

PHANTOM SUBMARINE

A SIMULATED LEARNING SITUATION

Richard A. Schusler
Richard B. Cohen
University of Kansas 1974

RATIONALE: Social Studies should be a favorite subject for teacher and student; this is the subject matter which covers the areas that have the greatest effect on our lives. Social Studies deals with ideas about people and their problems both in the past and the present. It is the area of study which should give the most opportunity for looking at the world and its problems in new and creative ways. However, too often social studies lessons become bogged down in the accumulation of descriptive facts which are quickly forgotten. Hilda Taba believes, "In order to learn to think, the student must do the thinking instead of absorbing the products of thought processes performed either by the book or by the teacher."¹

What makes up thinking and in what kind of situations do students "learn to think"? Hilda Taba identifies three cognitive tasks involved in the thinking process: (1) Concept formation, (2) Interpretation of data, and (3) Application. The Phantom Submarine game is a simulated learning situation which develops all three of the cognitive tasks defined by Taba. The first of these tasks is concept formation. This involves organizing information into a system of classes or groups.² Phantom Submarine game develops this area by having the students make their own maps of the floor

¹Taba, Hilda, Effective Thinking in the Social Studies, Dept. of National Education Association, 1967, p. 43.

2. Ibid., p. 33.

of the Atlantic Ocean. The map making process involves working with concrete facts and it requires that the students label and identify items according to common properties. For example, there is only one symbol which represents mountains and all mountains in the game are labeled in this way. This symbol differs from the one used to represent the gulf stream or water depths, it only stands for those things which possess certain common properties that can be labeled as mountains.

The second cognitive task described by Taba is the interpretation of data. To do this the student must relate various kinds of information given on his map and determine cause and effect relationships.³ For example, while playing Phantom Submarine he must look for cause and effect relationships between the gulf stream and his problem with the submarine. The gulf stream passes over the mid-Atlantic Ridge at two points. What possible effect might this have on the submarine which is floating in its current?

The final step in these cognitive tasks is for the student to be able to apply what he knows, facts and generalizations, to problem solving. In the game this task is developed in the role playing portion where the students are given a role card which loosely defines the type of person he will role play, (age, occupation, and reason for being involved in the problem situation). The students, each playing a role, work in their group with four or five others to solve a problem concerning the submarine. They must use their knowledge of the map and the generalizations they have formed in the previous steps of the game to reach a decision upon which all members of the group can agree.

DESCRIPTION OF THE SIMULATED EVENT

Phantom Submarine concerns a German submarine which was believed to have been sunk off the coast of Florida in World War II. However, recent

³Ibid., p. 37.

information has led to the discovery that it was not sunk but has remained afloat in the gulf stream 200 feet beneath the surface. Students who take part in the simulation are asked first to learn the physical characteristics of the Atlantic Ocean floor and then to apply these learnings to a problem which is presented by the submarine. All students participate in the learning and problem solving by contributing different information concerning the gulf stream and floor of the Atlantic Ocean. Each child is assigned a role to play. The members of each simulation group decide, by consensus, what to do about the problem presented by the submarine.

MATERIALS AND STEPS IN IMPLEMENTING THE SIMULATION

The simulation is implemented by dividing the class into groups of five persons each. A sociogram can be used to decide the best balance for each group. The groups represent people who have been called to a meeting because of their knowledge and interest in the Phantom submarine. Each member of the group will have a data card telling some physical characteristic of the floor of the Atlantic Ocean. Each member will also have a role card telling him what person he is to represent at the meeting and a worksheet on which he records the data about the ocean floor in the form of physical characteristics. (see Appendix for these materials)

The simulation begins by the group compiling factual knowledge about the floor of the ocean and its currents. This is accomplished by a member of the group showing and reading his card to the rest of the group (cards of this type represent ocean depth, route of gulf stream, mid-Atlantic Ridge). As each member reads his card, the other members record this data on their outline maps on their worksheets. A crayola is used to duplicate the same colors presented on the data cards. All members of the group now have the same information.

The second part of the simulation involves the group deciding what to do with the submarine basing their decision the information they have on