

# Efforts to Improve Skills Basic School Teachers in The 21st Century(Study Case in Primary School Subulussalam)

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## Efforts to Improve Skills Basic School Teachers in The 21<sup>st</sup> Century (Study Case in Primary School Subulussalam)

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**Abstract:** In improving critical thinking skills, collaborating, communicating and thinking creatively are needed in this era 21st century education, one of the efforts is to apply the learning model. Project-based learning (PBL) is one learning models that not only equip teachers with knowledge but in the process of carrying out the project requires the teacher to be able to implement their understanding in real life through teamwork to create an Indonesian language book for elementary school students inside. This research uses the case study method, which involved 40 elementary school teachers, in Subulussalam District, Aceh Province. The instruments used included document analysis (in the form of student self-reports during PBL implementation), 21st century skills rubrics, questionnaires and expert judgment from Indonesian language teachers in elementary schools. It is hoped that this research can optimize the process of improving the skills of 21st century teachers and prospective school teachers basic. From the results of this study also expected a description of the role project based learning model towards 21st century skills and generated a project model that can be used to support the process 21st century skills upgrading for prospective and elementary school teachers, later can be used as a reference for Language Learning courses Indonesia in primary school level.

**Keywords:** skills; teacher; project; learning

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### 1. Introduction

Project-based learning (PBL) can be an alternative model learning that supports 21st century skills improvement. PBL is innovative approach to learning that offers a variety of strategies refers to the success of student learning in the 21st century. In PBL, students determine own learning process collaboratively, conducting research and create creative projects that reflect the knowledge they have.

This can be done through an introduction to various knowledge and skills using technology and then honing their skills in communicating and solving problems [1]. The [2] author states that through PBL students experience an increase in internalizing concepts and skills related to the science lessons, and have a tendency to remember and understand various information obtained through the implementation of PBL. He also stated that this is because students are directly involved in the selection of focus projects to be worked on, this directly affects intrinsic motivation students to continue to search for and explore information by themselves. With active involvement in this PBL, students can continue to deepen their knowledge and practice it in working on the project. In line with the opinion of [2], The [3] expert explains that success PBL because this activity is authentic and related who is strong with the real world. Learning skills and concepts in real contexts produce learning that is relevant and meaningful,

because of students apply the skills and concepts they can directly and indirectly only understand at the theoretical level. From the above study shows the strength of PBL in supporting the improvement of students' skills not only deepening knowledge but also encouraging students to be able to collaborate with his friends to solve problems, communicate their ideas, think critically and create creative works.

This research is intended to see the role of project-based learning through a digital book-making project for Indonesian subjects at High Class can improve 21st century skills of prospective elementary school teachers. In addition, to see how the perception of prospective elementary school teachers' implementation of Project Based Learning in improving 21st century skills.

### 1.1. 21st Century skills

Educational institutions need to consider the scope of the success of their graduates not only limited to academic ability, but more directed at abilities and skills that can help graduates compete in today's developing global and digital world. Skills new needs to be able to survive and compete in the digital world has a very fast change [4]. In line with opinion the Partnership for 21st Century Skills [5] affirmed that 21st century skills are formed from a solid understanding of content knowledge which is then supported by a variety of skills, expertise and literacy needed by an individual to support his success both in a way personal and professional. Further explained this 21st century skill emerged from an assumption that currently individuals live and live in that environment loaded with technology, where there is abundant information, accelerating progress very high technology and new communication and collaboration patterns.

Success in this digital world is very dependent on important skills to have in the digital age, including critical thinking skills, solving problems, communicating and collaborating which is known as Partnership for 21st Century Skills, 2007 [5].

