THE USE OF 5E MODEL IN SECONDARY GEOGRAPHY EDUCATION: A CASE STUDY ON POPULATION POLICIES

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Abstract
5E model is a model which is compatible with constructive learning approach based on John Dewey and Jean Piaget. This model enhances the curiosity of research of students includes active research skills and activities which are necessary for information and understanding by satisfying the students expectations. 5E model gets its name from the numbers of its levels and the capital letters of each of these sequences (Demirbaş, 2011). The levels are:

- Engage-Enter
- Explore
- Explain
- Elaborate
- Evaluate

5E Model not only implicates students into activity at every stage in consideration of the information given them but also encourages them to create their own concepts (Martin, 2000).

Keywords: 5E model, constructive learning, geography lessons, population policy.

1. INTRODUCTION
Today, all over the world, in geography lessons, it is targeted to have students gain the qualifications such as creativity, team-work, cooperation, sense of mission, respecting disaccord, criticism, time management and introducing an idea which are necessary in today’s world (Tuna, 2013). Today, modern teaching programs are fictionalised on how students get information and how they use these information. Within this context, constructive education concept become prominent in curriculums (Açıkgöz, 2007; Erkan, 2004; Gürol, 2005; Prince, 2004; Tuna & İncekara, 2010). Therefore, Secondary Geography Education Program was prepared building upon the constructive approach and active learning in Turkey in 2005.

It is emphasised the importance and necessity of using active learning in geography education in various studies in the field of geography (Tuna, 2013). However these studies are insufficient when it is considered in recognition of contributions to the teachers who are definitely unique in education system. Hence, it is really important to bring various examples which are applicable in respect to various models, methodology and techniques based on constructive perpectivity.

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5E Model not only implicates students into activity at every stage in consideration of the information given them but also encourages them to create their own concepts (Martin, 2000).
5E Model is a linear process providing to learn a new concept or ensuring to understand the foreknown information getting intensified. Students should use their previous information when they discover the new concept to interpretate the concepts they learn (Ergin et al. 2007).

The aim of this study is to prepare a sample of course regarding the use of 5E taking place among the constructive active learning approaches and bring it into use of geography teachers. By this way, it is aimed to have teachers’ sights set on analysing the event prepared with reference to 5E model and get them to improve similar activities.

The questions need to be answered in the study are as:
- In what manner is 5E model used in geography education?
- What are the stages of a course activity prepared in terms of 5E Model?
- What are to be done in this stages and what kind of activities should the stages include?

2. METHOD

From the qualitative research methods, research method was used in this study. For that purpose, application principles of 5E model taking place among the active learning methodologies generated as constructive learning approach. 2 hours of lesson plan was prepared on the subject of ‘Population Policy’ partaking among the subjects of 11th class geography lessons in Turkey. Generated result was presented as a lesson scenario.

3. FINDINGS

Subject matter ‘Population Policy’ chosen as example is taught in 11th class curriculum. Related subject takes place in learning domain of ‘Human Systems’ of ‘Geography Education Program’ which regulates secondary geography education in Turkey and in this acquisition, it is targeted that the students are able to make comparation between ‘Population Policies Different Historical Periods of Countries and the results (MEB, 2011). Related information is given below (Table 1).

<table>
<thead>
<tr>
<th>5E Model, as aforementioned, consists of five stages; engage, explore, explain, elaborate and evaluate. The activities about Population Policy are as below;</th>
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<tr>
<td><strong>3.1. Engage – Enter</strong></td>
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<td>During these experience students is not given any information about the subject. Students should become mentally engaged in the concept and make a sensation on him/her. For this purpose it is possible to start lesson with the questions below;</td>
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<tr>
<td>- Do you know the population of the place you live in?</td>
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<tr>
<td>- What do you think about population in which you live? Is it crowded or few</td>
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<tr>
<td>- What kind of advantages or disadvantage we have faced with our lives depending upon this population?</td>
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<tr>
<td>- Are there any crowded cities in Turkey? What sort of problems are there? Do you have any experience about it?</td>
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</table>

### Table 1. Explanations taking place in geography education program about population policy.

<table>
<thead>
<tr>
<th>Acquirements</th>
<th>Activity Examples</th>
<th>Explanations</th>
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| B.11.1. Compares population policies different historical periods of countries and the results. | Positive and negative sides of population policy of countries specified according to their population policy compared from the point of change and sustainability. | Observational adequacy; diagram, table, setting graphic and interpretation skill, skill of understanding change and sustainability are the skills which are organized with acquirement.
What kind of problems would there be if our country didn’t have enough population?

