



## Usage of the 5E Learning Cycle Model in the Social Studies Course

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### ABSTRACT

The Social Studies course is a course that presents the contents of the disciplines of social and human sciences in a holistic manner for the purpose of developing abilities concerning citizenship. With the decision of the National Board of Education under the Ministry of National Education, the curriculum of Social Studies course was developed according to the constructivist approach together with the curricula of the Turkish, Mathematics, Life Studies, Science and Technology courses between grades 1-5 of primary education and it is being implemented since the 2005-2006 academic year.

Recently, a paradigm refusing the objectivity of knowledge has emerged. This paradigm, which is called constructivist or constructionist, advocates that knowledge is interpreted and constructed by the individual. Learning is the process of knowledge being interpreted and constructed by the individual and this process is directed by previously formed forms of thought, experiences, observations, and interpretations of the individual. The nature of knowledge and learning has been the basis of constructivism. Constructivism is an approach that is related to knowledge and learning; not teaching. The most important feature of constructivist education is that it enables the learner to construct, interpret, form, and develop knowledge. The interaction of individuals is important. The learners do not accept knowledge as it is; they create or rediscover knowledge. In the construction process, the individual attempts to construct meaning in his/her mind regarding knowledge and attributes the constructed meaning to her/himself. Individuals form knowledge in a manner they construct in their minds and not in the form it is presented to them.

Within the framework of the constructivist approach, it is possible to employ various learning cycle models. One of these models is the 5E model. The 5E model was suggested by Biological Sciences Curriculum Study (BSCS) at the end of the 1980s. Each E in the 5E model symbolizes a stage in the model. This model consists of the following stages: Engagement, Exploration, Explanation, Elaboration, and Evaluation. This study covers the fundamental characteristics of the constructivist approach and the 5E model and attempts to share a sample activity unique to the Social Studies course.

**Keywords:** Constructivism, 5E learning cycle model, Social Studies activity.

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## Sosyal Bilgiler Dersinde 5E Öğrenme Döngüsü Modelinin Kullanımı

### ÖZ

Sosyal Bilgiler dersi, vatandaşlıklılı ilgili yeterlikleri geliřtirmek için sosyal ve beřeri bilimlerin disiplinlerinden içerięi bütünsel yaklařımla sunan bir derstir. Milli Eęitim Bakanlıęı, Talim ve Terbiye Kurulu'nun kararıyla ilköęretim okullarının 1-5. sınıfları için hazırlanan Türkçe, Matematik, Hayat Bilgisi, Fen ve Teknoloji derslerinin öğretim programlarıyla birlikte Sosyal Bilgiler dersi öğretim programı da yapılandırmacı yaklařım doęrultusunda geliřtirilerek 2005-2006 öğretim yılından bu yana uygulanmaktadır.

Son dönemlerde, bilginin nesnellilięini reddeden yeni bir paradigma yükseliřtedir. Yapılandırmacı ya da oluřturmacı olarak adlandırılan bu paradigma, bilginin birey tarafından yorumlanır ve oluřturulur olduęunu savunur. Öğrenme, bireyin bilgiyi yorumlama ve yapılandırma sürecidir ve bu süreç, bireyin önceden oluřturduęu düşünce biçimleri, deneyimleri, gözlem ve yorumları tarafından yönlendirilir. Bilginin doęası ve öğrenme, yapılandırmacılıęın temel dayanaęı olmuřtur. Yapılandırmacılık, öğretimle ilgili deęil, bilgi ve öğrenme ile ilgili bir yaklařımdır. Yapılandırmacı eęitimin en önemli özellięi, öğrenenin bilgiyi yapılandırmasına, oluřturmasına, yorumlamasına ve geliřtirmesine fırsat vermesidir. Öğrenenin etkin rol aldıęı yapılandırmacı öğrenmede sadece okumak ve dinlemek yerine tartıřma, fikirleri savunma, hipotez kurma, sorgulama ve fikirler paylařma gibi öğrenme sürecine etkin katılım yoluyla öğrenme gerçekteřtir. Bireylerin etkileřimi önemlidir. Öğrenenler, bilgiyi olduęu gibi kabul etmezler, bilgiyi yaratır ya da tekrar keřfederler. Yapılandırma sürecinde birey, zihninde bilgiyle ilgili anlam oluřturmaya ve oluřturduęu anlamı kendisine mal etmeye çalıřır. Bireyler öğrenmeyi kendilerine sunulan biçimiyle deęil, zihinlerinde yapılandırıdıkları biçimiyle oluřtururlar.

