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Analysis of Implementation Psychomotor Assessment of Virus Material in SMA/MA/SMK: Urgency of Assessing the Implementation of Healthy Behavior during the COVID-19 Pandemic

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Abstract

Biology is a subject that bridges students' knowledge about this pandemic period, where this subject must present knowledge about viruses. In fact, the curriculum designs material that is very detailed and thoroughly discusses viruses found at the SMA / MA / SMK level, but the very minimum requires teachers to evaluate pycnomorphic learning related to the application of healthy living habits and preventive efforts to campaign against viruses. Through this article, it will be explained how important psychomotor assessment of this virus is, where the condition of students must have the competence and do real practicum in preventing virus diseases, especially COVID-19. This article is the result of survey, observations on the implementation of psychomotor assessment, *literature review*, and documentation studies that give rise to ideas on the importance of psychomotor assessment of virus material in students. The results of this study explain that the implementation of psychomotor assessments related to the implementation of healthy living behaviors is 32.5% and it is still low. Virus material is very important to be presented in biology learning with consideration of a very wide coverage of material (virology), contextual material, the material as a design for health education indicators, and as an indicator design with epidemic response education.

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INTRODUCTION

The emergence of the Corona Virus (COVID-19) outbreak in early 2020 has shocked all fronts. As of March 19, 2020, 214,894 people were infected with the corona virus, 8,732 people died and 83,313 patients had recovered (Aida, 2020). The pandemic has greatly affected all corners and structures of life, including the education sector. The policies issued to limit the spread of COVID-19 have an impact on various fields throughout the world, especially education in Indonesia. Various policies have been issued by the Indonesian government to reduce the level of the spread of the corona virus by imposing *social distancing*, *physical distancing* to the enactment of PSBB (Large-Scale Social Restrictions) in several areas. This policy urges all elements of education to carry out remote learning or known aslearning *online* (in a network) based on an online system. However, these activities have not been effective, and the content of the material presented by the teacher is basically accepted by students only 50 to 60%. For example, we can see in SMA / MA / SMK biology learning which is carried out in the city of Padang, where the material received by students in online learning is only 60% (Ferdyan, Lufri, & Zulyusri, 2020).

Biological learning can be linked to a pandemic that affects the system learning. Biology is a subject that bridges students' knowledge of the times this pandemic. We know that the COVID-19 pandemic is caused by a new type of corona virus infects humans. The characteristic of this virus is a high speed of spread. Students must know what the virus is, this virus is a living thing or not, how to live a virus, reproduce, and infect certainly must be known by students clearly, especially at times the current pandemic.

In fact, biology is contextual learning (contextual learning) makes it very easy for students to get to know life in the environment, including about this virus. Contextual teaching and learning (CTL), namely, a learning strategy that emphasizes in the process of full student engagement to be able to find the material being studied and relate it to real life situations, thus encouraging students to be able apply it in their lives (Sanjaya, 2006). With this contextual material, an assessment is very necessary to determine the success of students in learning the material virus. In learning about viruses, students are strongly required to be active in carrying out campaign prevention of virus diseases, especially AIDS, but during this COVID-19 pandemic prevention against the corona virus also needs to be done. To define contextual learning conducted by teachers and students regarding the virus, then an appropriate evaluation is carried out a psychomotor assessment of the practice of implementing healthy living behaviors in preventing COVID-19. This is of course very important in this pandemic.

Assessment of the results of student learning activities is very important in the process learning. By carrying out an assessment of learning outcomes, you will be able to find out how much the success of students in mastering the competencies or material that has been taught by the teacher. With the assessment of learning outcome can also be used as a reference to see the level of success or teacher effectiveness in the learning process.

The psychomotor domain is a realm that is closely related to the after-skill a person receives a certain learning experience. The skill itself shows the level someone's expertise in a particular task or set of tasks. Psychomotor is related to learning outcomes that are achieved through skills as result of achieving competence knowledge. This skill competency is an implication of achieving knowledge competency from students (Dudung, 2018).

