



DOI: 10.18039/ajesi.1277139

## Reflection of Problem-Based Learning Applied in Social Studies Course on Students' Daily Life

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**Date submitted:** 04.04.2023

**Date accepted:** 17.07.2023

**Type<sup>2</sup>:** Research Article

### Abstract

This research, which focuses on the reflection of problem-based learning applied in social studies course on students' daily life, aims to examine whether the results of the researcher's PhD dissertation (Bayram, 2021) completed in 2021 are still valid in 2022. This research was conducted one year after the end of the experimental process of the dissertation as a separate research. The research was conducted as a case study. The participant group consisted of one social studies teacher, 10 students, and the parents of those students. The data were collected through observation and interview techniques. A checklist was used to collect observation data, and two semi-structured interview forms were used to collect interview data. The data were analyzed with descriptive analysis technique. At the end of the research, it was determined that the entrepreneurship, skills, values, and other effective characteristics that the students gained during the experimental process of the PhD dissertation were largely reflected in students' daily lives even one year after the end of the experimental process of the dissertation. Depending on the results of the research, various recommendations were developed.

**Keywords:** social studies course, problem-based learning, daily life

**Cite:** Bayram, H. (2023). Reflection of problem-based learning applied in social studies course on students' daily life. *Anadolu Journal of Educational Sciences International*, 13(2), 412-434. <https://doi.org/10.18039/ajesi.1277139>



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<sup>2</sup> This research was conducted with Research Ethics Committee approval of Agri Ibrahim Cecen University, dated 25.05.2022 and issue number E-95531838-050.99-42165.

## Introduction

Education and training approaches change in line with the ever-changing world conditions. The change brought about by social, economic and political transformations in the structure of society makes it necessary to develop and transform school programs designed to educate the individuals who make up the society. This necessity can be expressed in the form of designing educational processes that will allow individuals to be educated in accordance with the multidimensional living conditions of the 21st century. As a matter of fact, the conditions of the 21st century require individuals to grow up with a wide range of knowledge, skills and values. Depending on the requirement, social studies course aiming to provide students with knowledge, skills and values for daily life is taught in primary and secondary schools.

It is possible to define social studies as a course that reorganizes the content compiled from social science disciplines in accordance with the readiness of primary and secondary school students and presents it to students. In addition to providing primary and secondary school students with knowledge and skills that they can use in their daily lives, the social studies course aims to help students internalize the values and universal values of the society in which they live. From this perspective, it can be said that educational theories that focus on daily life should be used in social studies education. As a matter of fact, constructivist educational theory, which focuses on daily life, is effectively used in social studies education nowadays.

Constructivism is a theory based on the principle that school is life itself and that school programs should provide students with content for daily life (Dewey, 2008). Depending on today's living conditions, educational institutions are based on constructivist educational theory, which focuses on providing students with practical knowledge and skills and values that facilitate their lives instead of theoretical knowledge. One of the educational approaches developed within the scope of constructivist educational theory is problem-based learning (PBL).

PBL is a learning approach that aims to enable students to participate in daily life as active problem solvers. PBL aims to enable students to establish intensive communication with their environment and integrate with society by using what they learn at school in their daily lives. In this context, it can be said that PBL is a learning approach that can be utilized in the social studies course that aims to provide students with knowledge, skills and values related to daily life. As a matter of fact, the social studies course, like the PBL approach, deals with the daily life of students and aims to educate students in accordance with daily life.

Students' inability to produce solutions to the problems they face in their daily lives prevents the realization of the aim of social studies to raise effective citizens. In this context, it is assumed that PBL approach should be utilized in social studies education in order to equip students with the knowledge, skills and values they need. Based on this assumption, the PhD dissertation (Bayram, 2021) of the researcher was conducted. At the end of the dissertation, it was determined that PBL increased the entrepreneurship level of students, provided students with various skills, values and effective characteristics that an entrepreneurial individual should have, directed students to make parametric and general evaluations, and increased the quality of students' daily life (Bayram, 2021). One year after the end of the experimental process of the dissertation, this research was conducted as a separate research within the scope of

examining whether the students in the participant group of the dissertation continue to use the gains provided by PBL in their daily lives.

Review of the literature on the subject revealed that it was seen that many experimental researches (Deveci, 2002; Arıcı, 2021; Çanakçı, 2021; Dita et al., 2021; Foo et al., 2021; Ghani et al., 2021; Hasanah et al., 2021; Lestari et al., 2021; Ilma et al., 2021; Putri and Sundayana, 2021; Sari et al., 2021; Shofwani and Rochmah, 2021; Simanjuntak et al., 2021; Suparman et al., 2021; Fong et al., 2022; Kim et al., 2022; Putri et al., 2022; Safitri et al., 2022; Tanrikulu, 2022; Trullas et al., 2022) were conducted on PBL. It was determined that the researches in the literature focused on determining the effectiveness of PBL in different subjects and comparing it with various learning approaches. No research focusing on the use of the knowledge, skills or values gained through PBL in daily life was found in the literature. The lack of researches examining whether students use the gains provided by PBL in their daily lives was accepted as a deficiency in terms of the related literature and this research was conducted. It is thought that this research will contribute to the literature by guiding teachers, school administrators, ministries of national education. It is also thought that this research will contribute to researchers who want to conduct research on educational approaches that provide permanent learning.

## **Aim**

This research was conducted to examine whether the results of the PhD dissertation (Bayram, 2021) conducted by the researcher in 2021 are still valid in 2022. This research was conducted one year after the end of the dissertation's experimental process as a separate research. The aim of this research, is to examine whether the students use the gains provided by PBL in their daily lives. Within the scope of this aim, answer to the following question was sought:

- What is the reflection of PBL applied in social studies course on students' daily life within the scope of entrepreneurship, skills, values, and effective characteristics?

## **Method**

The research was conducted as a case study. Case study is used in process-oriented research that examines an existing phenomenon within its own conditions, where more than one data collection technique is used together (Yin, 2014). The reason for designing this research with a case study is that the research focuses on the reflection of PBL on students' daily lives. In accordance with the nature of the case study, the reflection of PBL on students' daily life was followed multidimensionally. This research was conducted within the scope of the permission obtained from scientific research ethics committee of Agri Ibrahim Cecen University with the decision dated 25.05.2022 and numbered E-95531838-050.99-42165.

## **Participants**

Criterion sampling, one of the purposeful sampling methods, was used to form the participant group of the research. Criterion sampling is based on the formation of the participant group according to the criteria determined in line with the aim of the research (Byrne, 2001). The criteria taken as basis while forming the participant group are as follows:

1. The participant group included volunteers from the students in the experimental group of the PhD dissertation.
2. The participant group included the parents of the volunteer students.
3. The participant group included the social studies teacher who was one of the participants of the PhD dissertation.

The participant group of the research was formed by considering the above criteria. Information about the participants of the research is shown in Table 1:

**Table 1**  
*Information about the Participant Group*

<b>Participant</b>	<b>Information</b>	<b>f</b>
Parent	Mother	8
	Father	2
Student	Female	5
	Male	5
Social Studies Teacher	Teacher	1
<b>Total</b>		<b>21</b>

As Table 1 shows, the participant group of the research included 10 parents (8 mothers and 2 fathers) 10 students (5 male and 5 female) and 1 teacher.

