Progressive Literacy Task: Design Strategy of Digital Literacy and Competencies in Learning Outcomes

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Abstract. Raising interest in reading and digital literacy skills is currently a big challenge for teachers amid the many information vortices at this time. Attention and awareness of reading are still very low among students. This study aims to make the right learning strategy to form a culture of literacy among college students. This research is descriptive research to find the right model for teaching students about digital literacy both conceptually and in skills. The data in this study is to reveal (1) student learning motivation, (2) the use of learning strategies, (3) digital literacy skills, (4) and the formation of a literacy culture. Data collection techniques in descriptive research are through direct observation, questionnaires, independent assignments, and performance. based on a collection of various data used to formulate appropriate learning strategy designs for students completing instructional technology courses.

Keywords: digital literacy, learning strategy, literacy culture

1. INTRODUCTION

The literacy movement is growing so that literacy skills are also focused on being an assessment parameter for students and teachers. Literacy plays an important role in the progress and the future in order to face global challenges (1). Historically a high level of literacy is the factor that most supports a nation with its people being superior and advanced. Meanwhile, according to the results of a survey from the Asia and Pacific Policy Society, Indonesia is in the third position behind in developing its citizens' digital literacy (2).

Literacy activities can improve students' understanding in drawing conclusions from the information received for the better. Help people think critically. Help increase public knowledge with reading activities. (3). Digital literacy in the academic world must be accompanied by various kinds of activities that activate students' reasoning in accessing information. Examples are reading, writing, interacting with technology, the ability to present work, brainstorming ideas, organizing material, and evaluating information sources (4).

The use of media and technology is currently trending in new ways, therefore all citizens need to have the ability to access, analyze and evaluate sound, images, video, and text as a medium of communication and create content. This concept is often identified with the term media literacy, Even though it is usually used in conjunction with other terms such as media education, digital literacy, media competence, ICT literacy, and transliteration, all of these lead to the same meaning (5).

Based on the research results, it is known that digital literacy has a direct effect on the core competencies that will be achieved by students and learning strategies have an indirect effect on activities that occur in the digital literacy process so that appropriate strategies are needed to realize good literacy activities (6). This shows that each learning process requires the right strategy in accordance with the conditions and situations of each environment by considering aspects of the characteristics of students. Therefore it is very important for lecturers to create the right model in improving the learning process through digital literacy in their learning environment.

The results of the analysis on the development of a conceptual model of digital literacy on 13 types of digital literacy models note that there are five categories of similarities in the discussion including operational aspects, technical and formal aspects (7), information and digital communication, aspects of digital content creation and strategic aspects . Based on the results of this analysis, the researcher considers several indicators that will be used as indicators in developing. Among the aspects considered are operational, technical, and formal aspects which consist of knowing using hardware, knowing and using digital tools and software, knowing and using the internet, knowledge of where to seek assistance. The second aspect is digital content creation which consists of producing creative expressions of awareness of purpose. The third aspect is the strategy which consists of the use of information toward personal or professional goals (7).

Digital literacy skills must continue to be honed to train students' thinking skills (8). Several activities can train students to get used to digital literacy, namely getting used to reading books other than textbooks, such as novels, general knowledge, and even articles that provide positive knowledge on the internet. Watch videos that provide useful information and write a resume to broaden your horizons. Make small notes or mind mapping or brainstorming containing motivational words. Make a regular schedule of discussions and visits to the library to read books (4).

Digital literacy has become very popular in learning institutions as well as among students. A big leap in technology has made significant transformations in our daily lives, so it should be maximized. Thus, the weakness of the availability of digital features must be narrowed, and it is necessary to expand access to technology to create expansion. When students can extensively use media and technology to relate to their environment, communication between individuals help them unite and train students to collaborate and develop creativity through the use of technology (9)

Procurement of the latest technological equipment is one of the determining aspects for modernizing and advancing schools. Technology can make the work of teachers and students easier, can reduce the burden on students in class, vary the forms and methods of teaching, or control the educational process by taking into account the characteristics of students. and track student learning outcomes or progress (10).

The condition of the technological infrastructure at IAIN Pare is very good, this is indicated by the existence of fast internet facilities. Adequate computer lab facilities and a large and complete library. So that through this facility, lecturers and students are increasingly aggressive in carrying out the digital literacy process. However, the facts found on the ground are different. There is a contrasting imbalance regarding the use of learning resources and access from students to teaching materials. This is based on the direct observation that students rarely access materials uploaded by lecturers without instructions. The discrepancy between interest or motivation in reading student teaching materials is an aspect that needs to be investigated further. The increase in technology support should be an aspect of improving the quality of institutions (10).