Yapılandırmacı yaklařım çerçevesinde çeřitli öğrenme döngüsü modelleri kullanılabilir. Bu modellerden biri de 5E modelidir. 5E modeli, 1980'lerin sonlarında Biological Sciences Curriculum Study (BSCS) tarafından ortaya konmuřtur. 5E modelindeki her bir E, modeldeki bir ařamayı sembolize etmektedir. Bu model řu ařamalardan oluřmaktadır: Dikkat çekme, keřfetme, açıklama, bilgiyi derinleřtirme ve deęerlendirme. Bu çalıřmada, yapılandırmacılık yaklařımı ve 5E modelinin temel özelliklerine yer verilerek Sosyal Bilgiler dersine özgü örnek bir etkinlięin paylařılması amaçlanmıřtır.

**Anahtar Sözcükler:** Yapılandırmacı yaklařım, 5E öğrenme döngüsü, Sosyal Bilgiler dersi.

## **INTRODUCTION**

It can be expressed that the source of many adverse events we experience and complain about in the society of today, is the failure of students to completely acquire the characteristics of being an effective citizen in the Social Studies course. In the curriculum of the Social Studies course, the vision of the Social Studies course taught in grades 4, 5, 6, and 7 of primary school was explained as training citizens of the Republic of Turkey that have adopted the modern principles of the 21<sup>st</sup> century, the principles and revolutions of Atatürk, comprehended Turkish history and culture, have internalized basic democratic values and respect human rights, are conscious towards the environment they live in, interpret knowledge according to their experiences and construct it within the social and cultural context, use and arrange them (that can think critically, is creative, can make correct decisions), have developed social participation skills, have acquired the scientific methods that social scientists utilize when producing scientific facts, are effective in social life, productive, and know their rights and responsibilities (MNE, 2013). According to the National Council for Social Studies, the social studies course is the integrated study of the social sciences and humanities to promote civic competence. The Social Studies course integrates disciplines such as anthropology, archeology, economics, geography, history, law, sociology, psychology, and political science and provides content fit for the level of children. The primary purpose of Social Studies is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world (NCSS, 2013).

With the decree of the National Board of Education under the Ministry of National Education dated 12.07.2004, together with the Turkish, Mathematics, Life Studies, Science and Technology course curriculum of grades 1-5 of primary education, the Social Studies curriculum was also developed in line with the constructivist approach and it is being implemented since the 2005-2006 academic year (MNE, 2005). The constructivist approach fundamentally emphasizes the role of preliminary information in learning, the importance of the multiple forms of knowledge, and the social nature of learning (Leinhardt, 1992). The purpose in this approach is providing the learner an opportunity to direct learning in accordance with their requests with tools and learning materials. The learner is a person that conducts research with others and forms sense for their experiences and this person utilizes/implements knowledge in environments that individually make sense. Instead of being the passive recipient of knowledge, they construct knowledge (Brooks & Brooks, 1993). In constructivist classes, students form a bond between new knowledge and previous learning and assume an active role in the construction of knowledge and the basic duty of teachers is to ensure that students think on various conceptualizations and assist them in making better sense of the world (Carr et al., 1994).

When the new primary school curriculum is observed with the perspective of the constructivist approach, the following features are striking:

- The teacher is assigned the duty of being the “environment organizer”, “mentor”, and “facilitator” rather than the “trainer”. The fundamental role of the teacher is to organize the teaching-learning environment and guide the students regarding the activities. In addition to guidance, the teacher has been assigned the roles of ensuring cooperation, assisting, facilitating, self developing, planning, directing, taking individual differences into consideration, and ensuring health and safety (Education Reform Initiative, 2005).
- Knowledge, skills, and competencies are acquired through activities, in which the student is active. It is reported that by reducing the burden of information, curricula have been made suitable for the cognitive and affective characteristics of the student.
- In the curricula implemented since 2005, it is stated that the variety of teaching methods have been increased, and process evaluation is also included together with product evaluation in assessment and evaluation (MNE, 2005).

