

## Research Article

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## Implementing Argumentation-Based Science Learning Approach in Social Studies: Academic Achievement and Students' Views\*

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### Abstract

The purpose of this study was to investigate the effects of the argumentation-based science learning approach on students' academic achievements and examine student views about use of this approach in social studies. We used a mixed methods research design to document changes as a result of an argumentation-based science learning approach implementation. The participants were 94 seventh grade students from three different classrooms of a middle school in Erzurum, Turkey. We developed the Population in our Country Academic Achievement Test to collect quantitative data before and after the implementation, and used a semi-structured interview form to collect quantitative data after the implementation. Using descriptive, one-way ANOVA, and multiple comparison Tukey test statistical data analysis methods, we analyzed the quantitative data. Then, we used content analysis method to analyze the qualitative data. Results of the quantitative data analysis showed that there was no statistically significant difference between academic achievements mean scores of the students in the experimental and control groups in the pre-test. However, after the implementation, there were statistically significant differences between groups indicating that academic achievement mean scores

\*This study was generated from doctoral thesis entitled "The Effects of the Argumentation-Based Science Learning Approach on Students' Academic Achievement, Critical Thinking Dispositions and Argumentation Development Skills"

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of students in the experimental group was statistically higher than those students in the control groups in the post-test. Results of the qualitative data analysis indicated the argumentation-based science learning approach activities helped students understand subjects better, facilitated their learning, provided permanent learning opportunities, increased their interest and attitudes towards the course, and enhanced their success in social studies. These results suggested that implementing the argumentation-based science learning approach in social studies was effective in enhancing students' academic achievement and resulted in developing positive views of students about the approach.

#### Keywords

Argumentation-Based Science Learning; Argumentation; Social Studies; Mixed Methods; Academic Achievement; Students' Views

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Developments in the information age have required individuals responsible for “knowing” to have many necessary skills such as thinking, questioning, researching, and making fast and effective decisions. (Alkin-Şahin, Tunca & Ulubey, 2014). The fact that individuals who are responsible for “knowing” and possessing these necessary skills can be possible by realizing the significance of “why” and “how” questions. Individuals spending more time with information and communication technologies can spend less time on why and how type of questions that require reasoning because they reach the information quickly and accept the information without questioning. Thus, individuals may have difficulties in constructing the information in the learning process without questioning since they reach the information quickly (Türkoguz & Cin, 2013). In this context, new approaches in education emphasize that learning environments should be designed more flexible and students should be active in the learning process. Thus, there is a need for new inquiry-based learning environments that enable learners to become high-level thinking individuals who conduct research, ask questions, and use technology as active recipients of information (Tezci & Perkmen, 2013). Researchers indicate that Argumentation Based Science Learning (ABSL) approach is one of the approaches providing these environments to learners (Antiliou, 2012; Chin & Osborne, 2008; Driver, Newton & Osborne, 2000; Hohenshell & Hand, 2006; Jimenez-Aleixandre & Erduran, 2007; Jimenez-Aleixandre Rodriguez, & Duschl, 2000; Nusbaum, 2008; Sampson & Gleim, 2009; Şekerci, 2013; Şahin, 2016).

The ABSL is a learning approach that aims to cultivate students as individuals who have strong social skills, develop collaboration and communication skills, are open-minded, can conduct research, ask questions, collect and share information, and critically evaluate arguments and justifications in discussions (Güler, 2016). The ABSL approach consists of a structure that strengthens students' reasoning during their work in scientific activities and provides high-level cognitive support (Yore, 2000). This structure (a) helps students formulate questions, (b) practice, claim and provide evidence for these claims, and (c) create arguments with effective reasoning (Keys, Hand, Prain & Collins, 1999). During the argumentation process, students can improve their conceptual understanding (Cavlazoglu & Stuessy, 2017) by comparing different theories via use of existing data to support or reject theories. This is because students choose the most appropriate theory among different theories in the argumentation process and this process provides a better conceptual understanding of targeted subjects (Lawson, 2003). The process of argumentation assists students in evaluating new

knowledge, conceptualizing the knowledge in students' individual mental structures, and learning conceptual knowledge in a manner consistent with scientific knowledge (Bell & Linn, 2000; Dawson & Venville, 2009; Zohar & Nemet, 2002). Argumentation activities individually or in groups requiring students to think and actively participate in the learning process provides social activity environments for students (Driver, Newton & Osborne, 2000). Students in argumentation-based learning environments can construct their knowledge actively and socially. In these learning environments, since students can express their ideas clearly, the argumentation approach can be used for evaluation and self-assessment (Bell & Linn, 2000; Tekeli, 2009). With the ABSL approach, students can use different strategies including asking questions, creating claims, testing claims, creating new claims, and comparing their claims with existing scientific information (Hand, Wallace & Yang, 2004).

In the related literature, researchers stated that learning environments designed with ABSL approach have positive effects on students' (a) high-level thinking skills (Antiliou, 2012, Kunsch, Schnarr & van Tyle, 2014; Lawson, 2003; Nussbaum & Sinatra, 2003; Nussbaum, Winsor, Aquilino & Polyquin, 2007; von Aufschnaiter, Erduran, Osborne & Simon, 2008), (b) argument creating skills (Çetin, Kutluca & Kaya, 2013; Çiftçi, 2016; Jan, 2009; Lu & Zhang, 2013; Knight & McNeill, 2015; Öztürk, 2013; Untereiner, 2013), (c) understanding of nature of science (Çetin, Erduran & Kaya, 2010; Driver, Newton & Osborne, 2000; Kutluca, 2016; Osborne, Erduran & Simon, 2004; Tümay & Köseoğlu, 2010), (d) meaningful understanding of concepts (Basso, 2009; Boyraz, Hacıoğlu & Aygün, 2016; Cavlazoglu & Stuessy, 2017; Ortega, Alzate & Bargallo, 2015; Türkoguz & Cin, 2013; Ulu & Bayram, 2015; Weng, Lin & She, 2017), and (e) academic achievement (Greenbowe, Poock, Burke & Hand, 2007; Güler, 2016; Öğreten, 2014; Uluay, 2012).

The ABSL approach helps individuals express their ideas about a subject and see their missing points (Akpınar & Ergin, 2005; Duran, Doruk & Kaplan, 2017). In addition, individuals can gain questioning and research skills as they behave like a scientist in the argumentation process (Driver, Newton & Osborne, 2000). In learning environments, the argumentation process enabling students to be curious and active has important roles in student learning with questioning a topic and developing conceptual understanding as well as learning the students' thinking and reasoning process (Chin & Osborne, 2010; Hasançebi, 2014; Kaya & Kılıç 2008).

According to the international literature on argumentation, although there are many benefits of using the ABSL approach in learning environments, the use of this approach has been mostly in the field of science education (Albe, 2007; Cavlazoglu & Stuessy, 2018; Chin & Osborne, 2010; Crowell & Kuhn, 2012; Duschl & Osborne, 2002; Erduran, Simon & Osborne, 2004; Kolsto, 2006; Kuhn, Wang & Li 2010; Sadler & Fowler, 2006; Tippett, 2009; Zohar & Nemet, 2002), and limited in the social sciences (Larson, Britt & Kurby, 2009; Mirza & Perret-Clermont, 2009; Monte-Sano, 2012; Nussbaum, 2002; Nussbaum, 2008; Swartz, 2008; Wissinger, 2012) has started to be used in social sciences in the recent years.

Literature at the national level about the use of the ABSL approach, as similar at the international level, indicate that this approach has been widely used in science education (Çinici, Özden, Herdem, Karabiber & Deniz, 2014; Demirel, 2016; Namdar & Tuskan, 2018; Okumuş & Ünal, 2012; Özcan, Aktamış & Hiğde, 2018; Uluçınar-Sağır & Kılıç, 2013), but it is noteworthy that there has been a limited number of studies in the field of social studies education (Demir, 2017; Torun, 2015).