The names of the participants in the research were kept confidential within the scope of ethical rules. Each of the participants, was given a code. The students were coded as S1, S2, S3. The social studies teacher was coded as SST. Since the parents were not interviewed, it was not necessary to give code names to them.

## **Data Collection Tools and Data Collection Process**

Data were collected through observation and interview techniques. In the interview technique, a semi-structured student interview form and a semi-structured teacher interview form were used. In the observation technique, a checklist designed for parents to observe students was used. While developing the data collection tools, the results of the PhD dissertation of the researcher were taken as basis. In other words, the data collection tools were designed to examine whether the results that PBL improves students' entrepreneurship level and provides students with skills, values and effective characteristics are reflected in students' daily lives.

In the process of developing the data collection tools, the views of four experts, three of whom were associate professors and one of whom was an assistant professor, were consulted. The data collection tools, the aim of the research and the full text of the PhD dissertation, which formed the basis for the research, were sent to the experts and they were asked to give their views on the suitability of the variables in the data collection tools. All experts stated that the interview forms were appropriate for the aim of the research. Regarding the checklist, one expert stated that four items (4, 7, 12, 13<sup>th</sup>), one expert stated that six items (4, 10, 12, 13, 14, 23<sup>th</sup>) one expert stated that six items (4, 7, 10, 23, 27, 31<sup>th</sup>) were not

appropriate, while the other expert stated that all items were appropriate. Depending on the views received, the checklist was reformed. While there were 43 items in the first form of the checklist, the number of items decreased to 34 after the corrections were made.

In the semi-structured teacher interview form and the semi-structured student interview form, four questions were asked about entrepreneurship, skills, values and effective characteristics. In the checklist, four dimensions were included: entrepreneurship, skills, values and effective characteristics. In the entrepreneurship dimension, three sub-dimensions were included: self awareness, risk taking, taking advantage of opportunities. The total number of items in the checklist is 34. "YES" and "NO" options were given for answering each item in the checklist.

Before starting the data collection process, the parents were informed about the functioning of the data collection process and the content of the checklist. The parents were told to observe the students for 30 days according to the variables in the checklist and to fill in the checklists within the scope of the relevant observations. Each parent was given 30 checklists, one for each day. Thus, a total of 300 checklists were distributed to 10 parents. Afterwards, the checklists were taken back from the parents and filed. After the checklists were taken back, interviews were conducted with the SST and students. Information about the interviews is given in Table 2:

**Table 2**  
*Information about the Interviews*

<b>Participant</b>	<b>Place</b>	<b>Date</b>
S1	Café	29.06.2022
S2	Café	29.06.2022
S3	Café	29.06.2022
S4	Café	29.06.2022
S5	Café	29.06.2022
S6	Café	29.06.2022
S7	Café	29.06.2022
S8	Café	30.06.2022
S9	Café	30.06.2022
S10	Café	30.06.2022
SST	Café	30.06.2022

As seen in Table 2, the participants were interviewed between 29.06.2022 and 30.06.2022. 7 students were interviewed on 29.06.2022, and 3 students and the SST were interviewed on 30.06.2022. All interviews were conducted in the café with the permission of the students' parents. The data obtained from the interviews were filed. Then, all data were organized and prepared for analysis.

Observations continued for 30 days (31.05.2022 - 29.06.2022). Interviews continued for two days (29.06.2022 -30.06.2022). The data collection process continued for 31 days.

## Data Analysis

Descriptive analysis technique was used to analyze the research data. Descriptive analysis is based on conducting the analysis according to predetermined themes (Creswell, 2013). The reason for using the descriptive analysis technique is that the analysis was made according to the dimensions focused by the data collection tools. The research data were analyzed based on the dimensions of entrepreneurship, skills, values and effective characteristics that the data collection tools focused on. These dimensions were designated as themes in the analysis process and the codes created were classified under these themes.

The data of the research were analyzed in two stages. In the first stage, the observation data collected with checklists were analyzed. At this stage, the YES and NO responses of the parents to the items on the checklists were counted and tabulated as frequency and percentage. In the second stage, the data collected through interview forms were analyzed. The coding approach was applied in analyzing the data. The participants' responses to the questions were analyzed and categorized in accordance with the themes of the research.

In order to ensure the credibility of the analysis process, the research questions, themes, one-third of the raw data and the analyzed form of the data were sent to an associate professor and an assistant professor who had conducted similar researches, and expert views were obtained in terms of the appropriateness of the analysis. The experts stated that the analysis was generally appropriate, but that the coding could be more specific. The analysis was redone in accordance with the expert suggestions.

## Ethics

In the research, various procedures were carried out within the scope of scientific ethics rules. These procedures are as follows:

- Consent was obtained from the students, their parents and the social studies teacher that they voluntarily participated in the research.
- The data collected in the research were used only for this research.
- In the research, the principle of transparency was observed and the data were kept faithful to the original form.

## Limitations

The limitations of the research are following:

- The participant group of the research is limited to 10 students, 1 social studies teacher and 10 parents.
- The data collection process of the research is limited to 31 days.
- The results of the research are limited to the findings reached by analyzing the data collected through semi-structured interview forms and the checklist.

## Credibility

In the research, credibility, which is valid for qualitative researches, was observed. Within this scope, various procedures were carried out. The procedures are listed below:

- Expert views were sought in the process of developing the data collection tools and the final form of the tools was created within the scope of expert views.
- Observation and interview techniques were used in the research and a multidimensional data set was created.
- While collecting the data, the principle of objectivity was adopted and the data were recorded directly without interpretation.
- While analyzing the data, expert views were sought on the suitability of the analysis process for the aim of the research.

## Findings

In the research, first the observation data collected with checklists were analyzed. Then, the data collected via the interviews with the students and the SST were analyzed. The findings obtained by analyzing the observation data were shown in tables and interpreted. The findings obtained by analyzing the interview data were interpreted by supporting direct quotations.

### Findings on Parent Observations Related to the Reflection of PBL on Students' Daily Life

The findings related to the observations of the parents on students' entrepreneurship are shown in Table 3 as frequency and percentage:

**Table 3**  
*Findings Related to the Parents' Observations on Students' Entrepreneurship*

Dimension	Sub-dimension	Question	Yes		No	
			<i>f</i>	%	<i>f</i>	%
Entrepreneurship	Self awareness	1. Self confidence	287	95,66	13	4,34
		2. Self recognition	292	97,33	8	2,67
		3. Learning to learn	283	94,33	17	5,67
	Risk taking	4. Implementing plans	290	96,66	10	3,34
		5. Trying different solutions	288	96,00	12	4,00
		6. Using intuition	279	93,00	21	7,00
		7. Using imagination	295	98,33	5	1,67
		8. Benefit from innovations	290	96,66	10	3,34
	Evaluating opportunities	9. Seeing the beneficial sides of things and taking advantage of them	289	96,33	11	3,67
		10. Being ready for opportunities	281	93,66	19	6,34

When Table 3 is analyzed, it is understood that students reflected the entrepreneurship they gained through PBL to their daily lives. As a matter of fact, in the self awareness sub-dimension of entrepreneurship, parents marked YES 287 (95.66%) times for self confidence, 292 (97.33%) times for self recognition and 283 (94.33%) times for learning to learn. In addition, in the risk taking sub-dimension of entrepreneurship, parents marked Yes 290 (96.66%) times for implementing plans, 288 (96%) times for trying different solutions, 279 (93%) times for using intuition, 295 (98.33%) times for using imagination and 290 (96.66%) times for benefit from innovations. In the taking advantage of opportunities, another sub-dimension of entrepreneurship, parents marked Yes 289 (96.33%) times for seeing the beneficial sides of things and taking advantage of them, and 281 (93.66%) times for being ready for opportunities. Within the scope of the findings in the table, it can be said that students reflect the dimensions of entrepreneurship in their daily lives.

