



# Website-Based Learning Media to Improve Elementary School Students' Reproductive Health Literacy

Febby Faza Mahiroh<sup>1\*</sup>, Suryanti<sup>2</sup>, Utiyah Azizah<sup>3</sup> 

<sup>1,2,3</sup> Primary Education Department, Universitas Negeri Surabaya, Surabaya, Indonesia

## ARTICLE INFO

### Article history:

Received June 16, 2023

Accepted November 10, 2023

Available online February 25, 2024

### Kata Kunci:

Literasi Kesehatan Reproduksi,  
Website, Media Pembelajaran

### Keywords:

Reproductive Health Literacy,  
Website, Learning Media



This is an open access article under the [CC BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.

Copyright © 2024 by Author. Published by Universitas Pendidikan Ganesha.

## ABSTRAK

Pentingnya literasi kesehatan reproduksi mampu menegakkan hak-hak reproduksi setiap individu dengan kemandirian dalam membuat keputusan akan kesehatan, meningkatkan pemberdayaan, memenuhi hak dan kewajiban dan bertanggung jawab penuh atas proses reproduksi untuk mencapai kesehatan. Tujuan penelitian ini yaitu menganalisis hasil validitas, kepraktisan, dan efektifitas media pembelajaran website untuk meningkatkan literasi kesehatan reproduksi. Subjek penelitian ini yaitu siswa kelas VI SD sebanyak 32 peserta didik di kelas treatment dan 32 peserta didik di kelas kontrol. Model pengembangan yang digunakan 4-D. Teknik pengumpulan data dengan cara observasi, angket dan tes tulis. Data dianalisis secara deskriptif kuantitatif. Hasil validasi media yang diperoleh yaitu skor 4 dengan kategori sangat valid. Pada kepraktisan media diperoleh 93% dalam proses keterlaksanaan pembelajaran dan respon peserta didik terhadap media dengan skor 93% kategori sangat praktis. Pada hasil belajar peserta didik untuk mengukur tingkat keefektifitas media pembelajaran dihasilkan peningkatan hasil belajar dengan rata-rata 83,7 dengan nilai N-Gain sebesar  $0,735 \geq 0,3$  dalam kategori tinggi. Dengan demikian, media pembelajaran berbasis website layak untuk meningkatkan literasi kesehatan reproduksi.

## ABSTRACT

The significance of reproductive health literacy includes being able to complete every individual's reproductive rights independently in making health decisions, improving empowerment to fulfill rights and obligations, and being fully accountable for the reproductive process to attain health. The present study aims to analyze the validity, practicability, and effectiveness of website learning medium in increasing reproductive health literacy. This study included 32 class VI elementary school students in the treatment group and 32 students in the control group. The development model employed four-dimensional. Data collection techniques by means of observation, questionnaires and written tests. The data were analyzed by descriptive quantitative. The media validation results yielded a 4 with a very valid category. On the practicality of the media, it was obtained 93% in the learning implementation process and students' responses to the media with a score of 93% in the very practical category. The students' learning outcomes increased with an average of 83.7 with an N-Gain value of  $0,735 \geq 0.3$  in the high category. Thus, website-based learning media is declared feasible for increasing reproductive health literacy.

## 1. INTRODUCTION

Since 1970, health literacy has been promoted as something that the community requires in order to increase their ability to manage their health. Adolescents, in particular, require reproductive health literacy to overcome reproductive health difficulties because they have gotten less attention from many parties who can influence health conditions through behavior and lifestyle (Noviza, 2015; Zhang et al., 2016). Unwanted pregnancies and pregnancies at a young age, adolescent sexual behavior, a lack of awareness about puberty and menstruation, and other issues arise. Anemia, sexually transmitted infections (STI), and even HIV/AIDS are caused by this issue (Blanc & Rojas, 2018; Rochimah & Rahmawati, 2022). According to Indonesian Law Number 36, reproductive health is a condition in which humans are physically, mentally, and socially healthy and free from disease or disability and encompasses the system, functions, and processes of human reproduction by carrying out promotional, preventive, curative, and rehabilitative efforts. Other reproductive health conditions in the Republic of Indonesia's Ministry of Health, namely conditions before pregnancy to conditions after childbirth, pregnancy management, contraception use, and sexual health and the reproductive system (Pasay-an et al., 2020; Salam et al., 2016). Low human awareness of health literacy is due to the lack of people in maintaining health which results in decreased health with various obstacles such as the lack of knowledge that parents have about reproductive health knowledge so that good communication has not been established between parents and

\*Corresponding author.

E-mail addresses: [febby.21033@unesa.ac.id](mailto:febby.21033@unesa.ac.id) (Febby Faza Mahiroh)

children, unavailability of communication time due to busy parents which results in the absence of the habit of discussing, so to begin with it will feel awkward, afraid, embarrassed, and worried about discussing puberty and reproductive health (Lin et al., 2018; Rochimah & Rahmawati, 2022). The necessity of health literacy is required to improve individuals' ability to search, interpret, appraise, and apply varied health-related information. This ability can hold individuals accountable for the health decisions they make and understand the circumstances under which teenagers continue their sexual lives while their reproductive processes function in a healthy and safe manner (Bröder et al., 2018; Rohaeni, 2020). Although the issue of reproductive health literacy includes aspects of adolescent sexuality that provide an effective understanding through morals or religion that is contextualized according to the reality of adolescents' states, society prefers to focus exclusively on biological occurrences. This gives the population the impression that education is taboo and hazardous (Pratama & June, 2022; Salsabila & Aslam, 2022; Susanti, 2020).