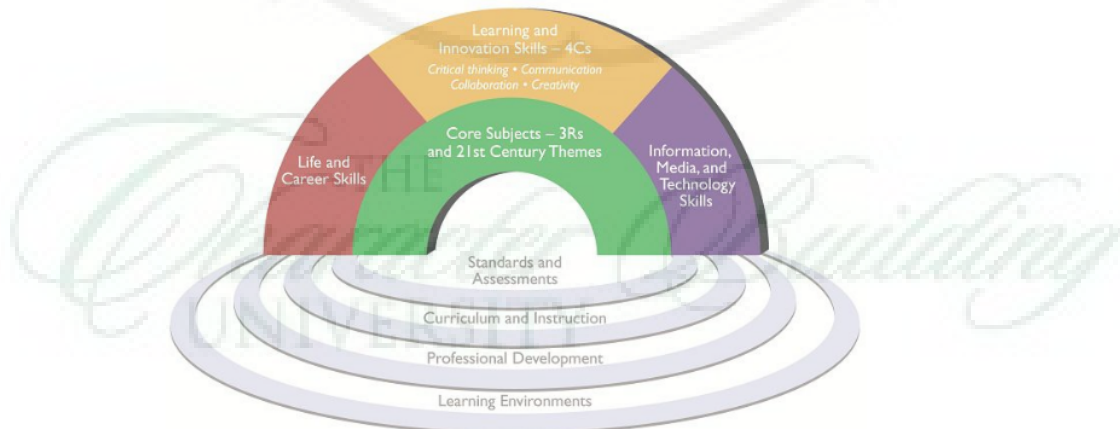


Figure 1. The 21<sup>st</sup> century student outcomes and support systems

The 21<sup>st</sup> Century skills are organized in the following 4 categories:

- a. Way of thinking: Creativity and innovation, critical thinking, problem solving, take decisions, and learn to learn
- b. Ways to work: Communicate and work together
- c. Tools for work: General knowledge and information technology skills and communication
- d. Ways to live: career, personal and social responsibilities including awareness about culture and competence [5].

## 1.2. Critical Thinking and Solving Problems

Critical thinking and problem solving skills are considered as fundamental skills in 21<sup>st</sup> century learning. On each subject and at every level of education, the learning process and instruction are necessary to integrate learning content knowledge, with activities that are critical thinking skills and problem solving [5]. This is consistent with the revised version of Bloom's Taxonomy that uses the terms remember, understand, apply, analyze, evaluate and create [6].

Some research results show that a combination of several of the above skills can improve learning outcomes. Remembering skills, understanding, applying, analyzing, evaluating and creating can be applied simultaneously in a well-designed learning environment and loaded with various types of project-based activities [5].

## 1.3. Communicate and Collaborate

The education system needs to pay attention to good communication skills, verbally and in writing. More broadly, the 21<sup>st</sup> century demands a portfolio of comprehensive individuals in communicating and collaborating to improve the ability to learn and work together [5]. Furthermore, the [5] expert explained that this skill can be obtained through various types of methods, but the most effective way is through social communication - by communicating and collaborating directly both with how to face to face and through virtual media.

## 1.4. Creativity and Innovation

The need for creativity and innovation is a high part of main skills in the 21<sup>st</sup> Century. This relates to the demands of the 21<sup>st</sup> Century products that are more innovative and require a higher level of creativity. At present, knowledge alone is considered insufficient to compensate for acceleration of innovation that highly values the ability to solve problems in new ways, discovering and adapting new technologies, or even find new branches of science and industry that are truly new [5]. This also inspires a change in the education system such as in Finland and Singapore which began to include aspects of innovation and creativity as priorities. The main indicators of student success.

## 1.5. Digital Literacy

Individual skills in digital literacy and information are essential improved both in the world of work, at school, at home and in the community. The increase is needed in relation to the following aspects:

- Access information effectively and efficiently
- Evaluate information critically
- Using information accurately and creatively [6].

### 1.6. Project Based Learning

Project-based learning (PBL) is a learning approach innovative approach to implementing various strategies that lead to improvement 21st century skills. PBL is a controlled learning approach by students through teacher assistance. In this case, students gain understanding through questions that can answer their curiosity [1]. Furthermore, [1] explains that students determine questions their own research is then guided by the teacher to conduct research, then the results of this project are presented to a determined audience previous. Bucks Institute of Education (BIE) Team in the book "Handbook of Project Based Learning" (2008) outlines 5 principles of based learning project as shown in the figure below:



Figure 2. Project-based learning principles

From this illustration it can be seen that a project-based learning must begin with a real goal for the product to be produced end of the project. Next the teacher must determine the driving question of the project before submitting this project to students. In addition, the type of assessment and flow research needs to be determined from the beginning to ascertain the direction of the project to be implemented by students. The last principle to consider is how the teacher will manage the implementation of the project so that it runs smoothly according to predetermined goals.



