

Investigating Capabilities of Science and Information Literacy: A Critical Insight into Prevention Awareness of Corona Virus Disease (COVID-19)

by Artikel Ahmad Zainuri

Submission date: 08-Jan-2021 03:16PM (UTC+0700)

Submission ID: 1484476473

File name: 3397-3410_IJPR1203482.pdf (703.11K)

Word count: 9948

Character count: 56787

Research Article

Investigating Capabilities of Science and Information Literacy: A Critical Insight into Prevention Awareness of Corona Virus Disease (COVID-19)

AHMAD ZAINURI¹, SUKARNO², MIFTACHUL HUDA³, ANDINO MASELENO³¹State Islamic University Raden Fatah, Palembang, Indonesia²State Islamic University Sulthan Thaha Saifuddin, Jambi, Indonesia³Universiti Pendidikan Sultan Idris, Malaysia

Received: 10.07.20, Revised: 21.08.20, Accepted: 06.09.20

ABSTRACT

Science literacy and information literacy is one form of learning outcomes. For this reason, this study aims to look at the effect of these two variables on one's baseness to follow the government's recommendations in order to prevent COVID-19. This research uses a quantitative approach with a survey method. Respondents involved in this study amounted to 80 people consisting of men and women with an age range between 20-50 years scattered in several cities and provinces in Indonesia. The data collection instrument consisted of 30 questions to identify and score the three variables. Data analysis was performed using a two-variable multiple linear regression test with the help of SPSS 25 software. Based on the data and discussion it was concluded that the ability of scientific literacy and information literacy affects self-awareness in the prevention of COVID-19 by 79.7%. The remaining 18.3% is influenced by other factors, such as health literacy. Because it can be said that the level of scientific literacy and information literacy has a strong enough influence on individual self-awareness in following the government's recommendations for the prevention of COVID-19. Because science literacy and information literacy are part of learning outcomes, the government needs to train teachers and other education personnel so that they have good scientific literacy and information literacy abilities, so that in the future they can teach both variables to students through the learning process.

Keywords: Science Capabilities, Information Literacy, Prevention Awareness, Corona Virus Disease (COVID-19)

INTRODUCTION

At the end of 2019 and entering 2020, the world was shocked by the emergence of new diseases caused by a type of virus that became a pandemic. The disease virus is then known as Corona so that it is then known as corona virus diseases 2019 or COVID-19 or 2019-nCoV and becomes a pandemic [1][2]. It is also mentioned that COVID-19 appeared in December 2019 and spread rapidly in several countries [3][4]. The corona virus has actually been known since the 1960s and infects 10% -20% of adults [5][6]. At present the disease has infected around 64 countries in the world [7].

At the beginning of its appearance, COVID-19 was found in Wuhan City, Hubei Province, China which was originally thought to have originated from marine animals and some land animals, because some sufferers worked or visited the area [8]. From that region, it was subsequently declared spread to various countries, so that in January 2020 WHO declared an international emergency based on the level of reporting of cases in various countries [6][7]. This disease becomes something very terrible because it has

the ability to spread very quickly. COVID-19 is capable of being transmitted from person to person [2][5]. Even in Italy which is reported daily in Italy between March 1 and March 11 2020, consistently between 9% and 11% of active infected patients [4][5].

COVID-19 besides infecting humans also infects animals [2][7]. In humans, this disease attacks the respiratory system and cardiovascular, even to death. The general clinical symptoms of people who have been infected will experience a fever that is not productive (dry cough) and breathing problems. In addition, it is also mentioned that the most common symptoms at the beginning of COVID-19 disease are fever, coughing, and fatigue, while other symptoms include phlegm production, headaches, hemoptysis, diarrhea, dyspnoea, and lymphopenia, syndrome acute respiratory disorders, acute heart injuries. Some recent research states that people over the age of 60 are at higher risk than children for COVID-19 [7]. This is reinforced that COVID-19 is more likely to attack parents and children. This disease is considered one of the most terrible diseases. This is because the incubation period of the

COVID-19 virus is relatively very fast around 5.2 days and can cause death ranging from 6 to 41 days with a median of 14 days [4][5].

Based on the news from the mass media and case reports that occurred, then several heads of state and regional heads made the policies by taking steps to prevent the spread of COVID-19 massively. Some of these policies are to conduct social distancing and physical distancing which in essence is to avoid the crowd of people. In addition, there is a suggestion that citizens use soap when washing hands, spray the area with a disinfectant, isolate those who have been infected, and so on [5].

The implementation of policies by the government towards citizens has succeeded in suppressing the growth rate of cases (infected humans), for example in China, the policy of reducing the spread of COVID-19 has been successful up to 90% [6]. In addition, the Italian Government implemented extraordinary measures to limit transmission of the virus including limiting movement in several areas to minimize the possibility of uninfected people making contact with infected people [7].

In Indonesia itself when large-scale social restrictions (PSBB) and work from home are implemented, this applies in Jakarta and several other cities in Indonesia to prevent the spread of COVID-19 [6]. The government's call to implement large-scale social restrictions (PSBB) and work from home was warmly welcomed by the majority of the community by continuing to work from home and maintaining social distance, even they were not willing to carry out worship in congregation (prayer) because they followed the advice of the government and the Indonesian Ulema Council [5]. In addition, calls for washing hands and wearing protective masks were also part of the community. Even on his awareness found the case of two people (students) in Makassar isolating themselves from their families and communities for fear of being spreaders of COVID-19 after a vacation from their campus, as well as a lockdown policy discourse to limit the spread of COVID-19 [6].

However, the efforts carried out by the head of state and regional government have not been fully successful. This can be seen from several indications, including; the number of infected people continues to grow, people with special policy areas such as; social distancing, still active as usual. In addition, there are some people who are forced (without self-awareness) to follow government regulations, so that the implementation of the policy seems to be implemented. Some people even even attacked the government by spreading hoaxes through

social media and so on. In addition, COVID-19 positive cases of death were also found, but the family ignored the call of the authorities to stay away from patients, consequently they were categorized as people with supervision (ODP).

Referring to the description above, it can be understood that there are two groups of people in following government recommendations and policies in order to reduce the spread of COVID-19, namely those who follow and those who do not want to follow or follow forcefully. Why this happened? What distinguishes these two groups? Referring to the description above it appears that the causes, symptoms, treatment and prevention of COVID-19 are closely related to science. Even the policies or rules applied by the head of state are also related to science. Therefore the question arises whether scientific literacy and information literacy affect a person's awareness of involvement in the prevention of COVID-19?

LITERATURE REVIEW

Towards Scientific Literacy

Based on the definition of scientific literacy, the ability to understand natural phenomena or events that are around in everyday life, scientific literacy is knowledge related to various scientific concepts and processes needed in order to draw personal conclusions, participate in personal development or productivity [9][10][11]. The definition of scientific literacy is ability in utilizing scientific knowledge, identifying problems and making data-based conclusions related to natural phenomena or events through real activities [12][13][14]. In addition, scientific literacy can also be defined as a person's capacity in order to utilize scientific knowledge and skills in terms of identifying various questions and making conclusions based on facts and data on changes that occur as a result of human activity [15][16][17].

Based on the definition of scientific literacy above, it is clear that the COVID-19 phenomenon is one of the scientific phenomena that has spread globally. Various research data have also emerged from experts (researchers). Then why are there still groups of people who tend not to follow the government's recommendations or policies? One of the reasons a person is less concerned and responsive to various developments and problems in the surrounding environment, for example related to natural phenomena or events (including COVID-19) is due to the low level of scientific literacy [18][19][20]. Thus someone is said to be literate about science if they are able to use science, skills and values of science to interact with technology and the social environment including

developments in economic aspects [21][22][23]. Likewise it was with good scientific literacy skills, a person will have a high sense of responsibility, both towards himself and the environment and try to participate in finding and finding various solutions based on known scientific knowledge [24][25][26]. Therefore, do those who do not follow government recommendations and policies are not literate about science? Is there a relationship between scientific literacy and self-awareness to participate in COVID-19 prevention?

The ability of scientific literacy consists of three indicators namely: 1) identifying scientific issues, namely the ability in terms of: a) identifying various issues that can be scientifically researched, b) recognizing and finding various keywords from scientific issues, c) recognize the characteristics of scientific activities; 2) explain scientific phenomena, namely the ability in terms of: a) applying scientific knowledge in existing situations, b) making interpretations and making predictions from a scientific event, c) identifying an explanation or scientific prediction; 3) utilizing scientific evidence, namely the ability in terms of: a) using scientific data to make a conclusion, b) identifying various kinds of evidence and arguments from the conclusions obtained, and c) reflecting on the social implications of a scientific conclusion. If this ability is linked to the phenomenon of COVID-19 then those who are literate about science will be easier to recognize these issues, predict their scientific impact and actively participate in preventing the spread of COVID-19 by following government recommendations and policies.

