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Relationship of Metacognitive Awareness and Family Support to Online Learning

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ABSTRACT

Many factors are related to student learning outcomes in bold learning, including metacognitive awareness and family support. This correlational study aims to determine the relationship between metacognitive awareness and family support on the learning outcomes of students of class XI MIA (Mathematics and Natural Sciences) SMA Negeri 3 Martapura on the digestive system material in 2021/2022. The population in this study were all class XI MIA SMA Negeri 3 Martapura which consisted of 91 students with the number of samples tested amounting to 73 samples of this study were determined randomly. Method of data collection using a questionnaire and distributed via google form. The instrument used is developed by the author and has been validated by expert lecturer. Questionnaires were given to determine metacognitive and family relationships and were given multiple choices to determine learning outcomes. The results showed that there was a positive but low correlation (r = 0.228) between metacognitive awareness and courageous learning outcomes. There is a negative correlation (r = -0.053) between family support and courageous learning outcomes (Y = 12.917+0.152 X1 - 0.108 X2) which indicates a low relationship between metacognitive awareness and family support on courageous learning outcomes. The implication of this research is that metacognitive awareness and family support are not closely related to learning outcomes and there are many other factors that have a closer relationship.

Keywords: Family Support, Metacognitive Awareness , Online Learning Outcomes, SMA 3 Martapura.

Introduction

The era of globalization requires humans to adapt to be able to keep up with the times, this need is also in the world of education because students must be competent following 21st-century skills. These skills consist of the ability to communicate, share and use information, are easy to adapt and have, can also improve technological capabilities (Zubaidah, 2016) Changes that make technology the main medium is realized by learning in the network (online).

Indonesia has decided a policy for the spread of learning from school to home through online learning to prevent COVID 19 (Pajariyanto, dkk., 2020) Although previously online learning was applied in a blended learning model that combines traditional learning and online learning, it is actively limited to the university. When online learning is carried out at a lower school level and students are not familiar with the changes in the way of learning, what happens is a decrease in learning outcomes. Several studies, such as Cahyani, et al., (2020) and Irnanda, et al., (2021) have suggested that there has been a decrease in learning outcomes during the implementation of online learning. The low learning outcomes stem from the emergence of learning difficulties caused by internal and external factors. Metacognitive awareness is part of the internal factor, namely awareness that allows individuals to plan, sequence, and monitor their learning in a way that directly improves performance (Schraw & Dennison, 1994).. According to Iskandar (2014) when students can compose, pay attention, and reflect on their learning process consciously it will make students more confident and independent in learning. Courageous learning outcomes can be related to metacognitive awareness because learning outcomes are the result of students' cognitive processes (Fitria, et al., 2020)

In addition to internal factors such as metacognitive awareness, there are also external factors which are factors from the surrounding environment or from outside the students themselves, including the family environment, infrastructure, and community environment. Family support is a factor that contributes to the success of the online learning process at home (Sari, 2020). When there is online learning at home, parents have a big role as educators, mentors, motivators, friends, supervisors, as well as communicators and facilitators (Hidayat, et al., 2012). If the level of family support and social improvement is possible, the potential for online and traditional learning becomes more effective (Kintu, et al., 2017). All members of family need to support the learning process by preparing and paying attention to the activities of students at home.

Research related to the relationship of metacognitive awareness and family support to learning outcomes in face-to-face learning has been studied separately, such as research by Kristiani, (2015) and Tamsyani (2016), both of which state that there is a positive relationship between metacognitive awareness and learning outcomes. Research related to family support was also put forward by Sari (2020) which stated that family support was a factor supporting the success of learning at home during the pandemic. However, studies that observe metacognitive awareness and family support for online learning outcomes simultaneously have not been carried out, this will be the novelty of this research. Research on factors that have a close relationship with online learning needs to be done to improve the quality of student learning outcomes. Therefore, it is necessary to conduct research related to the

relationship of metacognitive awareness and family support to online learning outcomes of students of class XI MIA SMA Negeri 3 Martapura on the material of the digestive system.