From observations made in several SMA / MA / SMK in Padang City, psychomotor evaluation material about viruses in biology learning is still minimal where only a lot is done discusses the theory and concept of viruses and does not place much emphasis on skills improvement students in preventing disease against viruses through skill assessment. While this time, the pandemic demands that we be more careful and capable of living side by side with the virus, namely COVID-19.

In fact, the importance of the evaluation is carried out starting from the existing curriculum designed very detailed material and thoroughly discussed the viruses found at the level SMA/MA/SMK. New students know the virus more widely and have good knowledge at SMA/MA. (Ferdyan, Indriati, & Nerita, 2015). The circumstances related to the COVID-19 pandemic and the existing curriculum structure discussing this virus, of course, it should be transformed into direction of education that is responsive to the

plague, more precisely through health education. Education health is a dynamic process of behavior change, where the change is not just a the process of transferring material or theory from one person to another and not a set of procedures, will but these changes occur because of the awareness of the individual, group, or society itself (Wahid & Chayatin, 2009).

Through this article, we will explain how the assessment is feasible and important psychomotor on this virus material is done and is not just a general explanation regarding the dangers of the virus but must also build skills and proficiency in students in prevent disease against viruses. Virus material is very important, especially since the COVID-19 pandemic, so that all students can gain extensive knowledge about the virus.

METHODS

This article is the result of a descriptive survey, observation, documentation study, and literature review which gives birth to ideas about the importance of psychomotor assessments on virus material to students. Observations were made on psychomotor assessments conducted by teachers at SMAN 16 Padang, MAN 2 Padang, and SMK Kesehatan Gema Nusantara Padang. The data were obtained by means of a questionnaire distributed to 10 teachers as respondents. Observations were made on a psychomotor assessment instrument with a document review on the virus material used by SMA/MA/SMK in Padang City. Analysis of the assessment implementation was carried out on learning in 2020, with quantitative and qualitative approaches and described descriptively-analytically.

RESULTS AND DISCUSSION

The Importance of Psychomotor Assessment of Virus Material in learning

Virus material in SMA / MA can be found in the basic competencies of class X. On Competence Basic skills (KD 4) are expected that students can campaign about the dangers of viruses. This matter being the first reason for the importance of virus material related psychomotor assessment student success in conducting campaigns. However, during the COVID-19 pandemic, it can be denied that the campaign being carried out is a campaign regarding the dangers of COVID-19 and how to prevent it. The next step is to develop a curriculum. Activities curriculum development consists of composing the curriculum itself, implementing it in schools accompanied by intensive assessments, and enhancements carried out on certain components of the curriculum on the basis of the results of the assessment (Syarif, 1993). With the development of the curriculum being carried out, the demands for evaluation are conducted by teachers regarding virus material during this pandemic will also change. The second reason is that the virus material is urgent to carry out a related psychomotor assessment COVID-19 prevention efforts are characteristic of SMA/MA students starting to develop standards and expectations of one's own behavior in accordance with the social world (Kemendikbud RI, 2020). This is the entrance and the first step for students to understand more deeply about viruses and being able to change healthy behavior and at the same time become educational material Health at school.

The third reason is the COVID-19 pandemic, which demands that all levels of society must be proactive work together to handle the outbreak. The whole community must be fast and responsive about COVID-19 which is a disease caused by a new type of corona virus. Hence, with maximizing the achievement of KD 4 virus material in SMA/MA through psychomotor assessments strategies provide information and early recognition of viruses and their dangers to students in schools, where all this time the curriculum was scheduled for in-depth knowledge about this virus is obtained in class X SMA/MA. Then it is imperative to include health education into the curriculum uses an innovative approach to improve healthy behavior in students in schools (Almomani et al., 2021).

Analysis of the Implementation Psychomotor Assessment in Virus Learning

The curriculum has main components, including objectives, content or material, process or delivery systems and media, and evaluation. All these components are closely related to one each other. A curriculum must have conformity or relevance (Sukmadinata & Syaodih, 2001). The first conformity is the conformity

between the curriculum and the demands, needs, conditions, and community development. Meanwhile, the second is the compatibility between the component curriculum, namely content according to objectives, process according to content and objectives, as well as evaluation according to the process, content and curriculum objectives.

