Development of E-Module Basic Skills for Elementary Education based on Local Wisdom

Robenhart Tamba[1*], Irsan Rangkuti[2], Suyit Ratno[3,] Elvi Mailani[4]

{robenhart@gmail.com[1], irsanray@gmail.com, suyit85@unimed.ac.id[3], elvimailani@gmail.com[4]}

[1,2,3,4]Primary School Teacher Education, Faculty of Education, Universitas Negeri Medan, Indonesia

Abstract. This study aims to develop an E-Module in the Elementary Elementary Education Skills course at the Faculty of Education, Medan State University. This is based on the following conditions: 1) The Elementary Education Skills Course Module is not in accordance with CPMK, 2) There is no teaching material that is in accordance with Hybrid Learning learning, 3) There has been no development of E-Modules based on local wisdom. The purpose of this study is to develop an E-Module for elementary basic education skills courses which are cross-study courses at FIP UNIMED. This research model uses a 4-D model consisting of 4 stages of the defining stage (*Define*), the planning stage (*Design),* the development stage (*develop)* and the deployment stage (*Disseminate).* The benefits of research as teaching materials that are in accordance with CPMK and online-based in the form of e-modules with ISBNs, articles on LPPM international prodising, articles published in accredited journals sinta 3, Intellectual Property Rights (IPR) research report.

Keywords: E-Module, Basic Skills of Elementary Education, Local Wisdom

1. Introduction

Elementary Education Basic Skills are cross-study courses that must be taken by students of the Faculty of Education in addition to 3 other courses, namely PAUD Basic Skills, PLS Basic Skills and Basics of BK. This course characterizes the existing study programs fip UNIMED as a basic provision for students. These four courses were born on the basis of advice from UNIMED Education figures, Prof. Dr. Syawal Gultom, M.Pd. Since the formation of the Elementary Education Basic Skills course, only once has the lecturer team produced teaching materials, namely the Elementary Education Basic Skills module. Over time and the times, the available modules are no longer in accordance with the needs of UNIMED FIP students when viewed from the Learning Outcomes of the Course. Since 2020 until now the student learning process is online and *hybrid learning* due to the Covid-19 pandemic. Therefore, students really need reading materials as a support or handle for students in attending lectures, namely the appropriate module. Modules are teaching materials from planned learning activity units, arranged to help students complete certain goals and guide students in independent learning.

Students of the Faculty of Education consist of multi-ethnicities, both from the island of Sumatra and outside the island of Sumatra. To preserve the culture in North Sumatra, one of them is by integrating the local wisdom of North Sumatra in the learning module in the course. This also supports the achievement of the objectives of the vision, mission of the elementary school teacher education study program, namely producing research products and developing science and technology related to elementary schools and producing learning models in accordance with the characteristics of children based on local wisdom. Based on the current conditions of online learning, *E-modules* based on local wisdom are the right solution in facing the challenges of learning at the student level to be more effective and efficient.

According to the above problem, the effort made to solve some of the problems above is to develop an e-module in the Elementary Education Basic Skills course that will be used in the lecture process of FIP UNIMED students. Based on the above presentation, the researcher is interested in conducting research: "Development of E-Module basic skills for elementary school education based on local wisdom at FIP UNIMED"

Electronic Module (E-Module)

The materials are converted into paper copies and electronic modules. According to the Ministry of National Education (2008), modules are described as books written with the aim of enabling students to study independently, with or without the guidance of a teacher. E-modules can be implemented as self-contained learning resources, helping students improve their knowledge proficiency rather than relying solely on a single source of information. Suarsana and Mahayukti (2013) found that e-modules can improve students' critical thinking skills and elicit positive responses from students, laptops, tablets and even smartphones. The e-module text can be written in Microsoft Word. However, to view interactive media, you'll need to create an e-module in a dedicated e-book program such as Flipbook Maker, ibooks Author, or Calibre. The e-modules are revolutionary because they contain complete, interesting and interactive materials that allow you to perform good cognitive functions.

According to Wibowo (2018) The differences between print modules and electronic modules (e-modules) are:

Print Module:
· Print-type formats
· It looks like a collection of printed paper
· Physically, to carry it takes space to lay
· Production costs are more expensive
· Paper durability is limited by time
· It doesn't need a special resource to use it
· Cannot be completed with audio or video in the presentation.

E-Module:
· Electronic format (can be a file.doc,.exe,. Swf, etc.
· Displayed using electronic devices and special software (laptops, PCs. HP, Internet)
· More pakrtis to carry
· Cheaper production costs

· Durable and will not weather eaten time
· Using an electric power source
· Can be completed with audio or video in its presentation.

Local Wisdom

According to Rahyono (2009), local wisdom is the human intelligence of a particular ethnic group acquired through community experience. In other words, local wisdom is the result of the experience of a particular community and not necessarily that of others. The values it contains remain tied to a particular society and have existed throughout the existence of that society.

