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Effectiveness of Layered Inquiry Based Learning Model

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Abstract: This study aims to determine the effectiveness of the qualitative research lesson designed according to the layered inquiry-based learning model. The research was carried out using action research from qualitative research designs. The study group consists of 13 students taking the Curriculum and Instruction master's degree program at a state university in Turkey and receiving a qualitative research lesson. In data collection, 'the process evaluation form' and 'student letters' were used. The data analysis was carried out in three stages: organizing data, summarizing data and associating/interpreting. According to the research results, it was observed that the students learned new information and concepts related to qualitative research and gained a positive attitude towards qualitative research. It was seen that the inquiry-based learning model enabled students to acquire human values such as patience and respect along with social skills such as cooperation and leadership, critical thinking, self-regulation, using time effectively, and responsibility. It was concluded that the students gained scientific research skills, increased their active participation in the lesson, created an interactive classroom environment, and enabled students to see different perspectives.

Keywords: Action research, distance learning, inquiry based learning, layered inquiry based learning model, qualitative research course

Aşamalı Araştırmaya Dayalı Öğrenme Modelinin Etkisi

Öz: Bu çalışmanın amacı; aşamalı araştırmaya dayalı öğrenme modeline göre tasarlanan bir dersin etkililiğini belirlemektir. Bu amaçla nitel araştırma dersi aşamalı araştırmaya dayalı öğrenmeye göre tasarlanmış ve uygulanmıştır. Araştırma, nitel araştırma desenlerinden eylem araştırması ile gerçekleştirilmiştir. Türkiye'deki bir devlet üniversitesinde Eğitim Programları ve Öğretim yüksek lisans programına devam eden ve Nitel Araştırma dersini alan 13 öğrenci araştırmanın çalışma grubunu oluşturmuştur. Veriler "Süreç Değerlendirme Formu" ve "Öğrenci Mektupları" ile toplanmıştır. Veri analiz süreci "verileri düzenleme", "verileri özetleme" ve "ilişkilendirme/yorumlama" olmak üzere üç aşamada yürütülmüştür. Araştırma sonuçlarına göre öğrencilerin nitel araştırma ile ilgili yeni bilgi ve kavramları öğrendikleri ve nitel araştırmaya karşı olumlu tutum kazandıkları belirlenmiştir. Araştırmaya dayalı öğrenme modelinin öğrencilerde sabır ve saygı gibi insani değerler yanında işbirliği ve liderlik gibi sosyal becerileri, eleştirel düşünme, öz düzenleme, zamanı etkili kullanma ve sorumluluk gibi kişisel becerileri kazanmalarını sağladığı belirlenmiştir. Bunun yanında öğrencilerin bilimsel araştırma becerilerini kazandıkları, araştırmaya dayalı öğrenme yönteminin öğrencilerin derse aktif katılımlarını

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arttırdığı, etkileşimli bir sınıf ortamı oluşturduğu ve farklı bakış açılarını görmenin öğrenciler açısından verimli olduğu sonucuna ulaşılmıştır.

Anahtar kelimeler: Araştırmaya dayalı öğrenme, aşamalı araştırmaya dayalı öğrenme modeli, eylem araştırması, nitel araştırma dersi, uzaktan öğretim

Introduction

In today's education approach, it is thought that students should have a wide variety of cognitive and metacognitive skills, social and emotional skills, and practical and physical skills (OECD, 2018). This requires using methods and models that support high-level thinking in learning environments, encourage active participation of students, and allow students to put what they have learned into practice. One of these learning approaches is inquiry-based learning.

The teacher's role in this model is to guide, facilitate, and provide situations that stimulate students' curiosity and questioning. Teachers provide guidance and cooperation to support their student's questioning ability (Harmon & Hirumi, 1996; Wu & Hsieh, 2006). While teachers act as directives and guides in learning, students take an active role and take responsibility for learning (Llewellyn, 2002; Spronken-Smith et al., 2007). Students do several activities, such as sharing their ideas with others, collecting and analyzing data, making arguments, and relational and causal thinking (Wu & Hsieh, 2006). They discover the concepts on their own, can tell how to achieve their goals and learn using their material, and specialize in this area (Alvarado & Herr, 2003). They collaborate, help each other to learn, share responsibility, and learn something from each other (Keller, 2001).

The National Research Council (1996) lists the characteristics of the inquiry-based learning model as being intertwined with scientific questions, prioritizing the evidence to solve these questions, formulating the explanations of this evidence, evaluating the explanations in the light of alternative explanations reflecting scientific understanding, and students communicating collaboratively and justifying their suggestions that they propose and managing and planning the research. For inquiry-based learning to be fully implemented, students should be given the freedom to access, create, and research information; they should be allowed to focus on a single problem at the same time; and enough time should be given to them to solve the problem according to their skills and abilities (Suchman, 1961).

In inquiry-based learning, there are three main types of research: structured, directed, and open. In structured research, the teacher determines the problem and the problem-solving process, yet students are encouraged to find the solution independently (Pizzini et al., 1991). In this type of research, the teacher does not mention the expected result. However, he/she presents ready-made problems with the necessary research materials. On the other hand, students define variables and connections (Banchi & Bell, 2008). In directed research, the complex situation that the students will solve is given by the teacher. While the problem-solving method in structured research is fixed and ready for the student, the solution method in directed research is left open for students to determine according to their preferences (Spaulding, 2001). The directed research process includes defining the problem, developing practical answers, gathering information, making inferences from it, testing hypotheses, turning the information into a meaningful synthesis, and applying it to new situations (Lim, 2001). The available research, which is the top level of research, is like directed research, but students can also choose problems simultaneously (Banchi & Bell, 2008). In this type of research, the teacher offers little content regarding the

problem. Students define the problem themselves, choose the method and process and find the result (Trowbridge & Bybee, 1996).