The curriculum is adapted to the demands, needs, and current conditions. The current COVID-19 pandemic This requires all lines including the education sector to play an active role in providing information to society (students) in order to understand how this pandemic is present and damages all joints life. Therefore, to determine students' understanding in terms of how to prevent for transmission of the virus during this pandemic, it is imperative that a psychomotor assessment of efforts be carried out preventive. Student competence that can be tracked in this regard is of course the competence in the realm of psychologists. Psychometric assessment of virus material for SMA/MA level is not only in the laboratory, but how carry out real practices of virus prevention with healthy living habits.

The competence of students in the psychomotor realm concerns the ability to make movements reflexes, basic movements, perceptual movements, physically enabled movements, skilled movements, beautiful movements and creative. The ability to perform reflex movements, meaning that it responds to a stimulus without realizing it. In learning activities can be shown through: peeling mangoes with a knife, cutting flower branches, displaying different expressions, imitating a movement, and other.

This form of psychomotor assessment basically can be done through assignments/projects and practice. Basically, the assignment/project is useful in improving the practice of deep literacy Compiling a scientific work, while practicing how students can take action against competencies learned.

The level of community success in preventing transmission of COVID-19 is discipline in implementing the "3M" Health and Behavioral Protocol (Washing hands, wearing masks, and Keeping distance) (Kementerian Kesehatan Republik Indonesia, 2020). Departing from this, actually the teacher can already make an assessment of the student's ability to implement Health protocol in preventing COVID-19. If we describe the form of activities that can be carried out with the psychological assessment of virus material can be seen in the following table:

Table 1. The design of psychomotor assessment on virus material for class X SMA/ MA during the pandemic

No	Psychomotor Assesment	Activities	Assesment		
1	Making Projects	Making scientific papers on the dangers of COVID 19 and sharing/	assessment of reports		
		debate			
		Making research reports on community responses to the spread of COVID-19	assessment of reports		
2	Implementing	Discipline implementing health protocols	assessment of practice		
	Practices	Skills to take steps wash hands with good and correct soap	assessment of practice		
		Skills to use a handsanitazer in washing hands	assessment of practice		
		Skills to choose the right mask	assessment of practice		
		Skills in how to use a good and correct mask	assessment of practice		
		Discipline in exercising a minimum safe distance of 1.5 meters.	assessment of practice		

The table above describes the assessment that can be carried out and developed on virus learning material in class X SMA / MA. From the table above, we can see that the assessment psychomotor that can be done is project and practice assessment. Where this project appraisal carried out on students who have been given an assignment in preparing a project, meanwhile Practice assessments are given to students who practice after understanding learning.

Based on the results of observations and interviews with teachers in SMA/MA/SMK in Padang City, among others, SMAN 16 Padang, MAN 2 Padang, and SMK Kesehatan Gema Nusantara Padang were obtained the form of psychomotor assessment implementation on virus material refers to the design above. More the details can be seen in the following table:

Table 2. Implementation of Psychomotor Assessment of virus learning in SMA/MA/SMK

No	Psychomotor Assesment	Activities	Teacher Assessment Implementation Score											
			A 1	A 2	A 3	A 4	B1	B2	В3	B4	C 1	C 2	%	
1	Making Projects	Making scientific papers on the dangers of COVID 19 and sharing / debate	1	1	1	1	1	1	1	1	1	1	100	
		Making research reports on community responses to the spread of COVID- 19	1	0	1	1	1	1	0	0	1	0	60	
2	Implementin g Practices	Discipline implementing health protocols	1	0	1	1	1	1	0	0	1	0	60	
		Skills to take steps wash hands with good and correct soap	0	0	0	1	0	0	0	0	0	0	10	
		Skills to use a handsanitazer in washing hands	0	0	0	1	0	0	0	0	0	0	10	
		Skills to choose the right mask	0	0	0	1	1	0	0	0	0	0	20	
		Skills in how to use a good and correct mask	0	0	0	0	0	0	0	0	0	0	0	
		Discipline in exercising a minimum safe distance of 1.5 meters.	0	0	0	0	0	0	0	0	0	0	0	
Percent of implementation (Activities carried out/ activities assessed X 100%)													32.5	