The application of local wisdom values can be used as one of the techniques in the learning process that can help increase students' understanding in learning the basic skills of elementary education. Basic skills of elementary education are cross-study courses for students of the Faculty of Education, Medan State University. By mastering this course, students will be equipped with skills in teaching elementary school children, so that integrating local wisdom will make it easier for elementary school students to understand the material presented because it is something close to their lives.

Local karifan as part of the local culture and cultural heritage of the nation, has an affinity with the community environment so that it will be a good and easily acceptable source of learning. Thus, the learning objectives in the Elementary Education Basic Skills course will be easier to achieve.

Elementary Education Basic Skills Courses

The Elementary Education Basic Skills course is one of the cross-study courses of the Faculty of Education, UNIMED. This course discusses the learning process of Basic Education Skills in elementary schools. In the learning process, students are equipped with knowledge about learning models, methods, strategies, and approaches, especially those related to elementary school students.

Relevant Research

Some of the researches relevant to this research plan are:

1. Research conducted by Rizky Esti Utami, et al in 2018 entitled "Development of Ethnomathematics-Based E-Modules to Improve Problem Solving Ability, it is proven that the language used in ethnomathematics-based mathematical e-models is a language that is easy to understand and does not contain double meanings.

2. Research conducted by Nukhbatul Bidayati haka, et al in 2021 with the title: E-Module of the West Lampung Local Wisdom Ecosystem Based on Contextual Teaching And Learning is proven to be valid and practical to be used and utilized in learning.
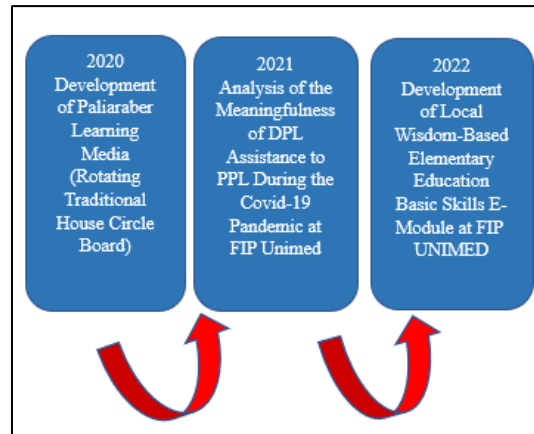
Figure 1. Research Roadmap

2. Purpose

This study aims to develop the Development of E-Module for Basic Education Skills of Elementary Schools Based on Lok**al** Wisdom for students majoring in elementary school teacher education (PGSD) UNIMED

Benefit

The benefits of this research are:

· Students majoring in elementary school teacher education (PGSD) faculty of unimed education, have an E-Module for Basic Education Skills in Elementary Schools Based on Local Wisdom.

· Students can understand various local wisdoms found in North Sumatra that can be used for learning at the elementary school level.

· Students can duplicate and design other local wisdom around their environment as a learning medium at the elementary school level.

· Students can use the E-Module in the lecture process as a learning tool during a pandemic.

2. Research Methods

Research Location and Time

This research was conducted at the Faculty of Education, UNIMED, in the second semester of the 2021/2022 Academic Year. The research time was carried out for 9 months, starting from February to October 2022.

Types of Research

This type of research is development research using modifications of the 4-D development model (*Four-D Models)* According to Sugiyono (2015) the development of the four-D model consists of 4 main stages, namely: 1) *Define* (definition), 2) *Design* (design), 3) *Develop* (development), and 4) *Dessiminate* (deployment).
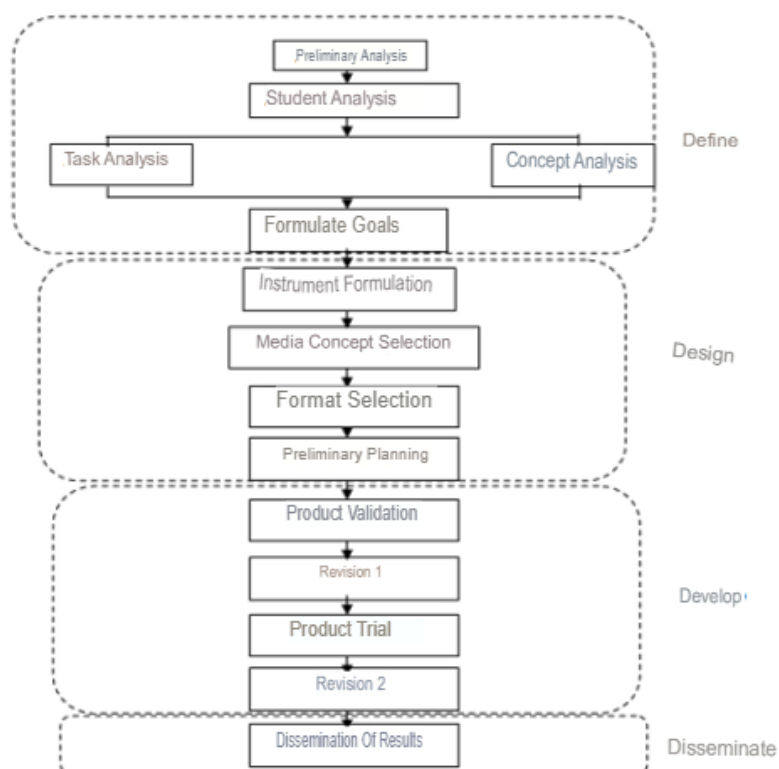