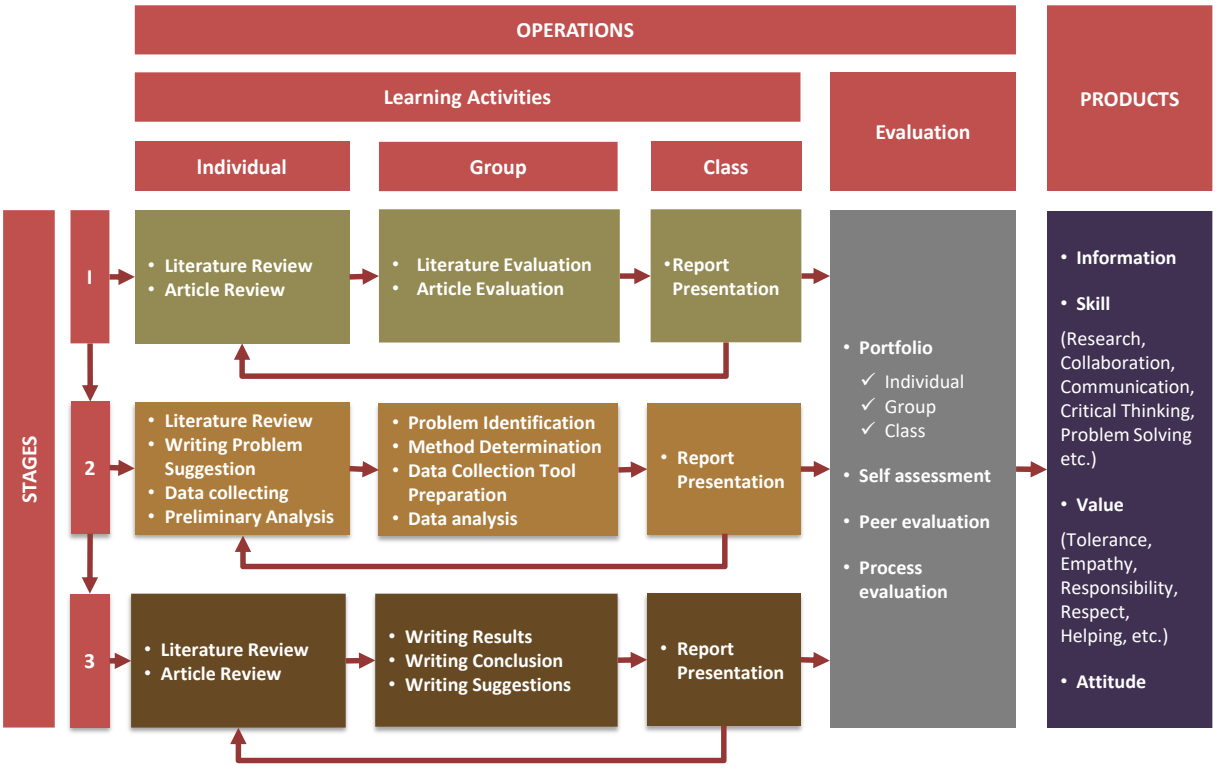
Different teaching models have emerged from the needs experienced. In the literature, different models are designed and used by different researchers to apply inquiry-based learning. Dewey determined the stages of the inquiry-based learning model as asking questions, searching for solutions, structuring new knowledge, discussing experiences and discoveries, and adapting to the new structured situation, and designed it as a model in which each step is related to the next (Hill, 2008). Suchman (1962) researched seven steps in his model. These steps are selecting a problem and structuring the research, introducing the process and presenting the problem, collecting data, developing and validating a theory, specifying the rules and explaining the theory, analyzing the process, and evaluating the process. In the model devised by Short et al. (1996), the stages are structuring information based on what is known, generating questions for research, gaining new perspectives, creating a difference, sharing what has been learned, and adapting to the new situation. In Sincero's (2006) inquiry-based learning model, the process begins with asking questions, and the questions are asked to continue with the establishment of hypotheses and research, and then the information is structured in the light of the data obtained. The next part continues as a discussion via results, sharing, and adapting the newly learned knowledge to daily life. In this research the Layered Inquiry-Based Learning Model was developed and implemented.

Layered Inquiry Based Learning Model

The layered inquiry based learning model in Figure 1.

Figure 1

Layered Inquiry Based Learning Model



As seen in Figure 1, the model consists of three main dimensions. These are the "stages" dimension in the vertical column and the "operations" and "products" dimensions in the horizontal column.

Stages

The lesson is organized in three stages. The process has been arranged in such a way that all research steps will be carried out by students practically from the beginning to the end of the term. In the first stage, it is aimed that students gain the hypothetic foundations of the research. In the second stage, it is aimed that students gain the steps of identifying the problem, collecting the data, and analyzing the data, which are the steps of scientific research. The third stage is aimed for students to solve the problem, achieve the result, and gain the reporting steps.

Operations

The extent of operations consists of teaching activities and assessments. Teaching activities are designed in three parts: "individual work," "group work," and "class work." These activities enable students to acquire and develop determined skills and values. Before the lesson and forms the basis of the learning process, all students carry out individual work. Individual work consists of tasks based on research and examination, which are done for preparatory purposes before the group and class work. These consist of literature review, article review, problem proposal writing, data collection, and the task of preparation for analysis. Group work is carried out separately by each group. It aims for students to be in mutual relationships with each other and to produce products by engaging in activities aligned with a common goal. Group work

should consist of practical tasks performed based on individual work. These tasks are literature and article evaluation, problem determination, method determination, data collection tool preparation, analysis, and reporting. All groups participate in the class work. In the class work, the presentation of the reports created in the group and the evaluations and discussions about the presentations occur.

Assessment is carried out using portfolios, self-assessment, peer assessment, and duration assessment to provide regular feedback and correction at every stage of the model so that the students become aware of their learning and identify learning deficiencies. The portfolio is received electronically and it includes individual work reports, group reports, and class reports. Self and peer assessments are conducted during and at the end of the process, and students are asked to assess the process at certain times.

Products

At the end of the learning process, it is aimed for products to emerge. These products are determined as "skill," "knowledge," "attitude," and "value." At every stage of the process, it is aimed for students to gain different levels of knowledge. At the end of the process, the aim is for students to gain values such as research/analysis, cooperation, communication, problem-solving, critical thinking, and decision making, as well as values such as empathy, love, responsibility, tolerance, collaboration, and respect for differences. At the end of the lesson, among the targeted products is that students develop a positive attitude towards the lesson.

The Aim of the Research

In academic studies, it is seen that inquiry-based learning teaches students the scientific process (Deckert & Nestor, 1998), develop a positive attitude towards lessons in students (Çalışkan & Turan, 2010), increases the propensity for cooperative learning (Johnson & Lawson, 1997), and increases students' problem-solving skills, reflection, and creativity (Wallace & Kang, 2003). However, besides these positive effects, it is stated that this model has some limitations. Some of these are as follows: it takes a long time to complete inquiry-based activities (Cheung, 2007; Spaulding, 2001); the prejudices of some teachers that only students with high-level skills can be successful in research activities (Olson & Loucks-Horsley, 2000); the difficulty of providing equipment and the high cost (Cheung 2007; Spaulding, 2001); the fact that research activities require a free study space; teachers are not able to control the process; it is challenging to implement in crowded classrooms (Keller, 2001; Spaulding, 2001); teachers are afraid of creating designs that can endanger students' safety while performing activities such as performance, projects, reports, and experimental studies (Cheung, 2007); teachers are not sure about how the evaluation should be; and the comprehensive evaluation (Deters, 2005). In addition, it is seen in academic studies that different problems are experienced while applying student-centered methods. In her study, Sahin (2020) determined that students' perceptions of education were mostly focused on "lecturing" and that traditional practices in lessons had a large place in their perceptions of learning. Sahin et al. (2020) showed in their study that the students had the idea that they learned better with the traditional method.

In the present study, the Layered Inquiry-Based Learning Model was developed to solve the problems encountered in inquiry-based learning, such as time management, lack of material, inability to control the process, lack of evaluation, student reluctance, and prejudice related to the applicability. In this context, in this research it was revealed how the postgraduate qualitative

research course can be organized according to the layered inquiry-based learning model and it was aimed to determine the effectiveness of the qualitative research lesson designed according to the layered inquiry-based learning model and to reveal the students' views on the course organized according to this model. For this purpose, answers to the following problems and sub-problems were sought:

- What are the negative opinions of the students about the qualitative research lesson organized according to layered inquiry-based learning model?
  - What are the negative opinions about the first action plan process?
  - What are the negative views on the second action plan process?
  - What are the negative views on the third action plan process?
- What are the positive opinions of the students about the qualitative research lesson organized according to layered inquiry-based learning model?