In the 2021 KPAI data, there are several clusters of cases involving the personalities of individual adolescents, including economic and sexual exploitation of children, children as victims of pornography and cybercrime, children with HIV/AIDS and other infectious diseases, children as victims of abduction, selling, or psychic, child victims of physical, psychological, and sexual violence, and deviant social behavior. Furthermore, KPAI records from January to June 2022 reveal 2010 cases, with 1444 cases publicized in the media and 566 direct complaints. 1013 complaints were the most commonly utilized complaint media online (website, WhatsApp, Instagram, and Twitter), followed by direct complaints via e-mail and letters. This demonstrates that the use of mass media or social media is a frequently used kind of information exchange tool. These incidents have become more common, bringing to light the importance of education and complaint initiatives (Gerda et al., 2022; Pati Saghul et al., 2022).

Complaint attempts using technology are currently being employed to help the enhancement of the quality of educational information in the society 5.0. The increasingly widespread role of this technology is related to the creation of more advanced and evolving technologies because the primary role of technology is to ease and facilitate human labor. Technological advancements and digitalization have both beneficial and negative aspects, such as the openness of information in the globalization era, which allows for simple access to information without regard to geography or time constraints. However, all of this information can affect personality, especially in adolescents because of exposure to hoax news, pornography, and so on (Susanti, 2020; Vanhalst et al., 2013). To reduce the negative impact of technology on children, the role of the people around them, especially parents, is required to monitor the activity of using technology. Furthermore, efforts to reduce cases involving children in deviant behavior can be through formal and informal reproductive health education efforts. Reproductive health education is instilled as early as possible because it is the right effort to increase knowledge and attitudes in moral formation, especially adolescents and helps the process of forming healthy lifestyle habits to avoid disease (Nurtini et al., 2018; Nurzaman, 2018; Rochimah & Rahmawati, 2022).

In formal education, phenomena experienced by teachers and students in class VI were found, such as low preventive activities related to health literacy, low reproductive health literacy media, low supervision of students with their smartphones to access information, low understanding related to reproductive health literacy, participants students have experienced verbal abuse by their peers, students prefer to find information related to their youth through the internet and their peers, this is because students feel uncomfortable when telling stories with teachers or family, and students do not really understand how to deal with puberty, especially during menarche (early menstruation). Young ladies who encounter menstrual blood leaking on their skirts or uniforms feel embarrassed and believe that these instances are a "nightmare" for them (Ningsih et al., 2019; Young et al., 2018). Not a few of his buddies mock the incident, especially if it is known by young males. Menstrual blood leakage can be triggered by a number of factors, including the fact that young women are unaware of if they're going to menstruate, don't recognize how full their pads are used, wear short pads on the first to third day of their period, and some even wear uncomfortable underwear. However, other informants realized and felt something different, specifically that there was a peculiar feeling owing to liquid sticking to their underwear. In the meantime, teenage boys who had wet dreams for the first time believed that they felt the same way when they wet the bed. Due to the shallowness of the previously acquired information, the answers displayed frequently exhibit confusion and anxiety (Irving, 2006; Zulkarnain et al., 2021).

Learning media is instructional material used to convey ideas or information that has an impact on students and stimulates their learning emotions until the learning objectives are met. However, due to a lack of resources, difficulty obtaining appropriate materials, limited budgets, and a lack of self-sufficiency in terms of knowledge and abilities for creating learning media, instructional media are still frequently disregarded (Junaidi, 2019; Surata et al., 2020). To solve these issues, researchers created worksheets using photos, text, charts, graphs, and other elements, as well as media that conveys messages or information,

particularly on puberty. This media's material has been modified for adolescent development. Website media is one instance of digital-based media selection that is seen as successful and modern because it is easily accessible via the internet network (Hasugian, 2018; Tanti et al., 2021; Wahyuni et al., 2019). Learning, particularly online learning, is influenced by the use of website-based media. Many academics have worked on the creation of website-based media and discovered that it is appropriate for use and can enhance student learning outcomes (Adzkiya & Suryaman, 2021; Aisyah, 2020). Additionally, interactive media is needed for reproductive health education on the topic of puberty because it can increase knowledge and serve as a source of information (Firdayati et al., 2016; Salsabila & Aslam, 2022; Sulistyoningsih & Fitriani, 2022). The purpose of this development is to describe the validity of web-based learning media in increasing reproductive health literacy in elementary school students. Describe the practicality of the process of implementing learning and student responses to website-based learning media to increase reproductive literacy in puberty material. As well as describing the effectiveness of website-based learning media in increasing reproductive health literacy developed in elementary school students.

