

DISTANCE LEARNING IMPLEMENTATION MODEL IN NON-FORMAL EDUCATION

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Abstract

Distance learning has become an important solution to improve access to education, especially in non-formal education that serves as a complement or substitute for formal education. Non-formal education provides flexibility for learners who face economic, geographical or other constraints in accessing formal education. This research focuses on the development and implementation of the distance learning model at SPNF SKB Bukittinggi City using the ADDIE method (Analysis, Design, Development, Implementation, Evaluation). The analysis stage identified institutional collaboration needs, subject mapping, and digital module development. The design stage finalised the learning content and model framework. In the development stage, workshops are conducted to build learning strategies and modules uploaded to the Learning Management System (LMS) platform. Implementation was conducted through field tests, and the feasibility of the model was evaluated. The results showed challenges, such as limited competence of educators in using the LMS and infrastructure issues. However, this study confirms the potential of distance learning in expanding access to education and supporting lifelong learning. Recommendations include continuous training and infrastructure improvements for the sustainability of this model.

Keywords : Distance Learning, Non-Formal Education, ADDIE, Learning Management System

Background

One way to expand access to education is through distance learning, particularly in non-formal education, which serves to supplement or replace formal education. Students who are unable to attend traditional schooling because of a variety of reasons, including financial limitations, geographic location, and other limitations, can participate in non-formal education on a flexible basis. Distance learning is necessary as a solution for the execution of learning activities during the COVID-19 epidemic, in addition to being flexible enough to be implemented in formal education that faces these three limitations.

Naturally, the first factor that needs to be taken into account in order to realize the implementation of distance learning is the use of the internet to carry out learning activities in non-formal education. Of Indonesia's 278,696,200 inhabitants in 2023, 221,563,479 were internet users, according to the Indonesian Internet Service Providers Association (APJII) in 2024. It is known that among these internet users, 30.6% are millennials (those born between 1981 and 1996), followed by generation Z (those born between 1997 and 2002) at 34%, generation X (those born between 1965 and 1980) at 18.9%, and then easier generations like the Post Z generation (those born after 2013) at 9.7%. The younger generation utilizes the internet more frequently than the elder age, according to data on internet users across generations.

Information and communication technology (ICT) media, such Learning Management Systems (LMS), can be used to implement learning activities in non-formal education, according to data on internet users in Indonesia in 2024. For the distance learning model to be implemented in non-formal education, the government, educational institutions, teachers, and students must support and prioritize this step. Flexible content delivery is made possible by the usage of LMS, particularly for students who reside in remote locations. The emergence of interactive technologies like the internet and multimedia, which take the place of traditional teaching strategies

reliant on printed materials, supports this option. The use of these technologies supports the idea of lifelong learning by making education accessible at any time and from any location.

The Non-Formal Education School (SPNF) SKB Bukittinggi City's teachers, for example, are still less skilled at creating lesson plans that can be incorporated into the LMS, which attempts to apply distance learning in equivalency education. This is just one of the many obstacles that the usage of LMS currently faces.

Research Method

The Research and Development (R&D) research technique of the ADDIE type (Analysis, Design, Development, Implementation, Evaluation) includes the distance learning implementation model in non-formal education. The following are explanations of the five research methods:

1. **Analysis**

The activities that are carried out at the analysis stage include coordination between institutions and organizations, identifying technical and administrative needs, as well as teaching and learning module development.

2. **Design**

Finalizing the module and model designs was one of the tasks completed throughout the design phase.

3. **Development**

Workshops are being held to create learning modules and techniques, as well as trial tools, during the development stage

4. **Implementation**

Testing the model or product created during the workshop is one of the tasks completed during the implementation stage.

5. **Evaluation**

Creating a report with recommendations and comments on the created items is one of the tasks completed during the evaluation stage.

Result and Discussion

The results and discussion of the distance learning implementation model at SPNF SKB Bukittinggi City using the ADDIE method have an explanation at each stage. The following is the explanation;

1. **Analysis and Design**

- a. **Coordination between agencies and institutions**

Coordinating between institutions and agencies involved in the development of the model by being carried out online which resulted in activities namely mapping the character of students and conditions at the SKB SPNF Bukittinggi City location to overcome the obstacles of student inconsistency.