About Corona virus disease (Covid-19)

Diseases caused by COVID-19 in addition to being a scientific phenomenon, are also known and understood by someone because of the ability of information literacy. According to information literacy is an ability to think at a high level that is useful in efforts to develop academic abilities and personal [24][27][28][29]. According to (Wahyuni, 2016) information literacy is a person's ability to know and recognize, assess and use appropriate and effective information, both in the form of electronic, printed and information from various places, organizations and media. Therefore information literacy is one of the most important capabilities. With information literacy capabilities, one can ward off false or untrue news or information or hoaxes [30][31][32].

Based on the definition of information literacy as described above, it is clear that this ability is very important and can influence someone in making

decisions. With a good level of information literacy, someone will be able to recognize and analyze the information, whether the information is true or not and how to apply it. Therefore, individuals with a good level of information literacy, can respond to a variety of correct information related to COVID-19, for example; the cause of the disease, the symptoms experienced by the infected person, the extent of the spread and the procedure of anticipating the spread, then they will make decisions for themselves (even for their families), what they must do and how. In other words, individuals with a good level of information literacy, who have a good awareness, are also involved in this COVID-19 case. Referring to the description above, it can be understood that theoretically individuals who are literate in science and information well will have a tendency and self-awareness to participate actively in the prevention of COVID-19. This awareness arises because he understands the issues that exist as a scientific phenomenon and is related to human life and they obtain information from the mass media.

Understanding of Self-Awareness

The extent of self-awareness refers to the ability to know and understand his feelings and thoughts about something and use it in decision making [33][34][35]. It is the ability in terms of understanding and accepting and utilizing all of his abilities for a better life in the future [36][37][38]. Self-awareness can also be defined as a person's intelligence in terms of placing himself in certain conditions and situations and his ability to realize what must be done [39][40]. Based on the definition, it can be understood that self-awareness is something that is very important, including one form of intelligence thinking, behaving and acting possessed by humans. Self-awareness includes affective abilities that are supported by cognitive and psychomotor abilities [41][42][43]. The cognitive domain is related to the ability to understand the situation between himself and his environment, while the psychomotor domain is related to the process of making decisions and taking action as a form of self-awareness. Self-awareness is one of the most important aspects of psychology in a person to understand his behavior and social impact [44][45][46].

As explained above that self-awareness is a very important thing and plays a big role in one's life. Self-targeting is an individual's internal capability, but it has an external impact, namely in his social behavior, for example in respecting social relations and compliance in obeying regulations. This is also supported that people who have self-

awareness will be more disciplined and obey the rules [47][48]. Selfishness played a role in controlling and directing all potential (including emotions) to establish social relations in the community [49][50]. Therefore, related to COVID-19, people with good self-awareness will tend to more easily understand social phenomena due to the impact of COVID-19 and are able to put them in the situation appropriately. They will have a good awareness to follow and implement various policies and regulations implemented by the government without any compulsion [51][52]. Related to the description above, namely about the COVID-19 phenomena, scientific literacy, information literacy and self-awareness can be understood [23] they are thought to be interrelated. Therefore, this study aims to look at how the influence between the ability of scientific literacy, information literacy and self-awareness in following the government's recommendations to prevent the spread of COVID-19. Thus, research is a very important thing as a basis for developing COVID-19 disease prevention programs and the like in the future.

METHODOLOGY

This research uses a quantitative approach with a survey method. Survey data were obtained through telephone and whatsapp (WA) networks so that researchers and respondents did not meet each other. As for the sample, there are 80 people aged between 20-50 years old, spread in several cities and provinces in Indonesia. Respondents include F1 (friend / researcher relation) and F2 (person recommended by F1). Thus the respondents in the study were a

combination² of people who were known and unknown. The instrument used in the study is in the form of 30 items made in such a way that can be answered with 'yes' or 'no'. This is because the respondents in this study did not distinguish the level of education. All questions were focused on looking at the ability of scientific literacy and information literacy as well as respondent's self-awareness regarding COVID-19 prevention. Each 'yes' answer will get a score of 1 and each 'no' answer will get a score of 0. Therefore, each respondent will get a maximum score of 30 and a minimum score of 0. As mentioned above, this study aims to examine the effect of the scientific literacy variable (X1) and information literacy (X2) on self-awareness (Y) in actively participating in COVID-19 disease prevention. Thus the data analysis was performed using a two-variable multiple linear regression test followed by the T test to see whether the two variables (X1 and X2) partially or jointly influence the Y variable. As for seeing whether the two variables simultaneously affect the variables self-awareness (Y) then the F. test is performed

RESULTS AND ANALYSIS

Results

Based on data obtained from respondents using instruments that have been developed, data analysis is then performed. The first data analysis is done by classifying the ability level of each respondent based on the score scale obtained, namely in the category of 'high', 'medium' and 'low'. Based on this classification, the data obtained as in Table 1 below:

Table 1: Science Literacy, Information Literacy and Self Awareness in COVID-19 Prevention

| Aspect | Score | Total | Mean Score | Percentage (%) | Category |
|--|-------|-------|------------|----------------|----------|
| Science Literacy | 8-10 | 6 | 4,5 | 7,5 | High |
| | 4-7 | 38 | | 47,5 | Medium |
| | 0-3 | 36 | | 45 | Low |
| | Total | 80 | | 100 | |
| Information Literacy | 8-10 | 16 | 5,2 | 29 | High |
| | 4-7 | 37 | | 46,25 | Medium |
| | 0-3 | 27 | | 33,75 | Low |
| | Total | 80 | | 100 | |
| Self-awareness of prevention from COVID-19 | 8-10 | 26 | 5,0 | 32,5 | High |
| | 4-7 | 23 | | 28,75 | Medium |
| | 0-3 | 31 | | 38,75 | Low |
| | Total | 80 | | 100 | |

⁵ Based on Table 1 above, it can be seen that the average score of scientific literacy obtained by the respondent is 4.5. This score indicates that in general the respondent's scientific literacy ability

is in the medium category. This fact is also strengthened by the level of scientific literacy ability which is dominated by the middle category

group at 47.5%, followed by the low ability (45%), and the group with high ability at 7.5%.

As for the information literacy variable, the average score of the variable was 5.2, (higher than the scientific literacy ability), which is the medium category. This fact is also strengthened by the category percentage data, namely the high level achieved by the moderate category as much as 46.25%. Then followed by the low category group that is 33.75% and the group with the high category by 29%. In addition, based on Table 1 it is also seen that in general self-awareness in following the government's recommendations in the prevention of COVID-19 is in the medium category. This is indicated by the average score of self-esteem in speech and preventing COVID-19 is 5.0 (moderate). However, if seen in Table 1 above it

can be seen that the group with the low category occupies the highest percentage of 38.75% and followed by the high category of 32.5%. The group with moderate level of awareness was 28.75%.

Correlation of ability of scientific literacy, information literacy on self-awareness in the prevention of COVID-19

Based on the scores obtained by respondents during the survey, which involved 80 people with different educational and socioeconomic backgrounds. Furthermore the score is analyzed to determine the correlation between variables. As for the results of data analysis with the help of SPSS 25 software, the output model summary is shown in table 2 below:

Table 2. Model Summary, Correlations between variables

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|-------------------|----------|-------------------|----------------------------|
| 1 | .893 ^a | .797 | .792 | 1.159 |
| a. Predictors: (Constant), Information Literacy (X2), Science Literacy (X1) | | | | |

Based on the test summary model above, it appears that the R square value of 0.797. It shows that the ability of scientific literacy and information literacy affects self-awareness in the prevention of COVID-19 by 79.7%. The remaining 18.3% is influenced by other factors.

Because it can be said that the level of scientific literacy and information literacy has a strong enough influence on individual self-awareness in following the government's recommendations for the prevention of COVID-19.

