



Developing Students' Worksheet for English Language Teaching to Cope with the 4C's Skill Through Project Based Learning

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Abstract: This research aims to implement and evaluate design concepts and develop a PjBL-based students worksheet adapted to teaching materials to improve the 4C's skill of Senior High School students in English subjects. Development research was used in this research. The PjBL-based students' worksheet was developed by matching the criteria for the components of the students' worksheet model: model syntax, social systems, management reaction principles, support systems, instructional impacts, and accompaniments, as well as other necessary instruments. The instruments developed were students' worksheet model validation sheets and learning tools validated by experts and practitioners. The data were analyzed by using descriptive statistical analysis. The results of this research indicated that the Project-based Learning (PjBL)-based students' worksheet model met the level of validity, practicality, and effectiveness to improve the 4C's skills of Senior High School students which contained: (a) syntax, (b) social system built on the principle of collaboration, (c) the principle of management reaction in which teachers act as facilitators, motivators, moderators, and consultants, (d) support systems in the form of Learning Implementation Plans, Teacher Books, Student Books, and Participant Worksheets Educate, (e) instructional impact in the form of students' 4C's skills and accompaniment impact in the form of critical thinking, creative thinking, responsibility, openness, and understanding of concepts.

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Introduction

Education is required to develop skills in the 21st century. Students must have 21st-century skills to become skilled individuals who live in the 21st century with the many opportunities and challenges that will be faced in the increasingly advanced technology and information era. In teaching skills in the 21st century, teachers can integrate them into different learning activities; teachers only act as facilitators, and students practice themselves (Widodo, S. & Wardani, R.K., 2020). Some of the skills to face the challenges of 21st-century development are the 4C's (Creative, Critical Thinking, Collaborative and Communicative); effectively integrating 21st-century skills in the learning process is very important (Sari, A.K., & Trisnawati, W. 2019).

One of the essential elements to realize the ideals of the 4C's skill is improving the quality of Pengembangan Pelaksanaan Pembelajaran (PPP), which includes RPP, Teaching Materials, Teaching Media, student worksheets, and Assessment Instruments. Students' worksheets are printed teaching materials that contain material, summaries, and instructions in the implementation of learning tasks that must be done by students and refer to the



essential competencies that must be achieved. Students' worksheets have an important role in the learning process, so innovation is needed and must be adapted to the current curriculum.

The learning model can be an alternative in developing students' worksheets. According to Sudira (2018), one of the learning models that can be applied to the 21st-century learning system is the project-based learning (PjBL) model. According to Jalinus, Nabawi, and Mardin (2017), the PjBL model can improve student learning activities so that they get a real learning experience based on existing problems and needs. Following the characteristics of the 21st-century learning system, the purpose of the PjBL model is to improve the learner's experience (Sudira, 2018, p. 180). The purpose of the PjBL model is to apply the characteristics of the 4C's skill in the 21st-century learning system.

Universitas Muslim Nusantara (UMN) Al-Washliyah is a university that follows developments and implements the learning process outlined by the Government. UMN Al Washliyah is one of the private universities in the city of Medan, with the vision of "Being the Best Private University that is Humanist, Independent and with Islamic Characteristics in Indonesia in 2045". Rencana Strategi (Renstra) has been set, especially in the leading field of Educational Sciences. It aims to be achieved by 2022–2026, with the sub-field of Teacher Professional Development and the leading topic of Teacher Performance Development; one of the important ways for teacher performance is to develop PjBL-based students' worksheets which can encourage the 4C's skill.

One of the problems faced by students and alumni of PSPPG UMN Al Washliyah is the readiness of students whose students complete the students' worksheets based on observations. It is known that students still experience irregularities and difficulties in implementing PjBL-based learning and efforts to maximize the 4C's skill achievements. The results of open interviews with PPG students revealed that they still needed help compiling PjBL-based student worksheets that could encourage the 4C's skills. The results of observations of the PPL implementation and Performance Tests could also be concluded that the students' worksheet provided needed to encourage students to achieve the 4 C's skill optimally.

Based on the description above, the researcher was interested in conducting PjBL-based students' worksheet development research to improve the 4 C's in English subjects. This study aimed to produce a product in the form of PjBL-based students' worksheets to improve the 4 C's in English subjects and to determine the feasibility of PjBL-based students' worksheets to improve the 4 C's in English subjects for Senior High School students.

Research Method

Development research was selected for this research. R&D is research that is used to produce a particular product and test its effectiveness of that product (Sugiyono, 2017). The participants of this research were the teachers and students of class XI senior high school in SMA Negeri 3 Medan, SMA Negeri 1 Perbaungan, SMA Negeri 1 Angkola Barat, SMA Negeri 1 Meranti, and SMA Negeri 2 Lubuk Pakam as respondents within the academic year of 2022/2023.