Methods

This research was conducted in class XI MIA SMA Negeri 3 Martapura which is located at JL. Adiwiyata, South Baru City, Martapura District, East Ogan Komering Ulu Regency, South Sumatra Province. Data collection was carried out in February - March 2021. The method used in this study was correlational quantitative.

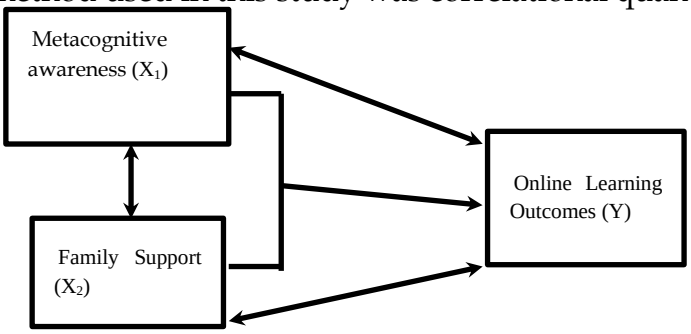

Figure 1. Research Design

This study has a hypothesis that there is a correlation or there is no correlation, between metacognitive awareness and family support on online learning outcomes that are not simultaneous or simultaneous. The population in this study were all class XI MIPA SMA Negeri 3 Martapura which consisted of 91 students with the number of samples tested amounting to 74 students. Method of sampling used non-probability sampling. The instrument used is developed by the author and has been validated by expert lecturer. The instrument for assessing metacognitive awareness and family support is 30 questions , while family support is 25 questions. The online learning instrument is related to the biology of the digestive system and refers to the taxonomy bloom at levels C1 to C2. Before using the instrument, the questions ere validated by 30 respondents outside the population, then the reliability test was carried out from the results of the validity test showed two questions that were not feasible. Reliability test using Cronbach Alpha showed the number 0.856 for online learning outcomes, 0.923 for metacognitive awareness, 0.929 for family support. From these results, it shows that all instruments have been tested for reliability because they are above 0.6. The results of the response data obtained were then calculated and categorized. Furthermore, the incoming data is tested for analytical prerequisites, namely data normality test, data homogeneity test, linearity test, multicollinearity test. After fulfilling the analytical prerequisites, the new data can be tested for hypotheses using bivariate, multivariate, simple regression analysis, multiple regression analysis. Effective contribution (SE) and relative contribution (SR) were conducted to determine the amount of contribution (in %) given by each predictor variable to the criterion variable.

Results and Discussion

Metacognitive awareness

The results of the respondents' responses to the metacognitive awareness questionnaire were calculated based on categories and percentage values and then presented in Table 1.

Table 1. Metacognitive Awareness Indicator Percentage

Indicator	VG	G	E	L	VL	(%)
	N	N	N	N	N	
Declarative Knowledge	45	28	0	0	0	13,38
Procedural Knowledge	44	29	0	0	0	13,48
Conditional Knowledge	43	30	0	0	0	13,43
Planning	31	42	0	0	0	12,00
Information Management Management	20	53	0	0	0	9,34
Monitoring	34	39	0	0	0	12,47
Correction strategy	51	22	0	0	0	13,85
Evaluation	41	32	0	0	0	12,05

N= Number Of Samples VG= Very Good G=Good E=Enough L=Low VL= Very Low

It can be concluded from Table 1 that students of class XI MIA at SMA Negeri 3 Martapura have good metacognitive awareness because all respondents are in the very good and good categories besides that there are no students who fall into the enough, less, and very low categories.

Family support

The data on the results of this family support was obtained from the distribution of questionnaires. respondents' responses regarding family support are written in Table 2.

