

# Vi-Learning in understanding the History of Indonesian Culture in the Digital era

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**Abstract**—*Vi-learning* has an important role in overcoming the limitations of space and time in the digital literacy-based learning process in this digital era. The development of *Vi-learning* is targeted at developing multimedia-based learning media by means of the internet, mobilphone, gadget or the like. This method learning is independent with internet tools to study the historical knowledge culture spread in Indonesia with cultural peculiarities

which have noble values and local wisdom for students Unesa. Efforts to develop *Vi-learning* is to give students an understanding of (1) Importantly digital literacy for the development of teaching history in the digital age; (2) measuring the response activities of the students; and (3) Analyzing the level of understanding of Indonesian Cultural History material as a process of inheritance and preservation of the nation's cultural noble values in the digital age.

This development research method is based on the *Design Research* model, that is (1) Analysis of *Vi-learning* development needs; (2) The design of the development of learning media for the history of Indonesian Culture; (3) Development of *Vi-learning*; and (4) the trial product *Vi-learning* Indonesian culture to students of history education study program.

Learning *Vi-learning* History of Indonesian Culture is part of the process of building critical and reflective thinking skills to get back to the local wisdom of national culture into a beautiful Indonesian national culture and needs to be preserved in the digital age. *Vi-learning* as a new learning model makes it easy for students to see some of the material presented in the form of digital literacy displayed online and can be downloaded whenever students want it. Student responses improve because of the limited ability to utilize IT and internet-based media so that many students are interested in learning and logging in and try to view material content so that there is traffic activity in it'. The basic abilities of students can also be seen from the results of the pre-test and post-test conducted during *Vi-learning* learning is well appreciated.

**Keywords**— *Vi-learning, Indonesian cultural history, students*

## I. INTRODUCTION

The concept of *virtual learning* or *Vi-learning* was developed not to replace face-to-face learning in the digital era. Combining face-to-face learning with the concept of *Vi-learning* will enable an increase in the quality of learning, increase the effectiveness and efficiency of

digital literacy-based learning processes. *Vi-learning* is developed to support the quality of learning that can be applied as the only distance learning process or combined with direct learning.

The application of *Vi-learning* requires a student component and learning resources facilitated by ICT to achieve IT-based learning goals. The main principles in *Vi-learning* are authority and collaboration. Authority in a sense, students have the responsibility to determine the material, access to learning resources, time owned, the media that will be used, as well as the place and steps taken to achieve learning objectives based on digital literacy. Collaborative in the sense that to be able to carry out these responsibilities students are required to interact with other students, teachers or tutors; and other learning resources available.

Indonesian cultural History it is one of the course of history that provides guidelines for every student to study, analyze, and solve the problem of culture that occurred in Indonesia from time to time. Course of Indonesian Cultural History through the development of courses online *Vi-learning* can provide a complete understanding of the development of Indonesian culture in education history Department to understand (1) the diversity of cultures in Indonesia in digital literacy; (2) The values of local wisdom from the results of Indonesian culture; (3) The dynamics of the history of Indonesian culture when undergoing a process of acculturation with foreign culture and global culture in the digital era. Minimum literature on the Indonesian cultural History -specific and not a lot to show pictures of the results of the culture became an obstacle to understanding the historical development of Indonesian culture. The second obstacle is caused by the unfamiliarity of students understanding the concepts of basic culture and national culture that specifically discusses Indonesian culture widely from various perspectives of knowledge. A third constraint is a source of learning and teaching media Indonesian Cultural History specialized IT-based (digital literacy) that can provide the knowledge base about the nature Indonesian Cultural History in the digital era.

The preparation and development of *Vi-learning* in an effort to understand the basic concepts of historical

knowledge of Indonesian culture requires a model of the development of multi-media-based learning. Model development of innovative multimedia and internet-based learning can be represented natural develop models n *virtual learning* .

*Vi-learning* has an important role in order to overcome the limitations of space and time in the process of learning the Indonesian Cultural History, which has a very extensive study of the material and the complexity of the issues in the digital era of (1) diversity culture; (2) cultural perception; (3) inheritance of local cultural noble values ; and (4) cultural dynamics in the modern era. *Vi-learning* became learned concepts alter-native to History Department student in history education and become a learning solution that used of technology .

