



The Effectiveness of Problem-Based Learning on Advanced Reading Comprehension Skill in Online Arabic Language Teaching

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ENGLISH ABSTRACT

Reading proficiency is considered as one of the language skills that must be mastered by prospective Arabic educators or practitioners. Besides, in the era of industry 4.0, students not only require core competencies from the field of study they are studying but also have a lifelong character of a learner. The conditions found in the field, as well as in previous studies, showed that learning in higher education currently tends to be centred on lecturers rather than on the students. This study aims to examine the effectiveness of the implementation of a student-centred learning method in the form of a problem-based learning method with seven-jumps (seven-steps) approach in increasing the reading proficiency in Arabic. The subjects of this research were 50 people of Muthala'ah Mukatsafah class, and the test and non-test were employed as instruments. The reading proficiency test prepared by the researcher was used to figure out the subjects' reading ability. Meanwhile, the subjects' characters or soft skills were measured through a non-test instrument in the form of a questionnaire. The design applied in this study was a group design (one group pretest-posttest design). The data analysis was performed through a significance test before and after treatment. The results show that there are differences in the subjects' advanced reading proficiency level as well as an increase in empathy soft skill before and after the implementation of the learning method.

Keywords: Problem-Based Learning, Further Reading, Online Learning

INDONESIAN ABSTRACT

Kemahiran membaca merupakan salah satu kemampuan berbahasa yang harus dikuasai oleh calon pendidik atau praktisi Bahasa Arab. Di samping itu, di era industri 4.0, mahasiswa tidak hanya memerlukan kompetensi inti dari bidang studi yang dipelajari, melainkan juga memiliki karakter pembelajar sepanjang hayat. Kondisi di lapangan serta studi terdahulu menunjukkan bahwa pembelajaran di perguruan tinggi saat ini, masih cenderung berpusat pada dosen dibandingkan mahasiswa. Penelitian ini bertujuan menguji efektivitas penerapan metode pembelajaran berpusat pada mahasiswa berupa metode *problem-based learning seven-jumps* (tujuh langkah) dalam meningkatkan kemahiran membaca Bahasa Arab. Penelitian melibatkan subjek dari satu kelas *Muthala'ah Mukatsafah* berjumlah 50 orang. Instrumen yang digunakan adalah tes dan non tes. Tes

kemahiran membaca yang disusun peneliti digunakan untuk melihat kemampuan membaca subjek. Sedangkan karakter atau keterampilan lunak subjek diukur melalui instrumen non tes berupa kuesioner. Desain yang diterapkan dalam penelitian ini adalah desain dalam kelompok (*one group pretest-posttest design*). Analisis data dilakukan melalui uji perbedaan sebelum dan sesudah perlakuan. Hasil analisis data menunjukkan bahwa terdapat perbedaan tingkat kemahiran membaca lanjut pada subjek penelitian serta peningkatan keterampilan lunak empati sebelum dan sesudah penerapan metode pembelajaran.

Kata Kunci: Pembelajaran Berbasis Problem, Membaca Lanjut, Pembelajaran Daring

Introduction

Reading proficiency is regarded as one of the language skills that must be mastered by prospective Arabic educators or practitioners (Hidayah, Irawati, & Elmubarok, 2013) in addition to other language skills such as listening, writing, and speaking. Reading proficiency is generally taught through a number of subjects such as *nahwu* and *sharaf* as basic knowledge and the reading course itself as its application (Program Studi S1 Pendidikan Bahasa Arab, 2020).

In addition, in the era of industry 4.0 with the rapid development of information technology, there were disruptions that the community needs to come up against (Malmia et al., 2019). Changes undoubtedly need to be faced. Students not only require core competencies from their field of study but also need to have a lifelong character of a learner and various soft skills (Hursen, 2020). Of course, this competence and character cannot abruptly appear. It needs to be formed and facilitated by the lecturer as the facilitator of the learning activities. In problem-based learning, teachers or lecturers are assigned several tasks: facilitating discussions, providing guidance, challenging students' thinking, and managing group work (Ngeow & Kong, 2001).