The table above can show how the psychomotor assessment was carried out in virus learning in SMA/MA/SMK taken from several schools in Padang City. Percentage implementation of psychomotor assessments related to virus material is 32.5%. It can be concluded that the percentage of implementation is still classified low (not more than 50%). Based on observations and interviews conducted, this happened due to several factors on the teacher. Among other things, curriculum factors that do not require it, assessment instruments that do not exist, and teachers simply do not perform psychomotor assessments. The review of the learning implementation plan document and the assessment instruments carried out showed that the majority of teachers only relied on project assessment. In fact, this assessment can be carried out during a pandemic and it is very important to implement it. Assessment can be done virtually and internet-based such as video tutorials and documentary films. Psychomotor assessments that are not actually carried out need development assessment, such as class-based assessment (Syamsurizal, 2019).

The results of learning skills (psychomotor) can actually be measured through (1) observation direct and assessment of students' behavior during the practical learning process takes place, (2) after participating in learning, namely by giving tests to students for measuring knowledge, skills, and attitudes, (3) sometime after learning is complete and later in his work environment (Dudung, 2018). Direct observations that the teacher can make in assessing the practice of implementing the disciplinary health protocol is to take real action the application of healthy living habits. These real actions can be done virtually if learning forces still in online form, provided the teacher observes directly how disciplined students are in carrying out the steps of washing hands, putting on masks properly, and taking care safe distance. For the assessment of skills after participating in learning, it can be done with carry out tests for understanding healthy living behaviors in preventing COVID-19 to measure knowledge and skills. This assessment can be done by compiling questions

(Fitria, Chatri, Lufri, & Syamsurizal, 2020). Then for a long time after learning finished can be done later in the community, meaning this is how students do real practice in everyday life of what they get after learning. Ability to apply health protocols anywhere and anytime as well get used to healthy living habits in order to prevent COVID-19.

To measure learning outcomes in the psychomotor domain, there are two things that need to be done by educators, namely making questions and making devices / instruments to observe work performance learners. Questions for learning outcomes in the psychomotor domain can be in the form of worksheets, assignment sheets, work orders, and experiment sheets. Instruments for observing the performance of students can in the form of an observation sheet or portfolio. The observation sheet is the sheet that is used for observing the existence of an object or the appearance of the observed aspects of the skill. The observation sheet can be in the form of a checklist or a rating scale. The checklist is a list of questions or statements where the answer is just a tick on the appropriate answer with the observed aspects (Nuriyah, 2016).

From the explanation above, the problem of arranging instruments is not implemented by the teacher based on the results of research in SMA / MA / SMK Kota Padang can be overcome, where is the teacher just make simple assessment guidelines in doing psychomotor assessments for the sake of know the skills of students in implementing the discipline of healthy living behavior as a form success in biology learning. Especially with frequent project-based learning implemented by the teacher, then this is actually very easy to achieve (Tibrani, Corebima, Zubaidah, & Ghofur, 2017). Contextual learning materials also make this necessary.

Contextual Teaching Learning (CTL) is a learning concept that helps teachers linking the material taught in learning with real-world situations and motivating students to make a connection between the knowledge they have with planning in their daily lives (Mulyasa, 2010). The Washington State Consortium for Contextual Teaching and Learning defines contextual learning as possible teaching students strengthen, expand, and apply deep academic knowledge and skills various school and outside school backgrounds to solve all the problems that exist in the world real (Komalasari, 2010).