Method

Research Model

The present research used the "practical-deliberative action research" approach. In this action research, researchers identify problems and their underlying causes (McKernan, 1991). Within the scope of this research, the researchers tried to find solutions to the problems that occur in the action research process. These problems were revealed with the data collected at the end of each action research process, and some decisions were taken to solve them. These problems are included in the findings section of the research.

The study group for the research was determined using the "purposeful sampling" method. Since the qualitative research lesson was considered suitable for the learning/teaching and assessment methods to be used in the research, the students attending this lesson were selected for the study group. The study group consists of 13 students taking the Curriculum and Instruction master's degree program at a state university in Turkey and receiving a qualitative research lesson. However, three students (two men and one woman) dropped out during the distance learning period, and the implementation continued with ten students. The characteristics of the study group are given in Table 1.

Table 1

Study Group

Code	Gender	Department	Branch	Code	Gender	Department	Branch
S1	G	EPI	Philosophy	S6	G	EPI	Class
S2	G	EPI	Mathematics	S7	G	EPI	Social Studies
S3	G	EPI	English	S8	G	EPI	Preschool
S4	G	EPI	Physics	S9	G	EPI	English
S5	G	EPI	Preschool	S10	G	EPI	Sociology

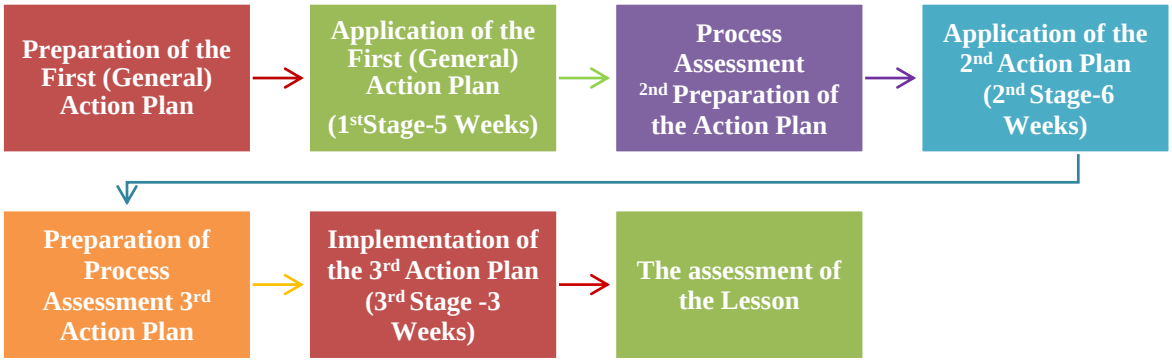
As seen in Table 1, all of the participants are women and they are studying for a master's degree in the Curriculum and Instruction program. Their branches are quite diverse.

Application Process

The implementation process is given in Figure 2:

Figure 2

Implementation Process



As seen in Figure 2, the implementation process consists of three action stages. Each action stage is also arranged to correspond to the three stages of the research. In the first week no classes were held and a week was lost due to the pandemic; so the process took 16 weeks in total.

First Action Stage

The first action stage lasted seven weeks. In this stage, first of all, the lesson design was created, and the general action plan and the lesson information form were prepared accordingly. The lesson was held every Monday between 14.30 and 17.30. The first week was spent with the introduction and giving information about the lesson, and as of the second week the general action plan was implemented.

In the first action plan stage, the students were divided into four groups. Three groups consisted of three people and one group consisted of four. The students came to the class having done their individual work, and the group work and class work were done face to face in the class. Face-to-face teaching was conducted for three weeks, then a week was missed due to the global epidemic, and after that distance learning started. The one-week interim lesson period for the pandemic was revised and some arrangements were made. In the distance learning process, students firstly did their individual work; then they carried out group work among themselves before the class work, at a time of their choosing, by teleconference. The individual and group tasks of the students at this stage are listed in Table 2.

Table 2

First Action Stage Tasks

	Individual Tasks	Group Tasks
1	Meeting and giving information about the lessons	
2	Find, read, and summarize 2 book chapters on science, philosophy, and philosophy of science.	Create a group summary by having an in-group discussion on science, philosophy, and philosophy of science.

3	Find, read, and summarize 2 book chapters on scientific research paradigms.	Create a group summary by having an in-group discussion on scientific research paradigms.
4	Pandemic Break	
5	Find, read, and summarize 2 sources on the characteristics of qualitative and quantitative research.	List the characteristics of qualitative and quantitative research as a group. Report by comparing qualitative and quantitative methods.
6	Find, read, and summarize 2 sources of case studies. Find, read, and summarize 2 resources on phenomenology. Find 1 article each on case studies and phenomenology.	Review and report on case study articles as a group. Review and report papers on phenomenology as a group.
7	Find, read, and summarize 2 sources on theorizing. Find, read, and summarize 2 resources on action research. Find 1 article each on theorizing and action research.	Review and report on the articles on theory formation as a group. Review and report articles on action research as a group.

Class work was carried out every Monday between 15.30 and 16.30 by teleconference. All students and the lecturer responsible for conducting the lesson attended the lesson. After starting distance learning (at the end of the 4th week) one person quit the lesson, and at the end of the process (at the end of the 7th week) two more quit.

After five weeks, the students were provided with self-assessment and peer-assessment forms to make assessments. In order to determine whether the students passed to the next stage, group scores were evaluated and it was determined that all groups had passed. The students were given process assessment forms and asked to assess the process at the end of this stage. Then the process assessment data were analyzed and some action decisions were made. According to the decisions taken at the end of the first action process, the second action process continued.

Second Action Stage

The second action stage lasted six weeks. In this process, the groups were rearranged and three groups were formed. Two groups consisted of three people and one group consisted of four. Some arrangements were made at the beginning of this action process in order to make the individual and group tasks created at the beginning of the term suitable for distance learning. The individual and group tasks of the students at this stage are listed in Table 3:

Table 3

Second Action Stage Tasks

	Individual Tasks	Group Tasks
8	Conduct a literature review. Write 2 research problem proposals suitable for each pattern.	Write a common research problem suitable for each pattern and sub-problems appropriate for this main problem. Determine the purpose and importance of the research. Identify and report data sources suitable for each problem.
9	Find, read, and, on an individual basis, summarize 2 resources on interview technique.	Choose a research problem. Prepare a structured interview form about the research problem. Prepare a semi-structured

		interview form about the research problem.
10	Conduct a structured and a semi-structured interview and convert them into a document. Find, read, and, on an individual basis, summarize 2 sources on the observation technique.	Prepare a structured observation form about the research problem. Prepare a semi-structured observation form about the research problem.
11	Conduct a structured and a semi-structured observation and convert them into a document. Find, read, and, on an individual basis, summarize 2 resources on the document review technique. Find 2 documents about the same research problem.	Create a document review form and write the data on the form.
12	Find, read, and, on an individual basis, summarize 2 resources on descriptive analysis. Place data into categories by specifying categories for descriptive analysis.	Classify the data to be analyzed descriptively.
13	Find, read, and, on an individual basis, summarize 2 resources on content analysis. Encode content analysis data. Encode parts of your conversations mutually with one of your group mates.	See the compatibility between codes. Classify the data to be analyzed for content.