Various studies on innovative learning methods have led to the conclusion that a more effective learning method for achieving core competencies, character building, and soft skills is a student-based learning method known as student-centred learning (Aly, 2017; Harsono, 2008; Haryu, 2009). A change in the learning paradigm from teacher-centred learning to student-centred learning has long been noted (Charoensakulchai, Kantiwong, & Piyaraj, 2019; Muganga & Ssenkusu, 2019). Its application has also been carried out massively, especially with the existence of government regulations that

support the student-centred learning method. For example, the various curricula issued by the government, ranging from character education-based curriculum, competency-based curriculum to the current SKKNI-based curriculum, emphasise the importance of mastering the higher-order thinking and positive characters that support lifelong learning. This achievement can only be obtained through an andragogical learning approach and is not one-way and teacher-centred. In this new paradigm, the teacher is more of a facilitator who facilitates the students' learning process in order to achieve optimal learning outcomes.

Dantes defines student-centred learning as a learning process that puts students as the centre of learning and shifts from the teacher-centred old paradigm (Syarif & Kamil, 2013). At present, various learning methods as a part of the student-centred learning approach have been developed, for example, self-directed learning, small group discussion, cooperative learning, and problem-based learning methods (Harsono, 2008).

One of the student-centred learning methods which have been tested and applied is problem-based learning with seven jumps or seven steps approach. Initially, the problem-based learning was widely developed and applied in medical education settings (Barrows, 1983; Wood, 2003). Several medical science fields that apply a lot of problem-based learning in their learning methods are Nursing and Medical Sciences. The reason is that medical education requires competency standards that are not only based on hard skills or knowledge but also based on soft skills to carry out professional practice.

The basic principle of problem-based learning is that students or college students use "triggers" from problem cases or scenarios to define the learning outcomes they want to achieve (Wood, 2003). Furthermore, they carry out the learning process independently and are self-directed before returning to the group to discuss and improve the knowledge gained. Thus, the problem-based learning method does not only emphasise the students' problem-solving ability but rather uses the trigger problem as an encouragement for students to increase their knowledge (Wood, 2003). A similar explanation is also put forward by Saleh (2013), who states that problem-based learning is a learning method that guides students to solve problems and to reflect on their experiences so that their cognitive skills such as reasoning (inquiry), communication, and connections will be able to develop.

In recent years, research on problem-based learning has been continuously carried out, one of which was conducted by Solihah and Mashinta (2019), who analysed the implementation of problem-based learning to improve the problem-solving abilities of elementary school students in the natural science class. They concluded that this method has proven to be significantly more effective in developing elementary students' problem-solving abilities. Aslan and Duruhan (2020) conducted a study on the effect of virtual learning designed by using problem-based learning methods on learning outcomes, problem-solving abilities, and student motivation at the junior high school level in science lessons. As a result, students experienced improvements in the learning outcomes and problem-solving aspects. Other researchers, Mustofa and Yeni (2020) conducted a study on the effect of PBL on lateral thinking skills and concluded that there was a significant effect of the PBL model on the lateral thinking skills of high school students. Meanwhile, Hursen (2020) analysed the effect of PBL on learning outcomes and critical thinking of the educational study program students (prospective teachers) on virtual learning and the result showed that PBL is proven to be effective in developing critical thinking skills of prospective teachers.

In the field of language learning, Ali (2019) carried out a research on PBL in the English lesson for foreign learners. A PBL research in Arabic learning has also been carried out by Ainin (2017), who analysed the use of problem-based learning methods in the Arabic Research Methodology Course. This study showed that, in general, the application of problem-based learning is regarded as effective, both in terms of the learning process and learning outcomes. However, this method is less effective for students with lower levels of competence, learning attitudes, willingness to learn, learning discipline, and activeness in the class.