Electronic learning or *Vi-learning had been* began in the 1970s .[1] Various terms are used to express opinions / ideas about electronic learning, including: *on-line learning, internet-enabled learning, virtual learning, or web-based learning*. Implementation learners an-based *Vi-learning* is becoming one of the examples of the use of ICT in learning.

There are three important things as a requirement for learning activities *Vi-learning*, namely (a) learning activities carried out through the use of online networks with the internet, (b) the availability of support for learning services that can be utilized by study participants, such as CD-ROMs, or printed materials, and (c) the availability of tutor support services that can help participants learn when experiencing difficulties.[2] In addition, they can be added to other requirements , such as (a) the institution that organizes / manages the activities of *Vi-learning* , (b) the positive attitude of students and academic staff of the computer and internet technology, (c) the design of learning system that can learned/known by each learning participant, (d) an evaluation system of the learning progress or development of the learning participant, and (e) feedback mechanism developed by the organizing institution utilizing the network (Internet, LAN, WAN) as a method of delivery as other modern learning services.[3]

The development of learning *Vi-learning in* Indonesian Cultural History for students in the history study program Unesa aims to see learning achievements that are easier to understand independently without knowing the limitations of space and time . In order to increase knowledge and broad insights for these students, it is necessary to utilize digital literacy wisely as a virtual learning resource so that students can think critically and reflectively when utilizing an online internet system with *searching-googling-browsing* engine features . Optimization of critical analytical and reflective thinking in sorting and selecting learning resources in *Vi-learning* to work for the accuracy of the digital information about the awareness of the process of learning the culture of the nation is wise. *Vi-learning* into the source, materials and media to learn

modern for students to study, analyze, and solve national problems in the perspective of the noble values of Indonesian people that the noble values of the nation is maintained .

Efforts to develop *Vi-learning* cultural history of Indonesia is to give students an understanding in order to understand:

1. Importantly development of *Vi-learning* for the teaching of Indonesian Cultural History in the department of history Education Unesa.
2. Measuring the response activities of the students against the *Vi-learning* as materials and learning resources concept Indonesian Cultural in Unesa.
3. Analyze the level of understanding of Indonesian Cultural History material on history education students when studying online *vi-learning* Indonesian Cultural History as a provision for the inheritance and preservation of the nation's noble cultural values.

## II. RESEARCH METHODS

This development research method is based on the *Design Research* model which contains 3 main components (1) Analysis of the background of the problem that needs to be developed; (2) The development design takes the form of a medium of learning the history of Indonesian culture as a source of history; (3) Development of *Vi-learning* in learning Indonesian Cultural History to facilitate awareness of the importance of culture as an inheritance of the noble values of Indonesian history; and (4) testing products such as *Vi-learning* Indonesian Cultural History to students of history education study program.

Three functions of electronic learning to classroom instruction activities , namely as a supplement to its choice / optional, complementary (complement), or a replacement (substitution).[4] The *Vi-learning* based learning system is delivered online so students can discuss study, ask questions and work on practice questions, quizzes, online discussion forums. All learning processes are carried out without requiring students to be present in certain classrooms, but can still interact with each other to discuss lessons as happened in classical classrooms.

Improved quality of teaching and learning based *Vi-learning* is encouraging there is its interaction between lecturers with students do it remotely. Learning optimization *Vi-learning* this can be carried out simultaneously wherever and whenever appropriate the wishes of students and faculty through the medium of a computer or gadget / cell of each student.[5] Students can get more learning materials from sources/materials that have been designed in learning packages available on the Internet site.

The development of digital media in the form of *Vi-learning* refers to the 4-D development model consisting of four stages, namely (1) *Define*, (2) *Design*, (3) *Develop*, and (4) *Disseminate*. The application of

the development steps is adjusted to the needs of development in the field, which is only limited to trials, and not to *disseminate*, namely:

1. *Define*, includes five main steps, namely *frontend analysis*, *learner analysis*, *concept analysis*, *task analysis* and *specifying instructional objectives*. the *define* stage is done in two steps:
  - a. Front End Analysis, aims to bring up basic problems such as limited learning resources
  - b. Material analysis, to identify the parts that will be developed on the material *Vi-learning* Based on 15 meetings, at least 1 learning material is needed for each meeting to become the main material.
2. *Design*, includes two steps, namely:
  - a. Format Selection, the media developed is to create learning material based on IT in *Vi-learning* Unesa shaped various study materials and forms of media.
  - b. The initial design of instructional media contains learning materials, learning resources and activities as well as direct interaction of IT/internet based learning in accordance with the RPS.
3. *Develop*, includes two steps:
  - a. Validation of instructional media experts and substance experts on Indonesian Cultural history material with instruments and provide suggestions and comments by writing on the validation sheet.
  - b. Limited trials, limited trials on history education study programs, especially in class and 2016 class A and B students.
4. *Disseminate*, by testing the model of the development of *vi-learning* History of Indonesian Culture in the students of the 2016 History of Class A and Class B.

The research subjects were students of the 2016 History Class study program class A and B to measure learning outcomes and measure student participation in accessing online lectures on the Indonesian Cultural History *vi-learning*. Participation is measured by the average level of activity activity both during discussion forums, pretest-posttest and UTS.

Data collection techniques include questionnaires about the satisfaction and usefulness of online *vi-learning* lectures to find out the quality of digital material in *Vi-learning* Indonesian Cultural History at Unesa. Recorded statistical records can support and see the level of student participation in several online bills that must be uploaded by students.

Implementation and student response to the learning process based *Vi-learning* measured by the average percentage of participants who joined the discussions during ongoing online discussion forum. The accuracy of upload task also taken into consideration to see enthusiasm students

used the *Vi-learning* as a source of learning and learning materials on the Indonesian Cultural History.

Range of scores on the implementation of the trial to assess the feasibility of *vi-learning* this course is 1-4. The eligibility criteria for the trial results are determined based on the following formula (max score-min score): 4. The results of this division become the width of the interval class at each classification (assessment criteria) namely (4) very good, (3) good, (2) less good, and (1) not good.

### III.RESULT AND DISCUSSION

#### A. Design Development of *vi-learning*

Through *Vi-learning* students can learning materials cents yourself or if required students to ask for help in the form of interaction that is facilitated by the computer, such as learning-assisted computer (*computer based learning/CAL*) or *interactive web pages*, learn aided teacher or tutor synchronously and asynchronous.[6]

After mapping the material content and media forms agreed upon, it is necessary to compile a variety and several images that will be able to support the learning process of learning the Indonesian Cultural History in the digital era. The selection of images as part of this learning needs to be arranged in such a way as a support for independent learning taken from various foreign literature and *googling* from the internet. While the selection of video content is taken in the rendering pattern of several videos which are then made into one whole content unit that requires accuracy and carefulness in accordance with the appropriate learning outcomes. This arrangement needs to be done in the process of online *vi-learning* is so that there is significance between the material in some good literature books in foreign languages as well as in Indonesian language with some video editing that has been designed to assist in the understanding of learning Indonesian Cultural History.

The development of online -based learning through *Vi-learning* is now a practical and practical learning need to achieve the broadest range of material to be delivered on the basis of digital literacy. Based on the results of the questionnaire calculation, it is obtained the truth that after carrying out learning through *Vi-learning* for several meetings, it generally shows that students expressly agree and agree to the learning of *Vi-learning* as a modern learning model and can access various learning resources responsibly, efficiently, effective and modern without having to study in classical classrooms.

*Vi-learning* as a source of learning to be part of the process of building a critical and reflective thinking skills by using a source of learning and knowledge information in digital form via the Internet[7] need to be optimized in Unesa students. Based on the results that the basic ability of

students in the use of *Vi-learning* as a learning resource provides positive response for students able to access the material, learning and optimizing learning resources anytime and anywhere.

Learning *Vi-learning* Indonesian Cultural History is part of the process of building critical and reflective thinking skills to get back to the local wisdom of the nation's culture into a beautiful Indonesian national culture that needs to be preserved in the digital age. In the learning content of *Vi-learning*, it is known that this new learning model makes it easy for students to see some material even though it is not time for the material to be taught because the material is presented in the form of digital literacy. This is because all material content has been displayed online and can be downloaded whenever students want it. Student responses are improving due to the limited ability to utilize IT and internet-based media so that many students are interested in learning and *logging in* and trying to view material content so that *traffic activity* occurs therein ' .