## 2. METHOD

This research and development (R&D) study sought to create a product that would pass a test for its effectiveness (Sugiyono, 2019). The end result was a media website that concentrated on media production and the caliber of online-based instructional media with puberty content to raise sixth-grade students at SD Negeri Geluran 3's reproductive health literacy. The participants in this study were sixth-graders at elementary schools. It used a large-scale trial with two classes, 32 students in the control class and 32 students in the experimental class, as well as a small-scale trial with 10 students in one group pretest and posttest. This study's goals were to assess the degree of media validation, the usefulness of the media by looking at how learning is implemented and student responses, and to evaluate the effectiveness of the media by developing writing test. This study used a 4-D framework that followed the stages created: define, design, develop, and disseminate (Lestari, 2018). Both qualitative and quantitative data were collected for this study's data. The qualitative data had been obtained through needs analysis, validator recommendations, and test. The quantitative data was meantime gathered through student reaction surveys, media validation trial results, learning implementation results, and student trials. In the initial analysis and needs analysis carried out by analyzing basic needs and goals as a support for solving problems faced by students in learning that refers to basic competencies. The analysis is continued with a literature review looking for supporting references related to research in national-international journals, books, media, and others.

Media validation questionnaire sheets, learning implementation questionnaire sheets, and student response questionnaire sheets served as the data collecting tools. The survey was in the form of a Likert scale evaluation with a four-point scale checklist. The data acquisition technique was used to manage the media validation questionnaire sheet data. The following are media validation indicators as show in Table 1. Then material expert indicator instrument is show in Table 2.

**Table 1.** Grid of Learning Media Expert Instruments

No.	Aspect	Indicator	Grain
1	Apperance	a. The attractiveness of the appearance of the website media	1
		b. Integration of website media composition in the accuracy of font types	2
		c. Integration of website media composition in the accuracy of font colors	3
		d. Integration of website media composition in the correct font size	4
		e. Alignment in the appearance composition design with conformity display menu	5
2	Programming	a. Ease of use of website learning media	6
		b. Menu accuracy based on function	7
		c. Website media can be used independently by students	8
3	Execution	a. Website media can foster skills in literacy reproduction health	9
		b. Website media makes it easier for students to understand	10

**Table 2. Material Media Indicator Instrument**

No.	Aspect	Indicator	Question item
1.	Content	a. Relevance of learning objectives with basic competencies	1
		b. The suitability of the material presented in the form of reproductive health literacy skills with basic competencies	2
		c. The suitability of the material presented in the form of reproductive health literacy skills with the needs of students	3
		d. Description of the material presented in a systematic and holistic form	4
		e. Clarity, accuracy and novelty of the material presented in reproductive health literacy skills	5
2.	Effectiveness	a. Clarity and logic of sentence patterns presented in puberty material with reproductive health literacy	6
		b. Unambiguous sentence patterns presented in puberty material with reproductive health literacy	7
3.	Communicative	a. The suitability of the material presented in reproductive health literacy with the development of students	8
		b. The suitability of the use of vocabulary and sentences with the material	9
		c. Ease of understanding the material presented	10
4.	Interactive	a. Motivate students to respond to the material presented in the form of practice questions	11
		b. Encouraging students to apply reproductive health literacy skills	12

Table 3 provides an interpretation of the obtained percentage the following formula was used to manage the implementation questionnaire sheet and the student response questionnaire sheet.

**Table 3. Percentage Criteria**

No.	Average Scores	Category
1.	0 % - 20 %	Impractical
2.	21 % - 40 %	Less Practical
3.	41 % - 60 %	Sufficiently Practical
4.	61 % - 80 %	Practical
5.	81 % - 100 %	Very Practical

Additionally, when analyzing exam results, each student's degree of completion was evaluated using the Minimum Completeness Criteria (KKM) for class VI, which was 75. If a student received a score of at least 75, they were deemed passing the KKM; if not, they were deemed not passing the KKM. The data were processed by computing the average (mean), t-test, and N-gain in order to determine the difference between the two times before and after the usage of the medium.

### 3. RESULT AND DISCUSSION

#### Result

The following stages of 4-D model development were used to acquire the findings of developing the validity, viability, and efficacy of website-based learning media to enhance reproductive health literacy for grade VI on the issue of puberty.

The initial phase (Define Stage) involved gathering data and identifying the needs related to the media website through literature reviews, observations, interviews, and analysis of students by taking into account their individual and group capacities based on academic ability, age, needs, and learning motivation. At this point, it was well established that students lacked a grasp of how puberty develops and lacked access to material screened by peers or the internet. This resulted from the lack of specialized media on the subject of class VI puberty that addressed reproductive health literacy. Knowing these fundamental requirements, the researchers mapped the content to the 2013 Curriculum, which relates to Basic Competency 3.2 Linking puberty characteristics in boys and girls with reproductive health and 4.2 Presenting work on how to respond to the experienced characteristics of puberty. Indicators of care in

terms of reproductive health literacy include: 1) the capacity to look for, locate, and gather health-related information; 2) the capacity to comprehend the information; 3) the capacity to filter, interpret, assess, and evaluate the information; and 4) the capacity to communicate and use information in order to maintain and advance health.

The process of designing the media and materials created for the media website, which was the second step. The design took the form of choosing the concept for the website, creating a storyboard, and creating a flowchart to speed up the creation of the media's display layout, material content, photographs, videos, games, and practice questions. The third stage, known as the "development stage," involved putting the media process that was planned for the website's media with the domain (.com) into practice. Product of material is show in Figure 1.



Figure 1. Product of Material

Base on Figure 1, students in elementary schools could visit [www.pubertasku.com](http://www.pubertasku.com) to access the developed web- based learning materials to increase their understanding of reproductive health. Additionally, two lecturers and one teacher of sixth grade had validated the website-based media to ensure its validity. The test was carried out by providing validation instrument questionnaire sheets with a Likert scale in the form of a scale 4 checklist. Tables 4 and Table 5 show the validators' validation results.