Based on the review of the previous studies on the implementation of the problem-based learning utilised in the learning process mentioned above, it has been acknowledged that problem-based learning is widely applied at various levels of education (elementary school, middle school, high school, and higher education) as well as in various fields of knowledge (science, social, language, and medical/clinical in particular). The application of problem-based learning method has also been studied in the field of language education, including Arabic language education. Likewise, its

application at the tertiary level has also been specifically studied, especially in the reading course. However, the approaches used are still varied, and the seven jumps approach has yet to be utilised.

According to the previous description, the application of the problem-based learning method with the seven jumps approach, which specifically proven to be effective in the learning context in several fields of study, has never been carried out in the advanced reading course (*Muthala'ah Mukatsafah*) in the Arabic Language Education Program. Therefore, studies on the effectiveness of problem-based learning with the seven jumps approach in Arabic language learning, especially the reading skills, still need to be conducted.

Methods

This study employs experimental research applied to the education and social fields. A quasi-experimental pretest-posttest method was then utilised as a research design (Shadish, Cook, & Campbell, 2002). This design involves only one experimental group in the study without a control group. It was chosen because it is the most feasible design to be applied in the field. Specialisation and class schedules that vary among the subjects will make it difficult for the researchers to arrange the intervention schedule. Therefore, the subjects of the experimental group selected in this study were those who had the same class schedule.

The data was collected three times, specifically during the pre-test or pre-treatment (problem-based learning seven jumps learning method), during post-test or post-treatment (seven jumps problem-based learning method), and two weeks after the post-test (follow-up stage). The experimental design proposed by Shadish et al. (2002) employed in this study is presented in Figure 1.

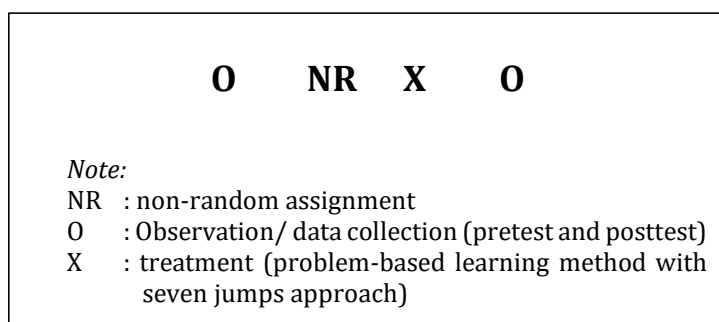


Figure 2. Research Design

The seven jumps problem-based learning method was integrated into the *Muthala'ah Mukasafah* or advanced reading course at UNNES Arabic Language Education Program. The lesson plan consisted of 7 meetings by applying stages of the seven jumps problem-based learning. Meanwhile, the duration of each meeting was 2 credits (100 minutes).

Before the experiment was carried out, the researcher explained the research procedure to the research subject. Furthermore, they were asked to fill out a written form or informed consent.

The research subjects were students of the Arabic Language Education Program, Department of Foreign Language and Literature, UNNES. The number of targeted subjects involved in the study was 50 people. The characteristics of the research subjects are described as follows: 1) active students of Arabic Language Education Study Program, UNNES, 2) currently taking the *Muthala'ah Mukasafah* (Advanced Reading) course, and 3) willing to be involved in research.

The data collection techniques used in this study were tests and non-tests. It was carried out before, during, and after the experiment (seven jumps problem-based learning) was implemented.

Reading proficiency tests were used to figure out the subjects' cognitive ability during the data collection of the test. It was compiled by the researcher in the form of essays, and the grading rubric was used to assess the answers. The test questions used at the pre-test, post-test, and follow-up test were different, but they were equivalent or had the same proportion.