- b. **Designing an implementation model for distance learning in non-formal education**

This activity aims to prepare the main framework (outline) of model development. This stage is a guideline during modelling. As a planning pattern, it must be able to reveal something related to modelling implementation activities, including problems and objectives; the form or type of data needed; data processing and analysis; organisation of activities, and identification of experts who will be involved. The activity was conducted online via video conference once, involving the reviewers and the development team from SEAMOLEC.

- c. **Identify the development of a model device**

Identifying the needs of teaching material development which includes identifying learning topics to be developed, digital media needs, learning strategies, and other tools that can be used as learning guides. This activity was conducted through a virtual meeting with the module development team from SKB Bukittinggi City.

This activity resulted in an agreement, namely; the development of this model was agreed for three subjects, namely English, Mathematics, and Indonesian. In the learning model at SKB Bukittinggi, 3 types of assessment are used, namely 1) diagnostic assessment (cognitive to measure the initial ability of the learners and non-cognitive to find out the learning style, psychology, and emotional of the learners); 2) formative, and 3) summative.

Problems in the implementation of learning, 1) lack of interest in learning; 2) incompatibility of learning methods; 3) discipline disorders; 4) limited resources; 5) inappropriate level of difficulty; 6) inability to

motivate learners; 7) limited learning time; 8) varied attendance of children; and 9) many children do not submit assignments.

2. Development

a. Workshop on model tool development

Educators were briefed on the concept and syllabus of distance learning. There are 3 subjects that are then mapped to the learning content, namely Mathematics, English and Indonesian. From the three subjects, analyses were conducted related to the material provided, as well as the expected output and how the learning activities were planned to be implemented.

b. Finalisation workshop of learning strategies and modules

This activity aims to complete, refine the framework and important parts of the modules that have been developed in the previous stage, and then with the guidance of the SEAMOLEC team the modules are uploaded to the Learning Management System (LMS) that is already available. The activity was held on 1 - 3 July 2024.

The workshop on the preparation of learning tools by utilising the LMS was attended by 4 model developers as well as educators at SPNF SKB Bukittinggi City. In the workshop it was stated that the purpose of the workshop was to provide an understanding and skills regarding the use of the LMS in managing distance learning. The LMS used in the development of this model is Google Classroom (GCR) by utilising the belajar.id account as the main access for both educators and learners.

3. Implementation

The implementation of this workshop aims to monitor, identify, and document the results of the implementation of distance learning that has been and is currently being implemented, to further become part of the analysis of distance learning system components that still need improvement and modification so that it can be a proposal for improving the quality of distance learning in Non Formal Education. This activity was carried out on 22-24 October 2024. Activities are carried out with a strategy:

a. Exposure about the purpose of testing and monitoring activities, providing responses / feedback from educators and learners through instruments guided by the SEAMOLEC Team. Instruments can be accessed through the following links:

- Distance learning implementation questionnaire <https://s.id/opUGf>
- Educator interview instrument <https://forms.gle/RysTr1wKwoZUNmkr7>
- Learner interview instrument <https://forms.gle/BwyC1usaoQzDqkQs5>

b. Learner interviews were conducted by presenting 5 learners participating in the distance learning programme.

c. Educator Interviews were conducted by presenting 4 educators who developed the model, namely;

1. M. Rashid (Head of English Subject)
2. Alfi Hayyi (English Subject Teacher)
3. Helvina Fransiski (Lecturer of Indonesian Language Subject)
4. Yuhani (Maths Tutor)

Educator interview results can be accessed at the following link <https://forms.gle/RysTr1wKwoZUNmkr7> Learner interview results can be accessed at the following link <https://s.id/zVf8i>

4. Evaluation

This activity aims to evaluate the model development that has been implemented based on the evaluation instruments that have been prepared. The output of this activity is in the form of an analysis document of the evaluation results of the programmes that have been implemented including the development of devices and the results of implementation trials. Evaluation of the results of learning devices, namely:

English Language - Alfi Hayyi

a. Assessment of content quality

At the material relevance stage, it is good enough. Improvements that may need to be made are by adding learning objectives to the learning video on topic 3. Maybe it can be added before the video from the English village.

