of hoaxes related to COVID-19 is increasing very rapidly, both misinformation and disinformation that often occurs in the handling of COVID-19 which can be fatal if underestimated (Rahardi, 2020).

Hoax or term for information from sources that cannot be accounted for. This bias is dangerous because it can mislead human perception by conveying false information as truth (Bonet-Jover et al., 2021). Hoaxes can influence many people and can easily tarnish an image and credibility (Broder & Kunert, 2021). Hoaxes can aim to influence readers with false information so that readers take action according to the contents of the hoax. As a message of false and misleading information, hoaxes can also frighten people who receive them (Martens et al., 2018). A hoax can also be defined as current issues that are used as political weapons, irrelevant truths, or deliberately spread false news (Awaliyah et al., 2021). Thus, it is better if the hoax can be explained, identified and classified to reduce the danger posed (Brianna et al., 2019). Many types of research related to hoaxes have been carried out in the last five years, due to the increase in the number of hoax news in the community. However, until now there have not been many studies related to the classification of hoax news using Indonesian.

This study raises the theme of teenagers as subjects because they are the largest users of social media and have intense digital access (Saddam et al., 2021). In accessing information as to their main information medium, they use news from the internet compared to other formal news (Saputra, 2020). Especially when teenagers are in a developmental and impulsive phase so they are quite vulnerable to hoax news if they are not balanced with a good understanding (Yaddarabullah & Permana, 2021).

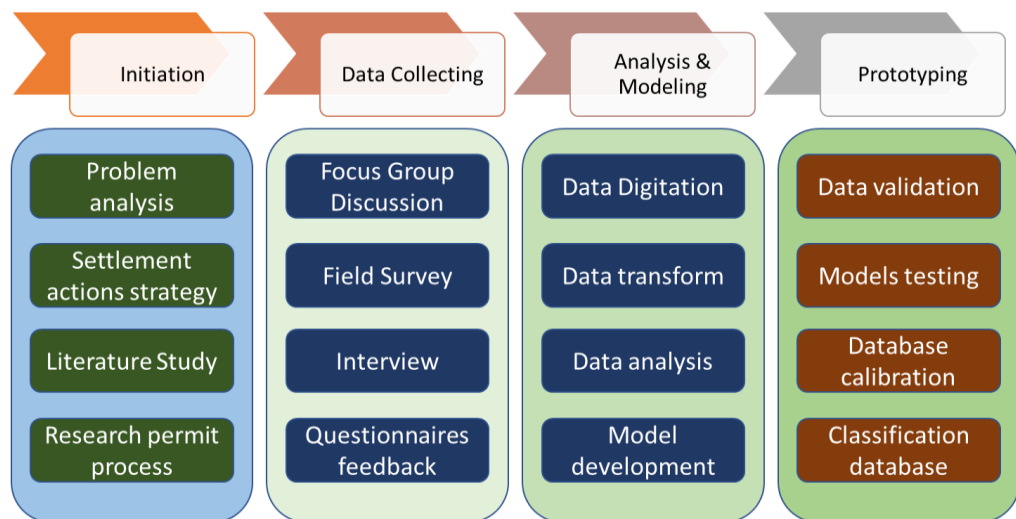
In line with this, studies are needed that help in interpreting students' abilities in understanding hoax news. This is necessary as an initial step of prevention through mentoring students to understand more deeply in analyzing information, especially those obtained on social media. From the background that has been given, several main problems can be raised, namely: 1) it has not been studied more deeply in the characterization of the hoax news identification process by students 2) there is no hoax news classification system 3) the limitations of the content database to support training data 4) counselling and assistance content awareness culture for students is still lacking. Based on these problems, this study aims to try to develop an information model to increase youth awareness of hoax news and collect data in classifying hoax news based on the results of a survey of respondents.

## 2. METHODOLOGY

The stages of this research can be briefly seen in Figure 1, the research roadmap, as follows:

Figure 1.

