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Lecturing Method and Video Learning Media Effectively Increases Knowledge and Motivation on Health Education



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Abstract

The selection of health education media should be based on target tastes, broad impact, and presented in an attractive manner. Health Education on Breast Self-Examination (BSE) is generally still carried out using the conventional method, namely face-to-face (FF). This study aimed to determine the effect of health education on BSE using the Lecture Plus Animation Video Demonstration (VBL) on the knowledge and motivation of Vocational High School students. There were 80 respondents who were divided into 2 groups, 40 students in the control group with health education provided with direct FF, and the rest with VBL. The level of knowledge and motivation were obtained through a questionnaire and then the Wilcoxon signed-rank test was conducted to determine the effect of the intervention on each group, while Mann-Whitney to find out which group had better knowledge and motivation after receiving the intervention. The results showed that the Wilcoxon test in both the control and treatment groups showed $p = 0.000$ for the knowledge and motivation variables. Meanwhile, the Mann-Whitney test for the knowledge variable showed a p -value = 0.004 with a mean rank of 36.00 for the control group and 45.00 for the treatment group. In the motivational variable, the value of $p = 0.003$, and the mean rank of 46.13 in the treatment group. This meant that health education with FF methods or through VBL could increase students' knowledge and motivation, but VBL had a greater influence on increasing respondents' knowledge and motivation in doing BSE.

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INTRODUCTION

Health education is an effort to influence others to do what is expected by the performer (Notoatmodjo, 2012). The selection of health education promotion media should be based on target tastes, broad impact, and presented in an attractive manner (Komala et al., 2014). Health Education on Breast Self-Examination (BSE) is generally still carried out using conventional methods with conventional methods, which is face-to-face. Health education needs to be adapted to technological developments in order to continue to develop so that it can continue to provide benefits despite facing various challenges in its implementation.

Health education about BSE is important for women, especially young women, to be of productive age and at risk for breast cancer (Novasari et al., 2016). BSE will be more effective if it is done as early as possible, i.e., on average, when women reach reproductive age, namely 15-49 years (Novasari et al, 2016). BSE is important for young women to do as early detection of breast cancer considering that the majority of breast cancer patients come to the hospital when they have reached an advanced stage. Early detection of breast cancer will be able to provide greater life expectancy because the disease can be treated immediately.

Health education for adolescents has been widely provided using various media and methods. Previous research generally carried out health education using the lecture method using power point media or printed media such as leaflets or flipcharts. Other studies use audio-visual media in conveying material. This study aims to find out which one has more influence on the knowledge and motivation of SMK students about Breast Self-Examination (Consciousness) between video lectures face to face (FF) and video lectures plus video animation (VBL).

METHODS

This was a quasi-experimental research. The subjects was students of Class XII Vocational High School (SMK) PGRI II, Kediri. This school consists of 6 majors which is Accounting, Office Administration, Marketing, Multimedia, Catering Services, and Agribusiness/Agriculture. There were 80 female students who participated in this research who were taken from several of these majors. The control group consisted 40 students who were given

the video learning of *Sadari* using the lecture method with power point media. The other students were the treatment group where the group was given the *Sadari* learning video which contained lectures and animated videos of *Sadari*. The video was played in front of the class using a projector. Pre-test data from both groups for both knowledge and motivation variables were obtained using a questionnaire. The knowledge questionnaire consisted 2 aspects, namely the basic concept, as well as the implementation of Realization which was manifested in 15 questions.

The motivational questionnaire was adapted from the Student Motivation Scale, in which the material for the questionnaire was adjusted according to the purpose of the research conducted. The Student Motivation Scale was designed by Andrew. J Martin with 9 aspects divided into 2 parts called boosters and guzzlers. Boosters reflect adaptive motivation while Guzzlers are non-adaptive motivation. Boosters consist of self-belief, learning focus, value of schooling, persistence, and planning and monitoring, while Guzzlers consist of low control, anxiety, avoidance, and self-sabotage. Martin also used 7 answer choices ranging from a scale of 1 (Strongly Disagree) to a scale of 7 (Strongly Agree) (Martin, 2003)(Martin, 2001). This research does not use all the aspects used by Martin, but only uses a few aspects, that is Self-belief, Learning focus, Persistence, Planning and Monitoring, Anxiety, and Avoidance. The six aspects used are illustrated in 20 statements with 5 answer choices which is Strongly Disagree, Disagree, Average, Agree, Strongly Disagree.