At the end of the six weeks, the students filled out the self-assessment and peer-assessment forms. In order to determine whether the students passed to the next stage, group scores were evaluated and it was determined that all groups had passed. At the end of this stage, the students were given a process assessment form and various decisions were taken by analyzing the data. According to the decisions taken at the end of the second action process, the third action process continued.

Third Action Stage

The third action period lasted three weeks. The third stage tasks are shown in Table 4.

Table 4

Third Action Stage Tasks

	Individual Tasks	Group Tasks
14	Review and report on the findings section of 3 articles.	Relate all data and write the findings section of the article. Update the research problem.
15	Find 2 sources about validity and reliability, read and summarize individually.	Analyze the validity and reliability of the article and write it down.
16	Review and report on the results, discussion, and recommendations section of 3 articles.	Write the conclusions and discussion section of the article. Write the recommendations section.

At the end of the three weeks, the students again filled out the self-assessment and peer-assessment forms and the application process ended.

Evaluation of the Lesson

The assessment of the lesson was done through e-portfolio, self-assessment, and peer assessment.

Individual reports and group reports of the students were included in the e-portfolio. The reports from the students every week were evaluated by the researchers, reported to the students, and kept in the student files electronically. The e-portfolio process was arranged in such a way that progress to the next stage was not possible unless the minimum score determined from the tasks at each stage was obtained. It was planned to get a maximum of 25 points in the first stage, a maximum of 45 points in the second stage, and a maximum of 30 points in the third stage. It was arranged so that the groups with a minimum of 15 points in the first stage could go on to the second stage and the groups with a minimum of 35 points in the second stage could go on to the third stage. Two forms, namely the "group scoring form" and "individual scoring form", were prepared for evaluating group reports and individual reports. Evaluations were made every week according to these forms.

Based on the individual and group tasks in each stage, three different "peer assessment forms" and three "self-assessment forms" to be applied at the end of each stage were prepared. Self and peer assessments were conducted using these forms at the end of each action phase.

The rates used in the evaluation of the lesson at the beginning of the process were as follows: group studies were planned as 50%, individual works 30%, self-assessment 10%, and peer-assessment 10%, but in line with the decisions taken at the end of the first process evaluation, group work 40%, self-assessment 10%, individual work 40%, and peer assessment 10% rates were used.

Data Collection Tools

In data collection, the student letters and process evaluation form were used. The data collection tools are described below:

Process Evaluation Form

The process evaluation form was developed by the researchers. Necessary adjustments were made to the form by asking the opinions of two academics who are experts in the field of educational sciences.

Student Letters

At the end of the term, a letter from each student in which they describe their thoughts and feelings about the process was requested. Letters were received from 10 students in the study group.

Data Collecting

In the research, various data were collected at the end of the first, second, and third action stages. The process evaluation forms were collected at the end of the first and second action stages, and student letters were collected by mail at the end of the process.

Analysis of Data

Three stages were followed in the data analysis process. These are: organizing data, summarizing data, and associating/interpreting (Kılıç et al., 2019). During the data editing stage, all data were grouped and prepared for analysis. The forms were coded to express each participant to be used in direct quotations as well. Content analysis was used in summarizing the data. Content analysis means the detailed and careful analysis of a particular material to identify

patterns, categories, or meanings (Kılıç et al., 2019). During the classification phase, these codes were collected in categories and subcategories. In the association/interpretation phase, the resulting categories were interpreted by associating them with each other.

Validity and Reliability

The validity and reliability of the study were examined under the following main headings (Lincoln & Guba, 1985):

Truth Value–Credibility

The 14-week implementation process was carried out by the researchers personally, providing long-term interaction with the participants. The data collection process was also carried out by the researchers. For deep-focused information, the data were repeatedly read by the researchers, categories were created, and the relationships between the categories were examined. The data were divided among the data collection tools and four different data collection tools were used. The analysis was carried out by two researchers and the analyst diversification was conducted.

Applicability–Transferability

The research process for applicability and transferability was described and reported in detail.

Consistency–Dependability

Content analysis was coded separately for the variant and information was calculated. In the consistency calculation, the formula given by Miles and Huberman (1994) was used and 92% agreement was observed. Codes that did not conform were examined and necessary arrangements were made.

Neutrality-Confirmability

Objective behavior was observed in the interpretation of the data and the researcher's tendencies were not reflected in the research. Expert opinion was obtained in associating research data with research results. The data collection and analysis were explained in detail and perspicuously. Objectivity–affirmability was supported by direct quotations from the data collection forms. The raw data of the study were kept for review when required.

Results

The results are presented under two headings. These are: "Negative Opinions about the Process" and "Positive Opinions about the Process".

Negative Opinions about the Process

Negative opinions about the process were presented under three separate titles: at the end of the first, second, and third action plans.

First Action Plan Process

At the end of the first action plan, students' negative opinions about the process are given in Table 5.

Table 5

Negative Opinions at the End of the First Action Plan

Categories	Codes
Lesson Design	Not clear what is expected of them
	Continuous change of lesson instruction/process
Individual Works	Preparation is tiring
	Intense tasks
	Having difficulty in understanding and summarizing the subject
	Having difficulty in finding resources
Group Work	Insufficient time, not being able to summarize and select information
	Inability to set a common time
	Inability to perform group work
	Continuous messaging via Whatsapp channel
	Not everyone participates in group work
	Unwillingness of group members
	Tasks in group work are not structured
	Afraid of taking group responsibility
	Not discussing and exchanging ideas enough on the issues
Classsork	Not using effective presentation techniques
	Presentations are long and boring
	Presentations being inefficient, repeating each other
	Not using time effectively
	Theoretical lesson, lack of practice
	No discussion / interaction environment
	The teacher does not give enough feedback
Reporting	Having difficulty in preparing individual reports every week
	Individual reports not being sent on time
	Difficulty generating group reports with zoom
	Difficulty in getting reports from other people as a secretariat
	The extra workload of writing group reports
	Having time problems in writing / editing reports
	Difficulty in writing bibliography
Evaluation	Receiving the same score as those who don't get the same effort
Distance Learning	Internet connection problems / communication disruption
	Problem of focusing on the distance lesson
	Inability to make eye contact
	Technical issues with submitting assignments
	Overlooking of shared announcements
	Listening to lectures with headphones, headache

As seen in Table 5, at the end of the first action plan process, students' negative opinions are grouped in seven categories: "lesson design", "individual work", "group work", "class work", "reporting", "evaluation", and "distance learning".

Students think what is expected of them in the lesson is not clear; it is constantly changing. They have difficulty finding resources when doing individual work and think the preparation process is intense and tiring. The students have problems such as not being able to

arrange a common time, not being able to complete the task within the specified time, not being able to do group work, not everyone participating when it is arranged, and not being able to exchange enough ideas on the subjects due to the reluctance of the group members. In-class work, there are many criticisms about the presentations in that they are inefficient, long, repetitive, and boring. The students think that the theoretical knowledge in the lesson is excessive, there is no discussion environment, there is little interaction, and they want the lecturer to be more effective during the process and give feedback. Another category that has been criticized extensively in the reporting category. Some of the criticisms in this category are the excessive workload of writing individual reports and group reports every week, the difficulty in creating group reports in Zoom, not enough time to write reports, not sending individual reports on time, and therefore difficulty in submitting the group report. The fact that those who do not make the same effort will get the same score as the group is also critical in the evaluation category. Finally, connection problems and communication disruption are mentioned in the distance learning category.