PBL has a variety of objectives including the development of positive student attitudes, critical thinking skills, teamwork, and independent learning abilities [7]. In this case, students are stimulated to use critical thinking skills which will help them in building a learning community that is mastering collaborative learning content. With the implementation of PBL, students equipped with the ability of life skills that will be useful for his life in the future. In line with the opinion of [8], explained that through PBL students learn to work together and develop skills that are directly related to their personal needs, which they are required to solve real issues that are contextually very important to them.

In practice, PBL emphasizes learning centered on students and put the teacher as a facilitator, while students work actively in small groups to teach one another and help his friend and form his own knowledge [9]. Therefore, in PBL students make meaningful interactions and rooted cooperation from the real world outside the classroom so that it can increase student motivation to continue collaborate in solving problems and completing their projects [10].

Bucks Institute of Education outlines that in Project based learning, students go through a long process that requires them to respond to complex questions, problem or challenge. Students are given the freedom to choose and submit this opinion in determining the flow of project implementation. A project needs to be planned, managed and measured carefully to help students learn core competencies of implementing the project, while practicing 21st century skills they are, collaboration, communication, creativity and critical thinking. From learning project-based is expected to create a high-quality product and authentic from students.

## **2. Methodology**

The method used in this research is an evaluative model case study by using purposive sampling. Purposive sampling is used to ensure that the phenomena that form the core of this research appear in sample. The purpose of the case study with this evaluative model is not to see the frequency of occurrence of a data but to see what appearances are happened and what caused the emergence and what linkages occur between the occurrence or occurrence of these events [11] In terms of this, what is highlighted is what, why and how to model learning Project-based can improve the skills of 21st century teacher candidates for school teachers basic. The research subjects were 40 students of the Teacher Education Study Program Elementary School Semester VI of 2013/2014 which takes courses Indonesian Language Learning for High Classes

## **3. Results and Discussion**

In detail, the description of the Implementation of this Project Based Learning described as follows:

- a. Introduction to project-based learning and introduction of Edmodo as virtual classes used for online collaboration and communication activities.
- b. Project launching, which is used to convey the initial idea of the project accompanied delivery of project handouts to students. At this stage it is



also used for the process of grouping students and determining the role of students in each group. Each group member is given the task to be expert in one of the language skills (Expert in reading, writing, listening and speaking).

- c. Search for references regarding the evaluation criteria for teaching materials. At this stage, students look for information about the criteria for teaching material assessment, then at in their respective groups, they discuss their criteria deemed relevant to the context they will apply and based on reference, each group to make / adapt the criteria new assessment. (Examples of teaching material criteria are in the appendix)
- d. Evaluating textbooks based on the evaluation criteria of teaching materials already made by each group. At this stage each group chooses a few chapters from the textbooks they had determined before, then evaluate the contents of the book based on the criteria they have made. (Examples of evaluation results are in the appendix). After evaluating, groups make plans for improvement or adaptation from textbooks to transformed into digital books.
- e. Discussion of theories and methods of learning Indonesian in High Class, namely related to the four language skills - reading, writing, listening and speaking. At this stage, each expert language skills that have been determined in the initial stages of PBL deliver mini presentations in their respective groups in an effort to trigger discussion within the group. After the discussion, each
- f. groups collaborate to determine which model of teaching material will be displayed in a digital book. At this stage, students immediately get opportunity to implement the theories discussed in
- g. groups into real applications in the form of applicable teaching materials.

### **3.1 Critical Thinking Skills, Collaborating and Communicating within Project Based Learning.**

The initial phase of the project-based learning implementation begins with group formation. Group activities begin with finding information regarding the evaluation criteria for teaching materials or textbooks that are appropriate for school students basic. After each group gets a reference for the criteria assessment of teaching materials, with their groups they are asked to formulate criteria assessment of teaching materials based on the results of group discussions. After getting new teaching material assessment criteria, each group is asked to choose 2 – 3 a chapter from a high-class Indonesian book then evaluates the chapter based on criteria that have been formulated previously.