Table 3. ANOVA Test Results (Test F) between variables

| ANOVA ^a | | | | | |
|---|------------|----------------|----|-------------|---------|
| Model | | Sum of Squares | df | Mean Square | F |
| 1 | Regression | 406.570 | 2 | 203.285 | 151.412 |
| | Residual | 103.380 | 77 | 1.343 | |
| | Total | 509.950 | 79 | | |
| a. Dependent Variable: Awareness COVID-19 | | | | | |
| b. Predictors: (Constant), Information Literacy (X2), Science Literacy (X1) | | | | | |

Based on the ANOVA output table above, it can be seen that the sig values are obtained. in the F test is 0,000, which means <0.05. This means that both the scientific literacy and information literacy variables significantly influence the individual's self-awareness in following the government's recommendations for the prevention of COVID-19. In addition, if it is based

on the value of Fcount and Ftable, then the value of Fcount = 151.421, while the Ftable for N = 80 is 3.11. Thus Fcount > Ftable, the hypothesis is accepted, namely that the ability of scientific literacy and information literacy significantly together affect individual self-awareness in following government recommendations for the prevention of COVID-19.

Table 4. Coefficients Test Results (T Test) between variables

| Coefficients ^a | | | | | |
|---------------------------|-----------------------------|------------|---------------------------|---|------|
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | B | Std. Error | Beta | | |

| | | | | | | |
|---|---------------------------|------|------|------|--------|------|
| 1 | (Constant) | .052 | .352 | | .149 | .882 |
| | Science Literacy (X1) | .975 | .068 | .839 | 14.387 | .000 |
| | Information Literacy (X2) | .113 | .064 | .103 | 1.766 | .081 |

a. Dependent Variable: Awareness COVID-19

13

Based on the results of the T test above, it appears that, obtained sig. for the effect of scientific literacy on awareness of COVID-19 prevention is 0.000. The value is <0.05 , it means that the ability of scientific literacy affects one's consciousness to actively participate in preventing COVID-19. The value of sig. for information literacy on awareness of COVID-19 prevention is $0.081 > 0.05$, which means that information literacy has no effect on awareness in COVID-19 prevention.

Based on the results of data analysis, it can be seen that in general literacy, information literacy [20] respondent awareness in participating in preventing the spread of COVID-19 are still in the medium category with an average score of 4.5, 5.2 and 5.0. With an average score it means that the ability and awareness of respondents still need to be improved. In addition, based on the average score as well, it is natural that the appeal and advice of the government in the prevention of COVID-19 has not been fully understood and followed by the community.

Based on the opinion that self-awareness is a person's ability to identify process, store information about them and make decisions for them [53][54][55]. One's self-awareness can be seen from attitudes: attention, alertness / awareness, architecture, remembering knowledge and knowledge of oneself [56][57][58]. In essence, self-awareness is the ability of an individual to control and position himself in a situation of helper. Therefore, in the current situation of the spread of COVID-19 disease, a person who has self-awareness will be able to put himself in a safe situation.

From the data in Table 1 obtained information that the [19] average score of self-awareness, especially related to the prevention of the spread of COVID-19 disease is in the moderate category. That means that in general (the respondent) has attention, and awareness of prevention of the disease is still relatively poor. In this situation, of course, they indirectly endanger themselves to be exposed to the COVID-19 virus, because they are not able to position themselves in a safe situation with full awareness. The people with high self-awareness will tend to be more disciplined. Therefore those who appear to lack discipline in the COVID-19 prevention process are also suspected to have relatively low levels of self-awareness.

Self-awareness does not stand alone; there are several factors that influence it. Referring to the correlation test results as Table 1 above (model summary test), it shows that the ability of scientific literacy and information literacy affects self-awareness in the prevention of COVID-19 by 79.7%. Because it can be said that the level of scientific literacy and information literacy has a strong enough influence on individual self-awareness in following the government's recommendations for the prevention of COVID-19. This finding shows that awareness (personal decision) in following government recommendations related to COVID-19 prevention is influenced by his ability or knowledge about scientific phenomena (issues) related to the environment and his ability to analyze information [59][60][61]. This guidance refers to the low ability of scientific literacy as one of the reasons for someone to be less concerned with the situation and problems that occur in their environment, in this case the phenomenon of COVID-19. In addition, the findings in this study are also strengthened by research that scientific literacy affects one's exceptions to the environment [62][63][64].

Referring to the definition of scientific literacy, that is one's ability in terms of knowing and understanding and using various scientific concepts and processes and making it a basis for decision making based on scientific evidence, to participate and produce through human activities [65][66][67] as well as the ability to solve problems in various contexts [68][69][70]. Therefore, in the context of education, scientific literacy is a form of learning outcomes that involves three domains, namely cognitive, affective (attitude) and psychomotor (ability to act). In other words, scientific literacy is the main goal in the education process, mainly science education [71][72]. Therefore, efforts to increase scientific literacy must obtain a large portion by science teachers, especially in Indonesia so that the awareness of every individual in responding to various environmental problems including COVID-19 is increasing [73][74].

In the process of education (learning) increasing the ability of scientific literacy can be done in various ways. Some of these ways, for example through learning that is integrated with real problems in daily life, for example science, technology and society [75][76], through learning

based on local excellence [77][78], through the use of models certain learning models, for example scientific learning [79][80], project based learning [81][82], using the Peer Asisted Learning learning model [81][82], applying discovery learning [83][84], through development of teaching materials and or learning tools [85][86], development of scientific literacy assessment instruments [87][88], the development of learning media based on scientific literacy [89][90], using web-based learning [91][92], developing learning models [93][94], using science literacy oriented student worksheets [95][96]. In addition, the learning process in order to increase scientific literacy can also be done by learning outside the classroom [97][98]. Thus the teacher as the main motor has a very important role in increasing scientific literacy for citizens.

Awareness in COVID-19 prevention as a type of deadly infectious disease in early 2020 is also influenced by information literacy, namely the ability to: find, use and evaluate information and make decisions between these information effectively [99][100]. That means that awareness in the prevention of COVID-19 is influenced by the amount of information a person receives, the origin of information (from being prepared), analyzing the correctness of information (true or false information) and the ability to use it [101][102]. Therefore, people who are still lacking awareness in the prevention of COVID-19 are suspected to be due to the weak capacity of information literacy. This finding is reinforced by previous research that there is an influence between information literacy on community preparedness in facing disasters [103][104].

In this digital era, where most of the information can be accessed through virtual, then in the context of education, information literacy capabilities can be associated with digital literacy or computer devices [105][106]. Thus the increase in information literacy can also be associated with an increase in digital literacy. Increasing digital-information literacy can be done in several ways, namely; developing information literacy guidelines [107][108], integrating information literacy directly in the learning process [109][110], through various training or special education activities [111][112]. As well as increasing the level of public education in general, by increasing the level of education it can also increase information literacy [113][114]. Thus it can be understood that educational institutions have a strategic role in improving the ability of information literacy including in terms of controlling false / hoax news [115][116].

One of the interesting things from this study is that scientific literacy and information literacy

together in influencing respondent awareness in their exceptions prevent the spread of COVID-19 disease as the data in Table 3. However, in table 4 (T test) it is seen that the second influence these variables are different, scientific literacy is more influential than information literacy. This shows that the decision to care about COVID-19 prevention is more determined by scientific literacy than information literacy [117][118]. This also shows that the respondents did not really believe the information they received because there were too many hoax and hoak rumors circulating including information about the disease through various mass media, thus affecting their awareness in COVID 19 prevention.

As the data in table 2 shows that 79.7% of the basic prevention of the spread of COVID-19 is influenced by scientific literacy and information literacy. The remaining 18.3% is influenced by other factors, for example health literacy [119][120]. A person's health literacy has an impact on one's decision making in maintaining his health [121][122]. Because COVID-19 disease is closely related to health, health literacy, of course, is one of the factors associated with awareness of the prevention of the disease. The people who are literate in health will have the skills to stay healthy and be able to maintain a better quality of life [123][124]. Thus, individuals who lack health literacy will tend to ignore or not care about their own health, as those who ignore the government's recommendations in terms of COVID-19 prevention.

Based on the results of this research, it is necessary to increase public awareness in general to be more concerned with scientific issues in the environment through increased scientific literacy and information literacy. With the increase in public awareness of the existing scientific phenomena including COVID-19, various government recommendations for the prevention of dangerous diseases can be more effective and efficient. For this reason, teachers as the main motor in the education and learning process must take these roles and responsibilities wisely [125][126]. The government needs to train teachers and other education staff so that they have good scientific literacy and information literacy abilities, so that in the future they can teach these two variables to students as agents of change and new generation for the nation, because teachers determine the student learning outcomes [126][127]. On the other hand, the government also needs to design an education curriculum based on managing natural disasters including infectious diseases, so that when a country experiences a disaster, citizens are ready

and can work together with the government to overcome it.