Table 4. Results of Website Media Validation (Media Experts)

Aspect	Score			Data	Category
	V1	V2	V3		
Interface	3	4	4	4	Very Valid
Programing	3	3	3	3	Valid
Application	3	4	4	4	Very Valid

The look and execution aspects received a mode 4 score with a very valid category based on the findings of the media expert validation discussed above. A qualifying category received a score of 3 for the programming component. Consequently, the media expert validation test results as a whole received a modal score of 4 in the very valid category.

Table 5. Results of Website Media Validation (Material Experts)

Aspects	Score			Data	Category
	V1	V2	V3		
Content	3	4	4	4	Very valid
Effectiveness	4	3	4	4	Very valid
Communicative	3	3	4	3	Valid
Interactive	3	4	4	4	Very valid
Modus			4		Very valid

According to Table 4 and Table 5 the aforementioned material expert media validation, the communicative aspect received a mode score of three valid categories while the content, effectiveness, and interactive aspects received a mode score of four. Overall, the material expert validation test results received a mode score of 4, which was considered to be very valid. The media website for enhancing reproductive health literacy in elementary schools was good for testing, according to the conclusion of the validation results from the validators' evaluation of the media. Improvements or adjustments to the media

would be made in response to recommendations and comments. Furthermore, the results of the practicality of the website media with the process of implementing learning in a small-scale trial with 10 students who were observed by the observer class VI elementary school teacher were drawn in [Table 6](#).

**Table 6. Results of Small-Scale Learning Performance**

Aspects	Score			Percentage	Category
	Meet1	Meet2	Meet3		
Introduction	100%	94%	94%	96%	Very practical
Main	90%	91%	100%	94%	Very practical
Closing	100%	94%	91%	95%	Very practical
Class situation	94%	100%	100%	98%	Very practical
<b>Average</b>				<b>96%</b>	<b>Very practical</b>

According to [Table 6](#) of the implementation of small-scale learning, the average learning rate for meetings 1, 2, and 3 was 96% in the area of being very practical. [Table 7](#) shows the process of implementing large-scale trial learning in the treatment class, namely VI-D with 32 students who were observed by observers, teachers of grade VI Elementary Schools.

**Table 7. Results of Large-Scale Learning Performance**

Aspects	Score			Percentage	Category
	Meet1	Meet2	Meet3		
Introduction	94%	94%	94%	94%	Very practical
Main	90%	91%	94%	92%	Very practical
Closing	100%	87%	87%	91%	Very practical
Class situation	90%	100%	100%	97%	Very practical
<b>Average</b>				<b>93%</b>	<b>Very practical</b>

Data from the analysis of results of large-scale learning performance is presented in [Table 7](#), the treatment class's average learning rate at meetings 1, 2, and 3 was 93% in the very practical group. The study's conclusion was that using internet media in the classroom was a very practical way to boost students' knowledge about reproductive health. The results of practicality are supplemented by student response results on website media to determine the quality of the website, with a yield of 91% on small-scale trials and 93% on large-scale trials in the average category, which was very practical. 32 students in the control class and 32 students in the treatment class received website media to determine its efficacy. To determine whether the data was regularly distributed, the normality test was run. Kolmogorov-Smirnov was utilized in this investigation as show in [Table 8](#).

**Table 8. Results Of Normality Test**

Variable	Class	Statistic	df	Sig.	Statistic	df	Sig.
Learning Outcomes	Pre-Test Treatment	0.150	32	0.066	0.938	32	0.064
	Post-Test Treatment	0.143	32	0.092	0.921	32	0.023
	Pre-Test Control	0.083	32	0.200	0.987	32	0.953
	Post-Test Control	0.146	32	0.079	0.920	332	0.020

Base on [Table 8](#) show the Kolmogorov-Smirnov test results were used to determine a higher significance of 0.05. The score acquisition data finally followed a normal distribution. The t-test was then used to assess the hypothesis. [Table 9](#) displays the results of the t-test.

**Table 9.** Results of Paired Samples Test

Pair		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence interval of the Difference				
					Lower	Upper			
Pair 1	Pretreatment – Post treatment	-8.875	11.100	1.962	-12.877	-4.873	-4.523	31	0.000
Pair 2	Pre control – Post control	-13.969	16.589	2.933	-19.950	-7.988	-4.763	31	0.000

Base on Table 9, a sig. (2 tailed) of  $0.000 < 0.05$  was achieved by Pairs 1 and 2 based on the findings of the paired samples test. Therefore, it could be inferred that there was a difference in students' average learning outcomes and that there was a big difference between before and after using websites as learning media. A sig Based on Mean value of  $0.092 > 0.05$  was obtained for the homogeneity test, though. Therefore, that the post-test data variations in the treatment class and control class were considered to be the same or homogeneous. As a result, the independent sample t-test was valid. Table 10 contains the test data for the t-test.

**Table 10.** Results of Large-Scale Learning Performance

Results	Lavene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
Result	Equal variances assumed	2.929	0.092	3.347	62	0.001	12.969	3.875	5.223	20.714
	Equal variances not assumed			3.347	54.143	0.001	12.969	3.875	5.201	20.737

Base on Table 10, as the t-test sig. (2 tailed) of  $0.001 < 0.05$ , it could be concluded that there was a difference in the average learning outcomes of students with website learning media. With an average acquisition of 83.75, the website learning media on puberty material for increasing reproductive health literacy was said to be feasible and effective, with an n-gain value obtained by students  $1.03 \geq 0.3$  in the high category. At the dissemination stage, the media dissemination and expansion were carried out with the link [www.pubertasku.com](http://www.pubertasku.com) to various parties.