Research Roadmap



### Previous Studies:

Covid-19 and Hoax on Social Media (Rizky & Tarmizi, 2020), Building critical awareness of corona virus- related news: Cyberpragmatic study of Covid-19 hoaxes on social media (Rahardi, 2020), Analytic- thinking predicts hoax beliefs and helping behaviours in response to the COVID-19 pandemic (Stanley et al., 2021), Analisis Berita Hoax Covid-19 di Media Sosial di Indonesia (RAHAYU, 2020)

In practice, this research tries to divide the problem by taking a theoretical approach and study of the problem of classification of hoax news. At the initiation of the process, analysis and identification of needs are carried out based on the section and the determination of the expected targets. At this stage, a study was also carried out on previous studies that have been carried out including, research from Saputra (Saputra, 2020) which states related to paradigm changes in social media as well as the ease and dangers of disseminating information widely and in line with research from Brothers (Brothers). & Kunert, (2021) who stated the need for data mining to carry out early detection of news that was indicated to be fake/hoax, and Rahardi (Rahardi, 2020) who stated the need for major changes in the reporting mechanism so that the spread of fake news could be reduced.

### A. Data Collecting & Sampling

The method used to conduct sampling is a stratified random sampling model. Where the mechanism for collecting data is as listed in Figure 1. The research roadmap is direct observation to the field, interviews, focus group discussions with partner schools and students, who then collect data through questionnaires.

This research partnered with schools at the vocational studies or SMK level as a sample and a means of research trials. This is in line with the research theme by taking samples of adolescent age as described previously in the introduction. As a sample in this study, it involved students in their teens who are generally Generation Y or millennials, who are currently in the age range of 14-18 years. The number of samples in this study was 93 students of SMK YPPI Surabaya. The sample is divided by grade level from grade 10 to grade 12.

The data collection instrument used in this study in addition to using structured interviews also utilizes online questionnaire media. The questionnaire consists of 30 structured questions that represent the classification of hoax news. Further, related to the classification of hoax news, it can be represented in table 1 below.

**Table 1.**  
*Hoax Classification Questionnaires*

<i>No</i>	<i>Variables</i>	<i>Number of Question</i>	<i>Cronbach's Alpha</i>
1	<i>Able to illustrate the satire or parody from news</i>	3	0.79
2	<i>Classifying the misleading content</i>	5	0.91
3	<i>Identify the false connection from an article</i>	3	0.75
4	<i>Clarify the false context from an article / video</i>	5	0.86
5	<i>Portray the imposter content from news</i>	5	0.86
6	<i>Interpret the manipulated content from an article / video</i>	5	0.86
7	<i>Depict the fabricated content in form of news/video</i>	4	0.82
8	<i>Personal opinion regarding the hoax on media</i>	1	-

Before the questionnaire is distributed to the sample group, validity and reliability tests will be carried out beforehand to ensure its validity and ability to measure (Hari et al., 2020). As the scale used in this study refers to the Likert scale which has a range from 1 to 5. Where in the following order 1 is absolute reject and 5 is absolute agree. The use of this Likert scale aims to provide a measurement of the value of respondents' perceptions of questions or statements in the questionnaire (Hari et al., 2021).

The validity test is shown by measuring the correlation between variables from the question items on the questionnaire with the total variable value (Lin et al., 2014).

The correlation testing process refers to the product of moment correlation formula, which can be explained as follows:

$$r_{\alpha\beta} = \frac{N \sum \alpha\beta - (\sum \alpha)(\sum \beta)}{\sqrt{(N \sum \alpha^2 - (\sum \alpha)^2)(N \sum \beta^2 - (\sum \beta)^2)}}$$

wherein:

$r_{\alpha\beta}$  = Correlation coefficient between  $\alpha$  and  $\beta$  N = is the number of questions tested.

Furthermore, after testing the validity of the required reliability testing which aims to measure the consistency of the scale that has been used. So that the instrument used is still able to provide answers consistently and relatively stable within the specified period. In this study, the reliability value was measured by the *Cronbach Alfa* formula and had a value greater than 0.7.

### 3. FINDING AND DISCUSSION

The results of this study have very positive implications for partner activities related to the material presented. Unfortunately, there is very little understanding regarding hoaxes for teenagers so information distortion and misinformation often occur in this phase. Documentation of activities carried out at partner schools of this research activity can be seen in Figure 2.

