

Learning Module for Elementary School Students Using Learning Model Based on LCM Theory

Achmad Yusuf Udy Nugroho¹, Ardiana Hanatan², Suharno³, Sarwanto⁴

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ABSTRACT

The fifth grade students of elementary school are entering the industriousness vs inferiority stage according to "all encompassing psychological theory" from Erikson. At this stage, students like to learn new knowledge based on their curiosity. The learning model based on LCM theory is designed so that every human being is able to achieve maximum intuitive intelligence by considering the physical aspects, creativity, and ratio or reasoning power. These three aspects are based on the LCM theory introduced by Tibrani. The ADDIE model was used for the development design. The first third stages of the ADDIE model has been applied (i.e. analysis, design, and development). This module consists of animal and human motion organs theme and fresh air for health theme and linking the materials in sub-themes with an art creation process. The components in the learning module consist of KI, KD, indicators, learning activities, student worksheets, evaluation, and independent assignments. Validation instrument that be used was modified from the standard of LPPM UNS and Ghirardini standard. Learning content validation was done by the expert team and has of 85.88% score so it could be categorized as a very good module. This result shows that the science learning module for the fifth grade of elementary school students in animal and human motion organ theme and fresh air for health theme using learning model based on LCM theory is suitable to be used. It also ready to be proceed to the next stage in the ADDIE model product development design.

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Keywords:

Learning Module, Learning Model, LCM Theory.

INTRODUCTION

There are eight stages in the human life cycle according to Erik Erikson, known as "Eriksonian Development Stages" (Dunkel and Sefcek, 2009). These eight stages include basic trust vs. mistrust stage, autonomy vs. shame and doubt stage, initiative vs guilt stage, industriousness vs. inferiority stage, identity cohesion vs. role confusion stage, intimacy vs. isolation stage, generativity vs. stagnation/ self-absorption stage, and stages integrity vs despair stage (Knight, 2017). The basic trust vs mistrust stage is the stage that passed by humans when they are still baby and the first year of birth. The autonomy vs. shame and doubt stage occurs in one until three years old. The initiative vs guilt stage is the stage traversed by humans during early childhood, which ranges from 3rd to 5th years. The industriousness vs inferiority stage is occurring during middle and late childhood in humans (i.e. elementary school to early adolescence). The identity cohesion vs. role confusion stage is the stage that have to be faced by humans in their teens, from 10th to 20th years. The intimacy vs. isolation stage occurs in early adulthood (i.e. 20th to 30th years old). The generativity vs. stagnation/ self-absorption stage passed by humans in their middle adulthood, around 40th to 50th years old. The integrity vs. despair stage is the last stage that must be passed in late adulthood (Sandtrock, 2007).

Science is "a way of thinking and acting" learning (Cromley, 1998). It deals with the process of discovery. Students could have a better capability to think more critical and creative by learning science (Sulisworo and Sutadi, 2018). LCM theory could be extended as Limas Citra Manusia Theory is a theory published by Tabrani. LCM theory was popularized by Tabrani. Limas Citra Manusia correlated to art education because art education has the ability to increase the quality of other education fields, including science (Tabrani, 2015). The learning model based on LCM theory emphasizes in physical, creativity, and ratio aspect. According to Tabrani, human growth and development couldn't be separated from three primary potentials (i.e. physical, creative, and ratios) along with three secondary potentials (i.e. motion, imagination, and feeling) (Sari, 2005). Ratio aspect development is a combination of motion and imagination. Creative aspect development is a combination of imagination and feeling. While physical development

1,2,3,4, Sebelas Maret University ; ardiana.hanatan1808@gmail.com, orcid.org/0000-0002-2618-1896

aspect is a combination of motion and feeling (Tabrani, 1998). Physical, creative, and ratio elements always work together in humans at different levels to achieve intuitive intelligence.

Learning media could be used as an intermediary in bringing information between the teacher and the student in the learning activities (Buckingham, 2002; Smaldino et al., 2005). Learning media could improve and simplify the learning process to get the maximal results in learning activity (Conway, 2011; Siqueira, Berardi, Mistry, J., & Rothberg, 2016). One of the example of learning media is module. But in fact, the use of learning media is still minimal in the learning process (Istuningsih et al., 2018). Also based on several observation, teachers in elementary school still need an addition instructional materials which were appropriate with the themes as a supporting and various references, such as module, past curriculum books, etc. (Pratomo et al, 2018).