Table 2. Percentage of Family Support Indicators

Indicator	VG	G	E	L	VL	(%)
	N	N	N	N	N	
Emotional Support	28	33	12	0	0	24,52
Instrumental Support	53	17	3	0	0	27,23
Information Support	23	33	8	9	0	23,01
Rating Support	32	34	7	0	0	25,24

N= Number Of Samples VG= Very Good G=Good E=Enough L=Low VL= Very Low

Table 2 shows that students of class XI MIA SMAN 3 Martapura get a more varied percentage of family support indicators compared to the percentage of indicators of metacognitive awareness but still no respondents fall into the very low category in both variables. This illustrates that almost all students have received support from their families. This more varied distribution of responses shows that the

conditions and treatment of each family for each student are different from one another.

Online Learning Outcomes

The data on the value of learning outcomes are categorized and then presented in Table 3.

Table 3. Online Learning Outcomes

Indicator	VG	G	E	L	VL	(%)
	N	N	N	N	N	
C1 (Knowledge)	34	8	21	8	2	24,55
C2 (Understanding)	35	20	11	6	1	25,48
C3 (Application)	26	22	11	13	1	24,81
C4 (Analysis)	44	0	16	0	13	25,17

N= Number Of Samples VG= Very Good G=Good E=Enough L=Low VL= Very Low

The ability to retrieve information from long-term memory students of class XI MIA at SMA Negeri 3 Martapura who fall into the low category and very less prove that the overall learning outcomes of students in online learning are in a low category.

Hypothesis testing

Before testing the hypothesis, the data that has been entered is tested for analytical prerequisites first and then the results show that the data is normally distributed, homogeneous, has a linear relationship between variables, and does not occur multicollinearity. These results indicate that the data can be tested for hypotheses. To determine the level of closeness of the relationship between variables X and Y which can be positive or negative, look at Table 4.

Table 4. Bivariate Analysis

Variabel	Sig. (2-tailed)	*Pearson Correlation*	Information
X_1 & Y	0,070	0,228	Correlate with weak correlation level
X_2 & Y	0,676	-0,053	uncorrelated

This analysis uses multiple regression analysis which aims to determine whether or not there is a relationship between two or more predictor variables (X) to the criterion variable (Y).

Table 5. the Results of Regression Equation Analysis

Variabel	*Unstandardized Coefficients*		*Standardized Coefficients*		
	B	**Std. Error**	**Beta**	***T***	**Sig.**
(Constant)	12,917	5,222		2,474	0,016
Metacognitive awareness	0,152	0,063	0,338	2,400	0,019
Family Support	-0,108	0,069	-0,222	-1,574	0,121

Viewed from Tables 4 and 5, it can be seen that the metacognitive awareness variable (X1) and the online learning outcome variable (Y) have a significant correlation, but with a low degree of significance. Furthermore, it is also known that the family support variable (X2) with the online learning outcome variable (Y) does not have a significant correlation. Table 4 also obtained the following regression equation:

Y = 12,917+0,152 X1 - 0,108 X2 .....(1)

From a series of tests using SPSS, a number will be obtained that shows the relationship between each variable. This figure is calculated to obtain the effective and relative contribution described in Table 6.

Table 6. Effective Contribution And Relative Contribution

Variabel	EC %	RC%
Metacognitive awareness (X1) of learning outcomes in the network (Y)	7,7	86,7
Family support (X2) on learning outcomes in the network (Y)	1,18	13,27
Metacognitive awareness (X1) and family support (X2) on onlinelearning (Y)	8,88	100

The effective contribution shows the magnitude of the contribution of the metacognitive awareness variable to the overall effectiveness of the regression line that is used as the basis for predictions. the relative contribution of shows the magnitude of the contribution of the metacognitive awareness variable to the number of squared regressions. Table 5 also shows that more dominant metacognitive awareness has a greater relationship to learning outcomes in the network compared to family support.