In the data collection using the non-test method, a number of self-report and other-report questionnaires were used to measure the students' soft skills and positive character. According to Nazir (2005), a questionnaire is a list of questions that logically relates to the research problem, and each question constitutes answers that have meaning to test the hypothesis. The list of questions is quite detailed and complete. According to Arikunto (2010), a questionnaire is a number of written questions used to obtain information from respondents about their personal reports and matters that they know. It is a list of questions given to other people who are willing to respond according to the user's requests. The soft skills and positive characters revealed include problem-solving

skills, learning motivation, social skills, independent learning skills, respect for other people's opinions, and perseverance. The choices of the response are made in the form of a rating scale, in which individuals or their colleagues provide an assessment of the skills measured along with explanatory evidence. To ensure the same understanding of each skill, a brief description of what is meant by each skill being measured was provided. This questionnaire was given twice during the research: before the seven jumps problem-based learning and after the last meeting of seven jumps problem-based learning.

Data analysis is the process of simplifying data into a form that is easier to read and interpret. This study employed quantitative and qualitative data analyses. Quantitative analysis was performed by conducting a paired-sample t-test and repeated measure analysis using SPSS 20.0 software. Meanwhile, qualitative analysis was carried out on the data obtained from interviews. In general, qualitative analysis was carried out in three stages, namely: 1) data reduction, 2) data presentation, and 3) conclusion.

Result and Discussion

The research was conducted for seven weeks in the *Muthala'ah Mukasafah* class. A total of 54 students were involved in this study, but only 50 complete student data were ultimately analysed further. At the initial meeting, students filled out a pre-test instrument consisting of cognitive and non-cognitive measurements. In the cognitive measurements, students were asked to show their initial ability to read Arabic poetry. In the non-cognitive measurements, students were asked to fill out instruments that reveal their soft skills. Then they were divided into groups, and further, they were given an explanation about the research. They specifically received the explanation of the seven-jump method as follows (Camp, van het Kaar, van der Molen, & Schmidt, 2014; Schmidt, 1983; Wood, 2003; Yew & Goh, 2016). Step 1 is identifying and clarifying foreign or unfamiliar terms contained in the text; the secretary listed all the terms after the discussion. Step 2 is defining the problems or topics to be discussed; students may have different opinions regarding the issues contained in the text. All opinions need to be considered. The secretary records a list of agreed issues. Step 3 is conducting brainstorming session to discuss the problems or to list the agreed-upon problems; students propose possible explanations based on prior knowledge; students listen to each other's explanations and knowledge sharing and then identify problem areas that have not been fully explained;

the secretary records all discussion processes. Step 4 is reviewing steps 2 and 3 and organising the explanation into tentative solutions; the secretary arranges explanations and restructures them if necessary. Step 5 is formulating learning outcomes; groups reach consensus on learning outcomes; tutors ensure learning outcomes are focused, achievable, comprehensive, and appropriate. Step 6 is Conducting self-study (all students collect information related to learning outcomes). Step 7 is the group shares the results of their independent study (students identify their learning sources and share the results); the tutor checks the learning process and can also assess the group.

At the end of seven jump problem-based learning stages, students are asked to present the group activity results to other classmates.

Students participated in all research activities well and completed the post-tests distributed after the research was conducted. A total of 50 students completed the post-test. Only complete pre-test and post-test data would be analysed further. Therefore, the total data analysed is 50 subject data.

Descriptive data of the research results

Descriptive data of the pre-test and post-test results on the advanced reading level (understanding text) and students' soft skills are presented in Tables 1 and 2.

Table 1. Pre-test and Post-test Results for Advanced Reading Ability Levels

Subject Number	Pre-test Score	Post-test Score
1	75	92
2	75	87
3	75	93
4	82	88
5	60	87
6	80	87
7	70	88
8	83	82
9	88	90

10	78	90
11	75	90
12	70	86
13	77	87
14	72	85
15	90	96
16	79	86
17	78	86
18	68	89
19	68	87
20	81	90
21	85	88
22	75	88
23	69	90
24	89	86
25	89	95
26	75	92
27	85	89
28	77	92
29	75	80
30	77	86
31	79	94
32	88	92
33	60	90
34	80	89

35	70	92
36	90	87
37	70	85
38	67	87
39	70	88
40	70	89
41	-	88
42	65	80
43	70	85
44	70	89
45	72	88
46	80	87
47	80	92
48	70	84
49	68	88
50	-	75
51	74	88
52	82	92
53	-	90
54	80	84
Mean	75.98	88.06
Standard Deviation	7.43	3.73