CONCLUSION

Based on the discussion as described above, at the end of this study it can be concluded that the ability of scientific literacy and information literacy affects self-awareness in the prevention of COVID-19 by 79.7%. The remaining 18.3% is influenced by other factors, such as health literacy. Because it can be said that the level of scientific literacy and information literacy has a strong enough influence on individual self-awareness in following the government's recommendations for the prevention of COVID-19. Because scientific literacy and information literacy are part of learning outcomes, the government needs to train teachers and other education personnel so that they have good scientific literacy and information literacy abilities, so that in the future they can teach both variables to students as agents of change and new generation for nation, because the teacher really determines student learning outcomes.

ACKNOWLEDGEMENT

Acknowledgments are conveyed by the author to all respondents who have deigned to answer all survey questions given, even though they do not know the researcher personally. Acknowledgments were also conveyed to colleagues who were willing to provide information regarding the readiness of prospective respondents. May they all survive the COVID-19 outbreak situation.

Authors' Statement

The author hereby states, that during the writing and publication of the results of this study, the author does not have a conflict of interest, so the results of the study can be used as a reference and further research.

REFERENCES

1. Zheng, Y. Y., Ma, Y. T., Zhang, J. Y., & Xie, X. (2020). COVID-19 and the cardiovascular system. *Nature Reviews Cardiology*. <https://doi.org/10.1038/s41569-020-0360-5>
2. Gao, J., Tian, Z., & Yang, X. (2020). Breakthrough: Chloroquine phosphate has shown apparent efficacy in treatment of COVID-19 associated pneumonia in clinical studies. *Bioscience Trends*. <https://doi.org/10.5582/bst.2020.01047>
3. Hageman, J. R. (2020). The coronavirus disease 2019 (COVID-19). *Pediatric Annals*. <https://doi.org/10.3928/19382359-20200219-01>
4. Suganthan, N. (2019). Covid-19. *Jaffna Medical Journal*. <https://doi.org/10.4038/jmj.v3i1i2.72>
5. Rothan, H. A., & Byrareddy, S. N. (2020). The epidemiology and pathogenesis of coronavirus disease (COVID-19) outbreak. *Journal of Autoimmunity*. <https://doi.org/10.1016/j.jaut.2020.102433>
6. Remuzzi, A., & Remuzzi, G. (2020). COVID-19 and Italy: what next? *The Lancet*. [https://doi.org/10.1016/S0140-6736\(20\)30627-9](https://doi.org/10.1016/S0140-6736(20)30627-9)
7. Velavan, T. P., & Meyer, C. G. (2020). The COVID-19 epidemic. *Tropical Medicine and International Health*. <https://doi.org/10.1111/tmi.13383>
8. Menpan.go.id. (2020). Pencegahan Penyebaran Virus Covid-19 dengan Kerja di Rumah bagi ASN. *Menpan.Go.Id*.
9. Abdillah, A., & Prasetyono, H. (2019). Pengaruh Reinforcement Guru Terhadap Kompetensi Afektif Siswa Sma Jakarta Timur Dalam Meminimalisir Berita Hoax. *Research and Development Journal of Education*. <https://doi.org/10.30998/rdje.v5i1.3383>
10. Abidin, Y. (2017). Pengembangan Model Pembelajaran Literasi Berbasis Konsep Multiliterasi, Integratif, dan Berdiferensiasi (MID) di Sekolah Dasar. *Jurnal Cakrawala Pendidikan*. <https://doi.org/10.21831/cp.v36i2.13283>
11. Afriana, J., Permanasari, A., & Fitriani, A. (2016). Penerapan project based learning terintegrasi STEM untuk meningkatkan literasi sains siswa ditinjau dari gender. *Jurnal Inovasi Pendidikan IPA*. <https://doi.org/10.21831/jipi.v2i2.8561>
12. Akbar, M. Y. A., Amalia, R. M., & Fitriah, I. (2018). Hubungan Religiusitas dengan Self Awareness Mahasiswa Program Studi Bimbingan Penyuluhan Islam (Konseling) UAI. *JURNAL AL-AZHAR INDONESIA SERI HUMANIORA*. <https://doi.org/10.36722/sh.v4i4.304>
13. Andhika Akbarayansyah/detikcom. (2019). 771 Hoax Berhasil Diidentifikasi Kominfo. *Detik.Com*.
14. Anjarsari, P. (2014). Literasi Sains Dalam Kurikulum Dan Pembelajaran Ipa Smp. *Prosiding Semnas Pensa VI "Peran Literasi Sains"*.
15. Anwar, R. K., Komariah, N., & Rahman, M. T. (2017). Pengembangan Konsep Literasi Informasi Santri: Kajian di Pesantren Arafah Cililin Bandung Barat. *Wawasan: Jurnal Ilmiah Agama Dan Sosial Budaya*. <https://doi.org/10.15575/jw.v2i1.964>
16. Arohman, M., Saefudin, & Priyandoko, D. (2016). Kemampuan Literasi Sains Siswa pada Pembelajaran Ekosistem. *Proceeding Biology Education Conference*.
17. Asyhari, A. (2015). Profil Peningkatan

- Kemampuan Literasi Sains Siswa Melalui Pembelajaran Saintifik. *Jurnal Ilmiah Pendidikan Fisika* Al-Biruni. <https://doi.org/10.24042/jpifalbiruni.v4i2.91>
18. Azimi, A., Rusilowati, A., & Sulhadi, S. (2017). Pengembangan Media Pembelajaran IPA Berbasis Literasi Sains untuk Siswa Sekolah Dasar. *PSEJ (Pancasakti Science Education Journal)*. <https://doi.org/10.24905/psej.v2i2.754>
19. Batubara, A. K. (2014). Literasi Informasi Di Perpustakaan. *Jurnal Iqra'*.
20. Cahyana, U., Supatmi, S., Erdawati, & Rahmawati, Y. (2019). The influence of web-based learning and learning independence toward student's scientific literacy in chemistry course. *International Journal of Instruction*. <https://doi.org/10.29333/iji.2019.12442a>
21. Ceha, R., Prasetyaningsih, E., Bachtar, I., & Nana S., A. (2016). Peningkatan Kemampuan Guru Dalam Pemanfaatan Teknologi Informasi Pada Kegiatan Pembelajaran. *ETHOS (Jurnal Penelitian Dan Pengabdian)*. <https://doi.org/10.29313/ethos.v0i0.1693>
22. Çoklar, A. N., Yaman, N. D., & Yurdakul, I. K. (2017). Information literacy and digital nativity as determinants of online information search strategies. *Computers in Human Behavior*. <https://doi.org/10.1016/j.chb.2016.12.050>
23. Dariyo, A. (2017). Peran Self-Awareness Dan Ego Support Terhadap Kepuasan Hidup Remaja Tionghoa. *PSIKODIMENSIA*. <https://doi.org/10.24167/psiko.v15i2.991>
24. Diana, S. (2016). Pengaruh Penerapan Strategi Peer Assisted Learning (PAL) terhadap Kemampuan Literasi Sains Mahasiswa dalam Perkuliahan Morfologi Tumbuhan. *Jurnal Pengajaran MIPA*. <https://doi.org/http://dx.doi.org/10.18269/jpmipa.v2i1i.661>
25. Fernandes, R., Vidya Putra, E., & Muspita, R. (2019). Optimalisasi Institusi Pendidikan Sebagai Upaya Pengendalian Hoax. *ABDI: Jurnal Pengabdian Dan Pemberdayaan Masyarakat*. <https://doi.org/10.24036/abdi/vol1-iss1/2>
26. Fluertin, E. (2012). Latihan Kesadaran Diri (Self Awareness) dan Kaitannya Dengan Penumbuhan Karakter. *Jurnal Inspirasi Pendidikan*. <https://doi.org/10.21067/JIP.VIII.472>
27. Fry, K. (2019). Developing and Assessing an Environmental Science-Based Education Module to Support the Nature of Science and Increase Science Literacy. *Proceedings of the ... National Conference on Undergraduate Research*. *National Conference on Undergraduate Research*.
28. Garcia-Codina, O., Amil Bujan, P., Juvinyà-Canal, D., Gonzalez Mestre, A., Masachs-Fatjó, E., Saltó Cerezuola, E., & Blay Pueyo, C. (2016). Health literacy in Catalonia: Situation Analysis. *International Journal of Integrated Care*. <https://doi.org/10.5334/ijic.2908>
29. Gumgum, G., Justito, A., & Nunik, M. (2017). Literasi Media: Cerdas Menggunakan Media Sosial Dalam Menanggulangi Berita Palsu (Hoax) Oleh Siswa Sma. *Pengabdian Kepada Masyarakat*. <https://doi.org/1410-5675>
30. Hadisiwi, P., & Suminar, J. R. (2017). Literasi kesehatan masyarakat dalam menopang pembangunan kesehatan di Indonesia. *Prosiding Komunikasi*.
31. Hasana, I., Saptasari, M., & Wulandari, N. (2017). Pengembangan Instrumen Penilaian Kemampuan Literasi Sains Siswa Kelas XI Materi Sistem Ekskresi dan Koordinasi di SMAN 9 Malang. *Jurnal Pendidikan Biologi*.
32. Iannuzzi, P. (2000). Information literacy competency standards for higher education. *Community and Junior College Libraries*. https://doi.org/10.1300/J107v09n04_09
33. Irmata, L. U., & Atun, S. (2017). Pengembangan Perangkat Pembelajaran Menggunakan Pendekatan Tpack Untuk Meningkatkan Literasi Sains. *Jurnal Tadris Kimiya*. <https://doi.org/10.15575/jta.v2i1.1363>
34. Kannan, S., Shaik Syed Ali, P., Sheeza, A., & Hemalatha, K. (2020). COVID-19 (Novel Coronavirus 2019) - recent trends. *European Review for Medical and Pharmacological Sciences*. https://doi.org/10.26355/eurrev_202002_20378
35. Kurnianingsih, I., Rosini, R., & Ismayati, N. (2017). Upaya Peningkatan Kemampuan Literasi Digital Bagi Tenaga Perpustakaan Sekolah dan Guru di Wilayah Jakarta Pusat Melalui Pelatihan Literasi Informasi. *Jurnal Pengabdian Kepada Masyarakat (Indonesian Journal of Community Engagement)*. <https://doi.org/10.22146/jpkm.25370>
36. Maharani, L., & Mustika, M. (2016). Hubungan Self Awareness dengan Kedisiplinan Peserta Didik Kelas VIII di SMP Wiyatama Bandar Lampung (Penelitian Korelasional Bidang Bk Pribadi). *KONSELI: Jurnal Bimbingan Dan Konseling (E-Journal)*.
37. Marlyono, S. G. (2017). Pengaruh Literasi Informasi Bencana Terhadap Kesiapsiagaan Masyarakat dalam Menghadapi Bencana di Provinsi Jawa Barat. *Jurnal Geografi Gea*. <https://doi.org/10.17509/gea.v16i2.4491>
38. Morin, A. (2011). Self-awareness part I: Definition, measures, effects, functions, and antecedents. *Social and Personality Psychology Compass*. <https://doi.org/10.1111/j.1751-9004.2011.00387.x>
39. Mudassir, R. (2020). Fatwa Lengkap MUI Terkait Pelaksanaan Ibadah saat Wabah Virus Corona Covid-19. <https://Kabar24.Bisnis.Com/>.
40. Mulyadi, I. (2010). Literasi Informasi: Respon Terhadap Kemajuan Teknologi Informasi dan