In line with the views in Table 5, various decisions were taken to be applied in the second action plan process. These decisions are shown in Table 6.

Table 6

Decisions Taken at the End of the First Action Plan

Categories	Decisions
Lesson Design	✓ In the last five minutes of the lesson, information will be made about how to prepare for the next week and what to do in the lesson.
Individual Works	✓ Summaries of individual works will be shorter, and when individuals find it challenging to find resources, they will be able to get help from their group friends.
Group Work	✓ Group work will start at 2.30, which is the beginning of the lesson, and continue until 3.30. ✓ Alternative ways can be used in reporting (Google document etc.); writing a group report will not require writing long texts, and the product will be presented in the report. ✓ The method of group work will be notified to the instructor of the lesson
Classwork	✓ Class sharing will continue from 3.30 to 4.30. ✓ Things done during the group work period will be presented in the classroom, and the missing items will be completed outside the lesson. ✓ Presentations will be reflected on the screen. ✓ No theoretical information will be presented in the presentations. ✓ Each group will present their work within 10 minutes. ✓ The instructor of the lesson will give feedback after each presentation
Reporting	✓ Individual reports will be sent to the president and the specified e-mail address until midnight on Sunday. ✓ The chair will not send individual reports, only send the group report and the additional report.
Evaluation	✓ The ratio of individual points will be increased from 20% to 40%, and the ratio of group points will be reduced from 60% to 40%.

When Table 6 is examined, it is seen that various decisions are made in each category in line with the students' negative opinions about the process. For the opinions in the "distance learning" category, no decision was taken as it is thought that there was nothing to be done within the scope of the lesson. The second action plan was created and put into practice in line with these decisions.

Second Action Plan Process

The students' negative opinions about the process at the end of the second action plan are given in Table 7.

Table 7

Negative Opinions at the End of the Second Action Plan

Categories	Codes
Lesson Design	Expectations are not clearly understood
	The lack of a system where everyone can focus on their strengths
Individual Works	Having difficulty in reading primarily sources
Group work	Having trouble meeting at the same time
	When the group work is in the last moment, the charge is left to the president
	Practical task with incomplete learning before the lesson
	Despite investigating the subject, not reaching very accurate results
	Taking a long time to decide what to do in group work
Classwork	Lack of active participation and boredom
	No examples given at the beginning of the lesson
Reporting	Not giving individual feedback about deficiencies
	Redoing the incorrectly prepared reports
Distance Learning	Internet shortage
	Communication problem
	Inability to collect reliable data
	The stress of being covid
	Lack of motivation to be in the classroom

As seen in Table 7, at the end of the second action plan process, students' negative opinions are grouped in seven categories: "lesson design", "individual work", "group work", "class work", "reporting", "evaluation", and "distance learning".

Although there are still some problems in this action process, it was observed that the students' criticism about the process had changed considerably. Students complain about not being able to clearly understand what is expected of them during the lesson also in this action process. The only problem of interest concerning individual work is having difficulty in reading the primary sources. It is observed that the problems concerning group work have decreased considerably compared to the first action process, but there are still problems such as having problems in setting the meeting time and difficulty in performing practical tasks in line with individual learning. It is seen that the criticisms about the presentations were resolved in the class work. The problems in the reporting category, which were expressed extensively in the previous process, are also resolved. In this category, the students stated that they would like to receive individual feedback about their reports. Finally, problems such as connection problems and communication disruption are mentioned in the distance learning category.

In line with the views in Table 7, various decisions were taken to be applied in the third action plan process. These decisions are listed in Table 8:

Table 8

Decisions Taken at the End of the Second Action Plan

Categories	Decisions
Design of the lesson	✓ At the end of the lesson, explaining what to do next week will continue. ✓ What needs to be done next week in Google Classroom is going to be written.
Group Work	✓ Each group will notify their working hours and days in Google Classroom. ✓ When the group work starts, it will be informed from Google Classroom. ✓ The teacher will be able to participate in group work when necessary. ✓ Task sharing will not be made, as each student has to take part in every step of the process due to the extent of the lesson.
Classwork	✓ It will be informed about what active participation is ✓ Just as up to now, students will be able to contribute questions and comments to the products of other groups. ✓ Case studies/studies will be shown at the end of the lesson.
Reporting	✓ Individual feedback will be given to the reports.

As can be seen in Table 8, various decisions are taken in each category in line with student views. In accordance with these decisions, the third action plan was created and put into practice.

Third Action Plan Process

The students' negative opinions about the process at the end of the third action plan are given in Table 9:

Table 9

Negative Opinions at the End of the Third Action Plan

Categories	Codes
Design of the Lesson	Worrying about what to do in the process Doing the practical studies before teaching the lesson Not having the real studies completely done
Individual Works	Need to send individual works to the president
Group Work	Difficulty in finding common time Some of them doing their responsibilities early, some of them late
Classwork	Superficial classwork, limited interpretations Weakness of communication with friends who are not in the group
Reporting	Not teaching bibliography writing
Distance Learning	Distance negatively affects motivation

As seen in Table 9, at the end of the third action plan process, the negative opinions of the students are gathered in a total of seven categories: "lesson design", "individual work", "group work", "class work", "reporting", and "distance learning".

The criticism by the students at the end of the third action plan process was considerably less than that after the other action plans. It is seen that the students have criticisms such as that the applications should be made after the class work, there is no need to submit an individual work report, and the comments are weak in-class work. No new action plan was made because there were no problems to be solved, and the school term had almost ended.

Positive Opinions About the Process

The positive opinions of the students about the handling of the process at the end of the process are given in Table 10:

Table 10

Positive Opinions About the Process

Categories	Codes
Lesson Design	The lesson was professionally adapted for distance learning
	The design of the lesson was clear and explicit
	The lesson was enjoyable, instructive, exciting, and productive
	Supporting the theory with practice made knowledge permanent
	The interrelation of the topics provided continuity
	Weekly responsibilities was relaxing/kept the motivation alive
	Weekly planning of the tasks made it easy at the end of the term
	Sticking to the plan prevented losing interest in the class
	Students' involvement motivated
	Guidance in the process was effective
Individual Works	Pre-classwork was well structured
	It was nice to research
	Individual works positively affected learning
	Individual work ensured active participation in the lesson
	Reviewing different articles
	It was productive to review was productive
Group Work	Group work was effective, enjoyable, and motivating
	Group members supported each other
	It was productive to work with people of different skills
	Worked regularly and planned
	There was no time shortage
	It was good to make a joint decision / produce a joint product
	Sharing / discussing knowledge reinforced the information
	It was productive for the teachers to participate in group work
	Deficiencies in individual work were completed in group work
Classwork	Classwork was effective and enjoyable
	There was an interactive classroom
	Everyone could speak in the process
	Concepts discussed / information structured
	The ability to display images on the computer screen increased efficiency.
	No need to listen to things that can learn by reading
	Diffrent opinions were met with tolerance and love

	The criticism of the teachers and feedback made up for the deficiencies It was educational to see his/her friends' work from different points of view It was productive to compare comments to other studies with their homework The announcement about things to do the following week at the end of the lesson was productive
Reporting	Giving feedback on group assignments was effective They were able to make corrections in post-lesson reports Feedback was fast Individual feedback removed uncertainties
Evaluation	The effort was given points It was nice to see the progress being made Follow-up of tasks increased efficiency Getting full marks when doing the task was motivating
Distance Learning	Distance learning was a different experience

When Table 10 is examined, it is seen that students have various opinions in a total of seven categories: "lesson design", "individual work", "group work", "class work", "reporting", "evaluation", and "distance learning".