### **The 5E Model in the Constructivist Approach**

When the constructivist approach is being implemented, various models including the learning cycle can be utilized. The learning cycle is a relatively flexible model for learning and it is consistent with the means of humans naturally constructing knowledge. Thus, every teacher that considers performing effective teaching has undoubtedly discovered the perspective of the learning cycle. In a book published by Kurplus and Thier (1967), they have mentioned of a three phase learning cycle (Lawson et al., 1989). Afterwards, models such as 5E and 7E have been developed. The 5E model, for which an application model shall be provided here, was suggested by the Biological Sciences Curriculum Study (BSCS) towards the end of the 1980s. Each E in the 5E model symbolizes a stage in the model. This model consists of the following stages: engagement, exploration, explanation, elaboration, and evaluation (Bybee et al., 2006). The 5E model forms a framework for the teacher. The stages of this model and characteristics pertaining to each stage are as follows:

**Table 1.** Stages and characteristics of the 5E model

| <b>Stage</b> | <b>Characteristics</b>  |
|--------------|---|
| Engagement   | In this stage, the teacher should use short activities that would arouse the curiosity of students regarding the subject and reveal their preliminary knowledge; it should reach out to their preliminary knowledge and assist them in being interested in a new concept. The activity in this stage should enable students to establish a bond between their past and present, revealing their preliminary knowledge on the subject, and organizing of their thoughts. |
| Exploration  | In the exploration stage students are enabled to identify their experiences, concepts, misconceptions, operations, and skills. Having students undergo conceptual changes is facilitated. In this stage, students can produce new ideas by utilizing their previous knowledge. For instance, they can form questions and discover the probabilities and design a basic level research and implement it.   |
| Explanation  | In this stage, the teacher may make explanations on a concept, process or skill and students explain what they have understood with regards to the concept. It is necessary that explanations made here direct students to a deeper understanding. Furthermore, in this stage students are provided the opportunity to demonstrate their conceptual understandings, skills or behavior development processes.   |
| Elaboration  | The teacher focuses on the conceptual understanding and skills of students and attempts to elaborate them. With new experiences students develop a deeper and more extensive understanding, more knowledge, and adequate skills. With additionally conducted activities, students undertake practices for concept understanding.  |
| Evaluation   | In the evaluation stage, students are directed to evaluation on their comprehension and skills. In this stage, the teacher is provided opportunities to evaluate student development.   |

(Bybee et al., 2006; Boddy, Watson & Aubusson, 2003).

### **5E Model Activity Sample**

A sample activity for the Social Studies course conforming to the 5E learning cycle has been presented below.

|                                    |   |
|------------------------------------|---|
| <b>Course</b>                      | : Social Studies  |
| <b>Grade</b>                       | : 4   |
| <b>Learning Domain</b>             | : Production, Distribution, and Consumption   |
| <b>Unit</b>                        | : From Production to Consumption  |
| <b>Attainment</b>                  | : Exercises his/her rights as a conscious consumer.   |
| <b>Keyword(s)</b>                  | : Economics, conscious consumer, consumer rights  |
| <b>Methods and Techniques Used</b> | : Small group discussion, question-answer, lecture, case study  |
| <b>Period</b>                      | : 40' + 40'   |
| <b>Pre-lesson preparation</b>      | : Students are separated into groups of 4-5 (the number of groups and the number of persons in a group can be arranged according to the number of students in the class).<br>Prior to this activity, the student groups are requested to investigate consumer rights. |

### **Engagement and motivation:**

The lesson is commenced by sharing a newspaper article with students concerning the subject.