Situation of the Problem

Based on Eriksonian Development Stages, students who are in elementary school are entering the stage of industriousness vs inferiority. At this stage, students like to learn new knowledge based on their curiosity. LCM theory could be used to apply the inquiry-based learning system in science education. Several studies have investigated that science learning in elementary school has not paid attention to the Eriksonian Development Stages and LCM theory yet because there is no appropriate model and module to be used.

Aim of the Study

We observed the learning needs in fifth grade elementary school in several matters by questionnaire and interview process. Then we designed module and developed it. After development process, we did the validation process to know the appropriateness of this module. So, the aim of this research is to create a science learning module for in animal and human motion organ theme and fresh air for health theme using learning model based on LCM theory.

METHOD AND MATERIAL

This research categorized as research and development research, known as RnD. We use ADDIE model as the design of the development. The ADDIE model is commonly used as an instructional design to produce effective learning designs (Aldoobie, 2015) . The word "ADDIE" comes from acronyms of the five-stage in the development design (i.e. analysis, design, development, implementation and evaluation).

Analysis is the first process that has been done to find out the purposes of learning process. The second stage is design. In that stage, we have to design the most effective instructional design to achieve the learning process purposes. In development stage, we have to make a factual example of the design we have made previously. This factual example then could be applied in learning process or known as an implementation stage. The last stage is an evaluation. This stage is important stage because we could check the success of the learning design we have done to achieve learning process purposes (Cheung, 2016). This study focuses on the first three stages of ADDIE model to create a science learning module for 5th grade elementary school semester 1 with the theme of animal movement and fresh air for health using the LCM theory-based learning model. After development process, we did the validation by an expert team validators to know the appropriateness of this module.

RESULT

The application of the first three stages of the ADDIE model in the learning module using learning module based on the LCM theory could be shown by Figure 1.

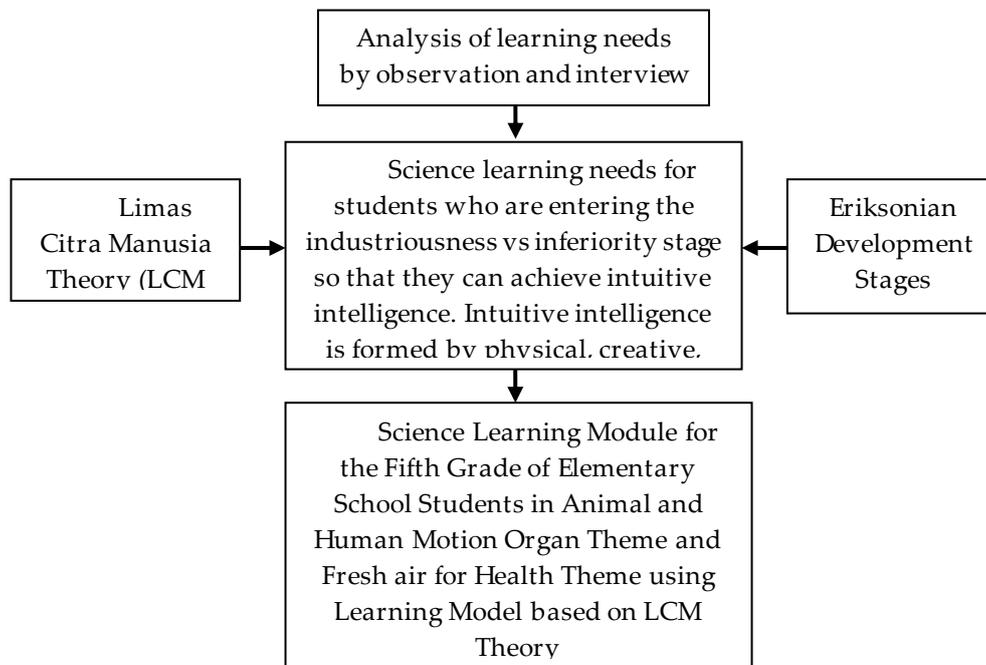


Figure 1. Components and elements that be used in module development design. The module is arranged based on learning needs, LCM theory from Tabrani, and Eriksonian Development Stages from Erikson