It is observed that there are positive opinions about the design of the lesson. The students think that the lesson is professionally adapted to distance learning, the lesson design is planned and understandable, the lesson is enjoyable and efficient, the combination of theory and practice ensures effective learning and permanence, and they are pleased to be included in the process via process evaluation. They find the individual work before the lesson efficient in terms of learning and active participation in the lesson. They think that working as a group, achieving a common goal with work sharing, and reinforcing their knowledge by sharing and discussing are motivating and instructive. The students are satisfied with the interactive classroom environment, seeing different perspectives, following the work of their classmates, and receiving feedback at the end of the class. In reporting, it is understood that they find it positive to follow up the tasks regularly and to receive feedback. In the evaluation, the awarding of points for effort was welcomed. It is also seen that students perceive distance learning as an experience.

The opinions of the students about the lesson's contribution to them are given in Table 11:

Table 11

Student Opinions Regarding Lesson Contribution

Categories	Codes
Qualitative Research Knowledge	Understanding the philosophy of qualitative research Getting information about qualitative research Correcting the wrong spots which he/she misknows Distinguishing differences between concepts Learning qualitative research methods Learning data collection and data analysis methods
Attitude Towards Qualitative Research	Decreased bias against qualitative research Gaining enthusiasm for qualitative research Gaining the courage to do qualitative research
Scientific Research Skills	Gaining research skills To gain the ability to conduct qualitative research in practice

	Gaining the ability to extract unnecessary information Learning the steps of writing theses Creating a basis for future work
Social Skills	Gaining collaboration skills Gaining the ability to work in groups Gaining leadership skills Getting to know his/her friends
Individual Skills	Gaining critical thinking skills Gaining self-regulation skills Gaining the ability to use time effectively Creating awareness of responsibility Gaining courage and confidence
Human Values	Gaining patience value Earning respect
Other	Providing professional development Developing in the field of educational technologies Understanding that he/she is at the beginning of the road

When Table 11 is examined, it is seen that the lesson has positive contributions in terms of "qualitative research knowledge", "attitude towards qualitative research", "scientific research skills", "social skills", "personal skills", "human values", and "other".

The students learned new knowledge and concepts related to qualitative research, gained a positive attitude towards qualitative research, and also gained scientific research skills. They state that they have acquired social skills such as collaboration and leadership and personal skills such as effective use of time, critical thinking, responsibility, and self-regulation. It is striking that students also experience changes in human values such as patience and respect.

Discussion

According to the research results, the students learned new information and concepts related to qualitative research and gained a positive attitude towards qualitative research. Tretter and Jones (2003) stated that lessons taught using inquiry-based learning were effective in increasing students' attendance and improving their attitudes towards the lesson compared to lessons taught using traditional teaching methods. Bozkurt et al. (2013) conducted a study to examine the effect of inquiry-based learning on 5th-grade students' success in science class and their attitudes towards the lesson. As a result of the study, while the academic achievement and attitudes of students in the experimental group in which inquiry-based learning was used increased significantly compared to the students in the control group, regarding the method, the students stated that they understood the subjects better and that what they learned was permanent. In his study, McPhedran (2006), examining the effect of inquiry-based teaching on the motivation of male 11th-grade students, concluded that inquiry-based learning increased students' motivation towards science, based on the qualitative and quantitative data collected by processing a whole unit with inquiry-based learning. Likewise, Akpullukçu (2011), Kula (2009), and Tatar (2006) stated that inquiry-based learning positively affected the attitude towards the lesson.

According to the results of the current research, it was concluded that the students think that they have gained scientific research skills. Lin et al. (2009) stated that after the activities

performed with inquiry-based learning, children's research skills improved. As a result of the study conducted by Bozkurt (2012) in order to reveal whether there is any change in the academic achievement and scientific process skills of classroom teacher candidates by using inquiry-based learning in the Science and Technology Laboratory lesson, he stated that the experimental group students' academic achievement and scientific process skills increased compared to the control group. Çelik and Çavaş (2012) revealed that inquiry-based learning improved students' scientific process skills. Wu and Hsieh (2006) determined statistically that research skills increased significantly due to the participation of all students in research activities as a consequence of their practices. As a result of their research, Cuevas et al. (2005) revealed that this method improved students' skills such as creating searchable questions, making research plans, recording data, and concluding. Likewise, Altunsoy (2008), Parim (2009), and Tatar (2006) found that students in the experimental group had higher post-test scores for their scientific process skills as a result of their research.

The present research results showed that the inquiry-based learning model enabled students to acquire human values such as patience and respect along with social skills such as cooperation and leadership, critical thinking, self-regulation, using time effectively, and responsibility. Di Pasquale et al. (2003) also concluded that applying inquiry-based learning in lessons transformed the competitive classroom into a collaborative working environment. Likewise, Lin et al. (2009), in their study investigating the effect of inquiry-based learning on the classroom learning environment, concluded that inquiry-based learning activities positively affect the formation of a collaborative learning environment. Moreover, Di Pasquale et al. (2003) revealed in their study that inquiry-based learning developed responsibility-taking behavior.

As a result of the research, it was seen that the lessons in which the inquiry-based learning model was used were enjoyable and productive, and the combination of theory and practice provided effective learning and permanence. Bilir (2015) stated that according to the results obtained from the research and inquiry-based teaching approach, this method increased students' interest and curiosity towards the lesson and that they learned in a fun way. Alouf and Bentley (2003), Bozkurt (2012), Bozkurt et al. (2013), Cuevas et al. (2005), Çelik and Çavaş (2012), and Wu and Hsieh (2006) concluded that inquiry-based learning was effective in learning and it increased students' achievement.

According to the findings obtained from the present research, it was concluded that inquiry-based learning increased the active participation of the students in the lesson. Alouf and Bentley (2003) observed that the participation level of students in activities increased in lessons prepared based on the inquiry-based learning approach. Bilir (2015), Coşkun (2018), and Lin et al. (2009) stated in their studies that inquiry-based learning activities increased students' participation in class.

It was concluded that inquiry-based learning created an interactive classroom environment and efficiently enabled students to see different perspectives. Madill et al. (2001) stated that the experiences gained through inquiry-based learning increase communication in the learning environment. Likewise, in his study, Coşkun (2018) concluded that students' communication with each other increased with the lessons taught with inquiry-based learning.

It was concluded that the action research solved the problems related to the application to a great extent, motivated the students towards the lesson, and thus the lesson design was planned

and understandable, and the changes made had a positive effect on learning. Kılıç and Şahin (2017), Ökmen (2020), Sidekli (2010), and Yıldız (2013) also stated that action research has a positive effect on learning as a result of their action research and makes lesson design more applicable, planned, and understandable.