The findings related to the observations of the parents on students' skills are shown in Table 4 as frequency and percentage:

**Table 4**  
*Findings Related to the Parents' Observations on Students' Skills*

Dimension	Question	Yes		No	
		<i>f</i>	%	<i>f</i>	%
Skill	1. Communication	292	97,33	8	2,67
	2. Planning	290	96,66	10	3,34
	3. Research	283	94,33	17	5,67
	4. Cooperation	294	98,00	6	2,00
	5. Problem solving	290	96,66	10	3,34
	6. Creative thinking	281	93,66	19	6,34
	7. Time management	284	94,66	16	5,34
	8. Decision making	288	96,00	12	4,00
	9. Dealing with challenges	290	96,66	10	3,34
	10. Analysis and synthesis	291	97,00	9	3,00

When Table 4 is analyzed, it is understood that the students reflected the skills they gained through PBL to their daily lives. As a matter of fact, in the checklists parents, marked Yes 292 (97.33%) times for communication skill, 290 (96.66%) times for planning skill, 283 (94.33%) times for research skill, 294 (98%) times for cooperation skill, 290 (96.66%) times for problem solving skill, 281 (93%) times for creative thinking skill, 284 (94.66%) times for time management skills, 288 (96%) times for decision making skills, 290 (96.66%) times for dealing with difficulties skill and 291 (97%) times for analysis and synthesis skill. Within the scope of the findings in the table, it can be said that students reflect the dimensions of entrepreneurship in their daily lives. Within the scope of the findings in the table, it can be said that students reflect various skills to their daily lives.

The findings related to the observations of the parents on students' values are shown in Table 5 as frequency and percentage:

**Table 5***Findings Related to the Parents' Observations on Students' Values*

Dimension	Question	Yes		No	
		<i>f</i>	%	<i>f</i>	%
Value	1. Responsibility	278	92,66	22	7,34
	2. Solidarity	270	90,00	30	10,00
	3. Respect	257	85,66	43	4,34
	4. Honesty	251	83,66	49	6,34
	5. Fairness	283	94,33	17	5,67

When Table 5 is analyzed, it is understood that students reflected the values they gained through PBL to their daily lives. As a matter of fact, in the checklists parents, marked Yes 278 (%92,66) times for responsibility, 270 (%90) times for solidarity, 257 (%85,66) times for respect, 251 (%83,66) for honesty, and 283 (%94,33) times for fairness. Within the scope of the findings in the table, it can be said that students reflect various values to their daily lives.

The findings related to the observations of the parents on students' effective characteristics are shown in Table 6 as frequency and percentage:

**Table 6***Findings Related to the Parents' Observations on Students' Effective Characteristics*

Dimension	Question	Yes		No	
		<i>f</i>	%	<i>f</i>	%
Effective Characteristics	1. Enjoying life	294	98,00	6	2,00
	2. Being happy	293	97,66	7	2,34
	3. Excitement	286	95,33	14	4,67
	4. Willingness	280	93,33	20	6,67
	5. Self appreciation	282	94,00	18	6,00
	6. Being curious about living environment	283	94,33	17	5,67
	7. Motivation	276	92,00	24	8,00
	8. Staying calm	270	90,00	30	10,00
	9. Self disclosure	282	94,00	18	6,00

When Table 6 is analyzed, it is understood that students reflected the effective characteristics they gained through PBL to their daily lives. As a matter of fact, in the checklists parents, marked Yes 294 (%98) times for enjoying life, 293 (%97,66) times for being happy, 286 (%95,33) times for excitement, 280 (%93,33) for willingness, 282 (%94) times for self appreciation, 283 (%94,33) times for being curious about living environment, 276 (%92) times for motivation, 270 (%90) times for staying calm and 282 (%94) times for self disclosure.

## Findings on Student Views Related to the Reflection of PBL on Students' Daily Life

The findings obtained from the students' views regarding the reflect of entrepreneurship gained through PBL to daily life are shown in Figure 1:

**Figure 1**

*Student Views on the Reflection of Entrepreneurship Gained by PBL on Daily Life*



When Figure 1 is examined, it is understood that the students think that they reflect the self awareness, risk taking and evaluating opportunities sub-dimensions of entrepreneurship gained by PBL to their daily lives. These findings were supported and interpreted with direct quotations from the interviews with the students.

In the research, it was found that the students reflected the self awareness, which is a feature gained by PBL, to their daily lives. For example, S3 said, *"Since our lesson last year, my self awareness has increased a little more. Now I say to myself that I can do every job a little more."* He/she stated that he/she reflected the self awareness gained by PBL to his/her daily life. Another student S6 stated that he/she reflected the self recognition feature gained by PBL to his/her daily life by saying, *"I used to not go to the market alone. Now I go by myself. I thought going to the market was hard. It turns out that it was not hard for me."*

Some students stated that they reflected the risk taking, which is a feature gained by PBL, to their daily lives. S8, one of these students, gave the following remarkable example from his daily life in the related context:

*"My mother is afraid to touch the computer. She thinks the computer will break down. One day I took her and said, "Come on mom, press the keys (keyboard keys) of the computer. Let's see what will happen. My mother was scared at first. Then I encouraged her and she did it. She realized that nothing happened. Like my mother, at first I was afraid to touch something like that, to handle something. I thought, "What if something wrong happens... We don't know what will happen until we try something..."*

When the statements of S8 are examined, it is understood that the student is not afraid of taking risks; on the contrary, he/she has the view that taking risks is the way to understand what the consequences of an event or situation may be.

Some of the students in the research stated that they reflected the evaluating opportunities, which is a feature gained by PBL, to their daily lives. Regarding the subject, S4 said, *"They call me 'Cunning ... (The student's name was not included within the scope of ethical rules). When something happens somewhere, I catch up immediately, I try to take advantage of it."* Similarly, S9 said, *"You should not miss the opportunity in life. When the*

*opportunity comes, you should take it. You should not miss it.*" he expressed his perspective on making use of opportunities.

According to the findings obtained from the interviews with the students, it was determined that the students reflected the entrepreneurship they gained during the PBL-based social studies education process to their daily lives. It was seen that these findings were similar to the observation findings obtained from the parents. As a matter of fact, observation findings also showed that students effectively reflected entrepreneurship to their daily lives.