Therefore it is necessary to have conditioning so that students can get used to developing their literacy in computer-based literacy, media literacy, digital literacy and digital competence so that they can answer the challenges and needs of using technology in the digital era (11). Based on research conducted for the last 40 years showing the impact of computer and digital technology on training and education processes, Digital Literacy Paper, Progressive Literacy Tasks, Development of New Learning Strategies in order to increase student achievement in the training (12), therefore researchers are interested in designing strategies that can shape culture in literacy.

2. METHODS

This research is a descriptive research to find the right model in teaching students about digital literacy both conceptually and skills. There are two types of data used in research, namely quantitative data and qualitative data. Quantitative data is described through the results of analysis of; (1) student learning motivation, (2) use of learning strategies, (3) digital literacy skills, (4) and the formation of a literacy culture, (5) student independent assignment data through progressive reading assignments. Qualitative data is revealed through direct observation of the development of digital literacy through presentations and performances, as well as through interview sessions. Data

collection techniques in descriptive research are through direct observation, questionnaires, independent assignments, and performance. The research subjects consisted of 51 students from third semester of IAIN Parepare learning technology courses.

3. RESULTS AND DISCUSSION

The research findings are described based on the results of statistical analysis and findings during the observation and interview periods which will be discussed in several sections according to the sequence of data collection which will be described as follows.

3.1 Initial observation results

Literacy is necessary to grow in the spirit of student learning (13)

Based on the findings in the field, it was revealed that students' interest in reading was very low. This is based on a brief survey conducted by researchers where there were six classes taught and consisting of approximately 180 students, none of the students read teaching materials uploaded by lecturers. Based on the results of these initial observations, the researcher wanted to reveal more deeply about the literacy problems faced by students.

Based on a brief interview "why don't students read the teaching materials presented?" Several answers were found including technical constraints to access material through the LMS application or network, ignoring lecturer instructions, not knowing that material had been uploaded, and a lack of awareness of the importance of reading.

Based on this phenomenon, the researcher then conducted an in-depth analysis to reveal various factors in order to produce an ideal learning strategy for this situation which will be revealed through statistical data.

3.2 Survey indicator design

The making of indicators is based on a literature review and needs to reveal existing data in the field by considering four aspects. These four aspects can be seen in the following table.

Table 1. Design of Indicator Survey

Aspects	Indicator
Student motivation survey	1, 2, 3, 18, 20
Learning Strategy	12, 13, 15
Digital Literacy	5, 8, 9, 10, 14, 19
Culture of Literation	4, 6, 7, 11, 16, 17

3.3 Student motivation survey

Student learning motivation survey is to measure students' readiness to accept learning. This survey consists of five points that represent every aspect of learning motivation according to Keller, namely Attention, Relevance, Confidence, and Satisfaction. The survey results can be seen based on the data in Table 2.

Table 2. The Indicator Student Motivation Survey Score

No	Indicator of Student Motivation Learning	Score
1	From the beginning I was happy to learn Instructional Technology course.	4,14
2	Instructional Technology material content is relevant to my interests.	3,73
3	When the first time I saw the Instructional Technology course, I got the impression that it would be easy for me.	3,47
4	I am optimistic that I can develop good learning media through this course.	3,82
5	Completing the Instructional Technology course successfully is important to me	4,51

Based on the results of the student motivation survey, it is known that students have high learning motivation. This is shown from statement number 5. with a score of 4.51 from a scale of 5.

then followed by statement number 1. with a score of 4.14 from a scale of 5. Based on these two aspects, the average student is eager to learn learning technology and thinks that knowledge from learning technology is important and relevant to them. This is based on data from statements 2 and 4 with a high score category. As for the third statement, students' initial perceptions of learning technology tend to be easy.

3.4 Learning strategy

Table 3. The indicator of learning strategy score

No	Indicator of Learning Strategy	Score
1	I can easily access lecture material through the learning management system by Edlink.	4,39
2	I am satisfied with the strategy used by the instructor in teaching Instructional Technology.	3,86
3	I am satisfied with feedback from instructors regarding learning strategies used for Instructional Technology	3,65

Based on the data in the table, the average student can use Edlink very well, this is shown from statement number 1 with a score of 4.39 on a scale of 5 which is the highest score in the table. And also students are satisfied with the learning strategies used. However, lecturers should pay more attention to giving feedback. The use of literacy strategies with the feedback method for students will make it easier for them to understand information and improve the quality of their activities or learning (14).

