

# 上海师范大学 2002 年硕士研究生入学考试试题

专业 教育技术学

考试科目 《教学设计》 (528)

一、解释下列名词：(20 分，每题 4 分)

- (1) 教学设计：
- (2) 模式：
- (3) 教学设计的肯普模式：
- (4) 作品集：
- (5) 态度：

二、论述布卢姆教学目标分类学认知学习领域目标分类及其对教学设计的意义。(20 分)

三、分析杜威学派的“设计教学法”及其对今天教学改革的意义。(20 分)

四、阅读下面的国外教案，分析和评价该教案的特点，参考该教案，设计一个自己的教案。(40 分)

国外教案实例：

**Unit Plan Title:**

PONDAMANIA Students Exploring Pond Viability

**Curriculum-Framing Questions:**

Essential Question: Why is water important?

Unit Questions:

1. Can we construct a pond that will function as a naturally occurring pond?
2. How does the water quality of a naturally occurring pond compare to the ponds of the world?
3. Is the water quality of Sewall Pond adequate enough to support a healthy environment of aquatic organisms and recreational activities, such as swimming, fishing, and drinking water?

**Unit Summary:**

This interdisciplinary unit combines mathematics, science, and language arts

skills to solve problems that involve the investigation of water quality in a town of Boylston pond and a student made pond.

The students will perform scientific tests on both ponds and produce lab reports. They will collect and enter data on the Internet database for the Global Water Project and submit a project based on their interpretations of the data. In addition, they will create charts and graphs. Students will create newsletters and post pictures and texts from their pond studies to the school Web site. Students will create and present presentations to the class. As an enrichment extension, some students will present a special PowerPoint presentation to the Town Administrator highlighting their water quality conclusions with recommendations for Sewall Pond. They will also E-mail the results of their findings with the appropriate attachments to the Town Administrator of Boylston and will maintain a database of findings to keep a record of changes to Sewall Pond over time. All students will be creating a portfolio to show the progress of their work. Ultimately the students will answer the questions presented and developed during the project by giving concrete proof to support their conclusions.

### **Student Objectives/Learning Outcomes:**

Students performs several tests on a natural pond and on a constructed pond in order to:

- Evaluate the physical, chemical and biological status of the water
- Compare data from the two environments and make conclusions based on these comparisons
- Identify macro and microorganisms in the water in both pond environments
- Evaluate usage criteria: aquatic life, swimming, boating, fishing, agricultural usage on Sewall Pond

Lesson Outcomes Include:

- Use the Scientific Method to solve the problem presented
  - Use scientific equipment such as microscopes and slides
  - Demonstrate mathematical ability to assess reasonableness of results, use estimation techniques, select appropriate measurement tools
  - Use spreadsheet to organize and analyze data and to create charts and graphs that represent data relationships
  - Prepare scale drawings
  - Determine perimeter, area and volume using the metric system to solve problems
  - Explore patterns and relationships between data, represent this data in multiple formats
- Make conclusions supported with sound mathematical scientific reasoning

**Procedures:**

**SEWALL POND:** Students will be performing a variety of tests at this site. The tests for this unit include: temperature, pH, Dissolved Oxygen, Nitrates, Turbidity, Plant Life, Animal Life (micro and macro organisms). The procedures for the Water Quality Tests can be found in any water testing manual. This unit used the Water Quality Tests Manual produced by the Massachusetts Water Resources Authority (MWRA).

**"ACE" POND:** After construction students will perform the same tests performed at Sewall Pond.

**Construction**

1. Individual or small groups will design a scale model of the created pond.
2. A design will be selected and the "building" begins. Based on your design, construction will vary. We will be using a children's swimming pool but any garden supply center has pond set up instructions.

**Testing:** will occur in both sites once every 3 weeks

**Testing Months:** Fall-September, October, November, Spring-Late March, April, May

**Kingdom Studies:** Students will be using both sites throughout the school year to identify organisms from the Moneran, Protista, Fungi, Plant, and Animal Kingdoms.

**Mathematics classes:**

**Spreadsheets and Graphs:** Students will be taught Excel basics.

**Pond Design:** Students will work with scale drawings. Will also have an opportunity to observe a CAD class.

**Surveys:** Will use Data Explorer software.

**Charts and Graphs:** Study the use of graphs as communication. What type of graph to use for best results.

**Journal:** Students will use journals to explain the meaning of articles, graphs and to answer questions.

**Measurement:** Perimeter, Area and Volume will be taught in the curriculum.

**Technology Skills:**

The technology skills necessary to complete the project will be taught within various classes with the assistance of the media specialist.

**Microsoft Excel:** Taught in math classes

**Internet:** All classes with assistance from Media Specialist

**Microsoft PowerPoint:** Language Arts and Media Specialist

**Microsoft Publisher:** Language Arts and Media Specialist

**Web site Construction:** Math, Science and Language Arts classes

**CD:** Taught in Math, Science, and Library

**Electronic Media:** Taught in Library

### **Approximate Time Needed:**

This project will continue throughout the school year. Water testing will be in the Fall and the Spring but other aspects such as research and microscope work will continue throughout. The mathematics and Language Arts lessons will correspond throughout the year as necessary to support the project.

### **Prerequisite Skills:**

1. Basic Mathematics, Science and Language Arts Skills
2. Lab Safety Skills
3. Some Computer Literacy such as keyboarding, Word Processing and Internet inquiry

### **Accommodations for Differentiated Instruction:**

Resource Student:

1. Alpha Smart for all journal writing, lab reports, and question sheets
2. E-reader for Encarta and other research material when available
3. Modified Lab reports and procedures
4. Modified Quizzes and Tests

Peer support and small group support during unit

Gifted Student:

1. PowerPoint presentation on the level of usage of Sewall Pond using the criteria of aquatic life, fishing, swimming, boating, recreational and agricultural use and comparing this to the U.S government survey on Lakes, Ponds, and Streams.
2. Create and maintain database information to be updated yearly and made available to the town administrator.

E-mail final report to Town Administrator on Sewall Pond.

### **Student Assessment:**

1. Homework
2. Written quizzes and tests (see generic math rubric)
3. Oral responses
4. Language Arts Journal
5. Mathematics Journal
6. Science Lab Reports (see generic rubric)
7. Question Sheets (see Global Water Project Questions)
8. Report for Global Water Online Project
9. Vocabulary
10. Computer competence in PowerPoint (see rubric), Excel, Publisher, Web page production, general use of Internet, CD materials and disks to a level of competence that allows them to satisfactorily complete their work.
11. Use E-mail if applicable.