The findings obtained from the students' views regarding the reflect of skills gained through PBL to daily life are shown in Figure 2:

**Figure 2**

*Student Views on the Reflection of Skills Gained by PBL on Daily Life*



When Figure 2 is examined, it is understood that the students think that they reflect the communication, research, cooperation, problem solving, dealing with challenges, creative thinking and analysis and synthesis skills gained by PBL to their daily lives. These findings were supported and interpreted with direct quotations from the interviews with the students.

In the research, it was determined that students reflected various skills gained by PBL-based social studies education to their daily lives. S1 said, *"I have good conversations with friends in the neighborhood and at school. Because we all live in the same world. We definitely have work for each other. For this reason, it is good to get along well with everyone."* He/she stated that he reflected his/her communication skills to the relationships in daily life. S10 said:

*"I was going to buy a soccer ball. I went and asked the shops. I learned that the ball was expensive. I didn't have that much money. Then I searched on the internet, I looked at the prices there and they were all expensive there too. Then I asked a friend and he told me the name of a website. He said you can compare prices on that site. You can find the cheapest price. So I said, help me, maybe I can't do it alone. Let's look at the site together. So we did. I bought the ball with the cheapest price."*

With these words, S10 revealed that his/her research and cooperation skills were developed and he/she reflected them effectively to the daily life. On the other hand S2, expressed how he/she reflected the problem solving and dealing with challenges skills he/she

gained in the PBL-based social studies education process to his/her daily life with the following example:

*"I was on a bike ride with my cousin. We went out of the city for a while. It was raining. There was mud everywhere. We couldn't pedal. We were in a field. We couldn't move at all. My cousin started crying. He said we were stranded in the field. So I said, first let's take my bike to the asphalt together. Then we would come and get yours. Otherwise we won't get out of here. He said we would fall in the mud. I said there's no other way. We will endure this challenge. We did it my way. We left the field. We went home."*

When the example given by S2 is analyzed, it is understood that S2 solved the problem and overcame the challenge at the same time. S7 also expressed how he/she reflected his skills to his daily life by showing an example of his experience. The example given by S7 is as follows:

*"We have a garden. The wind blows a lot there. The wind damages the tomatoes. The branches of the tomatoes break because of the wind. My father used to tie the tomatoes trees with rope. To prevent the wind from breaking the trees. But it was useless. This year I thought a lot. I researched a lot. I found a few ways. At first it seemed right to me, but then I tried it and it didn't seem wise. Then I found another solution. I said to my father, let's put plastic wrap around the tomatoes in the evening. There is a lot of wind in the evening. My father did as I said. Now nothing happens to the tomatoes."*

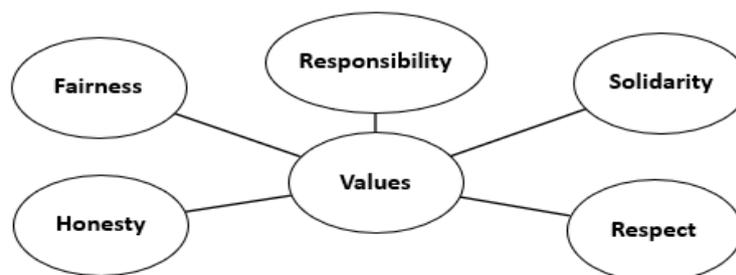
When S7's sentences are examined, it is understood that the student developed creative solutions to the problem situation and reached the most appropriate solution by using analysis and synthesis skill.

The findings obtained from the students showed that the students reflected the skills they gained through PBL-based social studies education to their daily lives. These findings were similar to the findings obtained from parent observations. The findings obtained from the checklists filled out by the parents also showed that the students reflected a wide range of skills to their daily lives.

The findings obtained from the students' views regarding the reflect of values gained through PBL to daily life are shown in Figure 3:

**Figure 3**

*Student Views on the Reflection of Values Gained by PBL on Daily Life*



As seen in Figure 3, it was found that the values of responsibility, solidarity, respect, honesty and fairness were reflected in the daily lives of the students in the research. These findings were supported and interpreted with direct quotations from the interviews with the students.

In the research, it was determined that students reflected various values they gained within the scope of PBL-based social studies education to their daily lives. S5 expressed the following experience in accordance with this scope: *"The other day I saw on the street, an uncle was pushing a wheelbarrow. Wood was stuck on the wheel of the cart. The uncle could not see the wood. I went and helped him, I took the wood out, I also helped him, I pushed the cart."* Considering the mentioned experience of S5, it is seen that S5 behaved like a responsible individual. S9 stated that he/she reflected the solidarity value to his/her daily life: *"My best friend and I always support each other. If I have a problem, he supports me immediately. If he has a problem, I support him. I am the same with many of my other friends."* Another student who stated that he/she reflected the values gained by PBL to his/her daily life was S3. S3 expressed that he/she was an individual who kept the values of respect and honesty alive in his/her daily life with the following words: *"I help my great-uncle in his shop in summer seasons. My uncle sells flour. His customers are always elderly. Whenever an elderly person comes to the shop, I immediately give him my seat. I give him water, I order tea. Sometimes my uncle is not in the shop. Since I know the price of the sacks, I do the selling myself. I don't take too much money from anyone."* S10 made sentences about reflecting the fairness value to his/her daily life. S10 gave the example of his relationship with his/her brother to show reflecting the value to his/her daily life. In this context, S10 said: *"Sometimes I argue with my brother. For example, for a meal. My brother wants to eat the whole meal. I say let me eat some. There is an argument between us like this. Then I show mercy. I sit him next to me, I tell him the truth, I say let's share the food equally."*

The findings obtained from the students showed that the students reflected the values they gained through PBL-based social studies education to their daily lives. These findings were similar to the findings obtained from parent observations. The findings obtained from the checklists filled out by the parents also showed that the students reflected various values to their daily lives.

The findings obtained from the students' views regarding the reflect of effective characteristics gained through PBL to daily life are shown in Figure 4:

**Figure 4**

*Student Views on the Reflection of Effective Characteristics Gained by PBL on Daily Life*



When Figure 4 is examined, it is seen that the effective characteristics that the students reflected to their daily lives are willingness, being curious about living environment and

motivation. These findings were supported and interpreted with direct quotations from the interviews with the students.