Nussbaum (2002) stated that social studies curriculum provides many opportunities for students to study and practice argumentation in social studies education. He emphasized that students can create arguments about reasons for social events, political and social practices (e.g., democracy and imperialism), and contemporary issues (e.g., migration). He also suggested that students' interest in social studies curriculum should be increased in order to increase their capacity to participate in the argumentation and justification processes. In a research study, Oğuz-Haçat and Demir (2016) demonstrated the suitability of the ABSL approach for teaching subjects in social studies courses. In this context, we claimed that implementation of the ABSL approach can have positive effects on the academic achievement of students in social studies. In this vein, the problem statements of this research were defined as "*Were there any significant effect of the ABSL approach on the academic achievements of students in the seventh-grade social studies courses?*" and "*What were the views of the students about the social studies course prepared with the ABSL approach?*" We identified that in the literature there was no research study examining the effects of the ABSL approach on seventh-grade students' academic achievements in the social studies courses by using various activities with ABSL approach in the classroom. Additionally, none of the previous studies used mixed methods research design in implementing the ABSL approach in social studies research literature. In this study, to address the gaps in the literature, we used a mixed methods design to document the effects of the ABSL approach on students' academic achievements and student views about use of this approach in social studies courses.

## Methodology

### Research Design

In this study, we used a mixed methods approach. Mixed methods approach is a research methodology in which both quantitative and qualitative research methods are used together (Fraenkel, Wallen & Hyun, 2012). This methodology allows a better understanding of the research problems by using a combination of quantitative and qualitative research methods (Creswell, 2012). In the literature, researchers have classified mixed methods research designs differently. According to Creswell and Plano-Clark (2007), there are four types of mixed methods research designs: triangulation design, embedded design, explanatory design, and exploratory design. In this study, since we used predominantly quantitative data and qualitative data to support the quantitative data, we employed embedded design (see Figure 1).

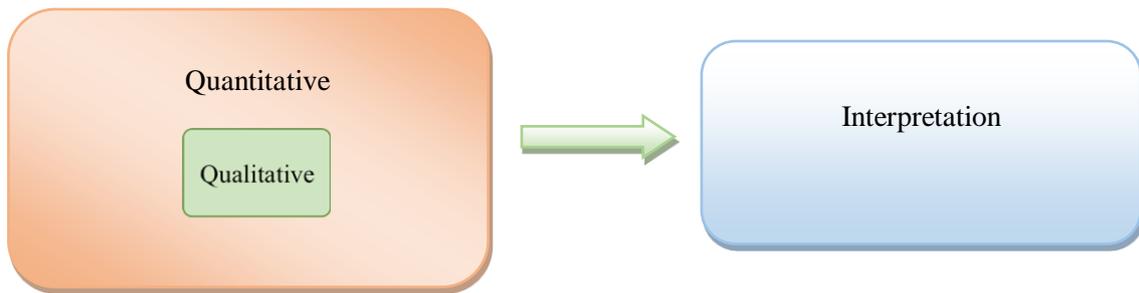


Figure 1. Embedded research design (Creswell & Plano-Clark, 2007)

In the quantitative part of this study, a quasi-experimental design with pretest-posttest equivalent control groups was used. The most important feature of the experimental design is that the independent variable can be manipulated (Fraenkel, Wallen & Hyun, 2012; McMillan & Schumacher, 2014). In this study, no random assignment was done to determine the experimental and control groups since only available groups were used. The experimental and control groups were randomly assigned among available groups. Before assigning experimental and control groups, academic achievement pre-tests scores of the groups were controlled to make sure that the groups were equivalent. In the qualitative part of the study, semi-structured interviews with the students in the experimental group were conducted in order to support the quantitative data with qualitative data.

### Participants

The participants of this study were 94 seventh grade students from three different classrooms of a middle school in 2017 Fall and 2018 Spring semesters in Erzurum, Turkey. One of the classrooms was assigned as experimental group (EG;  $n = 33$ ) in which the ABSL approach was implemented, and the other two classrooms were assigned as control groups. First control group was defined as CG1 ( $n = 30$ ) and second control group was defined as CG2 ( $n = 31$ ). Table 1 shows the demographic information of the participants in this study.

Table 1

*Participants' Demographic Information*

Groups	Gender	Frequency	Percentage
EG	Male	18	38.3
	Female	15	31.9
CG1	Male	18	38.3
	Female	12	25.5
CG2	Male	11	23.4
	Female	20	42.6
Total		94	100

For the qualitative part of the study, semi-structured interviews were conducted with 10 students selected from the EG. One of the purposive sampling methods, maximum variation purposive sampling method was used to identify students for semi-structured

interviews. In the identification of the students to be interviewed, maximum variation was obtained by taking into account students' genders, achievement levels in the pre-test scores (high, medium, and low), and grade averages (i.e., GPA) in the previous year's social studies course.

**Examining the equivalence of experimental and control groups.** Population in our Country Academic Achievement Test (PCAAT) was used to compare the pre-test scores of the groups before starting implementation. One-way ANOVA analysis revealed no statistically significant difference at the  $p < .05$  level between the groups [ $F_{(2, 91)} = 0.267$ ,  $p = 0.767$ ]. Thus, we assumed that the three groups had similar conditions, as there was no statistically significant difference between the pre-test scores of the groups.

### **Data Collection Tools**

**Population in our country academic achievement test (PCAAT).** We developed an academic achievement test, Population in our Country Academic Achievement Test (PCAAT), to determine the effect of ABSL approach on students' academic achievement. First of all, we examined a current Turkish seventh grade social studies curriculum and determined targeted learning outcomes related to "Population in Country" unit. Then, we created a table of specifications covering the subjects and learning objectives of the related unit (scope validity). In the preparation of the questions in the academic achievement test, we took into consideration the cognitive domain learning steps in the Bloom Taxonomy.

In the preparation process of the academic achievement test questions, we used seventh grade social studies textbooks, achievement test preparation books by different publishers, and online achievement test questions prepared by professional educational organizations. For the purpose of construct validity, we obtained experts' opinions. To do so, we asked (a) professors in social studies education, geography education, measurement and evaluation in a research university, and (b) three social studies teachers to determine construct validity of the prepared questions. Based on the feedback from the experts, we made necessary changes and corrections to the test items, and prepared a multiple-choice (i.e., four choices) draft of the academic achievement test consisting of a total of 37 questions. As a pilot study, the draft of the academic achievement test was applied to 96 middle school students in eighth grade during 2016 fall and 2017 spring semesters in three different schools where the targeted unit was previously taught. Then, the data obtained from the pilot study was entered into a computer file and item analysis was performed with TestAn Test Analysis program. As a result of the item analysis, item difficulty and item discrimination indexes for each item included in the test were calculated. Ideally, the average of item difficulty index of the test items should be 0.50 (Kan, 2017; Karaca, 2016), the item discrimination index value should be above .30 and it becomes better as the value gets closer to +1 (Atılğan, 2017; Baştürk, 2014; Kan, 2017; Karaca, 2016).

As a result of the item analysis, the items with item discrimination index of .30 or higher and the item difficulty index between .40 and .69 were included in the academic

achievement test. We excluded the items with item discrimination index .19 and below (i.e., 1, 4, 10, 15, and 20) and item difficulty index below .40 (i.e., 1, 4, 10, 15, 17, 20, and 36) from the academic achievement test. We calculated the average of item difficulty index of the 30 test questions in the academic achievement test as .51 in the final form of the test.

After item analysis and calculating the average of item difficulty index, we calculated The Kuder-Richardson-20 (KR-20) coefficient to determine the reliability of the test items and the reliability of the test to determine the reliability of the test results. In other words, we calculated the KR-20 coefficient to determine the internal consistency of the test items. Having the KR-20 value close to 1.00 means that items in tests are consistent with each other while the value of 0.00 shows no consistency (Kan, 2017). In the literature, we verified that a test providing reliable measurements should have at least a KR-20 value of .70 and above (Fraenkel, Wallen & Hyun, 2012). For the developed test, PCAAT, in this study, we calculated the KR-20 value as .78.

**Semi-structured interview form.** In this study, we used a semi-structured interview form to support the quantitative data and examine student views of the implemented ABSL approach. Firstly, we prepared a draft interview form. We used related literature to prepare interview questions. Then, we shared the first draft of the interview form with experts and finalized the interview form in accordance with the feedback received from the experts. We conducted interviews with 10 students in the EG determined by the maximum variation purposive sampling method. We recorded interviews with an audio recorder. We informed students that their credentials would be kept confidential and their names would be coded (e.g., S1, S2, S3,....S10) in the study.