3.5 Digital literacy

Table 4. The indicator of digital literacy score

No	Indicators of Digital Literacy	Score
1	The material provided in the Instructional Technology course is interesting to learn	4,02
2	Having a simulation/workshop in interacting with the software makes me more creative in making work.	4,04
3	I prefer to work on software independently without the help of a tutor	3,29
4	I prefer to work on software with friends or in groups	3,98
5	I've tried and made works through software workshop training.	3,73
6	I am interested in participating in various training or workshops on digital literacy.	3,78

The data in the digital literacy table is to measure students' skills in using software, making works with direct practice, and also interacting with learning content both independently and in groups. The highest score is found in statement number 2 with a score of 4.04 on a scale of 5. This shows that students can express their creativity through direct practice using the software. An example of some of the documentation of student work in workshop activities is shown in Figure 1. Furthermore, in statement number 1. Students are happy with the material on learning technology. And from statement number 4,5,6 it can be seen that students like to study in groups, and are enthusiastic about participating in software training workshops. Student enthusiasm for learning can be reflected in their high self-confidence about the use of IT in learning. Things can arise called self-efficacy where this concept has been proven through research using ICT providing a positive factor in this showing that ICT self-efficacy is positively related to literacy, understanding learning and achievement (15). As for the statement in number 3. It can be seen that students still need assistance from tutors to study. The teacher provides feedback so that learning can run effectively, and also makes students more active. Educators need to create a conducive learning situation so that there is a good feedback process between teachers and students, as well as students and students. There are several examples of ways to process feedback such as peer reviewing students with written responses, and using examples as proxies for teacher feedback is proposed as a pedagogic option that stimulates the production of internal feedback and promotes student feedback literacy (16).

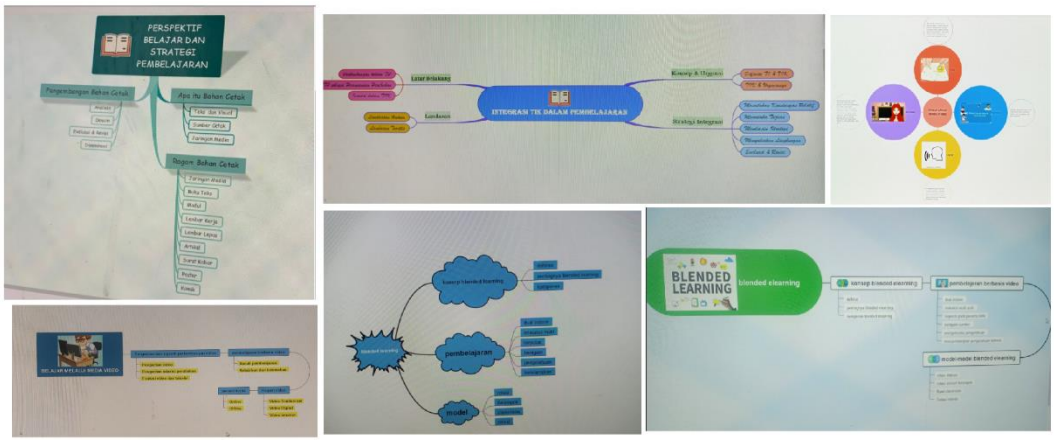

Figure 1. several examples of student exercises applying mind mapping applications in the topic of visual media learning

3.6 Digital literacy culture

Table 5. Indicators of digital literacy culture score

No	Indicators of Digital Literacy Culture	Score
1	Completing the investing time to read the Individual Project in this lesson challenged me.	4,06
2	I believe I can relate the Instructional Technology course to things I have seen, done, or thought about in my own life.	3,92
3	I enjoyed the individual project assignment so it piqued my curiosity about those topics.	3,86
4	The existence of an individual project assignment helps me in practicing new habits in reading	4,31
5	I got good feedback on the culture of investing time to read as an individual project assignment.	3,92
6	Individual project assignments investing reading time brought a change to my mindset in studying.	4,08

A student literacy culture survey is used to find out how changes occur within students after being given a reading assignment before entering a new topic or entering class. Based on the data in the table it is known that statement number 6. has the highest score, namely 4.31 out of 5 scales, then followed by statements number 6 and number 1. This shows that there is a significant change in mindset from students after being given the task of reading learning content first before starting a new class. Students feel challenged to be more active in reading and form new habits to like reading before entering class. Whereas statements number 2, 3, and 5 get a relatively high score which means that students get sufficient feedback during individual assignments in terms of investing their time to read and also students are getting ready to learn.