- Strategi Baru Pembelajaran di Era Informasi. *Jurnal Al-Maktabah*.
41. Nofiana, M., & Julianto, T. (2018). Upaya Peningkatan Literasi Sains Siswa Melalui Pembelajaran Berbasis Keunggulan Lokal. *Biosfer: Jurnal Tadris Biologi*. <https://doi.org/10.24042/biosf.v9i1.2876>
42. Nurhayati, N. (2018). Peningkatan Kemampuan Literasi Sains Dan Hasil Belajar Siswa Pada Pokok Bahasan Lingkungan Dengan Menerapkan Pembelajaran Discovery Learning Di Kelas VII SMP Negeri 2 Binjai. *Jurnal Pelita Pendidikan*. <https://doi.org/10.24114/jpp.v6i4.11694>
43. Puspito, D. W. (2017). Implementasi Literasi Digital Dalam Gerakan Literasi Sekolah. *Konferensi Bahasa Dan Sastra (International Conference on Language, Literature, and Teaching) II*.
44. Putri, E. T., Tazkiyah, A. Y., & Amelia, R. (2019). Self awareness training untuk menghadapi fenomena pernikahan dini. *Plakat (Pelayanan Kepada Masyarakat)*.
45. Rahmawati, A., & Krisanjaya, K. (2019). Literasi Media Untuk Mengantisipasi Berita Palsu (Hoax) Di Media Sosial Bagi Masyarakat Pulau Tidung Kepulauan Seribu. *Sarwahita*. <https://doi.org/10.21009/sarwahita.161.07>
46. Reddy, A., & Chui, M. A. (2019). 3583 Impact of Health Literacy and Risk perception on Over-the-Counter Medication Misuse. *Journal of Clinical and Translational Science*. <https://doi.org/10.1017/cts.2019.209>
47. Sastrawinata, H. (2011). Pengaruh Kesadaran Diri, Pengaturan Diri, Motivasi, Empati, Dan Keterampilan Sosial Terhadap Kinerja Auditor Pada Kap Di Kota Palembang. *Sosialita*.
48. Subekt, H., Taufiq, M., Susilo, H., Ibrohim, I., & Suwono, H. (2017). Mengembangkan Literasi Informasi Melalui Belajar Berbasis Kehidupan Terintegrasi Stem Untuk Menyiapkan Calon Guru Sains Dalam Menghadapi Era Revolusi Industri 4.0: REVIEW LITERATUR. *Education and Human Development Journal*. <https://doi.org/10.33086/ehdj.v3i1.90>
49. Suhartinah, S., Hidayati, Y., Qomaria, N., & Hadi, W. P. (2019). Studi Korelasi antara Sikap Peduli Lingkungan dengan Kemampuan Literasi Sains Siswa SMP pada Materi Ekosistem. *Natural Science Education Reseach*.
50. Susanti, S., Asyhari, A., & Firdaos, R. (2019). Efektivitas LKPD Terintegrasi Nilai Islami pada Pembelajaran Berbasis Masalah untuk Meningkatkan Kemampuan Literasi Sains. *Indonesian Journal of Science and Mathematics Education*. <https://doi.org/10.24042/ijsme.v2i1.3987>
51. Syofyan, H., Susanto, R., Duriana, Y., & Tesaniloka, M. (2019). Science Literacy Assistance In Learning At Sdn Jelambar Baru 01 Pagi. *Sinergitas PkM & CSR*.
52. Vrana, R. (2019). Education in science literacy outside the classroom: The case of libraries. *2019 42nd International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO 2019 - Proceedings*. <https://doi.org/10.23919/MIPRO.2019.8756670>
53. Wahyuni, N. C. (2016). Panduan Program Literasi Informasi Perpustakaan. *TOT Literasi Informasi*.
54. Welsh, T. S., & Wright, M. S. (2010). What is information literacy? In *Information Literacy in the Digital Age*. <https://doi.org/10.1016/b978-1-84334-515-2.50001-9>
55. Wigfall, L. T., & Tanner, A. H. (2018). Health Literacy and Health-Care Engagement as Predictors of Shared Decision-Making Among Adult Information Seekers in the USA: a Secondary Data Analysis of the Health Information National Trends Survey. *Journal of Cancer Education*. <https://doi.org/10.1007/s13187-016-1052-z>
56. Wulandari, N., & Wulandari, N. (2016). Analisis Kemampuan Literasi Sains Pada Aspek Pengetahuan Dan Kompetensi Sains Siswa Smp Pada Materi Kalor. *EDUSAINS*. <https://doi.org/10.15408/es.v8i1.1762>
57. Yuliati, Y. (2017). Literasi Sains Dalam Pembelajaran IPA. *Jurnal Cakrawala Pendas*. <https://doi.org/10.31949/jcp.v3i2.592>
58. Yunus, N. R., & Rezki, A. (2020). Kebijakan Pemberlakuan Lock Down Sebagai Antisipasi Penyebaran Corona Virus Covid-19. *SALAM: Jurnal Sosial Dan Budaya Syar-I*. <https://doi.org/10.15408/sjsbs.v7i3.15083>
59. Yusup, M Pawit; Saepudin, E. (2017). Praktik Literasi Informasi Dalam Proses Pembelajaran Sepanjang Hayat. *Jurnal Kajian Informasi Dan Perpustakaan*.
60. Yusup, P. M., & Saepudin, E. (2017). Praktik Literasi Informasi Dalam Proses Pembelajaran Sepanjang Hayat (Information Literacy Practices In The Process Of Lifelong Learning). *Jurnal Kajian Informasi Dan Perpustakaan*. <https://doi.org/10.24198/jkip.v5i1.11387>
61. Zainab, Z., Wati, M., & Miriam, S. (2017). Pengembangan Instrumen Kognitif Literasi Sains Pada Pokok Bahasan Tekanan Di Kelas Viii Smp Kota Banjarmasin. *Jurnal Ilmiah Pendidikan Fisika*. <https://doi.org/10.20527/jipf.v1i3.1014>
62. Zuriyani, E. (2011). Literasi Sains Dan Pendidikan. *Jurnal Sains Dan Pendidikan*, 13. https://doi.org/10.1007/SpringerReference_300852
63. Gani, A.A., Ibrahim, N., Khaerudin, Jandra, M., Huda, M., and Maselena, A. (2019). Exploring Multimedia-Based Active Learning Pedagogy:

- An Empirical Research. *TEST Engineering and Management*. 81, Nov-Dec, 4311 - 4321.
64. Ghani, M. Z. A., Mohamad, A. D., Abdullah, W. H. W., Yahya, M. A., Don, A. G., Huda, M., & Maselena, A. (2020). The Moderation of Da'wah in Empowering Islamic Lifestyle. *International Journal of Psychosocial Rehabilitation*, 24(1).
65. Huda, M. Muhamad, N.H.N., Isyanto, P., Kawangit, R.M., Marni, N., Mohamed, A.K., and Safar, A.J. (2020). Building Harmony in Diverse Society: Insights from Practical Wisdom. *International Journal of Ethics and Systems*. DOI: 10.1108/IJOES-11-2017-0208.
66. Jandra, M., Huda, M., & Maselena, A. (2020). Inequalities in Access of Learning in Primary School: Voices from Children with Special Needs. *International Journal of Psychosocial Rehabilitation*, 24(1).
67. Jandra, M., Mohamed, A. K., Huda, M., & Maselena, A. (2020). Communicating Islam is Friendly for all (CIFA). *International Journal of Psychosocial Rehabilitation*, 24(1).
68. Kembauw, E., Soekiman, J. F. X. S. E., Lydia, L., Shankar, K., Huda, M. (2019). Benefits of Corporate Mentoring for Business Organization. *Journal of Critical Reviews*. 6(5), 101-106.
69. Kencana, U., Huda, M., Maselena, A. (2019). Waqf Administration in Historical Perspective: Evidence from Indonesia. *TEST Engineering and Management*. 81, Nov-Dec. 5338 -5353.
70. Masroom, M. N., Yunus, W. M. A. W. M., & Huda, M. (2020). Understanding Of Significance Of Zakat (Islamic Charity) For Psychological Well-Being. *Journal of Critical Reviews*, 7(2), 693-697.
71. Noh, M. A. C., & Huda, M. (2020). Understanding The Quran Resources As Main Principle For Family Institution In Islamic Education. *Journal of Critical Reviews*, 7(2), 688-692.
72. Nurmartiani, E. and Huda, M. (2020). Marketing Mix Performance And Customer Relationship In Improving Trust Of Indihome Customer: A Case From West Java Indonesia. *Journal of Critical Reviews*, 7(2), 275-282.
73. Rosal, A.T.R., Pustokhina, I.V., Lydia, E.L., Shankar, K., Huda, M. (2019). Concept of Electronic Document Management System (EDMS) as an Efficient Tool for Storing Document. *Journal of Critical Reviews* 6(5), 85-90.
74. Salamah, Purwaningsih, Jandra, M., Sentono, T., Huda, M., and Maselena, A. (2019). The effects of Emotional Intelligence, Family Environment and Learning Styles on Social-Science Learning Outcomes: An Empirical Analysis. *TEST Engineering and Management*. 81, Nov-Dec, 4374 - 4386.
75. Sivaram, M., Shanmugapriya, S., Yuvaraj, D., Porkodi, V., Akbari, A., Hashim, W., ... & Huda, M. (2020). Decision Support System for Determining Academic Advisor: Using Simple Additive Weighting. In *Cognitive Informatics and Soft Computing* (pp. 149-156). Springer, Singapore.
76. Sudrajat, A., Widiyanta, D., Murdiyastomo, H. A., Ikaningtiyas, D. A. A., Huda, M., & Safar, J. (2020). The Role Of Indonesia In Creating Peace In Cambodia: 1979-1992. *Journal of Critical Reviews*, 7(2), 702-706.
77. Syarkun, M. R. N., & Huda, M. (2020). The role of ahl al-sunnah wa al-jama'ah as manhaj (predecessor) and mazhab (school of thought) on progressing of world's civilization. *Journal of Critical Reviews*, 7(2), 707-711.
78. Tarto, Jandra, M., Huda, M., and Maselena, A. (2019). Expanding Trilogy-Based Headmaster Leadership: A Conceptual Framework. *TEST Engineering and Management*. 81, Nov-Dec, 4356 - 4373.
79. Wahyudin, Ulfatmi, Jandra, M., Huda, M., Maselena, A. (2019). Examining Development Quality Practice in Higher Education: Evidence from Islamic Higher Education Institution (IHEI) in Indonesia. *TEST Engineering and Management*. 81, Nov-Dec, 4298 4310.
80. Wahyuni, N., Kulik, A. A., Lydia, E. L., Shankar, K., & Huda, M. (2020). Developing Region to Reduce Economic Gap and to Support Large Environment Activities. *Journal of Environmental Treatment Techniques*, 8(1), 540-545.
81. Zainuri, A., Huda, M., & Maselena, A. (2020). Empowering Social Competence in Reflective Teaching: An Empirical Research of Madrasah Ibtidaiyyah (Islamic State Elementary School) in Indonesia. *International Journal of Psychosocial Rehabilitation*, 24(1).
82. Ali, A.B., Tajuddin, S.N.A.A., Marzuki, M., and Huda, M. (2020). Digital Approach of Malay Literature through Interactive Computer Method (ICM): A Proposed Framework Model. *Solid State Technology* (in press).
83. Din, G., Omar, A., Said, C.S., Hanif, M.H.M., Ali, A.B., Huda, M., and Maselena, A. (2020). Developing Software Application of Sasteraya: An Empirical Research. *International Journal of Pharmaceutical Research* (in press).
84. Basuki, S., Huda, M., Hashim, A., Maselena, A., Mulyono, M.T., Rozak A., Rosman, A.S., Siti Suhaila Ihwanie, Nik Mohd Zaim Abd Rahime, Norhafizah Musae, Monika @Munirah Abd Razakf. (2020). Digital Learning Enhancement Through Social Network Site (SNS). *Walailak Journal of Science and Technology* (in press).
85. Kholili, Huda, M., Hashim, A., Maselena, A., Leh, F.C., Marzuki, M., Rosman, A.S., Ihwani, S.S., Abd Rahim, N.M.Z., Razak, M.A., Yaakub, A., Muhtar, A., Rashid, M.H. (2020). Adaptive