The students in the research stated that they used various effective characteristics they gained in social studies education conducted with PBL approach in their daily lives. S6 expressed that he/she enjoyed working with the following sentences: *"I never wanted to work before, but now I enjoy working."* A similar expression was used by S1. S1 said, "I like working. When people do something, produce something, both themselves and humanity benefit. Continuing his/her words, S1 expressed that the idea of production motivated him/her to work with his/her statement as follows: *"When I think of producing something, I get ambitious to work. I feel like working more."* 07, another student interviewed, stated that he approached what was going on around him with curiosity. S7 expressed his view on this subject as follows: *"This world is a very different place. There are so many things... I wish people could know them all. For example, when there is an event, I am curious about everything about that event. I investigate and I want to know."*

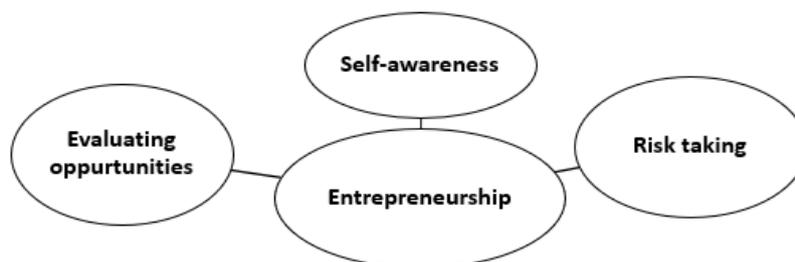
The findings obtained from the students showed that the students reflected the effective characteristics they gained through PBL-based social studies education to their daily lives. These findings were similar to the findings obtained from parent observations. The findings obtained from the checklists filled out by the parents also showed that the students reflected a wide range of effective characteristics to their daily lives.

### Findings on Social Studies Teacher Views Related to the Reflection of PBL on Students' Daily Life

The findings obtained from the SST's views regarding the reflect of entrepreneurship gained through PBL to students's daily life are shown in Figure 5:

**Figure 5**

*Social Studies Teacher's Views on the Reflection of Entrepreneurship Gained by PBL on Students' Daily Life*



When Figure 5 is examined, it is understood that the SST thinks that the students reflect the self awareness, risk taking and evaluating opportunities sub-dimensions of entrepreneurship gained by PBL to their daily lives. These findings were supported and interpreted with direct quotations from the interviews with the SST.

In the research, it was determined that the SST thought that students reflected the entrepreneurship they gained in the PBL-based social studies education process to their daily

lives. In the interview, the SST first evaluated the experimental process of the researcher's PhD dissertation. Some of the statements of the SST in this context are as follows:

*"The research you conducted in my classes was very effective. I remember it well even though a year has passed. We got extremely valuable results. My students improved in many ways. There were many positive developments in my students' behavior and attitudes towards the lessons. When I look at my students today, I see that the impact of your research is still continuing. I can say this clearly. Because the impact of your research was quite big. It was big in every aspect. It was big in terms of students' attitudes and behaviors and academic achievement."*

The evaluation by the SST suggests that the impact of the PhD thesis is still current. It was also determined that the SST thought that students reflected entrepreneurship to their daily lives. Some of the statements of the SST in this context are listed below:

**Self awareness:** *"I remember that during the process when you were conducting your dissertation, you concluded that students' self awareness had improved just like me. As far as I can see, this is still the case. I often witness students behaving confidently in class or at recess."*

**Risk taking:** *"If I remember correctly, when you were conducting your dissertation we witnessed some shy students in the class overcoming the shyness. Those students are still the same. They realized that shyness is not going to help them."*

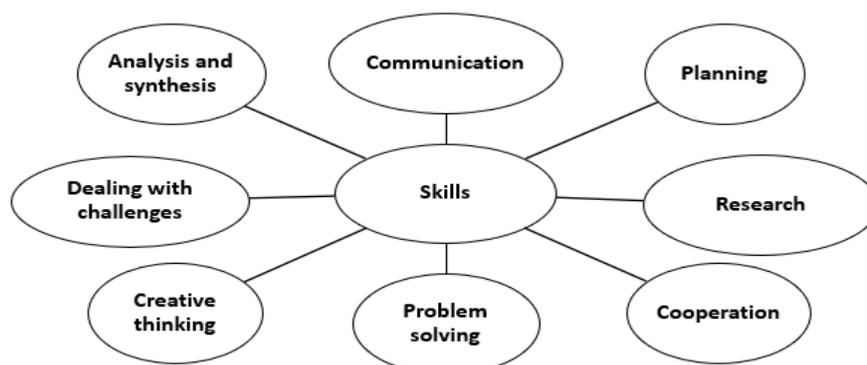
**Evaluating opportunities:** *"That class (the class that took part in the research as the experimental group) is very sociable now. The physical education teacher also says so. Especially in physical education lessons, that class immediately grabs the best place in the garden and the best ball."*

Considering the statements of the SST, it is understood that the SST thinks that students reflect the entrepreneurship gained through PBL to their daily lives. The findings obtained from the interviews with SST are similar to the findings obtained from the interviews with students and the findings obtained from the observations of parents. As a matter of fact, parent observations and student interviews also provided findings that students reflected entrepreneurship to their daily lives.

The findings obtained from the SST's views regarding the reflect of skills gained through PBL to students's daily life are shown in Figure 6:

**Figure 6**

*Social Studies Teacher's Views on the Reflection of Skills Gained by PBL on Students' Daily Life*



When Figure 6 is examined, it is understood that the SST thinks that the students reflect the communication, planning, research, cooperation, problem solving, creative thinking, dealing with challenges, and analysis and synthesis skills gained by PBL to their daily lives. These findings were supported and interpreted with direct quotations from the interviews with the SST.

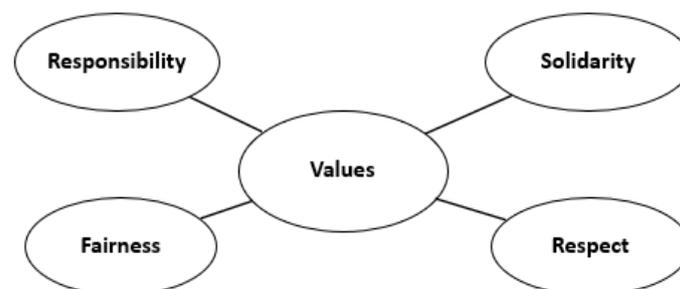
In the research, it was determined that SST thought that students reflected various skills they gained through PBL to their daily lives. Regarding this issue, SST stated the following: *"I can say that students can communicate with everyone. With their classmates, with students in other classes, with teachers..."* SST also said, *"The children act quite regularly. When I talk to their parents, they also say the same thing."* He stated that he thought that the students were planned. SST said, *"All of those students (experimental group) are very sociable. They are super researchers, they research everything. Books, internet... They use everything. They act in cooperation. They know that there is strength in unity. As such, they solve every problem. They develop logical ideas. I use your technique (problem-based learning) in my classes now. They bring such ideas to the problems I give them... I mean, they are very successful."* with these sentences, he revealed that he thinks that students use research, cooperation, problem solving and creative thinking skills in their daily lives. In the interview, SST also stated that he thought that students reflected dealing with challenges and analyzing and synthesizing skills to their daily lives. SST's statements in this context are as follows: *"They do not give up so easily. They struggle a lot. They analyze. They reveal their knowledge. They learn new knowledge and improve their knowledge. That's how they act."*

The findings obtained from the interviews with SST are similar to the findings obtained from the interviews with students and the findings obtained from the observations of parents. As a matter of fact, parent observations and student interviews also provided findings that students reflected various skills to their daily lives.

The findings obtained from the SST's views regarding the reflect of values gained through PBL to students's daily life are shown in Figure 7:

**Figure 7**

*Social Studies Teacher's Views on the Reflection of Values Gained by PBL on Students' Daily Life*



When Figure 7 is examined, it is understood that the SST thinks that the students reflect the responsibility, solidarity, respect and fairness values gained by PBL to their daily lives.