A survey of students' reading habits or culture to measure students' progress and development in reading. One aspect of literacy is growing interest, enthusiasm, motivation, and reading habits. The assignment to read learning content before entering class is an individual project assignment that is monitored through a reading time investment control card. In the control card, there are two important aspects, namely the duration of reading and the total number of pages read during that duration. It can be seen in the graph shown in Picture 2.

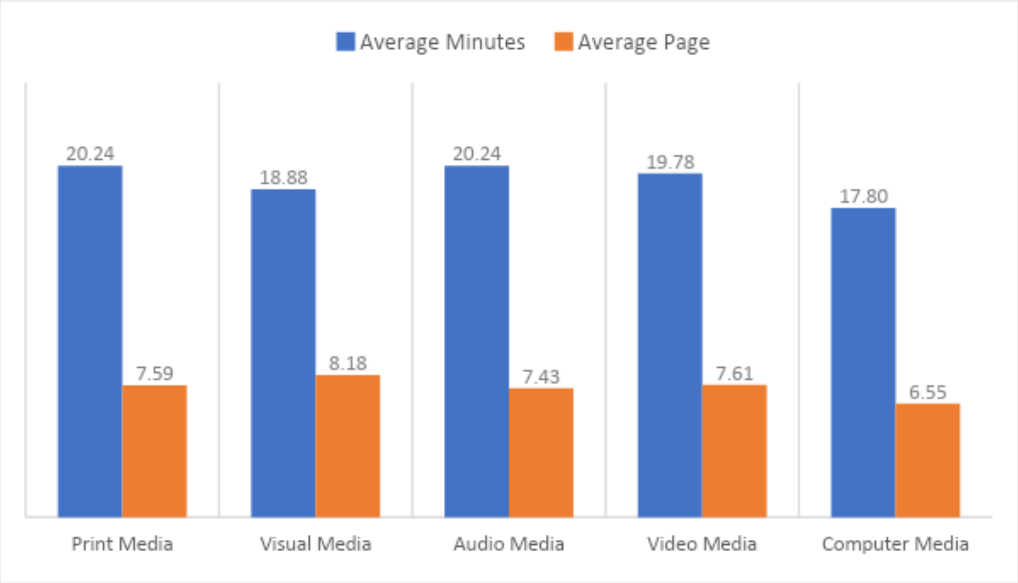

Figure 2. Analysis of average student reading duration and number of pages read on each subtopic of the Instructional Technology course

Based on the graph, it is known that the average duration of students' reading in independent assignments is from 17 minutes to 20 minutes. And the average number of pages that students can read from that duration is at least 6 pages to 8 pages. These statistics show that students can be trained to form a new culture in literacy, namely investing time in reading before starting learning. With regular assignments, this can become a basis for self-regulated learning which has a positive effect on increasing digital literacy in digital learning to increase the efficiency of human resources for sustainable development in lifelong learning. Self-regulated learning can also trigger metacognitive knowledge, resource management, and motivational beliefs showing a significant positive effect on digital literacy (17).

3.7 Instructional Technology learning module assessment

The purpose of assessing the teaching materials for learning technology learning modules is to see how students respond after using the modules provided by lecturers to be read by students through the Edlink LMS platform. This survey uses seven scales to assess learning resources. The first to third scale indicates a negative response, the fourth scale is neutral, and the fifth to seventh scale indicates a positive response.