This was done to make it easier for respondents to understand the available answer choices. The score results obtained were then converted into 5 motivational categories namely Very Motivated, Motivated, Unchanged, Not Motivated, Very Unmotivated The pre-test data for both levels of knowledge and motivation were obtained through a questionnaire before the subject received an education, then post-test data were obtained on the next day after the education. The data obtained were then tested using the Wilcoxon signed-rank and Mann-Whitney test. The Wilcoxon test was conducted to determine whether or not the intervention had an effect on knowledge and motivation after the intervention was given. The Wilcoxon test was chosen with reference to the variable data scale which is an ordinal scale. According to Suparyanto (2011) data with an

ordinal data scale, nominal, not normally distributed, or the number is <30, then it is tested with a non-parametric test (Suparyanto, 2011). The Mann-Whitney test was used to determine whether

there was a significant difference in the effect between the control group and the treatment group with the intervention given.

RESULTS

Age Distribution

Table 1: Age Distribution

Age	Experimental Group		Control Group	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
15	4	10	5	12.5
16	10	25	10	25
17	20	50	22	55
18	6	15	3	7.5
Total	40	100	40	100

Table 1 shows the largest percentage of respondents' age was 17 years in both the control group (55%) and the treatment group (50%).

Exposure to BSE Information

Table 2: Distribution of Exposure to BSE information

Exposure to BSE Information	Experimental Group		Control Group	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Yes	23	57.5	25	62.5
Never	17	42.5	15	37.5
Total	40	100	40	100

Most of the research subjects had received exposure to information about BSE for both Control and Experimental Groups. The information about BSE obtained by some respondents generally comes from their schools.

Distribution of Interest in Getting Education BSE

Table 3: Distribution of Interest in Getting Education BSE

Classification of Interest	Experimental Group		Control Group	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Interested	38	95	35	87,5
Not Interested	2	5	5	12,5
Total	40	100	40	100

Souce: Primary Data

Table 3 showed that most of the research subjects in both the control and treatment groups showed an interest in getting health education about BSE.

Knowledge Level Distribution

Table 4: Knowledge Level Distribution Before Health Education of BSE

Knowledge Level	Experimental Group		Control Group	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Good	8	20	4	10
Moderate	24	60	23	57,5
Less	8	20	13	32,5
Total	40	100	40	100

From table 4 above, we can conclude that mostly students have Moderate Knowledge Level before the BSE Health Education was given on both groups.

Table 5: Knowledge Level Distribution After Health Education of BSE

Knowledge Level	Experimental Group		Control Group	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Good	22	55	13	32,5
Moderate	18	45	27	67,5
Less	0	0	0	0
Total	40	100	40	100

Table 5 showed that after the health education, mostly students on Experimental Group have good knowledge, while the Control Group mostly have Moderate knowledge level.

Distribution of Motivation

Table 6: Distribution of Motivation Before Health Education

Motivation Classification	Experimental Group		Control Group	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Very Motivated	3	7,5	5	12,5
Motivated	32	80	26	65
Unchanged	3	7,5	5	12,5
Not Motivated	2	5	3	7,5
Very Unmotivated	0	0	1	2,5
Total	40	100	40	100

Table 7: Distribution of Motivation After Health Education

Motivation Classification	Experimental Group		Control Group	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Very Motivated	37	92,5	25	62,5
Motivated	1	2,5	15	37,5
Unchanged	1	2,5	0	0
Not Motivated	1	2,5	0	0
Very Unmotivated	0	0	0	0
Total	40	100	40	100

We can see from table 6 that on both Experimental and Control Groups students mostly have Motivated motivation before the health education. From table 7 there are mostly have Very Motivated motivation on both Experimental and Control Groups students after being given by the health education.