These findings were supported and interpreted with direct quotations from the interviews with the SST.

In the research, it was determined that SST thought that students reflected various values they gained through PBL to their daily lives. The statements of SST in this context are as follows:

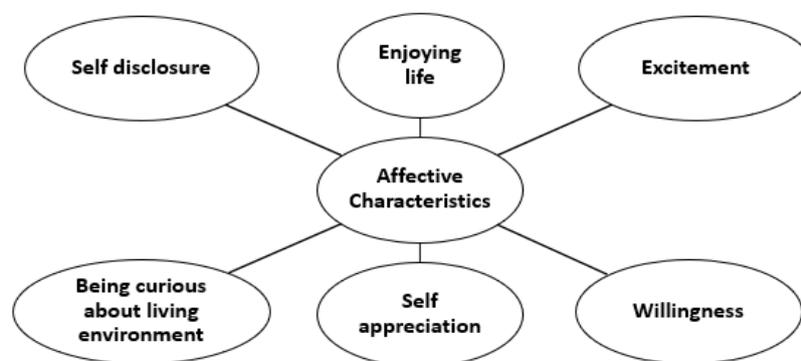
*"I can say that my students behave like responsible people. They don't act like mavericks. They also behave respectfully. They respect each other and the teachers as they should. They also help each other. This is very important. I think students' cooperation helps them develop in every aspect. Look, for example, I witness that the students in this class (students in the experimental group) are more fair than the students in the other classes. In fact, because they have learned cooperation. This helps them to be fair."*

As can be understood from the statements of SST, SST thinks that students reflect the responsibility, solidarity, respect, and fairness values to daily life. The views of SST that students reflect the values that they gained through PBL to their daily lives are similar to the views of the students and the observations of parents.

The findings obtained from the SST's views regarding the reflect of effective characteristics gained through PBL to students's daily life are shown in Figure 8:

**Figure 8**

*Social Studies Teacher's Views on the Reflection of Effective Characteristics Gained by PBL on Students' Daily Life*



When Figure 8 is examined, it is understood that the SST thinks that the students reflect the enjoying life, excitement, willingness, self appreciation, being curious about living environment and self disclosure effective characteristics gained by PBL to their daily lives. These findings were supported and interpreted with direct quotations from the interviews with the SST.

In the research, it was determined that SST thought that students reflected various effective characteristics they gained through PBL to their daily lives. SST stated that students enjoy life as follows: *"Children enjoy life because they use what they have learned (what they have learned in social studies lessons based on PBL) in daily life. It is especially noticeable that children enjoy participating in the lessons."* SST also stated that the students were excited.

SST expressed his view in this context as follows: *"When the children do their homework and read it in class, their excitement is visible in their eyes. This is the excitement arising from eagerness."* SST, also said *"Students are visibly willing to study. I don't just mean for the lesson, as far as I can see, they are like that outside the school as well. They are curious about what is going on around them. They want to research and learn. This makes them love themselves and care more about themselves."* With these statements, SST stated that students reflected the willingness, being curious about living environment and self appreciation effective characteristics to their daily lives. In the interview, SST stated that the students were not afraid of disclosing themselves. SST stated, "Children express what they want comfortably. They can say what they think." he presented his view within the scope of the related sentences.

The views of SST that students reflect the various effective characteristics that they gained through PBL to their daily lives are similar to the views of the students and the observations of parents. As a matter of fact, the findings obtained from the checklists filled in by the parents and the findings obtained from the student interviews are similar to the views of the SST in this context.

## Conclusion and Discussion

The findings were analyzed and interpreted. The findings are discussed in the light of similar studies in the literature as presented below.

In the research, it was concluded that the students reflected the self awareness gained by the PBL-based social studies education to their daily lives. In the literature review conducted to discuss the result in question, it was seen that there were studies that reached similar results. Song (2014), at the end of his research with nurse candidates, determined that PBL improved the participants' self awareness by giving them self awareness. Gallagher and Gallagher (2013) concluded that PBL is an effective approach in making students realize their abilities. Ramadhani (2018), who aimed to improve students' mathematical skills and self awareness, found that PBL was beneficial in improving students' self confidence and awareness. Similarly, Anwar and Supriyadi (2018) revealed at the end of their research that PBL is a learning approach that provides students with self awareness and improves their self awareness in this context. LaForce et al. (2017) determined that PBL benefits students in terms of self belief and awareness. Self awareness, one of the sub-dimensions of entrepreneurship, is a feature that individuals should have in order to achieve success in their daily lives. In this context, it is important to provide students with self awareness in the social studies course, which aims to provide students with knowledge, skills and values related to the situations they will encounter in daily life. In terms of the results of the research, it can be said that the students reflected the self awareness gained by PBL-based social studies education to their daily life.

In the research, it was concluded that the risk taking gained by PBL-based social studies education was reflected to daily life by the students. Jatmiko et al. (2018), in their research aiming to improve the critical thinking skills of pre-service teachers, determined that PBL provided pre-service teachers with risk taking qualities along with various skills. Similarly, Valdez and Bungihan (2019) revealed in their research that PBL is a learning approach that provides risk taking qualities. LaForce et al. (2017), at the end of the research they conducted by utilizing PBL approach, found that students who were educated with PBL started not to be afraid of making mistakes and taking risks. It is possible for individuals to encounter situations

that are not within their control in multidimensional life conditions. In this context, the awareness of the conditions under which entrepreneurial individuals should take risks is a necessary feature based on the dynamic structure of life. As a matter of fact, individuals may encounter situations in their daily lives that they do not have information about all dimensions and may have to make decisions involving risk in the face of these situations. Depending on the results of the research, it can be said that the students reflected the risk taking gained by PBL-based social studies education to their daily life.

The findings of this research revealed that the evaluating opportunities gained by PBL-based social studies education was reflected to daily life by the students. Cui (2016), similar to this research, concluded that PBL gains students evaluating the opportunities they encounter. Wynn Sr and Okie (2017), in their research with social studies teachers, concluded that PBL positively affects teachers' perceptions within the scope of evaluating opportunities. San Tan and Frank Ng (2006), in the research that they used PBL to gain entrepreneurship, determined that PBL gains individuals evaluating the opportunities feature. It is a necessity for individuals to evaluate opportunities they encounter in daily life in order to improve their living conditions. As a matter of fact, taking evaluating opportunities encountered in daily life is one of the main elements of entrepreneurship. Within the scope of the result reached it can be said that the students reflected evaluating opportunities gained by PBL-based social studies education to their daily life.

It was concluded that communication, planning, research, cooperation, problem solving, creative thinking, dealing with challenges, and analysis and synthesis skills gained by PBL-based social studies education was reflected to daily life by the students. In the literature review conducted to discuss the result, it was seen that there were researches that reached similar results. Argaw et al. (2016) determined that PBL-based physics courses provide students with problem solving and research skills. Mustofa and Hidayah (2020) revealed that PBL is an approach that enables the development of multidimensional thinking skills. Widiawati et al. (2018) found that PBL is a useful learning approach in the development of awareness skills. The success of an entrepreneurial individual depends on the fact that he has a wide range of skills. Within the scope of the results obtained in this research, it can be said that students reflect the skills gained by PBL to their daily lives.