The basic abilities of students can also be seen from the results of the pre-test and post-test conducted during *Vi-learning* is well appreciated. Activities when the pre-test shows the interest of students to see the results of the initial evaluation of CBT-based questions that are immediately known to the results. .

Table 1 . Pre -*Vi-learning* Activity Results of Indonesian Cultural History

NO	ACTIVITY	TOTAL	PERCENTAGE
6	<b>Quiz</b>		
	Post Test	713	47.19%
	Pre Test	798	52.81%
<b>Total Quiz</b>		<b>1511</b>	<b>100%</b>

In addition to seeing the understanding of learning material through pretest and posttest, *Vi-learning* also holds discussion forums both with friends and lecturers. The goal is to see the response and traffic of digital literacy-based learning activities can take place effectively, efficiently and optimally in the digital era so that students use them as a source of learning at the same time as a diverse source of learning about Indonesian Cultural History. Activities open discussion forum on the topic of learning 2, 7, 10, 12, 14 and 15 shows the response of a high sense of curiosity when these students can convince his opinion with historical evidence that they can be from a variety of learning resources. The bill during the discussion forum to be able to display supporting information made the students start learning to *browse* and look for authentic and valid evidence to strengthen their opinions while pointing out the sources of information they were required to display in the results of the discussion forum. Likewise, the bill for uploading a number of tasks such as PPT tasks and the task of understanding a reading of sources that must be reviewed.

This student's interest opens up new skills in the direction of IT-based global learning. Analysis at the time

the midterms were designed based online with a predetermined time limit. Familiarity and nature of the mutual cooperation of students during the learning process *Vi-learning* can be successfully created if there are some students who have not succeeded clicking upload their assignments

Skills and mutually supportive community nature of the activity of *Vi-learning* encourage some students began to appear to give attention by *chatting* to a faculty adviser *Vi-learning* related online learning difficulties and open . Chatting is also done early learning *Vi-learning* to facilitate trouble and less students to new learning formats such IT-based.[8] In addition to the learning activities that have been done online, lecturer builder *Vi-learning* is also an evaluation of the learning process through monitoring the activity *log* and discussion forums that took place .

Table 2. Results of Task and UTS Activities

NO	ACTIVITY	TOTAL	PERCENTAGE	
1	<b>Assigment</b>			
	The Task Analysis of Nyai Video	1604	7.95%	
	Translate Song Gij Mee Nar Fried Rice	1534	7.60%	
	PPT duties	805	3.99%	
	Local Genius Tasks	1694	8.40%	
	Local Wisdom Tasks	1307	6.48%	
	The task of Vesis and Nyepi Trisuci	1206	5.98%	
	UTS assignment	1087	5.39%	
	<b>Total Assigment</b>		<b>9237</b>	<b>45.78%</b>

The results of the questionnaire calculation in the form of a percentage are then explained with qualitative sentences. Through the results of this questionnaire will be obtained truths related to student responses about the concept of online learning. After implementing the learning *Vi-learning* for several meetings, generally based on the results of questionnaires showed the students stated strongly agree and agree to learning *Vi-learning* as a model to learn modern and can access a variety of learning resources in a responsible, efficient, effective and modern

In order to increase knowledge and broad insight for students, it is necessary to be introduced how to utilize digital literacy as wise as the source virtual learning in the digital age through learning *Vi-learning* encourage students begin to think critically and reflectively . Optimization of critical analytical and reflective thinking in sorting and selecting learning resources in *Vi-learning* for the accuracy of the digital information can help the process of learning

about the awareness of the importance of culture as a pillar of the national identity of a nation or country in Indonesia that must be preserved. The diversity of cultures, ethnicities, religions and the fading of traditions in the younger generation are examples of learning about ethnicity in Indonesia which is *Bhinneka Tunggal Ika*. Understanding history as a meaningful final value of learning is more apparent from the response between students to understand each other and learn together online.

**Learning *Vi-learning* Indonesian Cultural History** like source of learning modern need to provide guidance to students to study, analyze, and solve national problems in the perspective of the great value philosophy based on local wisdom culture of each region is more integrated to foster an attitude of nationalism nationalism. Use values noble nation in every basic cultural wisdom culturally diverse communities will remain intact and the character of the nation encourage the teaching of history becomes important in building character/identity nationality in Indonesia.