By using various visuals supporting the questions, students are allowed to rise attention and their current knowledge are tested and the teacher are able to provide missing information. At the same time It is possible to determine the incomprehensibility if the students have and to ascertain the case. At this stage there are question marks related with the amount of population that the students envisage and this will attract students’ attention

3.2. Explore

The purpose for this stage is to get students involved in the topic; providing them with a chance to build their own understanding. The students have the opportunity to get directly involved with phenomena and materials. As they work together in teams, students build a set of common experiences which prompts sharing and communicating. Explore is the stage that students have the most activities among the stages. For this purpose, it is possible to build the degrees below related to our subject “Population Policy”:

- Students should divide into groups of 3, 4 or 5 persons and each group can choose a topic at own request. Students are asked to obtain various results about their topics and it is informed that the results will be shared with classroom at the end of the session.

- The topics of groups can be like below depending on the numbers of groups:
  a. Group 1: What social and economic problems do the countries have whose young population rate is increasing fast?
  b. Group 2: What social and economic problems do the countries have whose young population rate is decreasing fast?
  c. Group 3: Is it sensible to limit or prohibit the population growth with laws in a country?
  d. Group 4: Is it sensible to encourage or force the population growth with laws in a country?
  e. Group 5: What kind of relationship is there between the population rate of a country by age group and the level of development?
  f. Group 6: Dramatize one or more possible problems of a country whose young population rate increases fast.
  g. Group 7: Dramatize one or more possible problems of a country whose young population rate decreases fast.
  h. Group 8: Figure one or more possible problems of a country whose young population rate increases fast.
  i. Group 9: Dramatize one or more possible problems of a country whose young population rate decreases fast.

3.3. Explanation

This stage is shortest stage among 5E stages that students share their results obtained from Explore stage. Teacher should act as a facilitator and make explanation and complete the lack of students if it is necessary. So, one representative of each group should share the results one by one with classroom.

In previous stage:
- Groups searching answers should present their result verbally.
- Groups preparing drama should enact them.
- Groups figuring should show them to classroom.

Moreover, teacher should give information about the concept of "Population Policy" after the activities and a couple of examples should be given from all over the world. Consequently students are allowed to understand what "Population Policy" is.

3.4. Extend

At this stage students use their new knowledge and continue to explore its implications. At this stage students expand on
the concepts they have learned, make connections to other related concepts, and students are given a new activity and asked them to use what they have learned so far.

For this reason, it is possible to provide a discussion atmosphere in the classroom concerning “Population Policy”. There are to be two group consisting of 4 or 5 persons at each answering below questions as “Yes” or “No”. Rest of the classroom act as audience.

So: “Is it true to practice Population Policy in order to increase or decrease population in terms of human rights and government policy?”

By asking this question, there should be groups. At the end of the discussion both teacher and the audience summarize the subject.

3.5. Evaluation

The purpose for the evaluation stage is for both students and teachers to determine how much learning and understanding has taken place and what are the missings.

Teacher should carry out the final evaluation and check what students have learned in at next stage.

It is possible for teacher to hand out worksheets including below questions by emphasising that they are not given any marks so teacher can easily take feedback. The questions are like:

- What kind of problem can fast population growth cause in a country?
- What kind of problem can decrease in population cause in a country?
- What is Population Policy and in what purpose is it performed?
- What are the advantages and disadvantages of practising Population Policy?

After evaluation of worksheets by teacher, activity is finished by completing the missing information and making everything clear.

4. CONCLUSION AND RECOMMENDATIONS

The major purpose of this research was to present a detailed lesson example with all stages based on 5E model in concordance with constructivist learning concept which is widely accepted in developed countries today. Consisting of five stages; engage, explore, explain, elaborate and evaluate, in this model “Population Policy” subject is not directly given to students by teacher and students are encouraged to structure the subject gradually.

Students are prevented to memorize the subject with this model. It is aimed that students take active part in various activities such as brainstorming, question and answer, drama, painting, cooperative learning, teamwork, presentation skills, discussion. By this way, students will not understand Population Policy directly as a description or explanation, they are able to understand by living and experiencing the reasons of Population Policy practice, reasons of why countries have to do so, possible results of Population Policy. This situation provides students to learn the subject more permanent by practicing high level learning skills during the activity.

It is possible to say that 5E model is a value-added model with its easy use in geography lesson when analysing potential benefits discussed in this study. It is likely for geography teachers to prepare different subject activities similar to the example given in this study about the subject (Population Policy) which is thought as a subject in secondary geography education. By this way, interest and motivation of students are enhanced and the acquisition targeted with constructive education perception is achieved.

5. REFERENCES