Discussion

Metacognitive awareness

The level of metacognitive awareness of students in class XI MIA SMA Negeri 3 Martapura can be said to be high. The high level of metacognitive awareness is in line with research by Fauziah, et al., (2019) which states that metacognitive awareness in high school students is in a good category. The success of achieving this metacognitive

awareness occurs due to the influence of personality and interactions with other people as the center of cognitive awareness (Oz, 2016). The school where the sample was taken is a superior school that specifically provides housing facilities for students from other regions. This is what makes the learning atmosphere better because of the mutual interaction between students which causes high metacognitive awareness. The response to the indicators shows that the level of metacognitive awareness of students is in the very good and good categories. The correction strategy is the indicator that most supports metacognitive awareness with a percentage of 13.85. The indicator with the lowest percentage is information management with 9.34%. This proves that in online learning students have been able to find good strategies and have to correct errors in learning. It is also known from information processing management data that students difficult to focus on learning about new information and connecting it with old information.

Family Support

Family support for this online learning falls into the good category. This result is in line with research (Sari, 2020) which states that family support increases during online learning. Sari's research also revealed that more family support was provided during online learning compared to offline learning. The results showed that instrumental support got the highest score of 27.23. The support that received the lowest average score was information support with a score of 23.01. The data shows that students have received sufficient family support in terms of fulfilling online learning facilities but have not provided enough additional information for learning activities.

Family support for students is good overall and there are no respondents who do not get support from their families. The presence of indicators that get a low percentage is due to different family conditions depending on educational background, economy, or the free time of other family members. A factor that also occurs when online learning takes place is that parents and other family members have jobs so they cannot guide students optimally (Afifah, et all., 2021). So family support has been given to students but not optimally like educators in schools.

Online Learning Outcomes

The learning outcomes in this network are obtained from the questions made by the researcher in the form of multiple choice. The basis for making it is on Bloom's taxonomy of cognitive domains at the levels of C1 (memory), C2 (understanding), C3 (application) and C4 (analysis). The observed learning outcomes are learning outcomes on the material of the digestive system. The analysis was obtained from 73 samples taken from students of class XI MIA SMA Negeri 3 Martapura. The results of the study show there are still students who fall into the less and very less categories, but there are still many students who fall into the good category. The highest cognitive domain is C2 (understanding) with a percentage of 25.48% in this case students have been able to construct meaning based on initial observations they have or can also integrate new knowledge in thinking schemes. Furthermore, the cognitive domain of C4 (analysis) is 25.17% which provides the ability to identify and detail concepts into parts for easy understanding. C3 (application) with a percentage of 24.81% of this cognitive domain is about the ability to describe a problem or object in its elements

and determine the relationship between these elements. Cognitive domain C1 (knowledge) obtained a score percentage of 24.55% in this cognitive domain about the ability to retrieve information in long-term memory.

Relationship between Metacognitive Awareness and Online Learning Outcomes

Based on the results of research data analysis, there is a significant positive correlation between metacognitive awareness and online learning outcomes, but the correlation is weak. Variable X1 to Y obtains the value of the linear equation as follows (Y = 12,917+0,152 X1). The meaning of the equation is that when the X1 variable (metacognitive awareness) is 0, then the value for the Y variable (online learning outcomes) is 12,917 while, when X1 increases by 1 unit, the Y variable will increase by 0.152 units. This positive relationship is in line with research (Syam & Rizalia (2021) that in online learning, students who have a high level of metacognitive awareness will have higher learning outcomes because they can control their cognitive activities. Likewise with Kristiani (2015) and Hermawan, et all., (2018) revealed that there is a positive relationship between metacognitive awareness variables and learning outcomes in biology learning in high school. If metacognitive awareness is in a category that is still developing, it can cause low test results (Tibrani, 2017).

However, the variable of metacognitive awareness (X1) and online learning outcomes (Y) has a weak relationship. This is caused by the low knowledge of educators about metacognitive. Research by Madang, et al., (2021) reveals that the skills of prospective Biology teachers are low and still need to be improved. In addition, Herlanti (2015) reveals that students can have potential metacognitive knowledge but have not been able to achieve actual metacognitive knowledge. The study of Madang, et al., (2021) stated that more than 50% of high school students only take control of metacognitive knowledge but not metacognitive regulation. This means that students already have metacognitive potential, but in a situation that occurs, students have not used metacognition to gain knowledge.