The development of learning based on the internet at this time is a necessity because digital literacy learning can reach a wide range of material to be delivered. *Vi-learning* can be a medium of learning has a role is important in order to overcome the limitations of space and time in the learning process and optimize the understanding of digital literacy .

Based on the results that the basic ability of students in the use of *Vi-learning* as a learning resource is supported by the positive response WIFI infrastructure in each location around campus Unesa. Students can access anytime, anywhere. In addition to the material presented in the form of power points, some material is also provided in the form of video.

**B. Responcy student learning *Vi-learn***

Implementation of online courses in History Education on student class of 2016 Class A and B for the course of Indonesian Cultural History is the first experience for students at the department of History Education Unesa. Although student so enthusiastic and happy to attend college online *Vi-learning* is due to be considered as a paradigm shift learning classical learning toward online-based and *paperless* in the digital era. Implementation of the study can be done anytime and anywhere , some students can learn in accordance with the desired time of her with to take advantage of WIFI as a learning tool in the digital age-based online by various means .

*Vi-learning* it encourages students can hold a discussion forum or *chat* both with friends and faculty adviser subjects. A variety of tasks designed based on *Vi-learning* nature *paperless* because there are several bills tasks to be uploaded online and discussed online. After implementing the learning, is broadly based on the results of questionnaires showed the students stated strongly agree and agree to learning using *Vi-learning* as a new experience to

apply the model and modern learning resources based on digital literacy. The students' sponsorship in learning *Vi-learning*.

Table 3 . Results Questionnaire Responds students on *Vi-learning*

No.	Statement	Percentage			
		SS	S.	TS	STS
1	active in the learning process	18.42	80.26	1.32	
2	Combining new idea of knowledge (constructive)	10.53	84.21	5.26	
3	Groups Collaboration to share ideas and experiences (collaborative)	19.74	73.68	6.58	
4	Active , enthusiastic, to achieve the purpose of learning	19.74	68.42	11.84	
5	Communication process in - off campus	36.84	60.53	2.63	
6	Learning with a problem based approach / case based learning (contextual).	13.16	80.26	6.58	
7	Conduct reflection activities	32.89	65.79	1.32	
8	Get benefits of audio, visual , kinesthetic	48.68	51.32		
9	High thinking order and Increasing ICT and media literacy	34.21	61.84	3.95	
10	Get feedback	40.79	56.58	2.63	

Based on the above results of the questionnaire showed that 80,26 % of the students agreed that the *Vi-learning* to support the learning process of modern digital age. In general, the response agreed and strongly agreed. This means that through learning *Vi-learning* Indonesian Cultural History makes almost all active students to access the material, doing assignments and active discussion online on page *Vi-learning* Indonesian Cultural History.

The students can incorporate new ideas into the knowledge that has been held previously to understand the meaning or student curiosity and doubt. Through *Vi-learning* students can begin to be easier in obtaining information and knowledge and can carry out learning activities anytime and anywhere. Learning *vi-learning* felt students can work together in a group or community. Students can share ideas, suggestions or experiences, give advice and provide input to fellow member of the group.

The learning process as a social and dialogical process, where students can feel the benefits in terms of

communication both on and off campus.[9] In this aspect only 2.63% of respondents said they disagreed. This means that through *Vi-learning* communication process not only takes place in the classroom when teaching schedule but outside communication can be performed in classroom.

Students get the benefit that learning can be delivered in a variety of learning modalities audio, visual, and kinesthetic. In this aspect, all students stated strongly agree and agree. Through *vi-learning* to train high-level thinking skills and improve ICT and *media literacy*. Indirectly by utilizing *Vi-learning* in student tuition inevitably, like it or not be able to push for the use of information technology that has been developed at this time students can be studied independently .

Table 4. Student Questionnaire Results about attitudes in Learning *Vi-learning*

No o	Statement	Respondents (%)			
		SS	S.	TS	STS
1	Students can be honest when using the internet as a source of learning individually / in groups	40.82	51.02	6.12	2.04
2	Students are responsible for choosing learning resources	40.82	57.15	2.03	
3	Students cooperation in group together to share ideas, suggestions and experiences (collaborative)	22.45	57.15	18.36	2.04
4	Students can actively accept differences of opinion in the learning process	40.82	51.02	8.16	
5	Students can be raised - not you think properly	20, 41	77.55	2.04	
6	Students can think wisely in drawing conclusions	40, 8 2	57.14	2.04	

In addition to the results of a questionnaire that has been presented above, in general, the students also stated that learning through *vi-learning* fun and more effective for learning can be implemented at any time is not limited to space and time. Students are more disciplined in doing tasks according to a predetermined schedule. However, there are obstacles when implementing *Vi-learning* among others, the internet network is slow thus impeding complete the task.