Table 2. The Results of Pre-test and Post-test on the Students' Soft Skills Levels

Soft Skill	Pre-test Mean	Pre-test Standard Deviation	Post-test Mean	Post-test Standard Deviation
Problem-solving	4.8	1.1	4.82	1.05
Creativity	5.02	1.27	5	1.13
Interpersonal communication (expressing opinions)	4.56	1.26	4.7	1.02
Interpersonal communication (listening to opinions)	5.51	1.02	5.42	0.83
Cooperation	5.42	0.98	5.46	0.83
Empathy	5.49	1.16	5.2	1.11
Learning Motivation	4.6	1.10	4.78	1.02

Assumption test results

The research data was then analysed to test the hypothesis regarding the seven jumps problem-based learning method's effectiveness. Before testing the hypothesis, the researcher first tested the data normality assumption as a prerequisite for the parametric statistical test. When the data were normally distributed, the researcher continued the analysis of the parametric statistical test. Conversely, if the data were not normally distributed, then a non-parametric statistical test analysis would be used (Hermawan, 2019).

The data normality assumption test was performed using the One-Sample Kolmogorov-Smirnov Test analysis. The assumption test results on the data of advanced reading skills scores showed that only the pre-test data were normally distributed. In contrast, the post-test data were not normally distributed. The results of the next assumption test also showed that the entire data group regarding student soft skills, both at the pre-test and post-test, were not normally distributed because they had a significance value of less than .05. The data normality test coefficient and significance

value can be seen in Table 4 for advanced reading skills and in Table 5 for students' soft skills. Based on these results, hypothesis testing was carried out using non-parametric statistical tests.

Table 4. The Results of Data Normality Test for Advanced Reading Ability

Variable	Assessment Time	Test Statistic	<i>p</i>
Advanced Reading Ability	Pre-test	.123	.052
	Post-test	.129	.025

Table 5. The Results of Data Normality Test for Student Soft Skills

Soft Skills	Assessment Time	Test Statistic	<i>p</i>
Problem-solving	Pre-test	.179	<.001
	Post-test	.206	<.001
Creativity	Pre-test	.161	.002
	Post-test	.169	.001
Interpersonal communication (expressing opinions)	Pre-test	.164	.002
	Post-test	.194	<.001
Interpersonal communication (listening to opinions)	Pre-test	.252	<.001
	Post-test	.236	<.001
Cooperation	Pre-test	.298	<.001
	Post-test	.3	<.001
Empathy	Pre-test	.308	<.001
	Post-test	.209	<.001
Learning motivation	Pre-test	.177	<.001

Post-test	.244	<.001
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Research hypothesis test results

Further, the data were analysed using non-parametric statistical tests to see whether there was a significant difference between the pre-test and post-test in the same group (Krishnamoorthy, 2020). Following these objectives, the researchers used the Wilcoxon Signed-Rank Test analysis to test the hypothesis. The results of the research hypothesis test are summarised in Table 6.

Table 6. Research Hypothesis Test Results

Variable	Z	p
Advanced reading skills	-6.133	<.001**
Problem-solving	-.992	.321
Creativity	-.156	.876
Interpersonal communication (expressing opinions)	-1.197	.231
Interpersonal communication (listening to opinions)	-.677	.498
Cooperation	-.181	.857
Empathy	-2.001	.045*
Learning motivation	-1.308	.191

Note: * significant at $p < 0.05$, ** significant at $p < 0.01$

Based on the results of the analysis in Table 6, it can be concluded that the advanced reading ability of the students participating in the research increased significantly from the pre-test to the post-test. This shows that the seven jumps problem-based learning method effectively improves students' advanced reading skills so that the research hypothesis can be accepted. The seven jumps problem-based learning method's effectiveness in increasing advanced reading learning effectiveness comes from the

learning process itself. First, through seven jumps problem-based learning, students became more active and involved in mastering the lecture topics (Waraulia, 2016), especially in the exploration phase of answers to problems and individual literature searches. Second, through seven jumps problem-based learning, the role of group discussion was also optimised. Thus, students who had understood well could transfer their understanding to their fellow group members. By doing so, all group members could understand and agree on the answers to questions or cases that were discussed together (Mustofa & Hidayah, 2020).