#### **A Thousand Liras for the Strand of Hair in the Chocolate**

*The consumer, who encountered a strand of hair in the chocolate s/he purchased, filed a lawsuit and won one thousand liras.*

A mother and father in Gölcük had official determinations performed upon a strand of hair coming out of the chocolate eaten by their children. They filed a lawsuit of 100 thousand liras against the manufacturing company for psychological damages on the grounds that their children had been harmed psychologically.

The defendant, chocolate company, argued that whether or not the chocolate alleged to have a strand of hair in it belonged to the company needed to be determined; the incident did not require a payment, and the claimant party acted with ill intentions and attempted to benefit from the brand value of the company and requested that the case is dismissed.

The court ruled a payment of one thousand liras to the family. (Sabah, 07.01.2013).

The student is asked the following questions with regards to the newspaper article:

- What was the problem experienced in the article titled “A Thousand Liras for the Strand of Hair in the Chocolate”?
- What was done to solve the problem experienced in the article titled “A Thousand Liras for the Strand of Hair in the Chocolate”? What else do you believe could have been done to solve this problem?
- Share if you or someone close to you has experienced a similar incident.

At the end of this lesson you will learn what to do and what your rights are in case you or someone close to you encounters an incident similar to the one in this article.

### **Checking Preliminary Knowledge:**

Prior to shopping with your family or relatives at the supermarket or market, what are the things you do concerning shopping?

What do you pay attention to when shopping with your family or relatives?

### **Exploration:**

A sample case is given to each group formed prior to the lesson so they can work on it (The number of sample cases can be increased). By also benefitting from their investigation, the groups are requested to read the concerned sample cases, determine the problem, and express what they can do to solve the problem in writing.

1) Ayşe and her family came home after shopping at the supermarket and started emptying the bags. While taking out the things they purchased from the bags, Ayşe notices that the milk carton is squashed and its lid is slightly open. What do you think Ayşe and her family should do?

2) Mehmet and his mother go shopping to buy shoes for Mehmet. Mehmet tries on various shoes at a shoe store and among them selects one with his mother. Mehmet starts using his shoes; however, Mehmet's new shoes are discomforting his feet and Mehmet is unable to use his shoes. What do you think Mehmet and his mother should do?

3) Neşe and her family purchased a new dishwasher for their home. However, the dishwasher broke down 4 times in a year. Neşe and her family are complaining of the frequent breakdown of the dishwasher, what do you think they can do?

4) The computer used by Serdar and his family at home has malfunctioned. Serdar's father took it to the authorized computer service provider so it can be repaired, however despite one month passing, they have been unable to receive the computer from the service provider. What do you think Serdar's father should do?

### **Explanation:**

Answers are received from the student groups and other groups are requested to tell their ideas on the answer of each group. According to the responses obtained from students, the teacher can explain the correct answer for each case. The correct answers are as follows:

**For the 1<sup>st</sup> Sample Case:** If you understand that there is a defect or problem with a product you have purchased, within 30 days you can return this item to the seller and demand a refund or replacement with another product with the same quality.

**For the 2<sup>nd</sup> Sample Case:** If you understand that there is a defect or problem with a product you have purchased, within 30 days you can return this item to the seller and demand a refund or replacement with another product with the same quality or its repair free of charge.

**For the 3<sup>rd</sup> Sample Case:** If the same malfunction occurs more than twice and different malfunctions occur more than four times within the warranty period, you are entitled to have the product replaced with another product with the same quality or request a refund.

**For the 4<sup>th</sup> Sample Case:** Companies are obliged to establish an adequate amount of service stations and have technicians available for the maintenance of the products they sell. The period of a product staying at the service provider cannot exceed 20 days due to any reason. In such a case you are entitled to have the product replaced with another product with the same quality or request a refund.

The teacher can also make an explanation on the subject with the short information text below.

1

1



2

### NO MORE “NO REFUNDS FOR SOLD PRODUCTS!”

When we go shopping, we should determine our needs correctly. We should prepare a shopping list and shop according to the order of priority. Check the product you are going to purchase during shopping. You can check the product you are going to purchase visually, with your hands or by smelling it. Ask for a receipt or invoice every time you shop. For products covered by warranty such as electrical and electronic appliances and furniture, ask for the warranty certificate, Turkish promotion and operation manual. Make sure that the product you shall purchase has a tag. It is compulsory for a product to have a tag on it. The tags should have information on the product’s type, quality, and price. If there is a problem with a purchased product, despite taking care regarding all these, do not forget that no seller has the right to say “sold products cannot be returned” (*Ministry of Industry and Trade, 2011*).