## Discussion

Website-based learning media is a form of learning media designed to support learning facilities in the form of attractive websites. Interesting media websites contain learning videos that can increase reproductive health literacy with the support of attractive displays and content (Imawati et al., 2022; Noermanzah & Suryadi, 2020). Based on research data, website-based learning media is very valid in increasing reproductive health literacy. The validity of the media can be seen in the mode score of 4 in the validation of media experts and material experts. In the media expert validation, there are display and programming aspects that get the highest mode score with a very valid category. Indicators that look superior are the attractiveness of website media appearance, the ease of using website media, and the accuracy of the menu according to its function as a means or tool that is able to provide a visual experience to increase learning motivation, clarify and facilitate the material concepts received by students (Nurdyansyah, 2019; Sofiyani et al., 2020). In the material expert validation, there is a communicative aspect that gets the most superior results. The visible indicators are the suitability of the material with the use of vocabulary and sentences, as well as the ease of understanding the material presented.

Website media display with Puberty material is supported by supporting pictures, learning videos, worksheets, games and practice questions. To differentiate the development of existing website media, the researcher provides a sidebar which aims to provide additional information linked to various learning links as well as specific aspects related to reproductive health literacy which includes aspects of health care with the following indicators; (1) the ability to seek, find, and obtain health information, (2) the ability to understand the health information obtained, (3) the ability to filter, interpret, assess, and evaluate the health information that has been obtained, and (4) the ability to communicate and Use information to make decisions about maintaining and improving health (Nurfadhilah, Utomo, Neolaka, et al., 2021; Ziapour et al., 2020). The advantages of these media have the ultimate goal of making quality learning by building effective communication or interaction. The process of effective communication is carried out with the help of an intermediary, namely a learning media. This makes the function of the media to improve the quality of learning easily and thoroughly for students to understand the material (Musfiqon & Nazmi, 2012; Nurfadhilah, Utomo, & Neolaka, 2021).

Mastery learning is able to increase the enthusiasm and motivation of learning students in the material compared to not using media in the learning process. This is evident in the implementation results during the learning process which were obtained at 93% with the provisions of 93%  $\geq$  61% from the observation percentage criteria table and each activity in learning was carried out very well according to the learning plan. The superior aspect can be seen from the class atmosphere that occurs by 97% with the suitability of teaching and learning activities on KI and KD, the suitability of the implementation time allocation with planning, concept mastery, class management, and student enthusiasm. Equipped with student responses to website-based learning media, namely 93% in the very practical category. Excellent indicators are that students have a sense of enthusiasm for learning with fun cannot be done during puberty to be applied every day. Previous research found that learning media can influence students to prevent sexual violence (Handley et al., 2020). Website-based learning media is also able to facilitate students to increase effective sexual literacy in social networks (Lin et al., 2018).

In Indonesia, scientific literacy is considered very low and needs to be improved. one of them is reproductive health literacy knowledge which is part of scientific literacy can be learned naturally and effectively in a social context. Students are currently considered a generation interested in technology and skill-based education, namely interactive multimedia (Moore & Hancock, 2022; Wicaksono & Susilo, 2019). It is proven with the help of website-based learning media that the ability of students to understand the health information obtained is superior with a result of 841. The ability to filter, interpret, assess, and evaluate the health information that has been obtained with a result of 671. Ability to search, find, and obtain information health 624 and the ability to communicate and use information in making decisions to maintain and improve health with the lowest outcome, namely 544.

The low ability of students to communicate and use information in making decisions to maintain and improve health is seen in the lack of broadness of students in dealing with social contexts. One of the statements is that students experience difficulties because they have never used a toilet seat so they cannot communicate how good and proper toilet training steps are with a toilet seat (Purwadi, 2021; Wulandari et al., 2020). So, in choosing media websites to increase reproductive health literacy as research development in learning, it has many advantages, namely it can be used practically by students. This practicality is due to the use of website media that can be operated on computers and gadgets which incidentally are used almost all the time in students' daily lives (Widarma & Siregar, 2020; Widodo et al., 2020). This practicality can be seen in the completeness of students understanding the material with students' understanding related to reproductive health literacy which has increased with an average pretest score of 78.87 and posttest 83.75 with N-Gain  $0.735 \geq 0.3$  in the high category. So, there are differences in pretest and posttest scores and an increase in use before and after the implementation of website media with reproductive health literacy.

The development of website-based learning media to increase reproductive health literacy is in line with research by entitled "Development of Information Service Media to Face Changes in Puberty for Elementary School Students" this research helps students obtain information to deal with puberty with the media learning (Firdayati et al., 2016). Research conducted by entitled "Acceptability of a Comprehensive Sex Education Self-Study Website for Teaching Reproductive Health: A Pilot Study Among College Students and Obstetrics and Gynecology Resident Physicians" this research helps students to improve reproductive health and learn independently through website-based learning media (Yoost et al., 2021). So that the use of website-assisted media can increase the independence of students in carrying out independent learning (Febriani, 2021; Noermanzah & Suryadi, 2020).