**Design of Material Guideline and Implementation Process.** In this research study, we planned the material guideline and implementation process based on ADDIE instructional design model. The ADDIE instructional design model consists of five stages including analysis, design, development, implementation, and evaluation (Akkoyunlu, Altun & Yilmaz-Soylu, 2008; Ocak, 2011; Şimşek, 2009). A flowchart of the ADDIE instructional design model is shown in Figure 2.

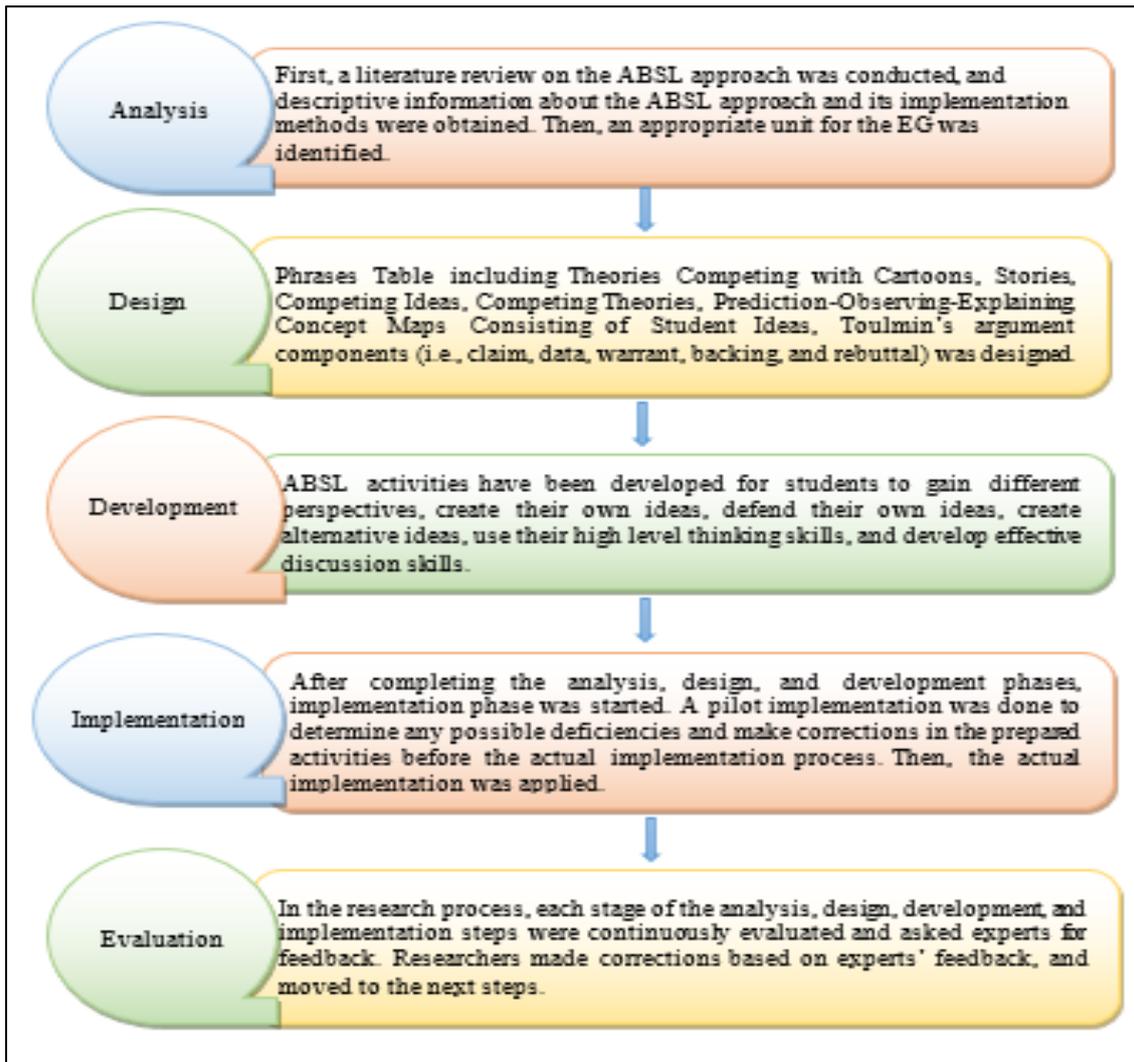


Figure 2. ADDIE instructional design model

The exemplary argumentation activity for the ABSL implementation process is shown in Figure 3.



Competing  
Theories

ACTIVITY-7

1

TEACHER



Below are the ideas of two friends defending two different theories on population growth. After reading the ideas of Beril and Arda about population growth, can you help me by answering the questions?

---

2

BERIL (MALTHUS THEORY)



*In my opinion, the high rate of population growth is very dangerous. I agree with Thomas Malthus's views. **Malthus says:** If there is no intervention in the rapid population growth in the world, the world population will increase geometrically as 2-4-8-16-32-64 and the world population will be doubled every 25 years. However, the increase in the products obtained from agricultural lands provided by the people will be arithmetical as 1-2-3-4-5. As a result of this, the rate of population growth will be faster than the rate of product growth and the problem of food insufficiency will start. This will be followed by starvation, famine, food failure, and wars. Therefore, the rate of population growth must be reduced and serious measures should be taken into consideration. Otherwise, humanity will be dragged into a great disaster.*

3

ARDA (BOSERUP THEORY)



*In my opinion, high population growth is not bad, and I think it can offer important opportunities. I'm taking Ester Boserup's views on this. **Boserup says:** A significant increase in the population encourages the use of new agricultural methods and agricultural technologies to meet the nutritional needs of the growing population.*

*AND!!! It forces people to find new methods and technologies to meet increasing needs. Thus, people get significant opportunities to improve themselves. The rapidly growing population encourages people to find innovations and produce more to meet their needs. In other words, humanity can overcome the food insufficiency and famine, and result in more rapid development.*

**NOW!!! LET'S ANSWER THE QUESTIONS FOR BERIL AND ARDA**

1. Do you think is the opinion of MALTHUS expressed by Beril or the opinion of BOSERUP expressed by Arda right? Why did you make such a choice? Could you write down your reasons?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Could you write down the strengths and weaknesses of **Malthus** and **Boserup** in the blanks of the table below?

Malthus's Views:		Boserup's Views:	
Strengths	Weaknesses	Strengths	Weaknesses

3. The ideas of the philosopher **who you disagree with**, in what circumstances can the philosopher be right or what would be the philosopher's right sides? Could you write down?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. What would you say to convince a friend who doesn't agree with your views on population growth?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Figure 3. Exemplary argumentation activity

### Implementation Process

**Pilot Implementation.** In 2017-spring semester, we carried out a pilot implementation of this study with 60 students in two different classrooms of a middle school located in Yakutiye district of Erzurum, Turkey. Before starting the pilot implementation, we informed social studies classroom teacher about the ABSL approach and provided a guideline explaining how to implement the ABSL approach. Then, in order to get students familiar with the ABSL approach, exemplary argumentation activities were carried out in the first week (3 lesson hours) of the pilot implementation process. This pilot implementation lasted in eight weeks (24 lesson hours). As a result of the pilot implementation, we determined deficiencies in the pilot implementation process and in the prepared activities, made necessary corrections before the actual implementation. Some pictures from the pilot implementation can be seen in Figure 4.



*Figure 4.* Pictures from the pilot implementation process

**Actual Implementation.** We carried out the actual implementation of the study with 94 students studying in three different classrooms in a middle school in Yakutiye district of Erzurum, Turkey in the 2017 fall semester. The actual implementation was 3 lesson hours per week and lasted 8 weeks to complete. Subjects were taught with ABSL approach in the EG while subjects were taught with traditional classroom teaching approach in the control groups. The actual implementation process can be seen in Figure 5.

