

Development of Electronicmodule Electronic(*E-Modul*) Based Visual, Auditory, and Kinesthetic (V-Ak) In Class V Tema 8 Friends of Our Environment City Sdn Kulon 01 Bondowoso

Iftitah Adelia¹ Yayuk Mardiaty², and Fitria Kurniasih³

¹Elementary School Teacher Education Study Program, FKIP, University

²Jalan Kalimantan 37 Tegal Boto Jember Campus 68121

^{a)} iftitahadelia68@gmail.com

^{b)} ymardiaty@gmail.com

^{c)} fitria.fkip@unej.ac.id

Abstract. Success in a learning process at school is determined by: teachers, students, and learning resources (teaching materials/e-modules). At the stage of the learning process takes place requires the availability of facilities and infrastructure as a carrying capacity to help understand a subject matter. This study uses the Borg & Gall method. The 8 stages carried out in the process of developing the e-Module of this research are: (1) research and data collection; (2) planning; (3) initial product development; (4) preliminary testing; (5) revision of initial product design; (6) trial use; and (7) revision of product design (8) field testing of the product. The result of this process is to produce an e-Module product based on learning styles. The data were analyzed by giving pretest and posttest questions multiple choice which had previously been tested for instrument validity. The data analysis technique used is descriptive statistical analysis by interpreting the research results in order to get the average and percentage.

Keywords: e-module, vak, our friend's environment.

INTRODUCTION

Success in a learning process in schools is determined by: teachers, students, and learning resources (teaching materials/e-modules). At the stage of the learning process takes place requires the availability of facilities and infrastructure as a carrying capacity to help understand a subject matter. According to Budiman (2017) the world of education is required to always adapt to technological developments to improve the quality of education, especially in adjusting the use of technology in the learning process.

Increasing the development of students in thematic learning in elementary schools can be done by preparing quality teaching materials with good delivery. In fact, the application of thematic learning is still not as effective as expected. The problem that occurs is that teachers and students only use teaching materials provided by the school in the form of printed books. Meanwhile, in this thematic learning, various media sources are used to support the learning process (Sasmita and Fajriyah, 2018:164).

Learning anywhere, anytime by utilizing electronics such as the use of gadgets, whether using an internet connection or not (Rahmadi et al, 2018:121). Learning resources aim to provide learning facilities so that a learning goal is achieved and improve learning performance in a learning process.

Indonesia is currently treading the industrial era 4.0, which is marked by digitalization and automation,

among others. Therefore, as is known, the Ministry of Industry is currently actively encouraging the improvement of Indonesian human resources (HR) competencies in order to master digital technology. Martaniah (1991) says that the current era of globalization allows a global lifestyle to emerge. Therefore, facing Indonesian education, currently preparing the 2013 curriculum where the 2013 curriculum refers more to a scientific approach.

The e-Module development taken into account variations in learning styles, namely visual, auditory, and kinesthetic. Visual learners will better capture lessons through image media, cannot learn from the results of repetition. Auditory learners can only collect information through sound, music, verbal communication, and discussion, and it takes several repetitions to strengthen learning outcomes. Kinesthetic learners easily absorb information by touching or trying something. Each characteristic of students will be more motivated to learn and can easily understand the material to have an impact on optimal learning outcomes.

The explanation described above becomes the basis for conducting research on the development of e-modules (electronic modules) based on learning styles. The title of the research is "Development of Electronic Module (e-Modul) Based on Visual, Auditory, and Kinesthetic (VAK) in Class V Students Theme 8 Environment of Our Friends in SDN Kota Kulon 01 BONDOWOSO".

METHOD

Type of research is development research that aims to produce a product. Development research is research that aims to produce validation, and test the effectiveness of a real product in education both models, approaches, modules, or teaching materials, and learning media in order to increase the effectiveness of processes, learning products, and increase the innovative power of teachers in implementing learning activities (Masyhud, 2016:223) research and development (Research and Development). Development This research uses the Borg and Gall steps model (Silalahi, 2017:10-11).

The research data was obtained by giving tests *pretest* and *posttest* multiple-choice which had previously been tested for instrument validity. The data analysis technique used is descriptive statistical analysis by interpreting the research results in order to get the average and percentage.

RESULTS AND DISCUSSION

The effectiveness trial was conducted on fifth grade students of SDN 1 Kulon City, Bondowoso. First of all, students are given *pre-test questions*. Then the product developed is tested by giving it to students for scrutiny, then a learning outcome test is given in the form of a *post test*. The success of the development of this *E-Module* can be seen from the results of the percentage of student competency tests who get a score above the KKM or 75.