#### 4. CONCLUSION

The media validation results obtained were a score of 4 with a very valid category. On the practicality of the media, it was obtained 93% in the learning implementation process and students' responses to the media with a score of 93% in the very practical category. In the learning outcomes of students to measure the level of effectiveness of learning media resulted in an increase in learning outcomes with an average of 83.7 with an N-Gain value of  $0.735 \geq 0.3$  in the high category. The conclusion in this study is that the quality of learning media using website media includes validity, practicality, and effectiveness in the feasible category. Overall, the website-based learning media to improve reproductive health literacy of sixth grade elementary school students experienced a significant increase.

#### 5. REFERENCES

- Adzkiya, D. S., & Suryaman, M. (2021). Penggunaan Media Pembelajaran Google Site dalam Pembelajaran Bahasa Inggris Kelas V SD. *Educate: Jurnal Teknologi Pendidikan*, 6(2). <https://doi.org/10.32832/educate.v6i2.4891>.
- Aisyah, A. (2020). Desain Media Pembelajaran Matematika Berbasis Website. *Pendidikan Matematika*, 4(1). <https://doi.org/10.33087/phi.v4i1.79>.
- Blanc, A., & Rojas, A. J. (2018). Use of Rasch Person-Item Maps to Validate a Theoretical Model for Measuring Attitudes toward Sexual Behaviors. *PLoS ONE*, 13(8), e0202551. <https://doi.org/10.1371/journal.pone.0202551>.
- Bröder, J., Chang, P., Kickbusch, I., Levin-Zamir, D., McElhinney, E., Nutbeam, D., Okan, O., Osborne, R., Pelikan, J., Rootman, I., Rowlands, G., Nunes-Saboga, L., Simmons, R., Sørensen, K., Broucke, S., Velardo, S., & Wills, J. (2018). IUHPE Position Statement on Health Literacy: a practical vision for a health literate world. *Global Health Promotion*, 25(4). <https://doi.org/10.1177/1757975918814421>.
- Febriani, H. (2021). Meningkatkan Kemandirian Belajar Siswa melalui Metode Blended Learning berbantuan Google Classroom pada Materi Keseimbangan Kimia. *Jurnal Pendidikan Kimia Indonesia*, 5(1). <https://doi.org/10.23887/jpk.v5i1.31343>.
- Firdayati, F., Zen, E., & Flurentin, E. (2016). Pengembangan Media Layanan Informasi Menghadapi Perubahan Masa Pubertas bagi Siswa Sekolah Dasar. *Jurnal Kajian Bimbingan Dan Konseling*, 1(4). <https://doi.org/10.17977/um001v1i42016p142>.
- Gerda, M. M., Wahyuningsih, S., & Dewi, N. K. (2022). Efektivitas Aplikasi Sex Kids Education untuk Mengenalkan Pendidikan Seks Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(4), 3613–3628. <https://doi.org/10.31004/obsesi.v6i4.2170>.
- Handley, H. K., Hillman, J., Finch, M., Ubide, T., Kachovich, S., McLaren, S., Petts, A., Purandare, J., Foote, A., & Tiddy, C. (2020). In Australasia, gender is still on the agenda in geosciences. *Advances in Geosciences*, 53, 205–226. <https://doi.org/10.5194/adgeo-53-205-2020>.
- Hasugian, P. S. (2018). Perancangan Website Sebagai Media Promosi Dan Informasi. *Journal Of Informatic Pelita Nusantara*, 3(1), 82–86. <http://download.garuda.kemdikbud.go.id/article.php?article=788499&val=12956>.
- Imawati, S. I., Z. A., & Azizah, U. (2022). Pengembangan Video Pembelajaran pada Materi Sistem Organ Pencernaan Manusia untuk Meningkatkan Literasi Sains Siswa Sekolah Dasar. *Jurnal Basicedu*, 6(5). <https://doi.org/10.31004/basicedu.v6i5.3974>.
- Irving, K. E. (2006). The impact of technology on the 21st century. *Teaching Science in the 21st Century, March 1981*, 3–19. <https://cmapsconverted.ihmc.us/rid=1JVHR9TKT-1VMCFZP-SHW/21stcentury.pdf>.
- Junaidi, J. (2019). Peran Media Pembelajaran Dalam Proses Belajar Mengajar. *Diklat Review: Jurnal Manajemen Pendidikan Dan Pelatihan*, 3(1), 45–56. <https://doi.org/10.35446/diklatreview.v3i1.349>.
- Lestari, N. (2018). Prosedural Mengadopsi Model 4D Dari Thiagarajan Suatu Studi Pengembangan LKM Bioteknologi Menggunakan Model PBL Bagi Mahasiswa. *Jurnal Ilmiah Teknologi FST Undana*, 12(2), 56–65. [https://ejournal.undana.ac.id/jurnal\\_teknologi/article/view/1170](https://ejournal.undana.ac.id/jurnal_teknologi/article/view/1170).
- Lin, W. Y., Zhang, X., & Cao, B. (2018). How Do New Media Influence Youths' Health Literacy? Exploring the Effects of Media Channel and Content on Safer Sex Literacy. *International Journal of Sexual Health*, 30(4). <https://doi.org/10.1080/19317611.2018.1509921>.
- Moore, R. C., & Hancock, J. T. (2022). OPEN A digital media literacy intervention for older adults improves resilience to fake news. *Scientific Reports*, 1–9. <https://doi.org/10.1038/s41598-022-08437-0>.
- Musfiqon, & Nazmi, D. (2012). *Pengembangan Media Dan Sumber Belajar*. PT. Prestasi Pustaka Karya.