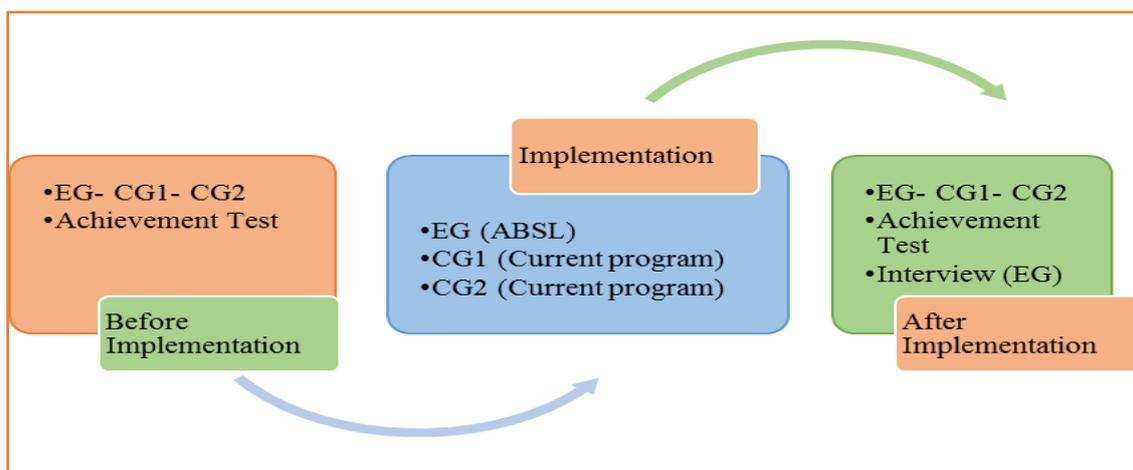


Figure 5. The actual implementation process

**Experimental group course process.** In the EG, targeted subjects were taught with ABSL approach. In order for the implementation process to be carried out regularly, we prepared a weekly lesson plan including the subjects and activities for each topic. A copy of the weekly lesson plan is outlined in Table 2.

Table 2.

*Weekly Lesson Plan*

Week	Subject	Activity
1	Informing students about purpose of the research.	Pre-test
2	<i>Places We Live in</i> Population Distribution of population Factors affecting the distribution of population	Concept cartoon (ABSL) Interpretation of maps Concept map (ABSL)
3	<i>Characteristics of Our Population</i> Census Population growth	Concept cartoon (ABSL) Table & chart interpretation
4	Distribution of population by age groups Distribution of population by gender Ratio of working population, Literacy rate Rural-urban population	Competing theories (ABSL) Predict-observe-explain (ABSL) Expressions table (ABSL)

5	<b><i>Migration in our Country</i></b>	Concept cartoon (ABSL)
	Migration and causes of migration	A migration story
6	Results of migration	Competing ideas (ABSL)
	Types of migration	Concept cartoon (ABSL)
7	<b><i>Our Rights and Freedom</i></b>	Concept cartoon (ABSL)
	Freedom of settlement and travel	News (ABSL)
	Employment and education rights	Crossword
8	Overall evaluation	Post-test

The activities prepared in line with the objectives of “Population in Our Country” unit were implemented in 24 lesson hours (3 lessons per week in 8 weeks) in the EG as planned in the teacher guideline. We designated the first and last week of the implementation process for pre- and post-tests and planned the rest of 6 weeks for teaching subjects. In the EG, the course process was organized according to the 5E model steps (i.e., Engage, Explore, Explain, Extend, and Evaluate) to effectively implement the ABSL approach. To familiarize students with the ABSL approach implementation process, we assisted the implementation process to make sure that students understood the activities correctly in the first three weeks of actual implementation. We divided students into groups containing five students in each group. Then, we asked to gather with their group members and provided guidelines and materials about the activities. We explained the guideline to students and asked them to follow the provided guideline during the activities. After teaching the basics of argumentation and initial preparation process, the teaching of subjects with the ABSL approach was started. In order to increase students’ interest and attract their attention, an activity called “Mysterious Event” was completed before teaching the subjects. In the mysterious event activity, we asked students to create their claims about the given incident and present their arguments to their friends by supporting the arguments with appropriate data and justifications. Once we increased students’ interest and attention with the mysterious event activity, social studies teacher initiated teaching the subjects by following the 5E model steps as explained in the teacher guideline.

During the argumentation activities, firstly, students were asked to provide their individual arguments. Next, the teacher asked students to share their individual arguments with other group members, defend their arguments by using argument components, and persuade other group members in case of having different claims in each group. Then, the teacher asked each group to gather their arguments and one group member as a reporter in each group reported their arguments to other groups in the classroom. Small group discussions were held to let groups defend and discuss their claims with other groups in the classroom. Some pictures from actual implementation are exhibited in Figure 6.



Figure 6. Pictures from actual implementation

**Control group course process.** In the control groups, a researcher of this study and a social studies teacher taught subjects with traditional teaching approach by following current social studies program. The researcher taught subjects in CG1 and the social studies teachers taught subjects in CG2 in which instructors (a) presented subjects, (b) asked questions and received answers, (c) checked students' understanding with questions and provided additional explanations when necessary (d) did written traditional assessments about covered subjects and discussed the assessment questions and answers with students after the assessment process, and (e) asked students to get prepared for next subjects. Following the same procedure each week, the teaching of the population in our country unit was completed in the control groups.

### Data Analysis

We used quantitative and qualitative data analysis methods in the analysis of the data collected in this research study. We analyzed the quantitative data with SPSS 24.0 package program using predictive and descriptive statistical analysis methods, and used content analysis method in the analysis of qualitative data. Prior to the actual data

analysis, we did an analysis preparation. Figure 7 shows the preparation process of data analysis.

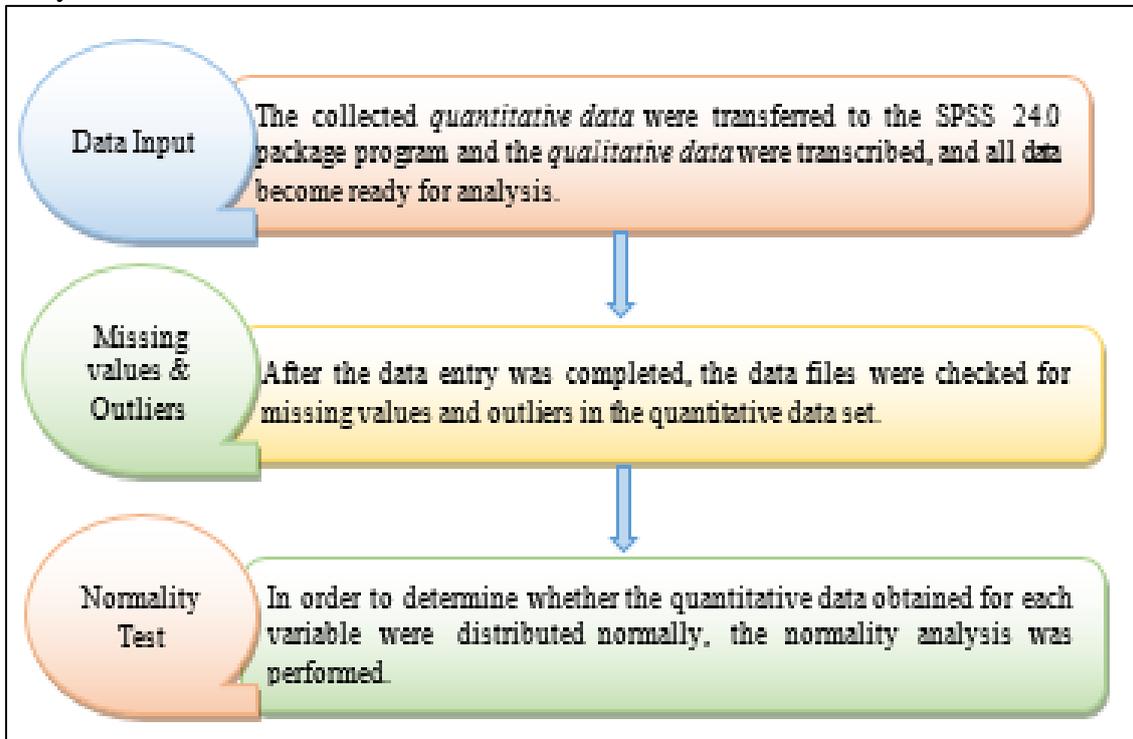


Figure 7. The preparation process of data analysis

After we arranged the data set, we utilized normality analyses to determine which of the parametric or nonparametric tests would be used for research questions. Since numbers of students in the study groups (i.e., EG, CG1, and CG2) were 30, 31, and 33 respectively, we used Kolmogorov Smirnov test for normality analyses (Can, 2017; Karaathı, 2017). To check whether the data were normally distributed, we examined histogram, normal Q-Q plot, and detrended normal Q-Q plot by looking at skewness and skewness values (Can, 2017; Pallant, 2005; Tabachnick & Fidell, 2015). Results of normality analyses revealed that using parametric tests were appropriate.