Figure 2.  
Research Process Documentation



The results of this study have very positive implications for partner activities related to the material presented. Unfortunately, there is very little understanding regarding hoaxes for teenagers so information distortion and misinformation often occur in this phase.

Documentation of activities carried out at partner schools of this research activity can be seen in Figure 2.

**Table 2.**  
*Result of interpreting hoax*

No	Variables	$\mu$ % Mean	$\mu$ Student Class		
			X	XI	XII
1	<i>Able to illustrate the satire or parody from news</i>	56.51 %	3.697	3.8125	4.3571
2	<i>Classifying the misleading content</i>	54.19 %	3.5454	4.1785	3.6562
3	<i>Identify the false connection from an article</i>	51.41 %	3.3636	3.9642	3.4687
4	<i>Clarify the false context from an article / video</i>	52.34 %	3.4242	4.0357	3.5312
5	<i>Portray the imposter content from news</i>	57.90 %	3.9063	3.7879	4.4643
6	<i>Interpret the manipulated content from an article / video</i>	59.75 %	3.909	4.6071	4.0313
7	<i>Depict the fabricated content in form of news / video</i>	49.56 %	3.2423	3.8214	3.3438

Based on table 2, can be described further that the student has totalled 93 people and divided into three classes. There are 33 class X students, 28 class XI students and 32 class XII students. Then from the table, we can be seen the average value of each variable divided by the level per class.

In the first variable, which is measuring students' ability to illustrate from satire or parody news, it can be seen that students in class X can interpret with an average value of 3,697 from a Likert scale between 1 to 7. Then class XI with a value of 3.8125 and class XII with a value of 4.3571. Based on the results of the three, it can be concluded that the average value is 56.51% on a scale of 7. This result represents that students tend to be able to interpret which news is a type of satire or parody of an incident. This result is quite low considering that only more than 50% of students are able to analyze it. This result is also in line with research conducted by Saddam (Saddam et al., 2021), where students are vulnerable to disinformation.

Furthermore, based on the sixth variable, namely the ability of students to describe the manipulated news results in the form of pictures or videos, it gives a positive tendency. It can be seen that students in class X can interpret with an average value of 3,909 from a Likert scale between 1 to 7. Then, class XI with a value of 4,607 and class XII with a value of 4,031. Based on the results of the three, it can be concluded that the average value is 59.75%. This result is the result of the best student analysis of all the variables of this study. Students tend to be able to find out easily if there is a change in the manipulated object, such as a manipulated photo and then given the wrong narration. This ability is the latent intelligence possessed by the current generation of students as stated by Prasetyono (Prasetyono et al., 2018).

While the lowest value can be seen in the seventh variable where students are asked to classify content that is fabricated. The average result from this point shows a value below the baseline, which is 49.56%. More deeply, it can be seen that class X students tend to have difficulties in detecting and classifying this news, as well as class XII students with a score of 3.3438 and finally class XI students with a score of 3.8214. The results of the assessment also show the vulnerability of students in their teens to becoming victims of hoax news. This shows the need for a transformation in our reporting model and an increase in literacy in analysing news (Martens et al., 2018).

#### **4. CONCLUSION**

Finally, based on the results of this study, can be concluded that several things can be agreed, as follows,

- a. In general, students' understanding of hoax news can be said to be relatively low, because based on the survey results, on average only about 53% can analyze well, and they still have a tendency to spread the hoax news.
- b. The ability of students to detect hoaxes is not directly correlated with the level of education or age of the child, for example, the results from class X or Class XII do not show significant differences and tend to be constant on the same error.
- c. Students get the main information from news on social media, their tendency to read on other sites such as news sites is also very rare. These trends and changes in literacy behaviour make information channels faster and easier to be biased.
- d. Increased understanding of students regarding hoax news is deemed necessary to be improved and become a culture so that it is not easily influenced or misled by hoax news that is not appropriate so that it has a negative impact and a narrow paradigm.

## 5. ACKNOWLEDGEMENTS

Acknowledgements are given to the Ministry of Education and Culture, Research and Technology for assisting this research through the 2021 applied research grant scheme.