There are two themes in the fifth grade of 5 elementary school matters. The first theme is Animal and Human Motion Organ and the second theme is Fresh air for Health. There are 4 sub-themes in Animal and Human Motion Organ theme (i.e. the organ of animal movement, human and environment, environment and its benefits, and project-based activities) (Maryanto, 2017). There are 4 sub-themes too in Fresh air for Health theme (i.e. the way the body processes fresh air, the importance of fresh air for breathing, how to maintain the health of human respiratory organs, and project-based activities and literacy) (Kusumawati, 2017). These materials are then linked to the art creation process which is the basis of the learning model based on the LCM theory. The relationship between the material and the art creation process could be shown by Table 1.

Table 1. Relationship between Matters and Art Creation Process in the Learning Model based on LCM Theory

No.	Theme	Sub-theme	Art Creation Process
1.	Animal and Human Motion Organ	Animal motion organ	make a frame of motion for various animals from colorful cartons.
		Human and environments	make clippings about patients with spinal disorders.
		Environmental and its benefit	make a short comic about the use of human movements in everyday life.
		Project-Basis Activity	make human skeleton dolls and compose short stories for presentation material.
2.	Fresh air for Health	The way the body processes fresh air	make a human respiratory chart using dough.
		The importance of fresh air for breathing	make a simple harmonica and demonstrate it by using the breathing apparatus.
		How to maintain the health of human respiratory organs	make a poster about respiratory organs caring.
		Project-based activities and literacy	make comics using respiratory organ story.

There are information of KI, KD, indicators, learning activities, student worksheets, evaluation, and independent assignments in each sub-theme learning in the module.

DISCUSSION AND SUGGESTIONS

Content validation was done to evaluate the effective of learning modules by considering KI, KD, indicator, and psychological aspect of students. The instrument used was modified from the standard of LPPM UNS and Ghirardini standard (Ghirardini,2011). Validation process was done by an expert validators that consist of material expert, media expert, and education expert. Its distribution could be shown by Table 2.

Table 2. Distribution of expert team validation

Categories	Amount of Validators
• Material expert	1
• Media expert	1
• Education expert	2

The result of validation process by the material expert could be shown by Table 3.

Table 3. The Result of Validation by the Material Expert

Assessment Aspect	Ideal score	Total score	(%)	Category
Feasibility of Content	85	70	82,35	good
Feasibility of presentment	65	53	81,53	good
Language Assessment	25	22	88	good
Average score			83,96	good

The result of validation process by the media expert could be shown by Table 4.

Table 3. The Result of Validation by the Media Expert

Assessment Aspect	Ideal score	Total score	(%)	Category
Graphics eligibility	145	126	86,89	good
Language eligibility	60	53	88,33	good
Average score			87,61	good

The average result of validation process by the education expert could be shown by Table 4.

Table 3. The Result of Validation by the Education Expert

Assessment Aspect	Ideal score	Total score		(%)	Category
		V1	V2		
Writing language	45	32	25	63.33	good
Concept truth	10	8	8	80.00	good
The depth and breadth of the material	20	17	16	82.50	good
Component module	50	45	42	87.00	good
Module appeal	50	48	47	95.00	good
Module presentment	40	37	38	93.75	good
Original Module	35	30	34	91.42	good
Creativity	25	24	20	88.00	good
Evaluation	25	25	21	92.00	good
Average score				85.89	good

The resume of overall validation process could be shown by Table 5.

Final Validation	Result
85,8%	Very good

Based on the Table 5 above, we got 85.8% percentage of validation process. Based on the criteria that have been set (Arikunto, 2008), the results of the percentage of each item could be said successful or valid if the results are in the range of 41% - 60%, 61% - 80%, or 81% - 100%. In that range, module has a criteria "enough", "good", and "very good". Based on Arikunto standard, this module could be categorized in a "good" category. It means module could be applied in learning activities with suggestions and improvements that have been submitted by the assessor. So based on validation process, we can conclude that this module is success for the first third ADDIE model and could be continued for the next steps (i.e. implementation and evaluation).

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