Table 8: Wilcoxon sign-rank test and Mann-Whitney

Variable	p value (Wilcoxon-signed rank test)		Mean Rank		p value (Mann-Whitney)
	Experimental Group	Control Group	Experimental Group	Control Group	
Knowledge	0.000	0.000	45.00	36.00	0.044
Motivation	0.000	0.000	46.13	34.88	0.003

DISCUSSION

Age

All subjects in this study were teenagers with the largest percentage of participants being 17 years old. Teenagers is an age phase where humans experience a lot of changes both physically and psychologically. Pieters (2015) states that adolescent is a time to find identity and begin to show their role, in order to get a sense of individual identity. This includes making decisions, taking action, and

also maintaining self-respect. So this is often associated with the decisions of a teenager in applying the knowledge they had (Pieters et al., 2011). Age can affect a person's knowledge, where the older a person gets, the more his catching power and mindset will develop which supports the better one's knowledge (Notoatmodjo, 2010).

According to Papalia and Olds, teenagers have a kind of feeling of invulnerability, that is the belief that they are not likely to experience events that

endanger themselves, this is a popular quote in explaining risky behavior by teenagers. On the other hand, teenagers are an age range that has a formal operational stage in its cognitive development stage. The formal operational stage is a stage where a person is able to think abstractly. A teenager is able to find alternative answers or explanations about something. Teenagers have started to have a mindset as researchers, where they are able to make a plan to achieve a goal in the future (Yusuf, 2011). It is important for teenagers to get education about something so that their vulnerability can be controlled by giving them the opportunity to think about their own health in the future. Adolescence is also a transitional period between childhood and adulthood and is marked by the physical and social changes of adolescents. One of the physical changes that occur is changes in the breasts (Soetjningsih, 2010). Another change experienced by adolescents is social change where their social interaction with the times has resulted in lifestyle changes including increased consumption of unhealthy food (junk food) and the use of gadgets that have the potential to increase the risk of breast cancer. This is due, nutritional imbalance is one of the factors that affect levels of estrogen and estradiol in the body associated with the risk of cancer. Education given to adolescents is important in preventing breast cancer as early as possible. Adolescents who have received education about awareness are expected to be able to apply awareness and get used to implementing awareness in their lives.

Exposure to BSE Information

This research showed that most subjects in both the control and experimental groups had received information about BSE. Information about BSE is generally obtained by respondents from schools through school wall magazines, but there are also those who obtain this information through community health service centers in the area where they live. According to M.Chaffie, exposure to information about BSE is very important because the information has an effect related to changes in attitudes, knowledge, feelings, and behavior of adolescents (Elvinaro et al., 2014). The same thing is stated in a study conducted by Sugiyanti et al (2013) which said that exposure to sources of information can help adolescents obtain more information than those who have never been exposed to information about BSE before. This information can come from the internet, magazines,

brochures, and other sources of information. The same thing is stated in a study conducted by Sugiyanti et al (2013) which said that exposure to sources of information can help adolescents obtain more information than those who have never been exposed before because the information obtained will affect their knowledge in acting and practicing BSE (Sugiyanti et al., 2013).

Subject Interest

Most of the research subjects in both the control and experimental groups showed an interest in obtaining health education about BSE. According to Hurlock (2013) in Anand (2020), interest will grow together with physical and mental development (Anand, 2020). Adolescence is a stage of human development which is a transitional period between childhood and adulthood which is marked by physical and social changes. One of the physical changes that occur in adolescents is in the breast area. Changes in these body parts generate interest in adolescents for information related to their physical bodies that experience these changes. This makes teenagers have a high interest in health education about Breast Self-Examination (BSE) .

Knowledge Level Distribution Before and After Health Education of BSE

This study obtained that most subjects of both the experimental and control group had sufficient knowledge, and there were respondents who had less knowledge, before receiving health education. According to Irfaniah (2016), the knowledge is quite influenced by several factors including a background as an SMK student who incidentally lacks information and previous health education about BSE at school (Irfaniah, 2015). This is supported by research conducted by Savabi Esfahani (2017) which shows that 50% of respondents have sufficient knowledge before being given BSE health education. It can be concluded that most respondents have sufficient knowledge before BSE education is given due to many influencing factors, one of which is a lack of information about breast cancer and BSE either through the internet, magazines, brochures, or other mass media (Savabi-Esfahani et al., 2017).