## 6. REFERENCES

- Awaliyah, A. N., Hartati, T., & Tursiva, E. (2021). Digital Literation in Increasing Reading Interest and Overcoming Hoax News from Social Media in Basic School Students. *International Conference on Elementary Education*, 3(1), 45–51.
- Bonet-Jover, A., Piad-Morffis, A., Saquete, E., Martínez-Barco, P., & García-Cumbreras, M. Á. (2021). Exploiting discourse structure of traditional digital media to enhance automatic fake news detection. *Expert Systems with Applications*, 169, 114340.
- Brianna, D. F., Negara, E. S., & Kunang, Y. N. (2019). Network Centralization Analysis Approach in the Spread of Hoax News on Social Media. *2019 International Conference on Electrical Engineering and Computer Science (ICECOS)*, 303–308.
- Bruder, M., & Kunert, L. (2021). The conspiracy hoax? Testing key hypotheses about the correlates of generic beliefs in conspiracy theories during the COVID-19 pandemic. *International Journal of Psychology*.
- Hari, Y., Darmanto, D., Widiyanto, Y., & Hermawan, B. (2021). Pengembangan Media Interaktif berbasis Augmented Reality untuk Mendukung Pembelajaran dalam Pandemi COVID-19 di SMK. *Proceeding KONIK (Konferensi Nasional Ilmu Komputer)*, 5, 127–131.
- Hari, Y., Hermawan, B., Widiyanto, Y., & Trisno, I. B. (2020). Assesment Online Learning System di Masa Pandemi COVID-19 Menggunakan Metode Technology Acceptance Model. *Jurnal Teknik*, 18(2), 112–122.
- Martens, B., Aguiar, L., Gomez-Herrera, E., & Mueller-Langer, F. (2018). *The digital transformation of news media and the rise of disinformation and fake news*.
- Prasetyono, H., Abdillah, A., Widiarto, T., & Sriyono, H. (2018). Improving Student's Affective Competencies (Minimizing Hoax) Through the Implementation of Character-based Economic Learning and Teacher's Reinforcement. *Cakrawala Pendidikan*, 267251.
- Rahardi, K. (2020). Building critical awareness of corona virus-related news: Cyberpragmatic study of Covid-19 hoaxes on social media. *International Journal of Advanced Science and Technology*, 29(6), 5398–5409.
- RAHAYU, R. N. (2020). Analisis Berita Hoax Covid-19 di Media Sosial di Indonesia. *Jurnal Ekonomi, Sosial & Humaniora*, 1(9), 60–73.
- Rizky, I. M., & Tarmizi, H. (2020). Covid-19 and Hoax on Social Media. *Proceedings of Indonesia Focus*, 1(1).



- Saddam, S., Isnaini, I., Mandala, H., & Haifaturrahmah, H. (2021). THE ROLE OF EDUCATIONAL MEDIA IN PREVENTING HOAX NEWS OF COVID-19 PANDEMIC AMONG STUDENTS MATARAM CITY. *Paedagogia: Jurnal Kajian, Penelitian Dan Pengembangan Kependidikan*, 12(2), 159–172.
- Saputra, D. (2020). Fenomena Informasi Palsu (Hoax) Pada Media Sosial di Tengah Pandemi Covid-19 dalam Perspektif Islam. *Mau'ithoh Hasanah: Jurnal Dakwah Dan Ilmu Komunikasi*, 2(1), 1–10.
- Stanley, M. L., Barr, N., Peters, K., & Seli, P. (2021). Analytic-thinking predicts hoax beliefs and helping behaviors in response to the COVID-19 pandemic. *Thinking & Reasoning*, 27(3), 464–477.
- Sumardi, D., Nurmalasari, Y., Kurnianto, B. D., & Kesumawati, A. (2019). Sentiment analysis of hoax news toward the election 2019 based on student perspective. *Journal of Physics: Conference Series*, 1217(1), 12125.
- Yaddarabullah, Y., & Permana, S. D. H. (2021). Classification Hoax News of Covid-19 on Instagram Using K-Nearest Neighbor. *2021 IEEE International Conference on Communication, Networks and Satellite (COMNETSAT)*, 157–161.
- Zakharov, W., Li, H., & Fosmire, M. (2019). Undergraduates' News Consumption and Perceptions of Fake News in Science. *Portal: Libraries and the Academy*, 19(4), 653–66