A development model in accordance with the education system is needed in developing students' worksheet models. The PjBL-based students' worksheet model was developed following the stages of development as a result of the modification of the development model proposed by Plomp and adopted (Sinaga, 2007); they are (1) Phase-1: Initial Development, (2)Phase-2: Design, (3)Phase-3: Realization and (4)Phase-4: Testing, Evaluation and Revision.



A research instrument was compiled and developed to measure the validity, practicality and effectiveness of the developed PjBL-based students' worksheet model. The instruments used in this study were 1) validation sheets; 2) expert and practitioner assessment sheets regarding the implementation and effectiveness of the model, 3) observation sheets; 4) student and teacher response questionnaires to learning components and activities, and 5) 4C's skill test. The research data were analyzed using descriptive statistical analysis. Sugiyono (2017) defines *descriptive statistical analysis* as an analysis carried out to determine the existence of independent variables, either on one or more variables (stand-alone or independent variables), without making comparisons of the variables themselves and looking for relationships with other variables. Descriptive statistical analysis uses data analysis techniques to explain data in general or generalizations by calculating the minimum value, maximum value, mean value, and standard deviation (Sugiyono, 2017).

Results and Discussion

Table 1 illustrates the results of this research. There are two phases carried out to be able to find out the results of this research: (1) the results of the preliminary investigation of PjBL-based students' worksheet design and (2) the phase of PjBL-based students' worksheet design to improve the 4 C's skill in English subjects.

Table 1. The Results of the Research

1. The Results of the Preliminary Investigation of the PjBL-based Students' Worksheet Design	2. The Phase of PjBL-based Students' Worksheet Design to Improve the 4 C's Skill in English Subjects
1.1 Analysis of the Needs of PjBL-based Students' Worksheet Model	2.1 Pre-Trial Results
1.2 Evaluation of Current English Student's Worksheet	2.2 Results of Preliminary Investigation of Learning Tools Analysis of Preliminary and Revised Investigation Findings
1.3 Evaluation of English Teaching and Learning Process	2.3 Results of Learning Device Design

1) The Results of the Preliminary Investigation

1.1 Analysis of the Needs of PjBL-based Students' Worksheet Model

Table 2 The Questionnaire of Analysis of the Needs of PjBL-based Students' Worksheet

No	Aspects	Percentage				
		(1)	(2)	(3)	(4)	(5)
1.	There is topic delivery and questioning about how to solve a problem that is overcome by implementing the project.	-	1,5%	4,3%	24,6%	69,6%
2.	There is clarity for each student in the group to choose and know the procedures for making the project/product to be produced.	-	-	5,8%	21,7%	72,5%
3.	There is an agreement between the teacher and students about the schedule for making the project (stages and collection).	-	2,9%	1,5%	25%	70,6%
4.	The teacher monitors the activity	-	-	2,9%	17,4%	79,7%



	of students while carrying out the project, monitors the realization of progress and guides if they experience difficulties.					
5.	There is a discussion about the project prototype, monitoring the involvement of students, measuring the achievement of standards.	-	2,9%	4,4%	21,7%	71%
6.	There is an evaluation carried out by the teacher in guiding the project presentation process, responding to the results, then the teacher and students reflecting / conclusions.	-	-	2,9%	20,3%	76,8%

NB:

- (1) : Not Needed
- (2) : Less Needed
- (3) : Quite Needed
- (4) : Needed
- (5) : Very Needed

Based on the questionnaire analysis of the needs of PjBL-based students' worksheets, the PjBL-based students' worksheet model is very much needed in teaching English in Senior High School. It can be seen from the average respondents' answers to the needs analysis of the PjBL-based students' worksheet model questionnaire, which is very much needed.

1.2 Evaluation of Current English Student's Worksheet

Table 3. The Questionnaire of Evaluation of Current English Student's Worksheet

No	Aspects	Percentage				
		(1)	(2)	(3)	(4)	(5)
1.	The students' worksheet that the teacher has given so far encourages you to use inductive reasoning or deductive reasoning.	-	8,4%	38,3%	36,4%	16,8%
2.	The students' worksheet that the teacher has given so far encourages you to create new ideas.	-	6,6%	32,1%	37,7%	23,6%
3.	The students' worksheet that the teacher has given so far encourages you to express thoughts or ideas verbally, in writing or non-verbally.	1%	1%	29,4%	45,8%	22,8%
4.	The students' worksheet that the teacher has given so far encourages you to demonstrate the ability to work effectively in groups.	1%	4,5%	21,1%	45,9%	27,5%
LKPD models received from teachers so far:						
1) Group Learning System 2) PPT Model 3) Drama Making 4) Presentation 5) Group And Individual Assignments 6) Effective Learning						