Students' soft skills that increased significantly after the implementation of the seven jumps problem-based learning method in the *Muthala'ah Mukasafah* class were empathy soft skills (Karaoğlu & Seker, 2011; Rasool & Ragnemalm, 2011; Sri Suryanti & Supeni, 2019). By carrying out a student-centred learning process in the form of seven jumps problem-based learning, students perceived themselves to have better understandings of other people's points of view. This was facilitated by the existence of a group discussion about the text that had to be analysed. However, the pandemic conditions caused limited interaction for students. They could not freely have direct interactive discussions as they did before (Mishra, Gupta, & Shree, 2020). This could be seen from the absence of significant changes related to other soft skills, namely problem-solving abilities, creativity, interpersonal communication, cooperation, and learning motivation. Various factors during the pandemic also influenced the learning process using the seven jumps problem-based learning method to be less effective in its application.

The findings of this study enrich the findings of previous studies that have shown the effectiveness of problem-based learning methods in several subjects and levels of education, both in increasing the effectiveness of learning and improving students' soft skills (Ainin, 2017; Ali, 2019; Aslan & Duruhan, 2020; Hursen, 2020; Mustofa & Hidayah, 2020; Solihah & Mashinta, 2019). The results of this study significantly add to the finding that the student-centred learning method in the form of seven jumps problem-based learning is effective to be applied in the context of online learning and advanced learning to read Arabic. However, the findings of this study also indicate that there are limitations to the application of seven jumps problem-based learning online. This is presumably

because the facilities, infrastructure, and students' individual states are not fully ready to absorb online learning. There are constraints on the limited internet connection, limited access to literature online, and unfamiliarity to conduct online discussions.

Further research needs to consider other factors to be made constant. It can be done by providing infrastructure that is a prerequisite for optimal online learning and making online learning self-efficacy a variable that is controlled directly (through subject selection) or indirectly (control in statistics analysis). Besides, it is expected that teachers and managers of higher education, especially the Arabic Language Study Program, can anticipate the factors that play a role in the smooth running of online learning to implement student-centred learning optimally. As for students, it is expected that they can try to be more proactive in online learning and student-centred learning.

Conclusion

The results of this study indicate that the application of student-centred learning methods in the form of seven jumps problem-based learning is effective to be applied to advanced reading learning in the *Muthala'ah Mukasafah* class. Besides, the application of this learning method can also improve students' character/soft skills specifically related to empathy or the ability to understand others.

Students are expected to improve their adjustment in the full online learning process during the pandemic by identifying available resources online and optimising them (for example, online libraries, e-journals, online book purchases, virtual discussion applications, etc.). Lecturers are expected to optimise student-centred learning methods during full online learning. In applying student-centred learning methods, in this case, seven jumps problem-based learning, the lecturer or teacher needs to be more detailed in guiding students in each step to make the process more optimal. The lecturer can also facilitate the provision of reference sources to make it easier for students to access suitable references to solve given topics. Also, lecturers can take advantage of the learning management system features available for universities to optimise each activity step in the seven jumps problem-based learning. The Arabic Language Education Program manager can make seven jumps problem-based learning, an alternative learning method used in advanced reading learning.

Furthermore, administrators of Arabic study programs can facilitate student-centred learning activities online by providing references that can be accessed remotely. For further researchers, it is recommended to conduct a similar study, which involves testing the effectiveness of problem-based learning in Arabic learning, both on the same or different materials. Further researchers are advised to consider other factors that have influenced learning outcomes and control them directly or indirectly. Besides, the experimental design used can be improved by involving a control group.

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