We calculated students' academic achievement scores by using the data obtained from the pre- and post-tests of PCAAT instrument in the experimental and control groups. We used a one-way ANOVA analysis to determine whether there was any statistically difference between the groups. When we found statistically significant results in the results of ANOVA analyses, we employed Tukey test for post-hoc tests. Then, we calculated the effect size value (eta square) to determine the effect of the ABSL approach implementation. According to related literature, eta square value range is between 0.00 and 1.00, and this value is considered to be small effect size between 0.01 and 0.06, medium effect size between 0.06 and 0.14, large effect size 0.14 and above (Can, 2017; Green & Salkind, 2005; Pallant, 2005).

Audio records of interviews with the students in the EG were transcribed to have the interviews in written texts form for qualitative data analyses. We used content analysis method to analyze transcribed interviews. In the content analysis process, we examined the transcribed interviews carefully and created codes. We read the transcriptions several times and gathered similar codes under appropriate categories. In order to ensure the reliability of coding and category creation process, two faculty members, who were experts in the field, coded the transcriptions independently and collected the codes under appropriate categories. Then, for the consensus and disagreements between the researchers of this study and two experts, we calculated reliability by using the formula of Miles and Huberman [i.e., (Reliability = consensus number / (total number of consensus + number of disagreements)]. In qualitative studies, 90% agreement level between expert and researcher evaluations is desired (Miles & Huberman, 2016). In this study, we found 95% reliability between researchers and experts. After receiving expert feedback, we made the necessary corrections and completed the analysis process. Results are presented in tables. Student expressions are provided with blinded names such as S1, S2, S3, ... S10. We made no changes or corrections in the students' expressions. Excerpts from students' interviews are shown in the results section.

## Results

### Results on the Effects of the ABSL Approach on Students' Academic Achievement

In order to determine the effects of the ABSL approach on students' academic achievement, we used the PCAAT instrument as pre- and post-tests in the experimental and control groups.

**PCAAT pre-test results.** We used PCAAT instrument to compare the pre-test academic achievement scores of the groups before starting implementation. Since normality analyses of the pre-test academic achievement scores showed normal distribution, we utilized one-way ANOVA as an appropriate parametric test. Descriptive statistics of PCAAT pre-test results are shown in Table 3.

Table 3  
*Descriptive Statistics of PCAAT Pre-test Results*

Group	N	$\bar{X}$	SD
EG	33	66.24	13.75
CG1	30	63.67	14.62
CG2	31	65.29	13.91
Total	94	65.11	13.97

As seen in Table 3, the mean scores of the students in the experimental and control groups (i.e., EG = 66.24, CG1 = 63.67, CG2 = 65.29) were close to each other. We performed one-way ANOVA analysis to determine whether there was a significant difference between the pre-test academic achievement scores of the students in the experimental and control groups, and results are documented in Table 4.

Table 4  
*PCAAT Pre-test One-Way ANOVA Results*

Groups	Sum of Squares	df	Mean Square	F	p
Between Groups	105.822	2	52.911	.267	.76
Within Groups	18059.114	91	198.452		
Total	18164.936	93			

Results of one-way ANOVA analysis revealed that there was no statistically significant difference between the groups in terms of academic achievement according to the data obtained from the PCAAT applied to students before starting implementation [ $F_{(2, 91)} = 0.267$ ,  $p = 0.76$ ].

**PCAAT post-test results.** Normality analyses of the post-test academic achievement scores showed normal distribution; therefore, we used one-way ANOVA test. Descriptive statistics of PCAAT post-test results are shown in Table 5.

Table 5  
*Descriptive Statistics of PCAAT Post-test Results*

Group	N	$\bar{X}$	SD
EG	33	87.21	8.824
CG1	30	68.73	12.343
CG2	31	69.06	17.468
Total	94	65.11	13.97

Descriptive statistics of PCAAT post-test traced that the group with the highest mean score was EG (87.21), and followed by CG2 (69.06) and CG1 (68.73). We employed one-way ANOVA analysis to determine whether the differences were statistically significant, and the results obtained from the analysis are given in Table 6.

Table 6  
*PCAAT Post-test One-Way ANOVA Results*

Groups	Sum of Squares	df	Mean Square	F	p
Between Groups	7181.524	2	3590.762	20.342	.00
Within Groups	16063.253	91	176.519		
Total	23244.777	93			

Results of PCAAT Post-test One-Way ANOVA revealed statistically significant difference between groups, [ $F_{(2, 91)} = 20.342$ ,  $p = 0.00$ ]. The effect size value (Eta squared) was calculated as  $\eta^2 = 0.30$  and this value indicated a large effect size. To find out which groups were in favor of this difference, we used Tukey test for post-hoc tests since the variances were distributed homogeneously and differences between group numbers were not high. Results of multiple comparisons Tukey test are provided in Table 7.

Table 7  
*Experimental and Control Groups Multiple Comparison Tukey Test Results*

Groups	Compared Groups	Mean Difference	Std. Error	p
EG	CG1	18.479*	3.352	.00*
	CG2	18.148*	3.323	.00*
CG1	EG	-18.479*	3.352	.00*
	CG2	-.331	3.403	.99
CG2	EG	-18.148*	3.323	.00*
	CG1	.331	3.323	.99

\* p <0.05 level shows the group in favor of the significant difference

We examined the results of multiple comparison Tukey test between the experimental and control groups, verified that the significant difference between EG and CG1, EG and CG2 in the final test were in favor of EG. There was no statistical difference between CG1 and CG2. The average scores of the pre-test and post-test of the groups are shown in Figure 8.

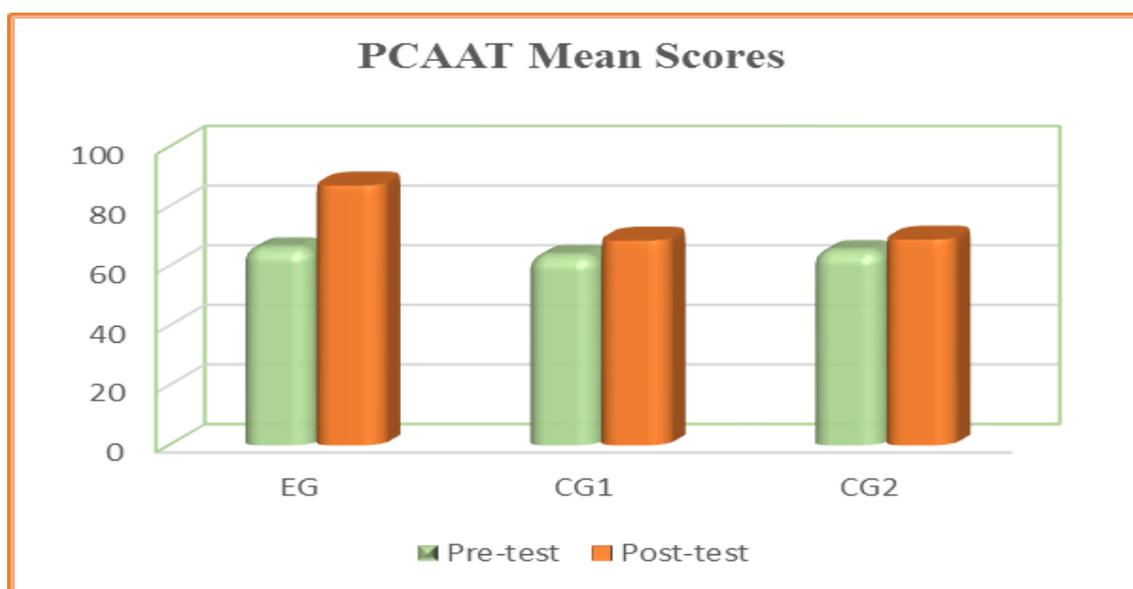


Figure 8. PCAAT pre- and post-test mean scores of groups

When we compared PCAAT pre-test and post-test mean scores of the groups, we confirmed that the average scores of EG, CG1 and CG2 increased. We verified that the highest increase was in the mean scores of EG students (Figure 8).