Figure 2 Development Model Flowchart

Development Procedure

The development procedure in this study is carried out through the following stages:

Defining Stage (define).

The *define* stage is the stage to establish and define learning conditions. This *define* stage includes five main steps, namely *front-end analysis*, *learner analysis*, *task analysis*, *concept analysis* and the formulation of *learning objectives (specifying instructional objectives)*.

1. Front-end analysis

The front end analysis faced is The teaching materials used have never been revised and are still in the form of diktats.

2. Learner analysis

Student analysis is carried out to obtain an overview of student characteristics, including: (1) the level of their ability or intellectual development, (2) individual or social skills that are already possessed and can be developed to achieve the established learning objectives.

From the analysis of student skills, 100% of students are able to use computers/laptops and cellphones/gadgets properly. So it is necessary to develop *e-modules* based on *e-learning*.

3. Concept analysis

Concept analysis is carried out in order to identify the main concepts to be taught, structure them in the form of a hierarchy, and detail individual concepts into critical and irrelevant matters. Analysis helps identify possible examples and not examples to describe in ushering in the development process.

Supporting the analysis of this concept, the analyses that need to be carried out are

(1) analysis of learning outcomes of CPMK courses and study materials aimed at determining the number and type of E-modules, (2) analysis of learning resources, namely collecting and identifying which sources support the preparation of E-modules.

4. Concept analysis is carried out by estimating competency standards, learning competencies and learning outcomes in accordance with the current curriculum.

Task analysis

Task analysis aims to identify the key skills to be studied by the researcher and analyze them into the set of additional skills that may be required. This analysis ensures a thorough review of the tasks in the learning material. The tasks performed are still manual and indirectly obtained concrete values.

5. Formulation of Learning Objectives (specifying instructional objectives)

The formulation of learning objectives is useful for summarizing the results of the analysis of concepts and the analysis of tasks to determine the behavior of the object of study. The learning objectives are that this course presents knowledge and skills to students regarding basic elementary education skills. This course is expected to be able to develop the abilities and skills of prospective elementary teachers in learning in elementary schools.

Design Stage (design).

The design stage aims to design learning tools. Four steps must be carried out at this stage, namely: a) preparation of *test standards (criterion-test construction)*, b) selection of media (*media selection*) that is in accordance with the characteristics of the material and learning objectives, c) format *selection (format selection)*, namely reviewing the existing E-module formats and determining the E-module format to be developed, d) making an initial design according to the chosen format.

Development Stage (*Develop*).

This stage aims to produce an E-Module for Basic Skills for Elementary Education based on local wisdom that is valid, practical, and effective. This stage of development includes validity tests, practicality tests, and effectiveness tests. Validity means that the E-Module for Basic Skills

of Elementary Education based on local wisdom designed will be validated by experts according to their field of expertise. Meanwhile, practicality means that after this stage of validity test, it is then revised and then tested during lectures to find out its practicality. Practicality is the level of practicality of the E-Module basic skills of elementary education based on local wisdom, when used in the learning process, while the effectiveness is an assessment of the effectiveness aspects of the E-Module basic skills elementary education based on local wisdom, in the form of the results of cognitive evaluation of students.

Disseminate Stage.
This Deployment Phase aims to promote the development product so that it can be accepted by users, whether individuals, a group or a system. At this stage, the distribution of products on a wider scale is carried out.

Some things that need attention in dissemination are: a) user analysis, b) determining strategies and themes, c) timing, and
d) media selection.

a) User Analytics

User analysis is the first step in the dissemination stage to find out or determine the users of the product that has been developed. The user of the product is a FIP student who attends elementary education basic skills lectures
b) Determination of deployment strategies and themes
The theme set was the study material in the Elementary Education Basic Skills course.

c) Selection of dissemination media

The dissemination media is carried out by publishing through proceedings and journals of national reputation, as well as being an E-module into electronic teaching materials and ISBN textbooks.