Relationship of Family Support to Online Learning

Based on the results of research data analysis, there is no significant correlation between family support and online learning outcomes. The results of the Pearson Correlation analysis yielded a negative value of (-0.053). The family support variable on online learning outcomes provides an effective 1.18 with a relative contribution of 13.27. Calculation of data analysis is also seen from the regression equation (Y = 12,917-0.08 X2). This result is not following research by Sari (2020) which states that family support has a positive relationship to improving online learning outcomes. However, this study was applied to early childhood. This family support is very important especially at the lower education unit level. At the elementary level, they prefer learning that is actively moving, playing, and requires interaction with adults, while the high school level has independent learning behaviors to develop their intellectual abilities (Meriyati, 2015). Dewi (2020) revealed that elementary school students have not been able to use smartphones properly so they need help from their parents. This is different from students in high school who are proficient in using smartphones, while parents are only providers of learning facilities. Other things that

can be given to parents of students are in the form of motivation and advice as well as supervision of students activities .

An obstacle also occurs in the implementation of online learning at home is that not all parents can understand the learning materials provided by the school for students (Mastoah & MS, 2020). For children with high school level, parents are no longer able to teach and assist during the learning process, because of the high level of difficulty of the subject matter. The difficulty can also come from the learner, even though the family has provided instrumental facility support, the situation will not be good if the students feel that learning is no longer meaningful (Sembiring & Oktavianti, 2021). This explanation shows that even though the family support has been extended, the learning outcomes are still small.

Relationship between Metacognitive Awareness and Family Support on Online Learning Outcomes

Based on the ANOVA test, it can be concluded the hypothesis means that simultaneously metacognitive awareness and family support are not related to online learning outcomes for students of class XI MIA SMA Negeri 3 Martapura. Referring to the multiple linear equation formula, the following equation is obtained (Y = 12.917+0.152 X1 - 0.108 X2). Metacognitive awareness and family support should have a significant relationship to this outcome explained by the research of Siswati, et al., (2020) and Sari (2020). However, in this study metacognitive awareness and family support simultaneously provided a smaller effective contribution value. The insignificant or small level of relationship between predictor variables and criteria in this study can be caused by many factors. One of them is the lack of concentration of students so that it is difficult to understand the material, but cannot ask the teacher directly and the emergence of boredom in following the lesson (Aurora, 2021).

In addition, according to Budhianto (2020), many factors have a stronger relationship to online learning, namely the availability of information technology such as computers and the internet. In addition, related to the material content of the information provided by educators as learning material for students. Next is the readiness of the entire school system including management and staff who support the learning process. This means that in this study other factors have a greater degree of association with online learning outcomes than metacognitive awareness and family support.

Conclusion

Based on the results of research and discussion in the previous chapter, The conclusions could be described as follows: The relationship between metacognitive awareness and online learning outcomes of students of class XI MIA SMA Negeri 3 Martapura on the digestive system material has a significant positive correlation and the level of the relationship is in a low category. This means that the higher metacognitive awareness will guarantee high online learning outcomes, but this relationship is still low. The relationship between family support and online learning outcomes has a negative and insignificant correlation. That means higher family support will not guarantee high online learning outcomes. The relationship between metacognitive awareness and family support is not significant. It means that the

higher metacognitive awareness and family support simultaneously will not guarantee high learning outcomes. the researchers put forward the following suggestions for future similar research, it is recommended to look for other variables that have a greater relationship to online learning.

References

Afifah, Aisyah Nur, Ula, S., & Azizah, Siti A. (2021). Pengaruh Penggunaan Teknologi Di Masa Pandemi Covid-19 Terhadap Hasil Belajar Pada Mata Pelajaran Biologi Di Man 2 Jember. *Institut Agama Islam Negeri Jember*, *2*(1), 56–66. Https://Doi.Org/10.35719/Alveoli.V2i1.35

Aurora, Zefira Fransisca. (2021). *Hubungan Pembelajaran Biologi Dalam Jaringan Dan Gaya Belajar Dengan Keterampilan Metakognitif Peserta Didik Sma Kelas Xi Di Kecamatan Ilir Barat I Palembang*. Sriwijaya.