At this stage, critical thinking skills, collaborating and communicating students have been monitored in the group discussion process. Aspects Critical thinking skills observed are how students:

- a. Use various types of reasoning that suit the situation
- b. Analyze how parts of the whole interaction with one another to get complete results



- c. Analyze and evaluate various perspectives effectively
- d. Interpret information and draw conclusions based on an analysis effectively
- e. Solve various types of problems in conventional and innovative way effectively
- f. Identifying and asking questions effectively to explain various viewpoints and lead to better solutions [9].

Furthermore, for communication skills, the aspects assessed are student skills in:

- a. Articulating thoughts and ideas effectively using oral, written and nonverbal communication skills in various forms and context
- b. Using communication for various purposes (for example to give information, instruction, motivating and persuading).
- c. Make use of some media and technology, and know how to assess their effectiveness and assess their impact
- d. Communicate effectively in diverse environments [9].

Furthermore, for collaborative skills, the aspects assessed are student skills in:

- a. Demonstrate the ability to work effectively and respectfully team diversity
- b. Showing flexibility and willingness to help in making the compromise needed to achieve a common goal
- c. Sharing shared responsibility for collaborative work, and respect individual contributions made by each team member

### **3.2 Student Creativity and Innovation in Project Based Learning.**

Student creativity and innovation skills in learning based this project is seen from the final product they produce in making digital books. How do they utilize technology and make innovations using applications that have been given to be the core of the assessment of creativity and this innovation?

### **3.3 Understanding of Primary School Teacher Candidates for Language Learning Materials Indonesia in High Class in Project Based Learning**

Understanding of Indonesian Language learning content in the High Class student owned is assessed through the digital book products they produce. Assessment this is done by the expert in this case the Indonesian teacher who teaches at high school grade class. The aspects assessed from this digital book product are as follows:

- a. Material presented according to the needs of elementary students
- b. The material presented is interesting for elementary students
- c. The material presented can motivate elementary students
- d. The material presented varies
- e. The illustrations presented in the material help students understand towards learning content
- f. The material presented can stimulate student activity in the classroom.
- g. I am willing to use the material in this digital book in my class





### 3.4 Student Perceptions of Project Based Learning for Enhancing 21st Century Skills

Student perceptions of the implementation of project-based learning obtained through a questionnaire filled out by students in three stages, namely after third week of lectures, sixth week and after students do presentation at elementary school. In general, students argue that project-based learning can help them to collaborate with friends, collaborate and share responsibility, understand, listen, respect the opinions of friends, communicating ideas and managing time well.

Project-based learning is also considered to have helped students in the process of constructing individual knowledge according to capacity each student. In the process of making digital books, in part students explore and construct new knowledge through articles, materials reading, web searching and discussion with friends and lecturers. Most students realize that the process of making digital books is not just to improve ICT skills but also as a process of forming new ideas and knowledge and the application of this knowledge in real form. But not all students feel comfortable with this model because students are still there who feel that good knowledge is knowledge that is conveyed conventionally by direct lecturers.

Project-based learning is felt by students very closely relation to the ability to learn independently. Implementation of this PBL caused to foster the habits of students to learn independently. Responsible for the knowledge needed in the completion of the book digital. This model is also used to foster student awareness that the process learning is not only obtained from lecturers / teachers but also from friends and sources other learning resources such as websites, journals etc. In terms of understanding learning content, where the Learning material Indonesian for High Class is not delivered directly, however delivered along with the process of making digital material, is considered still not to help students understand. Not all students can capture the implied meaning of the stages of the activities in the PBL intended to increase their understanding of learning content. This requires a more explicit explanation of learning content.

### 4. Conclusion

The conclusion of this research are that the Project-based learning can help students to:

- a. Collaborate with friends both in one group and with other groups both face to face and virtually
- b. Work and share responsibilities in completing book projects digital
- c. Understand, respect opinions, listen to, and compromise with friends in making decisions
- d. Communicate ideas that are owned
- e. Make good time management during book project completion digital
- f. Become a bridge in helping students gain understanding profound and applicable to Indonesian Language Learning materials in the High Class. Need recognition and habituation to increase understanding students



regarding the process of constructing knowledge carried out personally not transferred by the teachers.

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