The results of the final student response scores get an average percentage of 91.6% of the 15 indicator points of the student response questionnaire sheet. The results of the analysis of the percentage of students are in Appendix I. To calculate the percentage of questionnaire responses using the following formula. The percentage can be measured through the following formula.

Information:

A= Number of Students responding YES
 B = Total Number of Students

Table 3.4 Percentage Scale of Student Responses (Y)

No Interpretation

Percentage of Assessment
81% <y 100%
61% <y 80%

41% <y ≤ 60%
21% <y 0%
0% <y 20%

1. Very High
2. High
3. Medium
4. Low
5. Very Low

(Source: Modification from Indriani (in Alfiyani 2015:148)

The results of the validation carried out by 2 validators, namely the media and language expert validator by Mrs. Dyah Ayu Puspitaningrum, SE, M.Si as a lecturer at FKIP UNEJ, and the second validator is a practitioner expert validator, namely Mrs. Wenty Suliswinarni, S.Pd. as classroom teachers SDN 01 Kota Kulon Bondowoso. Data validation results are then analyzed to determine the feasibility of e-Modules are developed.

- a. the results of the analysis of data validation by media experts and language validators (presented in attachment) obtained the following results.
- b. The results of the validation data analysis by the expert practitioner validator (presented in the appendix) obtained the following results.

Based on the results of product development validation by linguistic and media expert validators, 91% were obtained, while the results by practitioner validators were 96%. The score obtained from the validation test results from the validators of material experts and media experts. Then the total value of V-ah is referred to the average interval of the validity level *E-Modul* as follows. Table 4.3 Validity Criteria

No Time Remarks

1. 80% < Validity of *E-Module* 100% Very Valid or can be used without revision
2. 60% < Validity *E-Module* 80% Valid or can be used with minor improvements
3. 40% < Validity of *E-Module* 60% Less valid, it is recommended not to use it because it is necessary big revision
4. 20% < Validity *E-Module* 40% Invalid or should not be used
5. 00% < Validity *E-Module* 20% Very invalid –

should not be used

(Source: Akbar, et al. 2016:81)

Based on the results and interval data for determining the level of validity of the *e-Module* based on learning styles, it can be concluded that the *e-Module* based on the learning style of the theme 8 environment of our friends V at SDN Kota Kulon 01 Bondowoso is classified as very valid with a percentage level of validity of 91% and 96% with very valid validity criteria. This shows that the developed student worksheet products meet the good criteria.

The results of data analysis and question validation carried out by media expert validators and practitioner experts to determine the feasibility of the questions in the *e-Module*.

- a. The results of the data validation questions by media and language validators obtained the following results.
- b. The results of the data validation questions by the practitioner validator obtained the following results.

Based on the results of the validation, it was obtained that the percentage of the feasibility of the questions was 87% and 90%. The score obtained from the validation results of the feasibility test by the validator of material experts and expert practitioners. Then the total value of V-ah is referred to the validity level interval *E-Modul* as follows.

Table 4.4 Validity Criteria Validity No Time Information

1. 80% < *E-Module* 100% Very valid or can be used without revision
2. 60% < Validity *E-Module* 80% Valid or can be used with minor improvements
3. 40% < Validity of *E-Module* 60% Less valid, it is recommended not to use it because it needs major revision
4. 20% < Validity of *E-Module* 40% Invalid or should not be used
5. 00% < Validity of *E-Module* 20% Very invalid – should not be used

(Source: Akbar, et al. 2016:81)

Based on the validity criteria, the questions in the *e-Module* are stated to be very valid and can be used for testing without any revision.

To find out the results of using the *e-Module* based on learning styles for students, it is necessary to know the effectiveness of the *e-Module* through an effectiveness test. The results of *effectiveness test e-Modul the learning style based can be seen from the*

scores pre-test and post-test obtained from students in grades VA and VB during the learning trials. Based on the test data on student learning outcomes presented in the existing (attachment) data, the student data obtained good criteria. Based on the data obtained, a percentage analysis of the amount can be done.

- a. The percentage of grade A students who completed above the KKM are as follows.
- b. The percentage of grade B students who completed above the KKM are as follows.