Budhianto, B. (2020). Analisis Perkembangan Dan Faktor Yang Mempengaruhi Keberhasilan Pembelajaran Daring (E-Learning). *Jurnal Agriwidya*, *1*(1), 11–29.

Cahyani, A., Listiana, I. D., & Larasati, S. P. D. (2020). Motivasi Belajar Siswa Sma Pada Pembelajaran Daring Di Masa Pandemi Covid-19. *Iq (Ilmu Al-Qur'an): Jurnal Pendidikan Islam*, *3*(01), 123–140. https://doi.org/10.37542/iq.v3i01.57

Dewi, W. A. F. (2020). Dampak Covid-19 Terhadap Implementasi Pembelajaran Daring Di Sekolah Dasar. *Edukatif : Jurnal Ilmu Pendidikan*, *2*(1), 55–61. https://doi.org/10.31004/edukatif.v2i1.89

Fauziah, A. H., Setyowati, A. P., Dewantari, R., Wulandari, A. D., & Prayitno, B. A. (2019). Profil Kesadaran Metakognisi Siswa Di Salah Satu Sma Swasta Di Sragen. *Biosfer : Jurnal Biologi Dan Pendidikan Biologi*, *3*(1). https://doi.org/10.23969/biosfer.v3i2.975

Fitria, L., Jamaluddin, J., & Artayasa, I. P. (2020). Analisis Hubungan Antara Kesadaran Metakognitif Dengan Hasil Belajar Matematika Dan Ipa Siswa Sma Di Kota Mataram. *Jurnal Kependidikan: Jurnal Hasil Penelitian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran*, *6*(1), 147. https://doi.org/10.33394/jk.v6i1.2302

Herlanti, Y. (2015). Kesadaran Metakognitif Dan Pengetahuan Metakognitif Peserta Didik Sekolah Menengah Atas Dalam Mempersiapkan Ketercapaian Standar Kelulusan Pada Kurikulum 2013. *Jurnal Cakrawala Pendidikan*, *3*(3), 357–367. https://doi.org/10.21831/cp.v3i3.7343

Hermawan, W., Abidin, Z., & Junaedi, E. (2018). Peran Gender Dan Kesadaran Metakognitif Siswa Sma Di Kabupaten Kuningan Terhadap Hasil Belajar Biologi. *Quagga : Jurnal Pendidikan Dan Biologi*, *10*(2), 12. https://doi.org/10.25134/quagga.v10i2.904

Hidayat, R., Lubis, F., & Mulyati, D. (2012). *Peran Orang Tua Dalam Meningkatkan Hasil Belajar Siswa Pada Mata Pelajaran Pai Di Mts Islamiyah Bengkel Kecamatan Perbaungan*. *4*(5), 209–215.

Irnanda, K. F., Hartama, D., & Windarto, A. P. (2021). Analisa Klasifikasi C4.5 Terhadap Faktor Penyebab Menurunnya Prestasi Belajar Mahasiswa Pada Masa Pandemi. *Jurnal Media Informatika Budidarma*, *5*(1), 327–331. https://doi.org/10.30865/mib.v5i1.2763

Iskandar, S. M. (2014). Pendekatan Keterampilan Metakognitif Dalam Pembelajaran

Sains Di Kelas. *Erudio Journal Of Educational Innovation*, *2*(2), 13–20. https://doi.org/10.18551/erudio.2-2.3

Kintu, M. J., Zhu, C., & Kagambe, E. (2017). Blended Learning Effectiveness: The Relationship Between Student Characteristics, Design Features And Outcomes. *International Journal Of Educational Technology In Higher Education*, *14*(1). https://doi.org/10.1186/s41239-017-0043-4

Kristiani, N. (2015). Hubungan Keterampilan Metakognitif Dan Hasil Belajar Kognitif Siswa Pada Pembelajaran Saintifik Dalam Mata Pelajaran Biologi Sma Kurikulum 2013. *Seminar Nasional Xii Pendidikan Biologi Uns 2015*, *10*(6), 513–518.