7) Applicative And Integrative Worksheets

NB:

- (1) : Not Appropriate
- (2) : Less Appropriate
- (3) : Quite Appropriate
- (4) : Appropriate
- (5) : Very Appropriate

Based on the results of the evaluation of English students' worksheets, students' worksheet received by students so far is appropriate because it contains elements of 21st Century learning skills, namely 4C skills (Creativity, Critical Thinking, Collaboration and Communication). It can be seen from the average respondents' answers to the current English students' worksheet Evaluation Questionnaire. There are several students worksheet models received by students from teachers so far in the form of; 1) group learning system, 2) PPT model, 3) drama making, 4) presentation, 5) group and individual assignments, 6) effective learning, and 7) applicative and integrative worksheets.

1.3 Evaluation of English Teaching and Learning Process

Table 4. The Evaluation Questionnaire of English Teaching and Learning Process

No	Aspects	Percentage				
		(1)	(2)	(3)	(4)	(5)
1.	Students' motivation in learning	-	7,1%	42,9%	28,6%	21,4%
2.	The readiness and preparation of students in learning	-	-	35,7%	50%	14,3%
3.	The fighting power, ebdurance and the level of competence of students in learning	-	14,3%	28,6%	35,7%	21,4%
4.	The completeness of students in learning such as doing assignments, homework, etc	-	-	35,7%	57,1%	7,1%
5.	The activeness and persistence of students following the lesson	-	7,1%	14,3%	64,3%	14,3%

The constraints and obstacles to the teaching and learning process

- 1. Lack of facilities.
- 2. Students have difficulty following English lessons and want only to take English courses during school hours.
- 3. Some students still need to improve their basic knowledge of English.
- 4. Students have a low interest in learning English.
- 5. Students do not want to use English well even though it is required to use English.

NB:

- (1) : Not Good
- (2) : Less Good
- (3) : Quite Good
- (4) : Good
- (5) : Very Good

Based on the questionnaire analysis of the English teaching and learning process at Senior High School, the research location is good. It can be seen from the average respondents' answers to the English teaching and learning process evaluation questionnaire is good. However, there are several obstacles faced by teachers in the English teaching and learning process, namely:

- 1) Lack of facilities.
- 2) Students have difficulty following English lessons and do not want to take English course outside of school hours.



- 3) Some students still need to improve their basic knowledge of English.
 - 4) Students have low interest in learning English.
 - 5) Students do not want to use English well even though it is required to use English.
- Based on these three analyzes, it can be concluded that the development of the PjBL-based students' worksheet model is very much needed in learning English subjects at Senior High School where the research location is.

2) The Phase of PjBL-based Students' Worksheet Design

2.1 Pre-Trial Results

Pre-trial was carried out on SMA Negeri 3 Medan students, SMA Negeri 1 Perbaungan, SMA Negeri 1 Angkola Barat, SMA Negeri 1 Meranti, and SMA Negeri 2 Lubuk Pakam. The results of the data analysis of the pre-trials carried out obtained the following information.

- 1) Students' abilities in English subjects can be improved by using various projects/real products to provide a good learning experience, such as training students to solve various problems, create new things, cooperate with others and make the natural product.
- 2) Students need to be used to carrying out the stages of the PjBL-based students' worksheet model at the beginning of learning. So, student activities look less active at the beginning of learning through applying the PjBL-based students' worksheet model that involves various projects/real products; these problems can be overcome.
- 3) The application of the PjBL-based students' worksheet model is a group study. It provides opportunities for students to present their work in front of the class, obtaining instructions so students can collaborate and communicate ideas well.
- 4) The PjBL-based students' worksheet model, with the support of a social system, the principle of action, and its support system, can change the teaching behaviour of teachers who so far dominate students, turning into teachers who behave as facilitators and motivators, moderators and consultants.

2.2 Results of Preliminary Investigation of Learning Tools Analysis of Preliminary and Revised Investigation Findings

The following information was obtained based on the results of pre-survey and pre-trial data analysis.

- 1) The existing lesson plans for teachers differ from the constructivist-based learning objectives and the English learning objectives in the 2013 curriculum. From the formulation of indicators, learning strategies, and learning scenarios, they still tend to be behavioristic-based learning.
- 2) The handbook used by students is already in the form of "instant." The concepts of English teaching materials are presented at the beginning. They are equipped with material presentation and exercises to not encourage students' creativity in reconstructing concepts and not enable students to develop the 4 C's skills (creativity, critical thinking, collaboration, and communication). The questions presented in the student book are not related to projects/real products.
- 3) The tasks on the students' worksheets are still routine, namely exercises to answer questions only, so they do not train students to think at higher levels and do not foster the ability to transfer the English knowledge they already have.