**Results regarding students' views on the ABSL approach.** We asked nine questions to the students in the EG to learn their views about the ABSL approach. Then, we analyzed the answers of the students via content analysis method. In the content analysis, we created codes and collected the created codes under appropriate categories. The results are presented in tables and explained in detail in the next section.

### Students' Views on the Differences Created By the ABSL Approach Implementation

To identify students' views on the differences created by the ABSL approach implementation we asked students, "Did the practices in the lessons conducted with the ABSL approach make any difference in the way that the social studies course was taught? If so, would you please explain the differences?" The views of students about this question are presented in Table 8.

Table 8  
*Students' Views about Differences created with ABSL Approach Practices*

Category	Students	Sample Student Statement	f
Expressing ideas	S <sub>1</sub> , S <sub>5</sub> , S <sub>6</sub> , S <sub>7</sub>	<i>"I think it was. Because I'd always been memorizing in the class lectures. I learned how to learn by adding my ideas to the information through the argumentation process of this course. In our previous lessons, our teacher was trying to give more information. We didn't have time to express our ideas much. While you were teaching this course with argumentation, you gave us more opportunities to express our ideas. (S1)"</i>	4
Understanding the lesson better	S <sub>3</sub> , S <sub>5</sub> , S <sub>6</sub> , S <sub>7</sub>	<i>"Our teacher was lecturing the social studies lesson in class and we were regurgitating at home again. But now, because I didn't recite the information with argumentation method and thought more, I understood the lesson better. (S3)"</i>	4
Become more active in the class	S <sub>3</sub> , S <sub>5</sub> , S <sub>8</sub> , S <sub>9</sub>	<i>"Yes, it made a difference. For example, the teacher usually lectured lessons and we were keeping notes. Then he was giving us homework. This time it was different. We tried to learn first by ourselves. We discussed our ideas. We were more active. You just directed us (S8)"</i>	4
Learning with fun	S <sub>2</sub> , S <sub>4</sub> , S <sub>10</sub>	<i>"Yes, it made a difference. Our teacher was talking about the subjects directly. This course of social studies was more fun with the argumentation approach. I used to be a little bored in the social studies class. I've never been bored in this process. I learned the topic with fun (S4)"</i>	3
Learning with cause and effects	S <sub>3</sub> , S <sub>10</sub>	<i>"I learned how to think with this approach because before, when I encountered a question in the social studies test, I was immediately marking an A and I was passing. I learned how to think that the correct answer is correct and why the wrong answer is wrong after processing our lessons with the argumentation approach (S10)"</i>	2

As seen in Table 8, students expressed their opinions better, understood the lessons better, became more active in the class, learned subjects with fun, and learned the subjects with cause and effects relations through the ABSL approach.

### Students' Views about Positive Sides of the Implementation of the ABSL Approach

We asked students, "What would you say about positive sides of ABSL approach implementation process?" The views of students for this question are shown in Table 9.

Table 9

*Students' Views about Positive Sides of ABSL Approach Implementation Process*

Category	Students	Sample Student Statement	f
Detailed and interpretive learning	S <sub>3</sub> , S <sub>5</sub>	<i>"The positive aspects of this approach, for example, our teacher was teaching the population in our country unit in one or two weeks and we were moving to the next unit. But you taught the unit differently. First, you let us learn ourselves. Then you taught. We created arguments and shared our ideas. So we learned more in detail. We learned this by interpreting the subject in different ways and understood it better (S3)"</i>	2
Becoming more confident	S <sub>5</sub> , S <sub>6</sub>	<i>"I used to be shy before. I couldn't share my ideas with my friends. Thanks to this approach, my confidence increased. This approach enabled me to take the right to speak comfortably without thinking that my ideas were wrong or not (S5)"</i>	2
Expressing yourself and your ideas better	S <sub>6</sub> , S <sub>10</sub>	<i>"This approach enabled me to better express myself and my ideas verbally. The most positive aspect of this approach was that we could support our own ideas, assert ourselves, and defend ourselves in a beautiful way (S6)"</i>	2
Learning by thinking of cause and effects	S <sub>8</sub>	<i>"Positive sides, for example, when I encounter a problem my friend says this, I say I agree, I try to convince him. I wouldn't accept something my friend said. I decide with reason and consequences (S8)"</i>	1
Communicating easier	S <sub>10</sub>	<i>"Our teacher was lecturing the lesson and we were listening. We were not having any communication with our friends. Thanks to this approach, I even communicated with my friends that I didn't talk before (S10)"</i>	1
Being more active in the course	S <sub>4</sub>	<i>"You did not teach the lesson directly. At first you asked questions, you made us think. We entered into learning ourselves. We became more active in the course (S4)"</i>	1
Learning with fun	S <sub>7</sub>	<i>"Our teacher was talking about subjects, we were listening. We were so bored and feeling sleepy. We had discussions in the lesson with argumentation, and good things came up during the discussions. The lesson was more fun. We learned with fun (S7)"</i>	1
Getting away from memorization	S <sub>1</sub>	<i>"I wasn't only memorized the information, but the information I learned with different aspects. So I got away from memorization (S1)"</i>	1

As shown in Table 9, students' views about positive sides of the ABSL approach included detailed and interpretive learning, becoming more confident, expressing himself/herself ideas better, learning by thinking of cause and effects, easier communication, being more active in the course, learning with fun, getting away from memorization.

### **Students' Views about Negative Aspects of the Implementation of the ABSL Approach**

We asked students in the study, "What would you say about negative sides of ABSL approach implementation process?" Students' views regarding this question are displayed in Table 10.

Table 10

*Students' Views about Negative Sides of ABSL Approach Implementation Process*

Category	Students	Sample Student Statement	f
Having problems in discussion process	S <sub>2</sub> , S <sub>3</sub> , S <sub>4</sub> , S <sub>6</sub> , S <sub>7</sub> , S <sub>8</sub>	<i>"There is not much I can say negative. While we were just defending our thoughts, our friends were very impatient during our discussions. This also caused conflicts (S8)"</i>	6
The difficulties due to the inexperienced process at the beginning	S <sub>1</sub> , S <sub>5</sub> , S <sub>10</sub>	<i>"I didn't get used to it. Because I used to receive prepared information. Because of this, I had difficulties because I had difficulties at the beginning. Then I got used to it and loved it (S5)"</i>	3
No negativity	Ö <sub>9</sub>	<i>"There was nothing that could be negative. You planned everything very well in the class. Therefore, I had no problems (S9)"</i>	1

Students emphasized that they had problems, especially in the discussion process. While the students stated that they experienced difficulties due to their inexperience at the beginning of the implementation process, one student indicated that she/he had no negativity.

### **Students' Views about the Courses in Which They Want To Use the ABSL Approach and Their Reasons**

We asked students, "Do you want to use the ABSL approach in other courses? Why is that?" The views of students about this question are illustrated in Table 11.