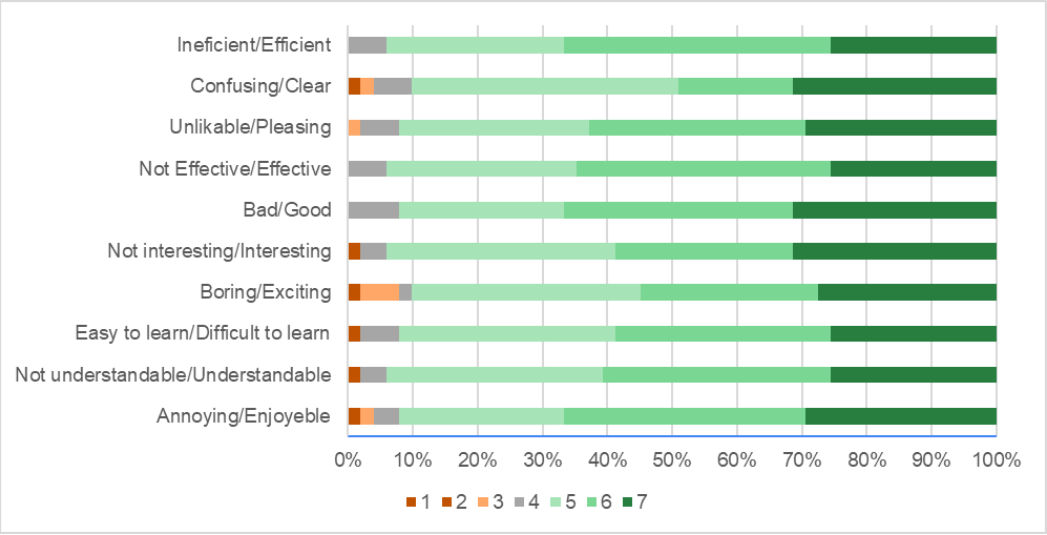

Figure 3. Learning module assessment of Instructional Technology course

Based on the data in the figure, it is known that the average student thinks that the module used is very good. This is shown from the graph around 90% in each aspect. There are only about 10% who think the module used is not good. Less than 10% think this module is boring. The rest considered this module to be effective in use, easy to understand, fun, and clear.

4. DISCUSSION

Based on the results of the research that has been described, it can be seen that students have high motivation in studying and learning technology lectures. That's because the material in learning technology is theory and practice. But to practice media development requires a good understanding of the concept. Therefore, to strengthen students' conceptual knowledge, appropriate strategies are needed in teaching.

The strategy used in lectures is to combine various strategies and learning methods, namely: giving assignments to read modules for entry requirements in class. Each student has a control card to monitor his reading progress. assigning students to compile presentation material in groups, during presentations students present material and also perform performances in the form of simulations or tutorials about using applications in making learning media. Presentation material consists of the development of print media, audio media, visual media, video media, and computer media. The addition of e-learning modules will allow students to be more engaged with the content and more actively engaged in their learning (18) (19). students who are the audience in the presentation session are given the task of summarizing the material from their friends' presentations. At the end of the session, there was a discussion process involving students and lecturers. Questions that cannot be answered at the meeting will be an additional task for students.

All the activities that have been described earlier are a form and effort so that students can get used to a culture of literacy in various aspects. For this reason, this strategy is called the Progressive Literacy Task. PLT is a strategy that was deliberately created so that students are preoccupied with various kinds of activities related to literacy, especially digital literacy. The following is a description of the PLT strategy presented in the chart.

Table 6. Progressive Literacy Task Model

	Literacy Aspect	Activity Description
Introduction	Reading	Before entering a topic, students are required to read the modules provided in the LMS in advance
	Explore the information	After opening the lesson, the lecturer reviews student reading by looking at the student reading control card
Core Activities	Digital Communication	The group of students in charge of presenting the material
	Digital Skills and Competence	Student groups tasked with presenting their work through tutorial activities
	Discussion	Lecturers and students discuss and carry out a question-and-answer process regarding the material and brief training that has been presented
	Writing	Student groups who did not appear on that day were given the task of making a resume from the presentation of the material.
Closing	Evaluation	All forms of assignments, materials, and works or portfolios are evaluated through the LMS

Some things that need to be prepared when you want to use the Progressive Literacy Task strategy are:

1. The University or School has an E-learning learning platform or LMS
2. Lecturers must select teaching materials and enter them into the Learning Management System platform, in this case, IAIN Parepare using Edlink

3. Reading material on the LMS must be arranged on a schedule to be displayed according to student learning progress
4. Prepare a control card to check every time you enter the classroom
5. Lecturers must provide strict sanctions for students who do not carry out reading activities and may be removed from class to read the material first.
6. The lecturer must review the reading material every time he enters the class
7. The agency has a computer laboratory room if it is needed at any time for application/software training activities

The combination of the use of the PLT strategy and the carrying capacity of the use of technology is expected to be a good formulation to prepare students for the digital literacy trend. Lecturers and students must continue to innovate in the digital era and must be able to use an information and communication technology-based learning approach to make it easier for students to follow because the information they receive from cyberspace is extremely fast (20).

5. CONCLUSION

A progressive Literacy Task (PLT) is a learning strategy designed to prepare, control, and evaluate student literacy activities. This requires technological support for digital literacy learning to run optimally. Increasing conceptual knowledge and skills through the establishment of a literacy culture is the main thing in using the PLT strategy.

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