In the present study, making arrangements for group work due to action research changed the views on group work. It was concluded that working as a group, reinforcing knowledge by sharing and discussing, and reaching a common view through work-sharing are motivating and instructive. In the literature, studies are showing that cooperative learning positively affects student achievements (Akbuğa, 2009; Aktaş, 2013; Astra et al., 2015) and attitudes towards learning (Akbuğa, 2009; Özdoğan, 2008). Gelici and Bilgin (2011) also examined student views on cooperative learning, and most of the students stated that the techniques facilitated their learning, the lessons were more enjoyable, their fear of math decreased, their social skills improved, and they wanted the techniques to be applied in other lessons.

It is concluded that portfolio evaluation satisfies the students and ensures their active participation in the process and regular follow-up of tasks and feedback impact learning. In the evaluation process, it is seen that giving points for effort affected the students positively. In his study to reveal students' views on portfolio implementation, Birgin (2008) concluded that this application encouraged and improved the student's learning, enabled the student to participate actively in the evaluation process, allowed the student to evaluate him/herself, induced taking responsibility in learning, and increased the communication between student and teacher. Similarly, Dut-Doner and Gilman (1998), Asturias (1994), Klenowski (2000), and Barton and Collins (1997) emphasized that the portfolio evaluation method encourages students to learn, enables them to see their deficiencies and take responsibility in learning by evaluating their work, and is a communication tool between teachers and students.

As a result of the research, it was observed that problems such as connection problems and communication disruption mean that group work cannot be carried out effectively during distance learning. Birişçi (2013) examined the attitudes and opinions of students who were studying with video conference-based distance learning activities. He stated that the technical problems experienced in the video conferencing system constituted an obstacle in the communication between the teacher and the student during the lectures. There were some problems, such as not being in a face-to-face environment with the instructor and not being motivated toward the lesson.

Kaleli-Yılmaz and Güven (2015) also stated that pre-service teachers' perceptions of distance learning were determined through metaphors and that factors such as experiencing technical problems sometimes caused negative perceptions. Likewise, Dogget (2008) and Woods (2005) stated that some technical problems such as sound, image, bandwidth, and camera use might hinder the active participation of students and teachers in the lesson.

Based on the research results, the following recommendations have been formulated:

- ✓ Teachers should be encouraged to use inquiry-based learning.
- ✓ Teaching practices should be arranged so that students can work collaboratively.
- ✓ Group work should be guided and controlled by instructors.
- ✓ Effective feedback should be given to students by the instructors.

- ✓ Alternative assessment methods such as portfolios, which show all learning stages of the student and make the student active in the evaluation process, should be used in the teaching process.
- ✓ Teachers should be encouraged to conduct different action studies to improve teaching practices.
- ✓ Support should be provided to students and teachers to solve technical problems in distance learning.

Conclusions

Teaching designs must be created for distance learning. Because there are problems, such as straightforward content in distance learning, practical methods and techniques are not used. Inquiry-based learning positively affects students, but this model has some limitations. The present study has shown us that the layered inquiry-based learning creates solutions to some problems (prejudice against students' learning, difficulty of providing equipment, requiring much time, challenge to implement in crowded classrooms, requiring different environments, inability to control students/process, not knowing how to evaluate students) of inquiry-based learning.

The layered inquiry-based learning model can be implemented in distance learning effectively. It positively affected students, and the combination of theory and practice in distance learning provided effective learning and permanence.

This model enabled students to acquire some human values, increased active participation, and created an interactive classroom environment. The students gained scientific research skills and a positive attitude towards qualitative research. Moreover, the action research solved the problems related to the application to a great extent and motivated the students toward the lesson. This situation has shown us that teachers should use action research more often.

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Genişletilmiş Özet

Problem Durumu

Farklı öğretim modelleri öğretim süreci içinde ortaya çıkan ihtiyaçlardan doğmuştur. Literatürde araştırmaya dayalı öğrenme için farklı araştırmacılar tarafından farklı modellerin tasarlanıp kullanıldığı görülmektedir. Yapılan çalışmalarda araştırmaya dayalı öğrenmenin öğrencilere bilimsel süreç becerisi (Deckert & Nestor, 1998), derslere karşı olumlu tutum (Çalışkan & Turan, 2010), işbirlikli öğrenmeye ilişkin olumlu tutum (Johnson & Lawson, 1997), problem çözme, derinlemesine düşünme ve yaratıcılık becerileri (Wallace & Kang, 2003) kazandırdığı görülmektedir. Ancak bu olumlu etkilerinin yanında bir takım sınırlılıklarının olduğu da belirtilmektedir. Bunlar; araştırmaya dayalı aktiviteleri tamamlamanın uzun süre gerektirmesi (Cheung, 2007; Spaulding, 2001), bazı öğretmenlerin ancak üst düzey becerilere sahip öğrencilerin araştırma aktivitelerinde başarılı olabileceğine dair yargıları (Olson & Loucks-Horsley, 2000), araç gereç temininin zor ve maliyetli olması (Cheung, 2007; Spaulding, 2001), araştırma etkinliklerinin serbest bir çalışma alanı gerektirmesinden dolayı öğretmenlerin süreci kontrol edememeleri, kalabalık sınıflarda uygulamanın zor olması (Keller, 2001; Spaulding, 2001), öğretmenlerin etkinlikler (proje, deney, gezi vb) sırasında öğrencilerin güvenliklerinden endişelenmeleri (Cheung, 2007), değerlendirmenin nasıl olması gerektiği konusunda öğretmenlerin emin olamaması ve değerlendirmenin uzun sürmesi (Deters 2005) gibi sınırlılıklardır.

Bu çalışmada araştırmaya dayalı öğrenmenin olumlu sonuçlarına ulaşabilmek, öğrencilerin problem belirleme ve problem çözme süreçlerinin her bir adımını doğru bir şekilde yapmalarını sağlamak, öğrenme sorumluluğunu öğrencilere vererek kendi öğrenme süreçlerini takip etmelerine yardımcı olmak, öğrencilere kendi öğrenmeleri ile ilgili düzenli olarak dönüt sağlamak ve bu modelde karşılaşılan zaman yönetimi, materyal eksikliği, sürecin kontrol edilememesi, değerlendirme konusundaki eksiklik ve bu modelin uygulanabilirliğine ilişkin önyargı gibi problemlere çözüm getirmek amacıyla "Aşamalı Araştırmaya Dayalı Öğrenme Modeli" tasarlanmıştır.

Araştırma kapsamında geliştirilen model üç aşamadan oluşmaktadır. Birinci aşamada; öğrencilerin araştırmanın kuramsal temellerini kazanmaları amaçlanmıştır. İkinci aşamada öğrencilerin bilimsel araştırma adımlarından olan; problemin belirlenmesi, verilerin toplanması ve verilerin analizi adımlarını kazanmaları amaçlanmıştır. Üçüncü aşamada ise öğrencilerin problemin çözülmesi, sonuca ulaşma ve raporlama adımlarını kazanması amaçlanmıştır. Öğrenme etkinlikleri ise "bireysel çalışmalar", "grup çalışmaları", "sınıf çalışması" olmak üzere üç bölümden oluşacak şekilde tasarlanmıştır. Sürecin sonunda öğrencilere; araştırma-inceleme, işbirliği, iletişim, eleştirel düşünme, problem çözme ve karar alma gibi becerilerin, sevgi, hoşgörü, empati, sorumluluk, yardımlaşma ve farklılıklara saygı gibi değerlerin kazandırılması hedeflenmektedir. Dersin sonunda öğrencilerin derse yönelik olumlu tutum geliştirmeleri de hedeflenen çıktılar arasındadır.