In the research, it was concluded that students reflected the values of responsibility, solidarity, respect and fairness that they gained through PBL-based social studies education to their daily lives. Kuvaç and Işıl (2016), who investigated the effect of PBL on pre-service science teachers' attitudes towards the environment, determined that PBL helped pre-service teachers gain the values of sensitivity and responsibility. Goelen et al. (2006), who investigated the effect of PBL on the attitudes of health faculty students, found that PBL had a positive effect on students' attitudes and made them behave more respectfully and think more understandingly. The individual, who continues his/her daily life as a part of the society in which he/she lives, has to act in accordance with the values of the society. Considering the place of values in social life, it is important that the students in this research reflect the values they gained through PBL to their daily lives.

The findings of this research revealed that students reflected enjoying life, excitement, willingness, self appreciation, being curious about living environment and self disclosure effective characteristics that they gained through PBL-based social studies education to their daily lives. Yadav et al. (2011) concluded that PBL gains students be calm in the face of problems. Jamiat (2018), in his research with teachers, revealed that PBL is an approach that

makes teachers feel happier. Asyari et al. (2016) determined that PBL increases students' motivation and also makes them appreciate themselves. Matlala (2021) revealed in his research that PBL arouses a sense of curiosity in students. Wijnia et al. (2011) concluded that PBL gain students self disclosure feature. Being an entrepreneur requires having various effective characteristics. This is because successful entrepreneurship is related to the effective characteristics of the entrepreneur. The fact that students reflect the effective characteristics required by entrepreneurship to their daily lives shows the success of PBL in this context.

With in the scope of the results reached in the research, it can be said that the results obtained in the PhD dissertation of the researcher are still valid.

## **RECOMMENDATIONS**

According to the results of the research, the following recommendations were developed:

- Furture quantitative research can examine the reflect of PBL gains to daily life.
- Furture mixed-method research can examine the reflect of PBL gains to daily life.
- Furture research can examine the reflect of PBL gains to daily life at different grade levels.
- Furture research with large participant groups can examine the reflect of PBL gains to daily life.

### **Statement of Conflict of Interest**

There is no conflict of interest in the research.

## References

- Anwar, N. T., & Supriyadi, S. (2018). Abilities of mathematical literacy based on self-confidence in problem based learning with DAPIC problem-solving process. *Unnes Journal of Mathematics Education Research*, 7(1), 152-160. Retrieved from <https://journal.unnes.ac.id/sju/index.php/ujmer/article/view/25512>
- Argaw, A. S., Haile, B. B., Ayalew, B. T., & Kuma, S. G. (2016). The effect of problem based learning (PBL) instruction on students' motivation and problem solving skills of physics. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(3), 857-871. <https://doi.org/10.12973/eurasia.2017.00647a>
- Arıcı, F. (2021). *Investigation of the effectiveness of problem based learning method of enhanced with augmented reality in the teaching of cell and divisions subject*. (PhD dissertation). Atatürk University, Institute of Educational Sciences.
- Asyari, M., Al Muhdhar, M. H. I., & Susilo, H. (2016). Improving critical thinking skills through the integration of problem based learning and group investigation. *International Journal for Lesson and Learning Studies*, 5(1), 36-44. <https://doi.org/10.1108/ijlls-10-2014-0042>
- Bayram, H. (2021). *The impact of problem-based learning on students' entrepreneurship level in 6th grade social studies course* (PhD dissertation). Anadolu University, Institute of Educational Sciences.
- Byrne, M. (2001). Sampling for qualitative research. *AORN Journal*, 73(2), 494-494. [https://doi.org/10.1016/s0001-2092\(06\)61990-x](https://doi.org/10.1016/s0001-2092(06)61990-x)
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.
- Cui, X. (2016). *An empirical study of problem-based learning of English in China*. (Master's dissertation). University of Connecticut, Department of Educational Psychology.
- Çanakçı, P. (2021). *An analysis of the effect of problem based learning method for violoncello education on students' performance, academic success, motivation and permanence*. (PhD dissertation). Marmara University, Institute of Educational Sciences.
- Deveci, H. (2002). *The effect of problem based learning to attitudes, success and retention in social studies*. (PhD dissertation). Anadolu Universtiy, Institute of Educational Sciences.
- Dewey, J. (2008). *The school and society*. Cosimo Classics.
- Dita, P. P. S., Utomo, S., & Sekar, D. A. (2021). Implementation of problem based learning (PBL) on interactive learning media. *Journal of Technology and Humanities*, 2(2), 24-30. <https://doi.org/10.53797/jthkss.v2i2.4.2021>
- Fong, S. F., Sakai, D. H., D'Eon, M., & Trinder, K. (2022). The effect of case nodes in problem-based learning on the length and quality of discussion: A 2x2 factorial study. *Canadian Medical Education Journal/Revue Canadienne de L'éducation Médicale*, 13(1), 75-80. <https://doi.org/10.36834/cmej.71812>
- Foo, C. C., Cheung, B., & Chu, K. M. (2021). A comparative study regarding distance learning and the conventional face-to-face approach conducted problem-based learning tutorial during the COVID-19 pandemic. *BMC Medical Education*, 21(1), 1-6. <https://doi.org/10.1186/s12909-021-02575-1>
- Gallagher, S. A., & Gallagher, J. J. (2013). Using problem-based learning to explore unseen academic potential. *Interdisciplinary Journal of Problem-Based Learning*, 7(1), 111-131. <https://doi.org/10.7771/1541-5015.1322>
- Ghani, A. S. A., Rahim, A. F. A., Yusoff, M. S. B., & Hadie, S. N. H. (2021). Effective learning behavior in problem-based learning: A scoping review. *Medical Science Educator*, 31(3), 1199-1211. <https://doi.org/10.1007/s40670-021-01292-0>
- Goelen, G., De Clercq, G., Huyghens, L., & Kerckhofs, E. (2006). Measuring the effect of interprofessional problem-based learning on the attitudes of undergraduate health care students. *Medical Education*, 40(6), 555-561. <https://doi.org/10.1111/j.1365-2929.2006.02478.x>