Data Collection Techniques
Data and Research Instruments The data collection techniques in this study are as follows:
1. Validation
Validation is carried out on 2 aspects, namely content validation and construct validation. The data is collected by using validation sheets.
2. Observation
Observations are made to observe the implementation of the learning tools developed. Data were collected using observation sheets.
3. Scale
Scale sheets are used to collect information related to the responses of lecturers and students to the learning tools developed.
4. Interviews

Interviews are used for supporting data in measuring the level of practicality and effectiveness of the learning tools developed. The instrument used is the interview guidelines

Data Analysis Techniques
The data analysis techniques used in this study are quantitative and qualitative descriptive data analysis. Data from expert tests and small group tests from questionnaires are evaluated as percentages and described qualitatively. Field test data/user tests in the form of learning processes in a development environment are analyzed by qualitative data analysis of flow models applying the multi-objective principle. In this case, it is important how analytical techniques can be used to help solve the problem.

Analytical activities, including: Data reduction, data presentation, and drawing or validating conclusions. Data reduction activities include classification and coding by data type. Displaying data in a description, table, chart, diagram, or other visual format. The data presented are verified, interpreted and concluded. Data analysis goals include observation level, explanation, and explanation. At the observation level, data are selected, categorized and coded. At the descriptive level, data can be expressed per pattern, per event, per trend, or per semantic. At the descriptive level, the analysis focuses on study effectiveness.

3. Results and Discussion

Validation activities for the Development of E-Modules for Basic Education Skills in Elementary Schools Based on Local Wisdom. which was developed by this researcher, was carried out by teachers, principals and a team of experts from Medan State University. The validator team validates the aspects of the material and media developed by using validation sheets that have been prepared in the development research of the E-Module for Basic Education Skills in Elementary Schools Based on Local Wisdom. The validation results carried out by the validator team in general show that the draft development of the E-Module for Basic Education Skills for Elementary Schools Based on Local Wisdom is already in the good category. There are only a few in certain parts that should be revised and improved by the development team. This must be done immediately, so that the use of the Development of E-Modules for Basic Education Skills for Elementary Schools Based on Local Wisdom can be realized immediately. Some inputs from the team of media experts and materials as a validator team of teaching materials integrated with local wisdom in North Sumatra using the E-Module developed include: (a) the selection of local wisdom used, especially the games used are focused on games that utilize the school environment and encode the diversity of tribes found in North Sumatra, (b) There should be material that is useful as a reference or add-on for students who first complete their learning in each session (c) Add instructions on how to use local wisdom in the learning process,
  In general, the validation results of the validator team for the development of E-Modules for Basic Education Skills for Elementary Schools Based on Local Wisdom. can be seen below:

1. The suitability of teaching materials with the curriculum used. The development of E-Module basic education skills for elementary schools based on local wisdom is in accordance with CPMK. In addition, the depth of the elementary school basic education skills material outlined is in accordance with the needs of PGSD students in the implementation of learning that is integrated with local wisdom in North Sumatra. The entire material is presented simply, clearly, easily understood, and precisely used according to the subject matter. The material is presented using standard Indonesian and in accordance with the general spelling guidelines of the Indonesian.

2. Appropriate use of language according to the student's level and personality. The sentences used represent the logical content of the text and refer to the rules of proper and correct Indonesian sentences. The language used is easy according to the student and the thinking ability of the student. Examples can clarify various concepts that are still abstract and make them more concrete. Explanations of concepts are concrete and students can find them around their existence in both home and school settings, where they can imagine abstract things in their imagination. . The messages are presented in interesting language, easy to understand and communicative, encouraging students to read carefully. The illustrations presented clarify the sketched material. The illustrations come from regions according to scientific disciplines. The grammars used to convey messages refer to the rules of grammar. Indonesian language A language used to explain concepts according to the development of the student and the emotional maturity of the student.

3. Clarity of the examples given. In this aspect, the example questions/ materials presented provide easy understanding for users and participants because they are described in language that is easy for users to understand.

4. Local Wisdom displayed. Various examples of local wisdom displayed trigger students' enthusiasm and motivation in learning so that it arouses students' enthusiasm to play while learning. An example of a local wisdom game is a game that is often encountered by students in their daily lives

5. The accuracy of background selection, the color harmony of the writing is very good so that it makes users feel comfortable and safe. This certainly greatly affects the seriousness and resilience of users in using the MIT App Inventor application in learning activities.

4. Conclusion
Development of E-Module for Elementary Education Skills Based on Local Wisdom. can be used by students majoring in elementary school teacher education (PGSD) faculty of education, Medan State University in lectures that will be carried out, especially during a pandemic. The selection of local wisdom is one way to teach mathematics learning for elementary school students is very interesting and fun for elementary school students because it involves something fun in learning in their time. The development of E-Modules for Basic Education Skills in Elementary Schools Based on Local Wisdom is continued by using other local wisdom, so that the love of culture can be developed and help in the learning process in elementary schools.

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