Based on the information above, the learning tools used by teachers in implementing English language learning are not appropriate. Also, they need to support the achievement of constructivist-based goals and utilize/pay attention to the various aspects of literacy in their



development. This problem is considered to develop learning tools that follow the PjBL-based students' worksheet model that was developed.

2.3 Results of Learning Device Design

The design stage is the stage of carrying out the design or initial design of the components needed for the implementation of the learning model, namely:

- 1) Initial design of PjBL-based students' worksheet
- 2) Initial design of learning tools: learning implementation plans, teacher books, student books, and PjBL-based students worksheets.
- 3) The design of the instruments used to obtain data in the development process of the PjBL-based students' worksheet model and the required learning tools.

Discussion

This study aims to develop PjBL-based students' worksheets to improve the 4 C's in English subjects for Senior High School students. In this study, the source of data is the teachers and students of class XI senior high school in SMA Negeri 3 Medan, SMA Negeri 1 Perbaungan, SMA Negeri 1 Angkola Barat, SMA Negeri 1 Meranti, and SMA Negeri 2 Lubuk Pakam as respondents within the academic year of 2022/2023. There are some results based on the Preliminary Investigation of PjBL-based students' worksheets:

- 1) The questionnaire analysis of the needs of PjBL-based students' worksheets shows that the PjBL-based students' worksheet model is very much needed in teaching English in Senior High School at this time. It can be seen from the average respondents' answers to the needs analysis of the PjBL-based students' worksheet model questionnaire, which is very much needed.
- 2) The results of the evaluation of English students' worksheet can be seen that students' worksheet received so far is appropriate because it contains elements of 21st Century learning skills, namely 4C's skill (Creativity, Critical Thinking, Collaboration, and Communication). It can be seen from the average respondents' answers to the current English students' worksheet Evaluation Questionnaire. There are several students worksheet models received by students from teachers so far in the form of; 1) group learning system, 2) PPT model, 3) drama making, 4) presentation, 5) group and individual assignments, 6) effective learning, and 7) applicative and integrative worksheets.
- 3) The results of the questionnaire analysis of the English teaching and learning process at the Senior High School of the research location are good. It can be seen from the average respondents' answers to the English teaching and learning process evaluation questionnaire is good. However, there are several obstacles faced by teachers in the English teaching and learning process, namely; 1) Lack of facilities, 2) Students have difficulty following English lessons and do not want to take English courses outside of school hours, 3) Some students still need to improve their basic knowledge of English, 4) Students have low interest in learning English, and 5) Students do not want to use English well even though it is required to use English.

Based on pre-trial results, the application of the PjBL-based students' worksheet model is a group study. It provides opportunities for students to present their work in front of the class, obtaining instructions so students can collaborate and communicate ideas well. Based on the results of the preliminary investigation of learning tools analysis of preliminary and revised investigation findings, the learning tools used by teachers in the implementation of English language learning are not appropriate or do not support the achievement of constructivist-based goals and have not utilized/paid attention to the various aspects of literacy in their



development. This problem is considered to develop learning tools that follow the PjBL-based students' worksheet model developed to improve the 4 C's in English subjects for Senior High School students.

Conclusion

From the data analysis and research discussion results, conclusions about the students' worksheet model development product can be drawn. It was found that the Project-based Learning (PjBL)-based students' worksheet model had met the level of validity, practicality, and effectiveness to improve the 4C's skills of Senior High School students, which contained: (a) syntax, (b) social system built on the principle of collaboration, (c) the principle of management reaction in which teachers act as facilitators, motivators, moderators, and consultants, (d) support systems in the form of Learning Implementation Plans, Teacher Books, Student Books, and Participant Worksheets Educate, (e) instructional impact in the form of students' 4C's skills and accompaniment impact in the form of critical thinking, creative thinking, responsibility, openness, and understanding of concepts. PjBL-based students' worksheet model is equipped with Model Books, Learning Implementation Plans, Teacher Books, Student Books, and Student Worksheets that have met the validity, practicality, and effectiveness level.

Recommendation

There are recommendations based on the research results; (1) for teachers who manage the learning process, this PjBL-based students' worksheet can be used to improve student's learning activities. So that they get a real learning experience based on existing problems and follow the characteristics of the 21st century, namely the 4C's skill; (2) for students actively participate in the learning process such as actively asking questions, creating a project, and receiving teacher's feedback can increase the 4C's skill.

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