- Hasanah, U., Sarjono, S., & Hariyadi, A. (2021). Pengaruh model problem based learning terhadap prestasi belajar IPS SMP taruna kedung adem. *Aksara: Jurnal Ilmu Pendidikan Nonformal*, 7(1), 43-52. <https://doi.org/10.37905/aksara.7.1.43-52.2021>
- Ilma, A. Z., Budiharti, R., & Ekawati, E. Y. (2021). Eksperimen discovery learning dan problem based learning ditinjau ketekunan belajar siswa materi hukum Newton. *Jurnal Materi dan Pembelajaran Fisika*, 11(1), 20-27. <https://doi.org/10.20961/jmpf.v11i1.47358>
- Jamiat, N. (2018). *Designing problem based learning for teachers in Malaysia: A study of the nine-step problem design process*. (PhD dissertation). Florida State University, College of Education.
- Jatmiko, B., Prahani, B. K., Munasir, S., Wicaksono, I., Erlina, N., & Pandiangan, P. (2018). The comparison of OR-IPA teaching model and problem based learning model effectiveness to improve critical thinking skills of pre-service physics teachers. *Journal of Baltic Science Education*, 17(2), 300. <https://doi.org/10.33225/jbse/18.17.300>
- Kim, N. J., Vicentini, C. R., & Belland, B. R. (2022). Influence of scaffolding on information literacy and argumentation skills in virtual field trips and problem-based learning for scientific problem solving. *International Journal of Science and Mathematics Education*, 20(2), 215-236. <https://doi.org/10.1007/s10763-020-10145-y>
- Kritikos, V. S., Woulfe, J., Sukkar, M. B., & Saini, B. (2011). Intergroup peer assessment in problem based learning tutorials for undergraduate pharmacy students. *American Journal of Pharmaceutical Education*, 75(4), 1-12. <https://doi.org/10.5688/ajpe75473>
- Kuvaç, M., & Koç, I. (2019). The effect of problem-based learning on the environmental attitudes of preservice science teachers. *Educational Studies*, 45(1), 72-94. <https://doi.org/10.1080/03055698.2018.1443795>
- LaForce, M., Noble, E., & Blackwell, C. (2017). Problem-based learning (PBL) and student interest in STEM careers: The roles of motivation and ability beliefs. *Education Sciences*, 7(4), 92-114. <https://doi.org/10.3390/educsci7040092>
- Langendyk, V. (2006). Not knowing that they do not know: Self-assessment accuracy of third-year medical students. *Medical Education*, 40(2), 173-179. <https://doi.org/10.1111/j.1365-2929.2005.02372.x>
- Lestari, F., Egok, A. S., & Febriandi, R. (2021). Pengembangan bahan ajar matematika berbasis problem based learning pada siswa Sekolah Dasar. *Jurnal Basicedu*, 5(1), 394-405. <https://doi.org/10.31004/basicedu.v5i1.628>
- Machado, J. L. M., Machado, V. M. P., Grec, W., Bollela, V. R., & Vieira, J. E. (2008). Self and peer assessment may not be an accurate measure of PBL tutorial process. *BMC Medical Education*, 8(1), 1-6. <https://doi.org/10.1186/1472-6920-8-55>
- Matlala, S. (2021). Educators' perceptions and views of problem-based learning through simulation. *Curationis*, 44(1), 1-7. <https://doi.org/10.4102/curationis.v44i1.2094>
- Mustofa, R. F., & Hidayah, Y. R. (2020). The effect of problem-based learning on lateral thinking skills. *International Journal of Instruction*, 13(1), 463-474. <https://doi.org/10.29333/iji.2020.13130a>
- Putri, N. I. P., & Sundayana, R. (2021). Perbandingan kemampuan komunikasi matematis siswa antara problem based learning dan inquiry learning. *PLUSMINUS: Jurnal Pendidikan Matematika*, 1(1), 157-168. <https://doi.org/10.31980/plusminus.v1i1.1034>
- Putri, R. D. P., Fatonah, S., & Susilawati, S. (2022). Penerapan pembelajaran daring menggunakan model problem based learning pada mata kuliah konsep biologi. *Edukatif: Jurnal Ilmu Pendidikan*, 4(1), 508-515. <https://doi.org/10.31004/edukatif.v4i1.1805>
- Safitri, W., Budiarmo, A. S., & Wahyuni, S. (2022). Pengembangan e-LKPD berbasis problem based learning untuk meningkatkan keterampilan proses sains siswa SMP. *Saintifika*, 24(1), 30-41. <https://doi.org/10.26877/jp2f.v13i1.11389>
- San Tan, S., & Ng, C. F. (2006). A problem-based learning approach to entrepreneurship education. *Education + Training*. 48(6), 416-428. <https://doi.org/10.1108/00400910610692606>
- Sari, Y. I., Sumarmi, S., Utomo, D. H., & Astina, I. K. (2021). The effect of problem based learning on problem solving and scientific writing skills. *International Journal of Instruction*, 14(2), 11-26. <https://doi.org/10.29333/iji.2021.1422a>

- Shofwani, S. A., & Rochmah, S. (2021). Penerapan problem based learning untuk meningkatkan minat dan hasil belajar manajemen operasional di masa pandemi Covid-19. *Jurnal Educatio FKIP UNMA*, 7(2), 439-445. <https://doi.org/10.31949/educatio.v7i2.1074>
- Song, Y. A. (2014). Effect of simulation-based practice by applying problem based learning on problem solving process, self-confidence in clinical performance and nursing competence. *Korean Journal of Women Health Nursing*, 20(4), 246-254. <https://doi.org/10.4069/kjwhn.2014.20.4.246>
- Suparman, S., Tamur, M., Yunita, Y., Wijaya, T. T., & Syaharuddin, S. (2021). Using problem-based learning to enhance mathematical abilities of primary school students: A systematic review and meta-analysis. *JTAM (Jurnal Teori dan Aplikasi Matematika)*, 5(1), 144-161. <https://doi.org/10.31764/jtam.v5i1.3806>
- Tanrıku, D. D. (2022). *The effect of cartoon-supported problem-based learning method in social studies class on problem solving perceptions, attitudes towards the lesson and level of achievement*. (PhD dissertation). Marmara University, Institute of Educational Sciences.
- Trullàs, J. C., Blay, C., Sarri, E., & Pujol, R. (2022). Effectiveness of problem-based learning methodology in undergraduate medical education: A scoping review. *BMC Medical Education*, 22(1), 1-12. <https://doi.org/10.1186/s12909-022-03154-8>
- Valdez, J. E., & Bungihan, M. E. (2019). Problem-based learning approach enhances the problem solving skills in chemistry of high school students. *JOTSE*, 9(3), 282-294. <https://doi.org/10.3926/jotse.631>
- Widiawati, L., Joyoatmojo, S., & Sudiyanto, S. (2018). Higher order thinking skills as effect of problem based learning in the 21st century learning. *International Journal of Multicultural and Multireligious Understanding*, 5(3), 96-105. Retrieved from <https://ijmmu.com/index.php/ijmmu/article/view/223>
- Wijnia, L., Loyens, S. M., & Derous, E. (2011). Investigating effects of problem-based versus lecture-based learning environments on student motivation. *Contemporary Educational Psychology*, 36(2), 101-113. <https://doi.org/10.1016/j.cedpsych.2010.11.003>
- Wynn Sr, C. T., & Okie, W. (2017). Problem based learning and the training of secondary social studies teachers: A case study of candidate perceptions during their field experience. *International Journal for the Scholarship of Teaching and Learning*, 11(2), 1-14. <https://doi.org/10.20429/ijsotl.2017.110216>
- Yadav, A., Subedi, D., Lundeberg, M. A., & Bunting, C. F. (2011). Problem-based learning: Influence on students' learning in an electrical engineering course. *Journal of Engineering Education*, 100(2), 253-280. <https://doi.org/10.1002/j.2168-9830.2011.tb00013.x>
- Yin, R. (2014). *Case study research: Design and methods*. Sage.