Madang, K., Tibrani, M. M., & Santoso, L. M. (2021). Analysis Of Pre-Service Biology Teachers' Metacognitive Skills On Invertebrate Zoology. *Journal Of Physics: Conference Series*, *1731*(1). https://doi.org/10.1088/1742-6596/1731/1/012006

Mastoah, I., & Ms, Z. (2020). Kendala Orang Tua Dalam Mendampingi Anak Belajar Pada Masa Covid 19 Di Kota Serang. *As-Sibyan: Jurnal Pendidikan Anak Usia Dini*, *5*(2), 121–128. http://jurnal.uinbanten.ac.id/index.php/assibyan/article/view/3663

Meriyati. (2015). *Memahami Karakteristik Anak Didik*. Fakta Press Lain Raden Lntan Lampung.

Oz, H. (2016). The Importance Of Personality Traits In Students□ Perceptions Of Metacognitive Awareness. *Procedia - Social And Behavioral Sciences*, *232*(April), 655–667. https://doi.org/10.1016/j.sbspro.2016.10.090

Pajariyanto, H., Kadir, A., Galugu, N., Sari, P., & Februanti, S. (2020). Study From Home In The Middle Of The Covid-19 Pandemic: Analysis Of Religiosity, Teacher, And Parents Support Against Academic Stress. *Talent Development & Excellence*, *12*(2), 1791–1807.

Sadikin, A., & Hamidah, A. (2019). Pembelajaran Daring Di Tengah Wabah Covid-19. *Biodik: Jurnal Ilmiah Pendidikan Biologi*, *6*(2), 187–192. https://doi.org/10.17509/t.v6i2.20887

Sari, T. T. (2020). Self-Efficacy Dan Dukungan Keluarga Dalam Keberhasilan Belajar Dari Rumah Di Masa Pandemi Covid-19. *Education Journal : Journal Educational Research And Development*, *4*(2), 127–136. https://doi.org/10.31537/ej.v4i2.346

Schraw, G., & Dennison, R. S. (1994). Assessing Metacognitive Awareness. *Contemporary Educational Psychology*, *9*(4), 460–475.

Sembiring, A. B., & Oktavianti, R. (2021). Persepsi Siswa Sma Selama Pembelajaran Daring Saat Pandemi Covid-19. *Koneksi*, *5*(1), 120. https://doi.org/10.24912/kn.v5i1.10191

Siswati, B. H., Hariyadi, S., & Corebima, A. D. (2020). Hubungan Antara Berpikir Kritis Dan Metakognitif Terhadap Hasil Belajar Mahasiswa Biologi Dengan Penerapan Model Pembelajaran Rwrs. *Jurnal Lensa*, *10*(2), 74–82. https://doi.org/10.24929/lensa.v10i2.110

Syam, N. A., & Rizalia, S. (2021). Pengaruh Pembelajaran Daring Menggunakan Whatsapp Metakognitif The Effect Of Online Learning Using Whatsapp Group On The Learning Outcomes At Iain Kendari In Terms Of Metacognitive Awareness. *Biopedagogja*, *3*(1), 16–25.

Tamsyani, W. (2016). Pengaruh Model Pembelajaran Dan Kesadaran Metakognitif Terhadap Hasil Belajar Peserta Didik Sma Dalam Materi Pokok Asam Basa.

Journal Of Educational Science And Technology (Est), *2*(1), 10. https://doi.org/10.26858/est.v2i1.1887

Tibrani, M. M. (2017). Kesadaran Metakognitif Mahasiswa Program Studi Pendidikan Biologi Universitas Sriwijaya Pada Perkuliahan Fisiologi Manusia. *Junal Pembelajaran Sains*, *1*(3), 19–23.

Zubaidah, S. (2016). Keterampilan Abad Ke-21: Keterampilan Yang Diajarkan Melalui Pembelajaran. *Jurusan Biologi Fmipa Universitas Negeri Malang*, *2*, 1–17.