- Learning Technology Through Social Network Site (SNS)- Strategy Enhancement. *Walailak Journal of Science and Technology* (in press).
86. Dacholfany, M.I., Islahudin, A.N., Kuliayatun, Ilyas, U., Sudrajat, A., Siregar, M., Cholis, N., Jandra, M., Nurmartiani, E., Huda, M., Maseleno, A., Hashim, A., Leh, F.C., Rosman, A.S., Ab Rahim, N.M.Z., Razzak, M.A., Rashid, M.H., Darawi, A.B.S., and Nasir, B.M. (2020). Investigating Islamic-based Moral and Professional Principles of Stem Cell-Cloning Technolog. *International Journal of Pharmaceutical Research*. 12(SI2). 4478-4488.
87. Marzuki, M., Wan Hussin W.N., Amin, N.M., and Huda, M. (2020). The Sustainability of Passenger Boat Services in Malaysia. *Solid State Technology*. 63(5). 4361-4372.
88. Ibrahim, M.H., Ismail, M.I.M., Isa, N.K.M., Ali, S.S.S., Omar, M.H.C., Huda, M., Maseleno, A. (2020). Comparation Pm10 Distribution Between Control Sites And Research Site In Rawang City, Selangor. *International Journal of Pharmaceutical Research*. 12(4).2765-2771.
89. Jafar, A., Sakke, N., Hung, C.V., Mappa, M.T.M., Ibrahim, M.H., Hashim, M.H., Huda, M., Maseleno, A. (2020). Flood Risk Assessment in Beaufort, Sabah, Malaysia. *International Journal of Pharmaceutical Research*. 12(4). 2772-2783.
90. Ibrahim, M.H., Najib, S.A.M., Isa, N.K.M., Ismail, K., Hashim, M.H., Huda, M., Maseleno, A. (2020). Investigation Of Water Quality Level In Behrang Forest Reserve Catchment, Perak. *International Journal of Pharmaceutical Research*. 12(4). 2784-2790.
91. Anshari, M., Almunawar, M. N., Shahrill, M., Wicaksono, D. K., & Huda, M. (2017). Smartphones usage in the classrooms: Learning aid or interference?. *Education and Information Technologies*, 22(6), 3063-3079.
92. Maseleno, A., Huda, M., Siregar, M., Ahmad, R., Hehsan, A., Haron, Z., Ripin, M.N., Ihwani, S.S., and Jasmi, K.A. (2017). Combining the Previous Measure of Evidence to Educational Entrance Examination. *Journal of Artificial Intelligence* 10(3), 85-90.
93. Aminin, S., Huda, M., Ninsiana, W., and Dacholfany, M.I. (2018). Sustaining civic-based moral values: Insights from language learning and literature. *International Journal of Civil Engineering and Technology*. 9(4). 157-174.
94. Assahubulkahfi, M., Sam, Y. M., Maseleno, A., & Huda, M. (2018). LOR Tuning by Particle Swarm Optimization of Full Car Suspension System. *International Journal of Engineering & Technology*, 7(2.13), 328-331.
95. Atmotiyoso, P. and Huda, M. (2018). Investigating Factors Influencing Work Performance on Mathematics Teaching: A Case Study. *International Journal of Instruction*. 11(3), 391-402
96. Kurniasih, D., Jasmi, K.A., Basiron, B., Huda, M., Maseleno, A. (2018). The uses of fuzzy logic method for finding agriculture and livestock value of potential village. *International Journal of Engineering & Technology*. 7(3). 1091-1095.
97. Maseleno, A., Pardimin, Huda, M., Ramlan, Hehsan, A., Yusof, Y.M., Haron, Z., Ripin, M.N., Nor, N.H.M., and Junaidi, J. (2018a). Mathematical Theory of Evidence to Subject Expertise Diagnostic. *ICIC Express Letters*, 12 (4), 369 DOI: 10.24507/icicel.12.04.369
98. Maseleno, A., Huda, M., Jasmi, K.A., Basiron, B., Mustari, I., Don, A.G., and Ahmad, R. (2018b). Hau-Kashyap approach for student's level of expertise. *Egyptian Informatics Journal*, doi.org/10.1016/j.eij.2018.04.001.
99. Maseleno, A., Sabani, N., Huda, M., Ahmad, R., Jasmi, K.A., Basiron, B. (2018c). Demystifying Learning Analytics in Personalised Learning. *International Journal of Engineering & Technology*. 7(3). 1124-1129.
100. Moksin, A. I., Shahrill, M., Anshari, M., Huda, M., & Tengah, K. A. (2018b). The Learning of Integration in Calculus Using the Autograph Technology. *Advanced Science Letters*, 24(1), 550-552.
101. Putra, D.A.D., Jasmi, K.A., Basiron, B., Huda, M., Maseleno, A., Shankar, K., Aminudin, N. (2018). Tactical Steps for E-Government Development. *International Journal of Pure and Applied Mathematics*. 119(15). 2251-2258
102. Rosli, M.R.B., Salamon, H.B., and Huda, M. (2018). Distribution Management of Zakat Fund: Recommended Proposal for Asnaf Riqab in Malaysia. *International Journal of Civil Engineering and Technology* 9(3), pp. 56–64.
103. Susilowati, T., Dacholfany, M.I., Aminin, S., Ikhwan, A., Nasir, B.M., Huda, M., Prasetyo, A., Maseleno, A., Satria, F., Hartati, S., and Wulandari. (2018). Getting parents involved in child's school: using attendance application system based on SMS gateway. *International Journal of Engineering and Technology*. 7(2.27), 167-174.
104. Susilowati, T., Teh, K.S.M., Nasir, B.M., Don, A.G., Huda, M., Hensafitri, T., Maseleno, A., Oktafianto, and Irawan, D. (2018). Learning application of Lampung language based on multimedia software. *International Journal of Engineering and Technology*. 7(2.27), 175-181.
105. Abadi, S., Teh, K.S.M., Nasir, B.M., Huda, M., Ivanova, N.L., Sari, T.I., Maseleno, A., Satria, F., and Muslihudin, M. (2018). Application model of k-means clustering: insights into promotion strategy of vocational high school. *International Journal of Engineering and Technology*. 7 (2.27), 182-187.

106. Wulandari, Aminin, S., Dacholfany, M.I., Mujib, A., Huda, M., Nasir, B.M., Maseleno, A., Sundari, E., Fauzi, and Masrur, M. (2018). Design of library application system. *International Journal of Engineering and Technology*. 7(2.27), 199-204.
107. Septiropa, Z., Osman, M.H., Abd. Rahman, A.B., Ariffin, M.A.M., Huda, M., and Maseleno, A. (2018). Profile of cold-formed steel for compression member design a basic combination performance. (2018). *International Journal of Engineering and Technology*. 7(2.27), 284-290.
108. Aminudin, N., Fauzi, Huda, M., Hehsan, A., Ripin, M.N., Haron, Z., Junaidi, J., Irviani, R., Muslihudin, M., Hidayat, S., Maseleno, A., Gumanti, M., and Fauzi, A.M. (2018). Application program learning based on android for students experiences. *International Journal of Engineering and Technology*. 7(2.27), 194-198.
109. Abadi, S., Teh, K.S.M., Huda, M., Hehsan, A., Ripin, M.N., Haron, Z., Muhamad, N.H.N., Rianto, R., Maseleno, A., Renaldo, R., and Syarifudin, A. (2018). Design of student score application for assessing the most outstanding student at vocational high school. *International Journal of Engineering and Technology*. 7(2.27), 172-177.
110. Ristiani, Pardimin, Teh, K.S.M., Fauzi, A., Hananto, A.L., Huda, M., Muslihudin, M., Shankar, K., and Maseleno, A. (2018). Decision Support System Model for Selection of Best Formula Milk for Toddlers Using Fuzzy Multiple Attribute Decision Making. *Journal of Advanced Research in Dynamical and Control Systems*. Special issue 2, pp. 2075-2088.
111. Fauzi, Huda, M., Teh, K.S.M., Haron, Z., Ripin, M.N., Hehsan, A., Abas, H., Hehsan, M.R., Irawan, J., and Maseleno, A. (2018). The Design of Fuzzy Expert System Implementation for Analyzing Transmissible Disease of Human. *International Journal of Pharmaceutical Research*. 10(4), 68-78.
112. Abadi, S., Huda, M., Teh, K.S.M., Haron, Z., Ripin, M.N., Hehsan, A., Sarip, S., Hehsan, M.R., Amrullah, M., and Maseleno, A. (2018). Hazard Level of Vehicle Smoke by Fuzzy Multiple Attribute Decision Making with Simple Additive Weighting Method. *International Journal of Pharmaceutical Research*. 10(4), 58-71.
113. Pardimin, Apriadi, Ninsiana, W., Dacholfany, M.I., Kamar, K., Teh, K.S.M., Huda, M., Hananto, A.L., Muslihudin, M., Shankar, K., and Maseleno, A. (2018). Developing Multimedia Application Model for Basic Mathematics Learning. *Journal of Advanced Research in Dynamical and Control Systems*. 10(14), 1347-1356.
114. Hamid, A., Sudrajat, A., Kawangit, R. M., Don, A. G., Huda, M., Jalal, B., ... & Maseleno, A. (2018). Determining basic food quality using SAW. *International Journal of Engineering & Technology*, 7(4), 3548-3555.
115. Sari, N.Y., Huda, M., Teh, K.S.M., Ristiani, and Maseleno, A. (2018). Decision support system model for selection of best formula milk for toddlers using fuzzy multiple attribute decision making. *International Journal of Engineering & Technology*. 7(4), 3556-3562.
116. Oktafianto, Sudrajat, A., Kawangit, R.M., Don, A.G., Huda, M., Saputri, A.D., and Maseleno, A. (2018). Determining housing location using weighted product. *International Journal of Engineering & Technology*. 7(4), 3563-3568.
117. Mulawarman, A., Sudrajat, A., Hendri, N., Kamar, K., Mulyadi, D., Budiyo, G., Huda, M., and Maseleno. (2018). FMADM for determining superior commodity at agroindustry area. *International Journal of Engineering & Technology*, 7(4), 4667-4673.
118. Anggraeni, E.Y., Pardimin, Dacholfany, M.I., Akla, Huda, M., Teh, K.S.M., Hehsan, A., Junaidi, J., Yusof, F.M., Abas, H., Husin, M.F.A., Apriani, D., and Maseleno, A. (2018). Modelling effectiveness of IS learning methodology with AHP method. *International Journal of Engineering & Technology*, 7(4), 4708-4714.
119. Budiyo, G., Ipinuwati, S., Al Gifari, S.A., Huda, M., Jalal, B., Maseleno, A., and Hananto, A.L. (2018). Web based expert system for diagnosing disease pest on banana plant. *International Journal of Engineering & Technology*, 7(4), 4715-4721.
120. Huda, M. (2019). Empowering application strategy in the technology adoption: insights from professional and ethical engagement. *Journal of Science and Technology Policy Management*, 10(1), 172-192.
121. Huda, M., Sudrajat, S., Kawangit, R.M., Teh, K.S.M., and Jalal, B. (2019). Strengthening divine values for self-regulation in religiosity: insights from Tawakkul (trust in God). *International Journal of Ethics and Systems*. 35(3), 323-344. DOI: 10.1108/IJOES-02-2018-0025.
122. Abadi, S., Hawi, A., Dacholfany, I., Huda, M., Teh, K. S. M., Walidi, I., ... & Maseleno, A. (2019). Identification of Sundeep, Leafhopper and Fungus of Paddy by Using Fuzzy SAW Method. *International Journal of Pharmaceutical Research*, 11(1), 695-699.
123. Fauzi, Irviani, R., Muslihudin, M., Satria, F., Huda, M., Kamenez, N.V., and Maseleno, A. (2019). Revolutionizing Education through Artificial Intelligence: Fuzzy Multiple Attribute Decision Making Approach for Determining