At the stage of presentation structure and information in google classroom and learning videos, the material explanation is good, structured and clear and there are clear instructions using 2 languages so that students can get used to reading English instructions.

b. Visual and audience assessment

In the visual design stage of the learning video, the colours and elements used are quite consistent and not too crowded. Perhaps other supporting visuals or elements can be added so that the video can be more interesting. At the audio quality stage, the sound quality is very good.

At the aesthetic stage, improvements that must be made are on the font or text settings (both on the layout, amount of text, and size) as well as the arrangement of the location of elements in the topic 2 learning video.

c. Assessment of material delivery

At the stage of using language, the tutor's delivery language in the learning video is good, the tutor seems to invite learning citizens to interact and the information conveyed is clear. In google classroom, the tutor provides instructions in 2 languages so that learners can get used to reading English instructions.

At the question or exercise stage, the tutor provides questions that can encourage learners to think. In google classroom the questions for learners are also in accordance with Bloom's level and taxonomy.

d. Assessment of the duration of the learning video

The duration of the learning video is good and solid, in accordance with the material presented (not too long and not too short).

e. Feedback

Lack of good feedback from tutors in Google classroom. Tutors should provide relevant feedback on assignment results, discussions, and comments from students.

The results of this pilot and monitoring of distance learning in PNF provide implications for the implementation of distance learning, especially for working learners, namely;

- Learners tend to have difficulties in organising their schedules, so it is necessary to consider greater flexibility in the delivery of materials and assignment deadlines, so that learners can adjust to their work schedules.
- Strategies need to be developed to increase interaction between learners, tutors, and fellow learners, for example through online discussion forums, group assignments, or small group tutorial activities, as communication is currently limited to WhatsApp.
- Evaluation methods need to be more varied, not only limited to written exams, but also including project work, presentations or portfolios.
- Further development related to the packaging of learning media, so that it can build learning interactions even though it is not done directly.
- To address the challenges faced by working learners, the following recommendations can be considered:
- Offer shorter and more structured learning modules.
- Provide learning time management skills for learners so that they are more organised in their learning.
- Provide a variety of learning resources that can be accessed anytime and anywhere.
- Forming online learning groups to facilitate discussion and mutual help.
- Conduct periodic evaluations to measure the effectiveness of the distance learning programme and make necessary improvements.

English Language - Rashid Hamdi

a. Assessment of content quality

At the material relevance stage, improvements need to be made: it is better to add learning objectives to the topic 1 and 3 learning videos.

At the presentation structure stage in google classroom and learning videos, the material explanation is good, structured and clear. At the information clarity stage, the information provided is clear.

b. Visual and audience assessment

In the visual design stage of learning videos and modules, the colours and elements used are quite consistent and not too crowded. The module lacks visualisation or examples that can explain each type of main idea.

At the audio quality stage, the improvements to be made are to reduce the background music and enlarge the tutor's voice so that the tutor's voice is heard more clearly in the video topic 3 simple past tense. For topic 1 and 2 videos, it is clear but there are some distractions.

In the aesthetics stage, improvements should be made to the font or text settings (both in layout, size, and colour).

c. Assessment of material delivery

At the stage of using language, the tutor's delivery language is quite good, the tutor seems to invite learning citizens to interact. although there are no questions that can spur learning citizens to think and move.

At the question or exercise stage, improvements should be made by providing interactive questions to learners and encouraging learners to think and analyse either in the learning video or the delivery of material in google classroom.

d. Duration assessment

The duration of the learning video is good and solid, in accordance with the material presented (not too long and not too short).

e. Feedback

Lack of feedback by both tutors and learners in google classroom. Tutors should provide relevant feedback on the results of assignments, discussions, and comments from students. And learners can be more active in commenting and discussing.

Mathematics - Yunahis

a. Assessment of content quality

At the material relevance stage, improvements that must be improved by adding learning objectives are in meetings 1, 2, 4, and 5.

At the presentation structure stage, improvements that must be improved by explaining the material must be done step by step, namely in meetings 2, 4, and 5.