Based on the results of expert validation on the feasibility of the content/material, learning/pedagogical and language teaching materials in the form of teaching materials *Vi-learning* Indonesian Cultural History courses in the category are quite feasible. Input from experts becomes material for the revision of this teaching material. Teaching material *Vi-learning* this course is one of the learning resources arranged according to the learning needs

of students in accordance with the expected basic competencies with online-based digital literacy techniques.

Through teaching materials *Vi-learning* understanding of the history of culture in the course of Indonesian Cultural History, there are several advantages for students and of the faculty. Some of the advantages for students with textbooks include:

- a. exercising students to learn independently in the digital era based on digital literacy
- b. Test the ability of the students themselves by doing exercises that are presented through *Vi-learning*.
- c. able to learn themselves in the digital era
- d. Develop students' ability to interact directly with the environment and other learning resources.

While profits for lecturers, among others

- a. Broadening horizons because it was compiled by using various references that are paperless.
- b. Add to the treasury of knowledge and experience in writing teaching materials based on digital literacy
- c. Building effective communication between lecturers and students because learning does not have to go face-to-face and is online in this digital era.

In connection with the foregoing, the *Vi-learning* should be able to contribute to the development of related subjects, can be used directly in the lecture, and can develop students' critical thinking skills.

#### IV.CONCLUSION

Based learning *Vi-learning* Indonesian Cultural History was an attempt development IT-based learning by leveraging the digital era. Literacy digital modular *Vi-learning*. The development of *Vi-learning* aims to provide a complete understanding in the form of multimedia in the form of digital literacy so that students' understanding of Indonesian Cultural History from time to time can enrich knowledge from various sources and learning materials. Based on the results of the *Vi-learning* activities of Indonesian Cultural History, it can:

1. Increased understanding the Indonesian Cultural History from various digital literacy not only in the *Vi-learning* module but also from various digital literacy that exists on the internet.
2. Producing teaching materials in the form of digital multimedia for the course of Indonesian Cultural History which is holistic (holistic) in the study of some of the dynamics and social and cultural mobility as a basis for understanding the development of Indonesian culture in the digital era.

*Vi-learning* to encourage students to learn the material studied sent himself or if required students to ask for help in the form of interaction that is facilitated by the computer, such as computer-assisted learning (*computer based learning/CAL*) or *interactive web pages*. *Vi-*

*learning* is an effort to provide an understanding of the importance of the media as well as multimedia -based IT can provide understanding through digital literacy on the development Indonesian Cultural History in the digital era that can be accessed anytime and anywhere .

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#### REFERENCES

- [1] H. Z. Empy Effendi, *E-Learning Concepts and Applications*. Jakarta: Andi Yogyakarta Publisher, 2005.
- [2] Waller , V and Wilson , J, "A Definition for e-learning," *The ODL QC Newletters*, pp. 1–2, 2001.
- [3] T. W. U. Mayer, Richard, *Multimedia Learning Principles and Applications*. Yogyakarta: Student Library, 2009.
- [4] W. Hartanto, *Use of E-learning as Learning Media*. Jember: UNEJ, 2011.
- [5] T. B. and T. D. MT Anggoro, AP Hardhono, "Electronic internet and fax-internet tutorial," *J. Open Distance Educ.*, vol. 2 (01), pp. 60–71, 2001.
- [6] B. Suranto, "Virtual Classroom: Learning Strategy Based on Synchronous E-Learning .," in *National Information Technology Application*, 2009.
- [7] Munir, *Distance Learning Based on Information and Communication Technology* . Bandung: Alfabeta Publisher, 2009.
- [8] A. Prastowo, *Creative Guide to Making Innovative Teaching Materials; Creating Learning Methods That Are Interesting and Enjoyable*. Yogyakarta: DIVA Press, 2012.
- [9] I. Ch, *Development of computer-assisted learning programs*. Yogyakarta: FIP UNY, 2001.