- Ningsih, I., Winarni, R., & Roemintoyo, R. (2019). *Implementation of Digital Literacy to Achieve 21st Century Skills in The 2013's Curriculum*. <https://doi.org/10.4108/eai.27-4-2019.2286855>.
- Noermanzah, & Suryadi. (2020). Improving Students' Ability to Analyze Discourse through the Moodle-based Blended Learning Method. *English Review: Journal of English Education*, 9(1), 81–94. <https://doi.org/10.25134/erjee.v9i1.3781>.
- Noviza, N. (2015). Konseling Teman Sebaya (Peer Counseling) Suatu Inovasi Layanan Bimbingan Konseling Di Perguruan Tinggi. *Wardah*, 12(1), 83–98. <https://doi.org/10.19109/wardah.v12i1.213>.
- Nurdyansyah. (2019). *Media Pembelajaran Inovatif*. Umsida Press.
- Nurfadhilah, Utomo, E., & Neolaka, A. (2021). Puberty Hypercontent Book, Expert and Community Responses. *Proceedings of the 5th Asian Education Symposium 2020 (AES 2020)*, 98–101. <https://doi.org/10.2991/assehr.k.210715.020>.
- Nurfadhilah, Utomo, E., Neolaka, A., Bahij, A. A., & Sinyanyuri, S. (2021). Puberty education in primary school: Situation and solution. *International Journal of Mechanical Engineering*, 6(1), 1110–1117. [https://kalaharijournals.com/resources/121-140/IJME\\_Vol7.1\\_134.pdf](https://kalaharijournals.com/resources/121-140/IJME_Vol7.1_134.pdf).
- Nurtini, N. M., Purnama Dewi, K., & Noriani, N. K. (2018). Faktor yang Berhubungan dengan Perilaku Beresiko pada Remaja. *Journal Center of Research Publication in Midwifery and Nursing*, 2(1). <https://doi.org/10.36474/caring.v2i1.34>.
- Nurzaman, E. W. (2018). Pengetahuan Dan Perilaku Seksual Beresiko Remaja Terhadap Kesehatan Reproduksi Di Smk X Kecamatan Kebon Jeruk Jakarta Barat. *Indonesia Jurnal Kebidanan*, 2(1), 37. <https://doi.org/10.26751/ijb.v2i1.447>.
- Pasay-an, E., Magwilang, J. O. G., Pasay-an, E., Magwilang, J. O. G., & Pangket, P. P. (2020). Knowledge, attitudes, and practices of adolescents regarding sexuality and reproductive issues in the Cordillera administrative region of the Philippines. *Makara Journal of Health Research*, 24(3), 164–172. <https://doi.org/10.7454/msk.v24i3.1245>.
- Pati Saghul, M. M., Verayanti Albertina Bata, Grasiana Florida Boa, B. Dian Novita, & Maria Manungkalit. (2022). Hiv/Aids Knowledge And Sex Behavior Among Junior High School Students. *Science Midwifery*, 10(4), 2496–2502. <https://doi.org/10.35335/midwifery.v10i4.699>.
- Pratama, J., & June, J. (2022). Perancangan Dan Pengembangan Komik Web Mengenai Pendidikan Seks Untuk Remaja. *Visual Heritage: Jurnal Kreasi Seni Dan Budaya*, 4(3), 327–342. <https://doi.org/10.30998/vh.v4i3.6166>.
- Purwadi, I. M. A. (2021). Students' statistical literacy through lab school car model in STEM activity. *Journal of Physics: Conference Series*, 1957(1). <https://doi.org/10.1088/1742-6596/1957/1/012019>.
- Rochimah, T. H. N., & Rahmawati, W. (2022). Modelling Komunikasi Interpersonal “Ibu Sahabat Remaja dalam Literasi Kesehatan Reproduksi. *Prosiding Seminar Nasional Program Pengabdian Masyarakat*. <https://doi.org/10.18196/ppm.41.843>.
- Rohaeni, E. (2020). Faktor-Faktor yang Mempengaruhi Perilaku Beresiko Remaja Terhadap Penyakit Menular Seksual. *Jurnal Publikasi Kebidanan*, 11(2), 82–92. <https://ojs.stikesylpp.ac.id/index.php/JBP/article/view/531>.
- Salam, R. A., Faqqah, A., Sajjad, N., Lassi, Z. S., Das, J. K., Kaufman, M., & Bhutta, Z. A. (2016). Improving Adolescent Sexual and Reproductive Health: A Systematic Review of Potential Interventions. *Journal of Adolescent Health*, 59(2), S11–S28. <https://doi.org/10.1016/j.jadohealth.2016.05.022>.
- Salsabila, F., & Aslam, A. (2022). Pengembangan Media Pembelajaran Berbasis Web Google Sites pada Pembelajaran IPA Sekolah Dasar. *Jurnal Basicedu*, 6(4), 6088–6096. <https://doi.org/10.31004/basicedu.v6i4.3155>.
- Sofiyan, S., Amalia, R., & Suwardi, A. B. (2020). Development of mathematical teaching materials based on project-based learning to improve students' HOTS and character. *Journal of Physics: Conference Series*, 1460(1). <https://doi.org/10.1088/1742-6596/1460/1/012006>.
- Sugiyono, P. D. (2019). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, R&D (Cetakan Ke 26)*. CV Alfabeta.
- Sulistyoningsih, & Fitriani. (2022). Pemanfaatan Media Sosial Instagram untuk Meningkatkan Pengetahuan Remaja Tentang Pubertas. *Dinamisia: Jurnal Pengabdian Kepada Masyarakat*, 6(1). <https://doi.org/10.31849/dinamisia.v6i1.5140>.
- Surata, I. K., Sudiana, I. M., & Sudirgayasa, I. G. (2020). Meta-Analisis Media Pembelajaran pada Pembelajaran Biologi. *Journal of Education Technology*, 4(1), 22–27. <https://doi.org/10.23887/jet.v4i1.24079>.
- Susanti, A. I. (2020). Literasi Informasi Tentang Pendidikan Kesehatan Reproduksi Remaja (KRR). *Jurnal Menara Medika*, 2(2). <https://doi.org/10.31869/mm.v3i1.2201>.
- Tanti, T., Darmaji, D., Astalini, A., Kurniawan, D. A., & Iqbal, M. (2021). Analysis of User Responses to the Application of Web-Based Assessment on Character Assessment. *Journal of Education Technology*, 5(3), 356. <https://doi.org/10.23887/jet.v5i3.33590>.