Table 11

*Students' Views about Courses in Which They Want to Use the ABSL Approach and Their Reasons*

Category	Students	Sample Student Statement	f
Turkish	Providing opportunities to think	S <sub>2</sub> , S <sub>7</sub> , S <sub>10</sub> “Yes, I would. For example, I would like to be used in Turkish literature class. Because, in Turkish literature class, the teacher gives a topic. Then, she asks to create a story about the topic. And that requires me to think more. With this approach I think I can make it easier (S7)”	3
	Better understanding of the course	S <sub>6</sub> , S <sub>8</sub> “I would like to use it in Turkish literature because our teacher usually writes something, lectures and finishes. That's why I don't understand much. I'd better understand it by the argumentation method (S8)”	2
	Learning topics with inquiry	S <sub>4</sub> “Actually, I'd love to. Because we tried to learn the subjects with inquiry the reasons in this course while we were passing the subject directly in other courses. My best class is Turkish. I would like to be used in that course. I would love to apply it to the contradictory texts (S4)”	1
	Suitable for discussion	S <sub>5</sub> “Yeah. I would like my teacher to be used especially in Turkish courses. Because, in verbal subjects, there is always a discussion. I would like to have it in Turkish because it is very suitable for discussion (S5)”	1
Science	Requiring to think	S <sub>1</sub> , S <sub>2</sub> “I want. I especially want to be used in science course. Because this lesson requires us to think (S2)”	2
	Difficult subjects	S <sub>1</sub> “I would like to use it in other courses too. For example, I would like to use it in science. Because science is a difficult course. I forget what I have learned when I learn with memorizing. I can learn more easily with argumentation approach (S1)”	1

As seen in Table 11, students stated that they wanted the ABSL approach to be used most in Turkish course and then science course. Students indicated that using the ABSL approach in the Turkish course would provide opportunities to think, help them understand the course better, encourage them to learn with inquiry, be appropriate for discussion. One student did not state any specific reason. For the science courses, the students thought that they would think and perform better in difficult subjects when the ABSL approach was used. Students who wanted this approach to be used in mathematics and English classes did not state any specific reason.

### Students' Views about the Effects of the ABSL Approach Process on Their High-Level Thinking Skills

We asked students “What do you think about the effects of the ABSL approach process on your high-level thinking skills?” The views of students about this question are depicted in Table 12.

Table 12

*Students' Views about the Effects of the ABSL Approach Process on Their High-Level Thinking Skills*

Category	Students	Sample Student Statement	f
Thinking with different aspects	S <sub>1</sub> , S <sub>2</sub> , S <sub>3</sub> , S <sub>4</sub> , S <sub>5</sub> , S <sub>6</sub> , S <sub>7</sub> , S <sub>8</sub> , S <sub>9</sub>	“Yes, it happened. I was memorizing the information before. With this approach, I learned how to think with different aspects of the information I learned. For example, when I encountered a problem, a question, it enabled me to think differently and solve it rather than by heart (S1)”	9
Justification	S <sub>1</sub> , S <sub>2</sub> , S <sub>3</sub> , S <sub>4</sub> , S <sub>5</sub> , S <sub>6</sub> , S <sub>7</sub> , S <sub>8</sub> , S <sub>9</sub>	“Yes. When my friends told me something about a topic, I learned not to accept it immediately, try to convince them on the grounds of my opinion, convince them by saying my opinion with my reasons. With this approach, I realized how important was the question of Why. (S2)”	9
Decision making with interpretation	S <sub>5</sub> , S <sub>7</sub> , S <sub>8</sub> , S <sub>10</sub>	“When I was making a decision about a subject, thinking about its positive and negative aspects, I realized that it was important to make a decision by interpreting (S10)”	4

Student statements about the effects of the ABSL approach process on their high-level thinking skills indicated that students could express their opinions with different aspects, make justifications, and make decisions with interpretation when the ABSL approach was used.

### Students' Views about the Effects of the ABSL Approach on Their Success in Social Studies Course

Students were asked, “What do you think about the effects of the ABSL approach on your success in social studies course?” The views of students about this question are depicted in Table 13.

Table 13

*Students' Views about the Effects of the ABSL Approach on Their Success in Social Studies Course*

Category	Students	Sample Student Statement	f
Permanent learning	S <sub>1</sub> , S <sub>2</sub> , S <sub>3</sub> , S <sub>5</sub> , S <sub>6</sub> , S <sub>7</sub> , S <sub>8</sub> , S <sub>9</sub>	“In this process, you did not teach the lesson in advance. First, you directed us. We tried to learn the subject ourselves. We were more active in class. We thought ourselves, so what we learned became more permanent, I did not forget what I learned (S9)”	8

Easier learning	S <sub>7</sub> , S <sub>10</sub>	S <sub>4</sub> , “ <i>In the previous lessons we had a straight course. I got lower scores in my exams. I couldn't understand the subjects well. But in this approach, we first expressed ourselves. Then I learned better and learned the subject more easily (S7)</i> ”	3
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As specified in Table 13, the ABSL approach did positive impacts on students' success in social studies course since the approach provided opportunities for permanent and easier learning.

### Students' Views about the Activities They Liked Most In the Lessons with the ABSL Approach and Reasons for Their Ideas

To understand students' favorite activities in the ABSL approach implementation, we asked, “What were your favorite activities in the lessons with the ABSL approach? Could you explain?” The views of students about their favorite activities in the ABSL implementation are demonstrated in Table 14.

Table 14

*Students' Views about the Activities They Liked Most in the Lessons with the ABSL Approach and Reasons for Their Ideas*

	Category	Students	Sample Student Statement	f
Competing Theories	Creating arguments easier	S <sub>3</sub> , S <sub>5</sub> , S <sub>6</sub> , S <sub>7</sub>	“ <i>I liked the competing theories activity more because I did the activity easier and I was able to create my arguments easier (S6)</i> ”	4
	Reflecting ideas better	S <sub>1</sub> , S <sub>3</sub> , S <sub>7</sub>	“ <i>I liked the competing theories activity most because there was more written text involved in the activity. It was easier for me to comment and support my ideas (S3)</i> ”	3
	Commenting better	S <sub>3</sub> , S <sub>5</sub>	“ <i>I liked the competing theories activity most because I was able to defend my claims in a better way. Having a written text made me comment better (S5)</i> ”	2
News	Reflecting ideas better	S <sub>4</sub> , S <sub>7</sub> , S <sub>8</sub>	“ <i>My favorite was the newspaper news activity because I was able to express my ideas better in this activity. I was able to defend my ideas based on the components you provided us during the argumentation process (S4)</i> ”	3
	Creating more arguments	S <sub>8</sub> , S <sub>9</sub> , S <sub>10</sub>	“ <i>My favorite activity was the news activity because I was able to use argument components more easily (S10)</i> ”	3
Concept Cartoon	Creating arguments easier	S <sub>2</sub>	“ <i>I liked concept cartoons more because I created a better and easier argument in the argumentation process. (S2)</i> ”	1

As indicated in Table 14, the students specified that they liked the activities of competing theories, news, and concept cartoons respectively since they could create arguments easier, reflect ideas better, and comment on claims better.

### **Students' Views about the Difficulties They Experienced In the ABSL Approach Implementation Process**

In order to understand the difficulties students experienced in the ABSL approach implementation process, we asked, "Did you have any difficulty with the lessons based on the ABSL approach? If so, what were the most difficult or most disliked activities? Could you explain?" The views of students about the difficulties they experienced in the ABSL approach implementation process are demonstrated in Table 15.

Table 15

*Students' Views about the Difficulties They Experienced in the ABSL Approach Implementation Process*

	Category	Students	Sample Student Statement	f
Concept Cartoons	Difficulties in creating arguments	S <sub>3</sub> , S <sub>4</sub> , S <sub>6</sub> , S <sub>8</sub>	<i>"The most difficult activity for me was the concept cartoons activity because I had difficulties in creating arguments (S8)"</i>	4
	No reasons	S <sub>2</sub> , S <sub>10</sub>		2
A Migration Story	Difficulties in creating arguments	S <sub>7</sub>	<i>"I had a little bit in the migration story because I couldn't create the arguments I wanted in that activity. (S7)"</i>	1
	No difficulties	S <sub>1</sub> , S <sub>5</sub> , S <sub>9</sub>	-	3

Table 15 shows that students had difficulties in a migration story and the concept cartoons activities. Five students identified that they had difficulties in creating arguments during these activities and two students did not give any reasons why they had difficulties. Three students stated that they did not experience any difficulties.

### **Students' Views about the Effects of the ABSL Approach Implemented Course Process on Their Interest and Attitudes towards Social Studies**

To learn about the effects of the ABSL approach implemented course process on students' interest and attitudes towards social studies, researchers asked, "Did the course process based on the ABSL approach change your interests and attitudes towards social studies? Why is that?" The views of students about this question are presented in Table 16.