Yöntem

Araştırma, nitel araştırma desenlerinden eylem araştırması ile gerçekleştirilmiştir. Araştırmanın çalışma grubunun belirlenmesinde "amaçlı örnekleme" yöntemi kullanılmıştır.

Uygulama süreci üç eylem aşamasından meydana gelmiştir. Her eylem aşaması aynı zamanda araştırmanın üç aşamasına karşılık gelecek şekilde düzenlenmiştir. İlk hafta ders yapılmamış, bir hafta da pandemi nedeniyle ara verilmiş, bu nedenle süreç toplamda 16 hafta sürmüştür.

Verilerin toplanmasında; "Süreç Değerlendirme Formu" ve "Öğrenci Mektupları" kullanılmıştır. Araştırmacılar tarafından tarafından geliştirilmiş olan süreç değerlendirme formları uzman olan iki akademisyenden görüş alınarak formlarda gerekli düzenlemeler yapılmıştır. Dönem sonunda ise öğrencilerden süreçle ilgili duygu ve düşüncelerini belirttikleri birer mektup yazmaları istenmiştir. Çalışma grubunda yer alan 10 öğrenciden mektup alınmıştır.

Araştırmada birinci, ikinci ve üçüncü eylem aşaması sonunda çeşitli veriler toplanmıştır. Süreç değerlendirme formları birinci ve ikinci eylem aşaması sonunda, öğrenci mektupları ise süreç sonunda mail yoluyla toplanmıştır.

"Verileri düzenleme", "verileri özetleme" ve "ilişkilendirme/yorumlama" olmak üzere veri analiz süreci üç aşamada (Kılıç, Aydın, Ökmen & Şahin, 2019) gerçekleştirilmiştir. İlk olarak verilerin düzenlenmesi aşamasında tüm veriler gruplandırılmış ve veriler analiz edilmeye hazır hale getirilmiştir. Formlar doğrudan alıntılarda da kullanılmak üzere her bir katılımcıyı ifade edecek şekilde kodlanmıştır. Verilerin özetlenmesi aşamasında içerik analizi yöntemi kullanılmıştır. İçerik analizi; kalıpları, kategorileri veya anlamları tanımlamak için belirli bir materyalin ayrıntılı ve dikkatli biçimde incelenmesi anlamına gelir (Kılıç vd., 2019) Sınıflandırma aşamasında bu kodlar; kategoriler ve alt kategoriler altında toplanmıştır. Ortaya çıkan kategorilerin birbiriyle ilişkilendirilerek yorumlanması ise ilişkilendirme/yorumlama aşamasında yapılmıştır.

Bulgular

Bulgular; "Sürece Yönelik Olumsuz Görüşler" ve "Sürece Yönelik Olumlu Görüşler" olmak üzere iki başlık altında sunulmuştur. Birinci, ikinci ve üçüncü eylem planları süreçleri sonunda elde edilen olumlu ve olumsuz görüşlerin; "uzaktan öğretim" "grup çalışması", "sınıf

çalışması", "bireysel çalışmalar", "dersin tasarımı", "raporlama" ve "değerlendirme" olmak üzere toplam yedi kategori altında toplandığı görülmektedir.

Birinci eylem planı sürecinde öğrencilerin derste kendilerinden beklenenlerin net olmaması, kaynak bulmada zorlanma, hazırlık sürecinin yoğun ve yorucu olması, ortak zaman ayarlayamama, belirlenen sürede görevi yetiştirememe, grup çalışmasının yapılmaması gibi sorunlar yaşadıkları belirlenmiştir. Öğrenciler, derste teorik bilgilerin fazla olduğunu, tartışma ortamının olmadığını, etkileşimin az olduğunu, sunumların sıkıcı olduğunu düşünmektedirler. Her hafta rapor yazmanın fazla iş yükü olması, aynı çabayı göstermeyenlerin grupla aynı puanı alması, bağlantı sorunları, iletişim kopukluğu diğer yaşanan problemler olmuştur.

İkinci eylem planı sürecinde öğrencilerin süreçle ilgili eleştirilerinin büyük ölçüde değiştiği görülmüştür. Öğrenciler derste kendilerinden beklenenlerin net olmaması, birincil kaynakları okurken zorlanma, grupla buluşma saati ayarlamada zorlanma, bireysel dönüt alamama, bağlantı sorunları, iletişim kopukluğu gibi sorunlardan bahsettikleri belirlenmiştir.

Üçüncü eylem planı sürecinde öğrencilerin eleştirilerinin diğer eylem planlarındakine kıyasla oldukça azaldığı görülmüştür. Öğrencilerin; uygulamaların sınıf çalışması sonrası yapılması gerektiği, bireysel çalışma raporu göndermeye gerek olmadığı, sınıf çalışmalarında yorumların zayıf olması gibi eleştirilerinin olduğu belirlenmiştir.

Tartışma ve Sonuç

Araştırma sonuçlarına göre öğrencilerin nitel araştırma ile ilgili yeni bilgi ve kavramları öğrendikleri ve nitel araştırmaya karşı olumlu tutum kazandıkları; araştırmaya dayalı öğrenme modelinin öğrencilerde sabır ve saygı gibi insani değerler yanında işbirliği ve liderlik gibi sosyal becerileri, eleştirel düşünme, öz düzenleme, zamanı etkili kullanma ve sorumluluk gibi kişisel becerileri kazanmalarını sağladığı; araştırmaya dayalı öğrenme modelinin kullanıldığı derslerin keyifli ve verimli geçtiği, teori ve uygulamanın birlikte olmasının etkili öğrenmeyi ve kalıcılığı sağladığı şeklinde görüşleri olduğu belirlenmiştir.

Araştırma sonuçlarına göre öğrencilerin bilimsel araştırma becerilerini kazandıkları; araştırmaya dayalı öğrenme yönteminin öğrencilerin derse aktif katılımlarını arttırdığı; bu yöntemin etkileşimli bir sınıf ortamı oluşturduğu ve farklı bakış açılarını görmenin öğrenciler açısından verimli olduğu sonucuna ulaşılmıştır. Grup olarak çalışmanın, iş bölümü ile ortak görüşe ulaşmanın, paylaşarak ve tartışarak bilgilerini pekiştirmenin motive edici ve öğretici olduğu sonucuna ulaşılmıştır.

Portfolyo değerlendirmesinin, öğrencileri memnun ettiği, sürece aktif katılımını sağladığı, görevlerin düzenli takip edilmesi ve geri bildirim verilmesinin öğrenmeler üzerinde etkili olduğu görülmüştür. Değerlendirme sürecinde çabaya puan verilmesinin öğrencileri olumlu yönde etkilediği sonucuna ulaşılmıştır. Araştırma sonucunda uzaktan öğretim sürecinde bağlantı sorunları, iletişim kopukluğu, grup çalışmalarının etkili yürütülememesi gibi problemlerin yaşanabileceği görülmüştür. Eylem araştırmasının uygulamaya ilişkin problemleri büyük oranda çözdüğü, yapılan düzenlemelerin öğrencileri derse karşı motive ettiği sonucuna ulaşılmıştır.