At the stage of clarity of information, improvements that must be improved by explaining the material must be more detailed again, namely in meetings 1 and 4.

b. Visual and audience assessment

At the visual design stage, improvements must be made by fixing elements that are connected to the content of the material content, namely in meetings 1, 2, 4, and 5.

At the audio quality stage, improvements that must be made by making the speaker's voice clearer than the background music sound are in meetings 1, 2, 3, and 4.

At the aesthetic stage, improvements that must be made by adjusting the layout, type, and colour of fonts, fibre layout of images, namely in meetings 1, 4, and 5.

c. Assessment of material delivery

At the stage of narrative clarity, improvements that must be made by explaining the material clearly and adjusting the speaker's intonation not too fast are in meeting 4.

At the stage of using language, improvements that must be improved by using language that is easy to understand and more detailed explanations if there are foreign language words are in meeting 2.

At the question or exercise stage, improvements should be made by providing interactive questions to learners by providing communication instructions in meetings 1, 2, 3, 4, and 5.

d. Duration and rhythm assessment

In the duration and intonation stage, improvements should be made by adjusting the duration of the video to 10-12 minutes and the intonation of the speaker when explaining in meeting 4.

e. Reciprocity and duration

In the user engagement and learning evaluation stages, improvements should be made by adding questions with H5P or similar and providing questions for learner assignments in meetings 1, 2, 3, 4, and 5.

Indonesian Language - Helvi Fransiski

1. Assessment of content quality

The quality of the content needs to be improved from the aspect of audio that sometimes leaks and visuals that are less interesting, material from ppt that is only re-read without further explanation.

b. Visual and audience assessment

Visual assessment needs to be improved again because some visuals are confusing and uninteresting, for example, the same font needs to be made, no more than 3 colours and a less neat layout.

For the audio part, maybe when taking a video, you can find a quieter or quiet room so that other people's voices do not leak, the sound is sometimes less clear maybe because it is in a crowded place.

c. Assessment of material delivery

In the delivery of the material, you should be able to explain more about what is in the powerpoint and not re-read from the powerpoint, it is even better if there is an explanation that is not listed in the powerpoint.

d. Duration and rhythm assessment

At this stage the improvement that must be improved is the rhythm of the speaker is sometimes still too hasty, for the duration it is enough between 10-12 minutes.

e. Reciprocity and duration

At this stage, the feedback from the teacher should be further improved because most of the time in Google Classroom there is no feedback from the tutor, if students answer, they should be given a response so that students are also motivated to answer continuously.

Conclusion

Distance learning has become a strategic solution in improving access to education, especially in the non-formal education sector that is flexible and can replace formal education for those who experience access constraints. The utilisation of the internet as the main infrastructure to support distance learning further enables the implementation of information technology, such as Learning Management System (LMS), especially considering the increasing penetration of internet users in Indonesia, especially among the younger generation.

The ADDIE research method, which includes the stages of analysis, design, development, implementation and evaluation, was applied to develop a model of distance learning in non-formal education. The implementation involves cross-institutional coordination, learning module development, testing, and evaluation to create learning products that meet the needs of learners and educators. In addition, LMS becomes an effective platform to deliver materials flexibly, supporting lifelong learning.

However, the implementation of distance learning also faces challenges such as the lack of educator competence in technology management and infrastructure gaps in remote areas. Therefore, government support through educator training, infrastructure subsidies, and inclusive policy development are key factors to ensure successful implementation of distance learning in non-formal education.

Suggestion

The suggestions given for the implementation model of distance learning in non-formal education consist of:

1. Improving the competence of educators

The advice given to SPNF SKB Bukittinggi City is to provide special training to develop the LMS and the content of the material for educators.

2. Strengthening internet infrastructure

To support the implementation of distance learning, it is necessary to improve internet access, especially in remote areas, so that non-formal learners can learn without network constraints.

3. Multi-stakeholder collaboration

Aims to strengthen collaboration between government, educational institutions, and non-governmental organisations in providing technical support and resources for distance learning development.

4. Continuous monitoring and evaluation

It is recommended that each stage of distance learning implementation is evaluated in a structured manner, by collecting feedback from educators and learners to improve the learning model.

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