During this pandemic, virus material is very contextual. Currently, teachers are very easily analogies and motivate students to learn in their real life for about what viruses say through the information they get from COVID-19. CTL emphasizes the journey and involvement of students to find material, meaning that the learning process is oriented directly to the experiential process (Kunandar, 2017). If associated with the material organization of the virus and the COVID-19 pandemic, this point can be explained that an important application for students is the implementation of strict health protocols after recognized viruses from learning in school. One of them is not forgetting to do the 3M behavior (Wear a mask, keep your distance, and wash your hands). One of the CTL learning theories is socialization; This theory assumes that learning is a social process that determines the learning goals. Therefore, social and cultural factors are part of the learning system. 3M's behavior by students has required students to think about its impact on other people if they do not act as a social system to achieve learning goals. By studying virus material, students know how the virus is transmitted from humans to humans like the corona virus that causes COVID-19. Virus material in science learning expected not only to be understood by students and stagnant in theories, but students must experience changes in behavior after studying it and relating it to real-time conditions. Because basically the efforts that can be made by the education sector in overcoming the outbreak is by COVID-19 providing education as much as possible through students in schools.

Psychomotor assessment of virus material as a health education design

Health education is an application of the concept of education set forth in it advisory field. From an education perspective, health education is a practical pedagogy or educational practice (Azmi, 2013). Health education is not just a form of learning in class. This education is a whole experience wherever and whenever it can affect knowledge of attitudes and habits of educational targets.

Virus material in learning should not only explain virus concepts and the classification only, but also discusses how the virus causes and transmit disease to humans and what humans should do for avoid

virus infections. The indicators should also be added regarding efforts preventive against diseases caused by viruses. In times of pandemics like today, topics relevant information regarding the virus and COVID-19 is urgently needed. In accordance with the explanation of the concept of Health education above, we need to relate it to virus material on learning that is contextual in nature with learning experiences that can be obtained by students every day, and virus material in learning becomes the basis for such health education.

Health education can be evaluated and called successful if the educational goals (individual, family, group, and society) are able to change attitudes and behavior relevant to educational goals that have been set. Therefore, psychomotor assessments can be used by the teacher to determine this.

Psychomotor learning outcomes can be divided into five stages, namely: imitation, manipulation, precision, articulation, and naturalization (Dudung, 2018). Learning efforts that involve education Health carried out with good psychomotor assessments as well as factor measures success in changing students' attitudes to health. Imitation is the ability to do simple activities and exactly same as those previously seen or noticed. With paying attention to a good hand washing campaign or tutorial is expected that students also have good knowledge and skills in washing hands after being aware of the danger virus. The same performance should be found at other stages of psychomotor success.

Preventive efforts against diseases that come from become steps based on the concepts must be mastered by students. At this time, the term preventive or prevention was just beginning and being poured in SMA/MA curriculum. This preventive action (prevention) is carried out by humans, both personally and group to be able to protect themselves from bad things that might happen. Preventing disease caused by viruses is the main thing, knowledge, and ability that must be owned by students. Therefore, this knowledge has been accepted by students since early in school through virus material. It is at this point that the virus material is very urgent or important for developed. Indicators designed based on virus material are basically steps to achieve Health education goals which are the real domain. Educational goals health is that learners acquire knowledge and understanding of how important it is achieve health behavior so as to improve the degree of physical, mental and social health, making it economically and socially productive (Joesafira, 2012). Especially the capability indicator students to make preventive efforts is the estuary of achieving the goals of health education one of which is through virus material in learning.

Unlike before, the world has become dependent on effective health education to facilitate behavioral responses that will slow the spread of the COVID-19 pandemic. Prevention, risk mitigation and control of COVID-19 are public health priorities very high (Stellefson, Paige, Wang, & Chaney, 2021). From this, it is very clear that virus material in learning is very urgent to develop, with consideration of acquisition Early knowledge by students and the right way to work hand in hand to prevent the spread of the corona virus during this pandemic. With the knowledge he got about the virus, especially information and knowledge about COVID-19, is expected that students will be able change behavior in prevention efforts (preventive) against COVID-19 so that the goal Health education that was previously formulated was achieved.

CONCLUSION

This entire article has described how the psychomotor assessment is appropriate the importance of this assessment on the biology learning material about viruses along with the conditions the COVID-19 outbreak that demands change today. Implementation of assessments in SMA/MA/SMK Padang city still ranges from 25% to 35%. This is certainly a concern for educators know the success of students in the aspects of skills including prevention efforts and healthy living behavior that can be considered as a real practice in life. Then material This virus is very contextual (real) and can be learned by students at this time through observation environment, especially regarding COVID-19.

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