- Vanhalst, J., Goossens, L., Luyckx, K., Scholte, R. H. J., & Engels, R. C. M. E. (2013). The development of loneliness from mid-to late adolescence: Trajectory classes, personality traits, and psychosocial functioning. *Journal of Adolescence*, 36(6), 1305–1312. <https://doi.org/10.1016/j.adolescence.2012.04.002>.
- Wahyuni, E. E., Majid, Y. A., & Dekawaty, A. (2019). Pengaruh Pedidikan Kesehatan Dengan Meda Video Terhadap Kecemasan Menghadapi Menarche Pada Siswi Kelas V Di Sekolah Dasar Negeri 88 Palembang Tahun 2019. *Healthcare Nursing Journal*, 2(1). <https://doi.org/10.35568/healthcare.v2i1.517>.
- Wicaksono, R. S., & Susilo, H. (2019). Implementation of Problem Based Learning Combined With Think Pair Share In Enhancing Students' Scientific Literacy and Communication Skill Through Teaching Biology in English Course Peerteaching. In *Journal of Physics: Conference Series*, 012005. <https://iopscience.iop.org/article/10.1088/1742-6596/1227/1/012005/meta>.
- Widarma, A., & Siregar, Y. H. (2020). Sistem Aplikasi Ujian Daring Berbasis Learning Management System (LMS. *Prosiding Seminar Nasional Multidisiplin Ilmu Universitas Asahan Ke-4, September*, 813–821. <http://jurnal.una.ac.id/index.php/semnasmudi/article/view/1600>.
- Widodo, W., Sudiby, E., Suryanti, Sari, D. A. P., Inzanah, & Setiawan, B. (2020). The effectiveness of gadget-based interactive multimedia in improving generation z's scientific literacy. *Jurnal Pendidikan IPA Indonesia*, 9(2), 248–256. <https://doi.org/10.15294/jpii.v9i2.23208>.
- Wulandari, I. P., Rochmad, R., & Sugianto, S. (2020). Integrated between DAPIC problem solving model and RME approach to enhance critical thinking ability and self confidence. *Anatolian Journal of Education*, 5(2), 73–84. <https://doi.org/10.29333/aje.2020.526a>.
- Yoost, J., Ruley, M., Durfee, L., Zhang, Y., Zhang, F., Hu, P., Huang, W., Lu, L., Bai, R., Sharma, M., & Zhao, Y. (2021). Acceptability of a Comprehensive Sex Education Self-Study Website for Teaching Reproductive Health: A Pilot Study Among College Students and Obstetrics and Gynecology Resident Physicians. *Sexual Medicine*, 9(1). <https://doi.org/10.1016/j.esxm.2020.100302>.
- Young, T., Hazarika, D., Poria, S., & Cambria, E. (2018). Recent trends in deep learning based natural language processing. *Ieee Computational Intelligence Magazine*, 13(3), 55–75. <https://doi.org/10.1109/MCI.2018.2840738>.
- Zhang, Y., Zhang, F., Hu, P., Huang, W., Lu, L., Bai, R., Sharma, M., & Zhao, Y. (2016). Exploring Health literacy in medical university students of Chongqing, China: A cross-sectional study. *PLoS ONE*, 11(4). <https://doi.org/10.1371/journal.pone.0152547>.
- iapour, A., Sharma, M., Nejhadadgar, N., Mardi, A., & Tavafian, S. S. (2020). Educational Needs Assessment among 10-14-year-old Girls about Puberty Adolescent Health of Ardebil. *Archives of Public Health*, 78(1), 1–7. <https://doi.org/10.1186/s13690-019-0388-3>.
- Zulkarnain, M. A., Setyaningsih, Y., & Wahyuni, I. (2021). Personal characteristic, occupational, work environment and psychosocial stressor factors of musculoskeletal disorders (MSDs) complaints on bus driver: Literature review. *IOP Conference Series: Earth and Environmental Science*, 623(1). <https://doi.org/10.1088/1755-1315/623/1/012013>.