Students' knowledge after being given education both in the experimental and in the control, group showed an improvement wherein in both groups there was no knowledge in the category of Lack of knowledge. In the experimental group,

most of the respondents had good knowledge after education about BSE, while the control group was mostly in the Moderate category. The results of the Wilcoxon test in both the control and treatment groups showed $p = 0.000$, which means that health education is given either face-to-face or through video-based learning. Meanwhile, the Mann-Whitney test that was carried out showed the results of $p\text{-value} = 0.004$ with a mean rank for the control group of 36.00 while the treatment group was 45.00. This shows that there is a significant difference in the effect of education on the level of knowledge between the treatment group and the control group. The treatment group showed better knowledge than the control group.

According to Notoatmodjo (2010), there are various ways that can increase students' knowledge about breast self-examination, one of which is by providing health education (Notoatmodjo, 2010). This is in line with research conducted by Yie & Park (2012) which states that professional breast health education is effective in increasing BSE knowledge and practice (Myungsun & Young, 2012). Research conducted by Kasih (2014) says that health education is very effective in increasing young women's knowledge about BSE, especially if the delivery is supported by a proven effective method, which is lecture plus video demonstration media using video-based learning (Kasih, 2016).

Subjects Motivation Before and After Health Education

Most of the motivation in the control and experimental group before the health education was in the motivated category. However, there were still unmotivated respondents in both groups and very unmotivated respondents in the control group. Research conducted by Dewanti (2012) found that low knowledge will affect a person's low motivation to perform health behaviors. Most of the respondents' motivation before being given health education was in the Motivated category because previously many had received exposure to information about BSE (Dewanti, 2012). Sari (2012) who conducted research related to information exposure with the motivation to brush teeth, stated that the lack of children's information exposure about dental and oral health can affect their low knowledge of dental and oral health. This explains that the description of respondents' motivation before being given education is mostly in the Motivated category (Sari et al., 2012). This can be

supported by exposure to information about BSE that has been previously obtained so that respondents already have knowledge about BSE and this increases students' motivation to do BSE.

Health education given to respondents, both in the control and experimental groups, showed a positive effect. This can be seen from the majority of respondents in both groups who are Highly Motivated. Only 1 respondent in the treatment group is in the Unmotivated category and no respondents in the Very Unmotivated category. Wilcoxon test in both the control and treatment groups showed $p = 0.000$. This means that in both groups, there is a significant increase in respondents' motivation after receiving education about BSE. The Mann-Whitney test showed a $p\text{-value} = 0.003$, and a mean rank of 46.13 in the treatment group. This means that health education with Video-Based Learning has a greater influence on increasing respondents' motivation in doing BSE.

According to Darmawan & Zulfa (2013), the health education media used is important in supporting the effectiveness of delivering the information provided. The audiovisual education used in the study proved to be an effective medium in the implementation of health education. Audiovisual media with video-based learning is seen as appropriate to the characteristics of adolescents. The health education provided in the form of video-based learning can be considered in more detail by respondents and allows it to be played back through their respective gadgets, making it more attractive and flexible for teenagers (Darmawan & Zulfa, 2015).

CONCLUSION

Health education using the Lecture Plus Demonstration method with Video-Based Learning media increases knowledge and motivation which is more significant than the face-to-face method for vocational high school students.

SUGGESTION

The Lecture Plus Demonstration Method with Video-Based Learning media can be an option for providing effective health education to students.

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CONFLICTS OF INTEREST

There was no conflict of interest during the research implementation and article arrangement.

AUTHORS CONTRIBUTION

Wahyu Nur Pratiwi, Yanuar Eka conceived of the presented idea, procedural administration and tabulating the data. Sri Wahyuni performed the statistical analysis and interpreting data. All authors discussed the results and contributed to the final manuscript.

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