3



4



### Where should you file complaints as a consumer?

1. Consumer Problems Arbitration Committee,
2. Consumer Courts,
3. Ministry of Industry and Trade, General Directorate on the Protection of Consumers and Competition,
4. Presidency of the Advertising Board,
4. Directorates of Industry and Trade located in Governorships,
- 5.175 Consumer Hotline,
6. Consumer Data System ([www.tuketici.gov.tr](http://www.tuketici.gov.tr)),
7. Nongovernmental organizations, associations and foundations such as the **Association for Protecting the Consumer, Consumer Rights Association** operating for the protection of consumer rights (*Ministry of Industry and Trade, 2011*).

1 downloaded from [www.trtex.com](http://www.trtex.com)

2 downloaded from [www.oaib.org.tr](http://www.oaib.org.tr)

3 downloaded from [www.haberler.com](http://www.haberler.com)

4 downloaded from [www.mobridge.org](http://www.mobridge.org)



### **Elaboration:**

Students are individually requested to write a sample case different from the samples discussed in class and related to conscious consumer behaviors and rights that may be experienced while shopping. In addition to this activity, students may be requested to keep a journal containing what they have done for a week in order to actualize conscious consumer behaviors or to mark these behaviors on a previously prepared form.

A grading key can be developed in order to evaluate the sample cases formed by the students. This grading key can have criteria such as “*the presence of a problem in the sample case resulting from the failure to practice conscious consumer behaviors*”, “*seeking a solution for the problem by exercising conscious consumer rights*”.

### **Evaluation**

Apart from evaluating sample cases formed by the students, questions such as the following can be utilized for evaluation purposes:

1) Mark the boxes at the beginning of the sentences as “*T*” (true) or “*F*” (false).

- We should purchase products with expiry dates that have passed.*
- We should prefer products sold openly to those ones sold in packaging.*
- We should apply to the Association on the Protection of Consumer Rights to seek our rights.*
- We have the right to replace defective and broken products.*
- We should get receipts or invoices after shopping.*

2) Semra’s mother sends her to the corner shop in front of their house to buy cheese. Semra buys the cheese and comes home. Her mother notices that the expiration date on the cheese box has passed and when the box lid is opened, the cheese is spoiled.

- a. What kind of mistake did Semra do?
- b. How can Semra solve this problem?

## **CONCLUSION AND RECOMMENDATIONS**

Even though the 5E learning cycle model starts off with the engagement stage, it should not be forgotten that under this stage there should be motivation and preliminary knowledge checking activities as a whole or in the form of separate activities. In the preliminary knowledge checking activity, previously acquired knowledge, experience, skills, and other characteristics of the student related to the attainment or subject that will be newly learnt and that may constitute a basis should be discussed. In this stage, if there are any mistakes or deficiencies in the preliminary knowledge and/or misconceptions that will form a basis for the new information, these should be revealed. In the explorations stage, care should be taken so that there

are activities ensuring the student to use previous knowledge concerning the attainment or subject and access the new knowledge and construct this knowledge.

In the explanation stage of the 5E model, it should be ensured that students present and explain the new knowledge they constructed in the exploration stage. The teacher should also complete the explanations of the students and correct their mistakes, if any, and make additional explanations regarding the issue. Here, it is possible to make an explanation on the information the teacher deems to be important regarding the subject in the textbook or it is also possible to make explanations out of the textbook on the subject fit for the student level. In the stage of elaboration, care should be taken to perform applications different from the activities performed by the student in previous stages. In this stage, it is necessary to ensure the practice and utilization of what is learnt in new conditions. In the evaluation stage, critical points observed by the teacher in the process and/or activity concerned with the activity can be evaluated. Furthermore, students can be enabled to evaluate themselves, their peers, and teachers.

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