- the Best Vocational High School. *Applied Mechanics and Materials*, Vol. 892, pp. 234-239.
124. Fitrian, Y., Huda, M., Muhtar, A., Arifin, A. Y., Musa, N., Teh, M., ... & Maselena, A. (2019). Application Design for Determining Suitable Cosmetics with the Facial Skin Type Using Fuzzy Logic Approach. *Journal of Computational and Theoretical Nanoscience*, 16(5-6), 2153-2158.
 125. Tri Susilowati, P. Manickam, G. Devika, K. Shankar, Latifah, Muhamad Muslihudin, Wahidah Hashim, Miftachul Huda, Aleksandr Aleeksevich Korostelev, Andino Maselena. (2019). Decision Support System for Determining Lecturer Scholarships for Doctoral Study Using CBR (Case-Based Reasoning) Method. *International Journal of Recent Technology and Engineering*, 8(1), 3281-3290.
 126. Muslihudin, M., Ilayaraja, M., Kumar, K. S., Shankar, K., Jamilah, I., Novitasari, D., ... & Maselena, A. (2019). Decision Support System in Kindergarten Selection using TOPSIS Method. *International Journal of Recent Technology and Engineering*, 8(1), 3291-3298.
 127. Irviani, R., Muslihudin, M., Satria, F., Huda, M., Kamenez, N. V., & Maselena, A. (2019). Revolutionizing Education through Artificial Intelligence: Fuzzy Multiple Attribute Decision Making Approach for Determining the Best Vocational High School. In *Applied Mechanics and Materials* (Vol. 892, pp. 234-239). Trans Tech Publications Ltd.

Investigating Capabilities of Science and Information Literacy: A Critical Insight into Prevention Awareness of Corona Virus Disease (COVID-19)

ORIGINALITY REPORT

8%

SIMILARITY INDEX

6%

INTERNET SOURCES

6%

PUBLICATIONS

3%

STUDENT PAPERS

PRIMARY SOURCES

1

Submitted to Universitas Hasanuddin

Student Paper

1%

2

journal.unnes.ac.id

Internet Source

1%

3

Henderi, Rani Putri Merliasari, Harco L.H. S. Warnars, Sugiyatno. "Covid-19 Series: A rule-based decision support system for analysis behavior of people while working from home", IOP Conference Series: Materials Science and Engineering, 2020

Publication

1%

4

eppi.ioe.ac.uk

Internet Source

<1%

5

www.ijsrp.org

Internet Source

<1%

6

www.nga.org

Internet Source

<1%

| | | |
|----|--|------|
| 7 | Md. Ziaul Islam, Baizid Khoorshid Riaz, ANM Shamsul Islam, Fahmida Khanam et al. "Risk factors associated with morbidity and mortality outcomes of COVID-19 patients on the 14th and 28th day of the disease course: a retrospective cohort study in Bangladesh", Cold Spring Harbor Laboratory, 2020 Publication | <1 % |
| 8 | revista.sangregorio.edu.ec Internet Source | <1 % |
| 9 | Submitted to Grenoble Ecole Management Student Paper | <1 % |
| 10 | Submitted to The Robert Gordon University Student Paper | <1 % |
| 11 | www.scribd.com Internet Source | <1 % |
| 12 | Andrea Remuzzi, Giuseppe Remuzzi. "COVID-19 and Italy: what next?", The Lancet, 2020 Publication | <1 % |
| 13 | S Latifah, N E Susilowati, K Khoiriyah, Saidy, Yuberti, R Rahayu. "Self-Efficacy: Its Correlation to the Scientific-Literacy of Prospective Physics Teacher", Journal of Physics: Conference Series, 2019 Publication | <1 % |

14

Rizki Zakwandi, Chaerul Rochman, Dindin Nasrudin, Endah Kurnia Yuningsih, Sandijal Putra. "Profil Literasi Fisika Siswa Madrasah Terhadap Mitigasi Bencana Erosi Batang Sinamar", BELAJEA: Jurnal Pendidikan Islam, 2018

Publication

<1 %

15

media.neliti.com

Internet Source

<1 %

16

Y Yuberti, A P Sairi, D Nanto, S Sholeha. "Physics ludo integrated with scientific literacy as a Newton's law learning media", Journal of Physics: Conference Series, 2020

Publication

<1 %

17

en.wikipedia.org

Internet Source

<1 %

18

milunesco.unaoc.org

Internet Source

<1 %

19

www.researchgate.net

Internet Source

<1 %

20

raiith.iith.ac.in

Internet Source

<1 %

21

Marita Marita, Sri Astuti, Sucahyo Heriningsih. "Integrated Reporting Disclosure and Performance of Banking Companies on the

<1 %

Indonesia Stock Exchange", Proceeding of
LPPM UPN "Veteran" Yogyakarta Conference
Series 2020 – Economic and Business Series,
2020

Publication

22

Herli Salim, Tri Ilma Septiana. "Survey of
Students Satisfaction and Some Efforts to
Improve Lecturer Profesionalism in the English
Education Department of STKIP Situs Banten",
Tarbawi: Jurnal Keilmuan Manajemen
Pendidikan, 2020

Publication

<1 %

23

www.syekhnurjati.ac.id

Internet Source

<1 %

24

Sri Nurhayati, Safuri Musa. "Analysis of
Students' Internet Utilization to Improve Public
Information Literacy in the Industrial Revolution
Era 4.0", Society, 2020

Publication

<1 %

25

pub.uni-bielefeld.de

Internet Source

<1 %

26

A T Kusumawati, Wasis, I G M Sanjaya, Abd.
Kholiq. "Elite (E-Book Literacy) for Junior High
School Student's Scientific Literacy in Solar
System Material", Journal of Physics:
Conference Series, 2020

Publication

<1 %

27

e-journal.unair.ac.id

Internet Source

<1 %

28

Handrea Bernando Tambunan, Dhany Harmeidy Barus, Joko Hartono, Aji Suryo Alam et al.
"Electrical Peak Load Clustering Analysis Using K-Means Algorithm and Silhouette Coefficient",
2020 International Conference on Technology and Policy in Energy and Electric Power (ICT-PEP), 2020

Publication

<1 %

29

umexpert.um.edu.my

Internet Source

<1 %

30

eprints.utm.my

Internet Source

<1 %

31

www.e3s-conferences.org

Internet Source

<1 %

Exclude quotes On

Exclude matches Off

Exclude bibliography On