Based on the results of the trial using *the product E-Module* based on learning styles, it can be seen that the VA class average score of students in the *pre test* is 69% and the average score of students in the *post test* class A is 82%. the pretest and post-test increased by 13%. Meanwhile, for class VB, the average pretest score is 67% and the post-test score is 80%. Thus, the average result of class VB students on the *Pre-test* and *Post-test* has increased by 13%.

Learning outcomes can be said to be complete by looking at the learning outcomes of students who get scores above the KKM, which is 75. In class VA students who are classified as complete category are 35 with a percentage of 81.39% and for class B students who are classified as complete 30 with a percentage of 88.23%. This shows that *the product e-Modul* based on the Theme 8 Sahabat Kita learning style is effective and successful in helping students understand the material being taught.

CONCLUSION

Based on the discussion "Development of an *E-Module* based on the Theme 8 Environment of Our Friends" it can be concluded that *the development process e-Module* refers to the Borg & Gall procedure. The 8 stages carried out in the process of developing the *e-Module* of this research are: (1) research and data collection; (2) planning; (3) initial product development; (4) preliminary testing; (5) revision of initial product design; (6) trial use; and (7) revision of product design (8) field testing of the product. The result of this process is to produce an *e-Module* product based on learning styles using.

The results of *e-Modules* from the development of *e-Modules* based on learning styles show 91% and 96% validity results, while the validity of the *E-Module questions* is 87, 5% and 90% performed by expert validators. This shows that *e-Module the learning style based can be used with a very feasible category*. Based on the results of the calculation of the

average scores on the *pre test* and *post tests* conducted in class V at SDN 01 Kulon City, Bondowoso has increased by % and the success of the *E-Module* based

on the learning style developed is very effective to use.

REFERENCES

Andi Prastowo. 2012. *Creative Guide to Making Innovative Teaching Materials*. Yogyakarta: Diva Press.

Arif S. Sadiman, et al. 2011. *Educational Media, Understanding, Development, and Utilization*. Jakarta: PT. King Grafindo Persada.

Arshad, Azhar. 2016. *Learning Media*. Jakarta: Raja Grafindo Persada.

Budiman, Harris. 2017. *The Role of Information Technology and Communities in Education*. Al-Tadzkiyyah: Journal Islamic Education, Volume 8, May 2017. Lampung.

Daryanto. 2013. *Develop Modules: teaching materials for teacher preparation in teaching*. Yogyakarta :Gava Media

Deporter, Bobbi & Mike Hernacki. 2015. *Quantum Learning: Familiarize Learning to be Comfortable and Fun*. Bandung: Kaifa PT Mizan Pustaka.

Efendi, Mohammad. 2009. *Curriculum and Learning: An Introduction Towards Understanding KBK, KTSP and SBI*. Malang: FIP State University of Malang.

Indrayanti, Norma Y and Endang Susilowati. 2010. *Module Development*. Surakarta:Service Team LPPM UNS Community.

Mashud. 2016. *Educational Research Methods*. 5th edition. Jember: Institute for Management and Development Educational Professional(LPMPK)

Montgomery, SM, and Groat, LN 1998. *Student Learning Styles and Their Implications for Teaching*. (Papers). CRLT Occasional Papers, The Center for Research on Learning and Teaching, University of Michigan, Michigan.

Pressman, Roger S. 2001. *Software engineering a*

practitioner's approach fifth edition. New York: McGraw Hill Higer Education.

Purwaningtyas, WD 2017. *Development of Online-Based Electronic Module With Edmodo Program*. Journal Education, 2(1), 123, 121 129.

<https://doi.org/http://dx.doi.org/10.17977/jp.v2i1.8471>

Rahmadi, FI 2018. *The Need for Lecturer Learning Resources that Support -Based Learning Information and Communication Technology in Higher Education*. Jakarta State University.

Sasmita, A and Fajriyah, K. 2018. *Development of Ecosystem Theme Based Quantum Learning Modules for Classrooms V Elementary School*. Journal of Educational Reflection. Volume 2. PGRI University Semarang.

Solomon, RD (2009). *Toolbox For Teachers and Mentors*. America: Wheatmark.

Sriyono. 1992. *Teaching and Learning Techniques in CBSA*. Jakarta: PT Rineka Cipta p. 265-266Sutjipto, Bambang. 2013. *Learning Media: Manual and Digital*. Bogor: Ghalia Indonesia. Vembrianto. 1975. *Introduction to module teaching*. Yogyakarta: Paramita Education Foundation.

Yamin, M. 2013. *Strategies and Methods in Learning Models*. Jakarta: Reference (GP Press Group).