Table 16

*Students' Views about the Effects of the ABSL Approach Implemented Course Process on Their Interest and Attitudes towards Social Studies*

	Category	Students	Sample Student Statement	f
Positive changes	More fun lesson	S <sub>2</sub> , S <sub>3</sub> , S <sub>4</sub> , S <sub>7</sub> S <sub>8</sub> , S <sub>9</sub>	<i>"Yes, it created sir. I loved it a bit before. I was bored in class. We were only continuously listening to the teacher before. In this approach, the lessons were more fun because we participated in the lesson. That's why I liked the social studies lesson more (S3)"</i>	6
	Meaningful lesson	S <sub>1</sub> , S <sub>3</sub>	<i>"I didn't like it much before because the teacher was telling the information. We were listening. In the course of the argumentation process, we became active in the lesson and learned how to comment. So the lesson became more meaningful. My interest and attitudes towards the course changed more positively (S1)"</i>	2
	Facilitating communication in the course	S <sub>5</sub> , S <sub>10</sub>	<i>"Yes, this approach has changed my attitudes toward social studies. We couldn't share our ideas with our friends before. Getting in groups and having discussions with our friends in the argumentation approach enabled us to communicate (S10)"</i>	2
	Ensuring critical thinking	Ö <sub>6</sub>	<i>"Yes, I liked this approach very much. Additionally, my interest in social studies lesson has increased. I already liked social studies lesson. I liked the social studies lesson even more because I developed critical thinking along with this practice (S6)"</i>	1
	<i>Negative changes</i>	-	-	-
	<i>No changes</i>	-	-	-

Based on students' responses to the question about the effects of the ABSL approach implemented course process on their interest and attitudes towards social studies, it is noteworthy that there were positive changes in students' interest and attitudes towards social studies after implementation. The students who indicated positive changes stated that the ABSL approach implemented course was fun, meaningful, facilitated communication, and provided critical thinking. Students did not state any negative changes and no change ideas.

## Conclusion, Discussion and Recommendations

Results of this research study showed that the academic achievement mean scores of the students in EG, CG1, and CG2 groups were close to each other and there was no statistically significant difference between the groups in the pre-test (Table 3 and Table 4). However, the EG students' academic achievement mean scores were higher than those students in CG1 and CG2 (Table 5) and there were statistically significant differences between groups (Table 6) indicating that academic achievement mean scores of students in the EG was statistically higher than students in CG1 and CG2 (Table 7) in the post-test. The reason for the higher academic achievement of the students in the EG could be the implementation of the ABSL approach by allowing students to be more active in the learning process. Additionally, this approach provided opportunities for students to express themselves comfortably, learn the knowledge with inquiry, and make learning fun with discussions. Thus, students were able to learn the targeted knowledge more permanent. Findings of students' interview in the EG also supported these results. In the interviews, students stated that the ABSL activities helped them understand the subjects better, facilitated their learning, provided permanent learning opportunities, increased their interest and attitudes towards the course, and consequently enhanced their success.

These results are parallel with the related studies in the literatures indicating that the ABSL approach facilitates learning and is more effective on students' academic achievement than traditional methods (Altun, 2010; Aydođdu, 2017; Bozkurt, 2017; Chin & Osborne, 2010; Ceylan, 2010; Domaç, 2011; Greenbowe, Poock, Burke & Hand, 2007; Gündüz, 2017; Günel, Kabataş-Memiş & Büyükkasap, 2010; Hand, Prain & Wallace, 2002; Hand, Wallace & Yang, 2004; Hohenshell & Hand 2006; Kabatas-Memiş, 2011 ; Kingır, 2011; Nam, Choi & Hand, 2011; Okumuş, 2012; Polat, 2014; Poock, 2005; Şahin, 2016; Ulu & Bayram, 2015; Uluay, 2012; Yeşildağ-Hasançebi & Günel, 2013; Yeşilođlu, 2007). Researchers in the previous related studies rationalized that the reason for better academic achievements with the ABSL approach was to provide some extra opportunities for students. Greenbowe et al. (2007) indicated that the ABSL approach provided opportunities for students to be more engaged in the learning process. Günel et al. (2010) affirmed that the ABSL approach positively affected students' attitudes towards subjects, thus, improved their academic achievement levels. In their study, Yeşildağ-Hasançebi and Günel (2013) identified that students' academic achievement increased as a result of the ABSL approach implementation because this approach provided a student-centered learning environment, made the learning environment more efficient and enjoyable, and allowed students to express themselves and criticize different ideas in the process. Şahin (2016) explained that the ABSL approach had positive effects on students' achievements and resulted in permanent learning by facilitating their learning and creating a learning environment different from the learning environments that prevent students from expressing themselves comfortably.

As a result of the study, we observed that students in the EG, who participated in interviews to share their views about the ABSL approach, mostly provided positive

opinions about the ABSL approach. The students stated that at the beginning of the ABSL implementation they experienced minor problems with their friends during the group discussions because of their novelty to the approach. Other than these minor problems, they encountered no other problems during the implementation process. This result is parallel with the results of the studies in the literature about the examination of students' opinions about the ABSL approach. (Deniz, 2014; Kınır, Geban & Günel, 2011; Şahin, 2016). In their research, Kınır, Geban, and Günel (2011) reported that the majority of students did not experience any problems in the course designed with ABSL approach, but a few students indicated that during their talks in the class, they did not feel comfortable when their friends did not listen to them in the course. Deniz (2014) affirmed that students were generally satisfied with the argumentation-based practices, but a few students complained about long activity duration, difficulties during long discussions, limited participation of some other students in discussions.

In this study, when students were asked whether the ABSL approach made any difference in the teaching of the course, the students noted that the ABSL approach enabled them to be more active in the class. Being active in the learning process made the course more enjoyable and facilitated student learning. This result coincides with the results of the previous research studies on students' views about the ABSL approach (Demirel, 2014; Kabataş-Memiş, 2014; Kınır, Geban and Günel, 2011). In addition, students addressed that the most positive aspect of this approach was permanent and meaningful learning of subjects within cause and effect relationships by getting away from memorization. Hasançebi (2014) stated in his research that students learned better with the ABSL activities, and the activities facilitated student learning, resulted in permanent learning, and increased students' interest in the course. In the interviews of this study, students indicated that the course process based on the ABSL approach enabled them to use high-level thinking skills. In a research study, Ceylan (2010) reported that with ABSL approach based activities teacher candidates increased their understanding of subjects, active participation in the course, learning with questioning, research and inquiry skills, and scientific thinking skills.

The students' views about the effect of the ABSL approach on their success of social studies course demonstrated that the ABSL approach did positive impacts on students' success in the social studies course. This finding is supported by quantitative findings in which significant differences between groups were determined. Students who thought their academic achievement improved stated that the ABSL approach facilitated the learning process and resulted in permanent learning. This result is similar with the previous studies in which researchers found positive effects of the ABSL approach on students' academic achievement (Günel, et al., 2010; Greenbowe et al., 2007; Hand, Wallace & Yang, 2004; Hohenshell & Hand, 2006; Poock, 2005).

Participating students in this study verified that they desired this approach to be used in different courses including Turkish course. They thought that the Turkish course with the ABSL approach would be suitable for discussion and provide opportunities for students thinking. Students reported that with the ABSL approach they were able to create arguments easier, reflect ideas better, and provide more comments in the course.

In addition, the students noted that they liked the “competing theories” and “news” activities most, and had difficulties in the process of creating arguments during “a migration story” and the “concept cartoons” activities. As a result of the ABSL approach implementation, students’ views indicated positive changes in students’ interest and attitudes towards social studies. This result is in line with previous studies’ results showing the development of positive attitudes towards subjects (Balcı, 2015; Eyceyurt-Türk, 2017; Kana, 2013; Kınır, 2011; Öztürk, 2013; Şahin 2016; Şekerci, 2013; Tekeli, 2009; Yalçın - Çelik, 2010).

Based on our experiences in this study, we recommend informing students about the implementation process of the ABSL approach before starting activities due to their novelty in the ABSL approach. We also recommend starting the activities with sample activities to see students’ responses and problems about the process and take necessary actions to prevent the problems in the actual implementation. As an effective approach for students’ academic achievements, the ABSL approach can be used to enhance students’ motivation and participation in classroom teachings. Finally, we recommend future studies to examine students’ views about the ABSL approach and students’ experiences in the implementation process by conducting process-oriented interviews before, during, and after research implementations.

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