Direct Instruction Lesson Plan (Madeleine Hunter) Elements of Effective Instruction (EEI)

This body of knowledge for designing and delivering information is most often associated with Dr. Madeline Hunter from UCLA. Elements of Effective Instruction (EEI) gained notoriety and widespread use during the late 70’s and throughout the 80’s. Dr. Hunter noted five essential elements requisite for effective instruction.

Anticipatory Set

The learner through review, tapping prior knowledge or experience, or prompted by a stimulating question or idea is prepared for the lesson.

**Objective and Purpose**

Students will be able to identify the parts of a microscope, show proper use of a microscope, and show understanding of magnification and resolution.

Input

The learner receives, through lecture, reading, video, research, etc. the information necessary to accomplish the objective.

Guided Practice

Under the tutelage of the teacher, the learner practices the objective as modeled during the input stage.

Independent Practice

On his own, the learner reinforces the objective through practice.

These five elements are the hallmarks of any objective-based lesson and can be delivered in the order deemed most appropriate by the teacher.

**Guided Inquiry Lesson Plan— Paper Airplanes**

**Stages of a Guided Inquiry Lesson Plan**

The following are stages typically found in a guided inquiry lesson.

**PHASE ONE: Encounter With the Problem**

Students will design and create a paper airplane that will stay in the air the longest possible time.

The teacher will discuss the aspects of flight, lift, drag, thrust and gravity.

**PHASE TWO: Data Gathering—Verification**

Students will do internet research on paper airplane design. They will decide which design they wish to use. Student will then construct the airplane using two different paper types. They will need to follow their desin plan,.

**PHASE THREE: Data Gathering—Experimentation**

Students will test their designs, making any small adjustments they needs to make. Students will select what they feel is their best design for the competion.

**PHASE FOUR: Formulating an Explanation**

Students will give a written explaination of why they chose the design they did. The explanation will need to have a data table of flight times and a graph.

**PHASE FIVE: Analysis of the Inquiry Process**

After the class flies their planes, the students will compare their results with that of the other class memebers. They will then see if there are any design alterantions they can do to their design, based on the other planes.

**The Teacher Role in a Guided Inquiry Lesson**

During eaxch phase the teacher will monitor progress, When students ask questions, the instructor will help guide them to find the answer, but not give it to them.

**Elements of a Guided Inquiry Lesson Plan**

The following are elements typically found in a guided inquiry lesson.

**Standards**:

**Objective/Goal of Activity**:

* Students will design and create a paper airplane that will stay in the air the longest possible time.

**Materials**:

Paper

Internet access

**Procedure**:

Day 1 - Assign students to groups

 Discuss the assignments

 Reasearch paper airplane designs

Day 2

 Students will choose a design and paper type. They will need to construct two airplanes of the same design, but of different paper types. Day 2 is dedicated to building and testing designs.

 Students will construct their final planes, and prepare for flight. Each group will have 3 flights and record the time aloft. They will then average the total time that their plane flew.

Day 3

 Students will present data on their planes to the class. Discussing why they chose this design, the paper types and the average times of each flight.

**Time Allotment**:

Phase 1 and 2 1 class period

Pahse 3 and 4 1 class period

Phase 5 1 class period

**Closure**:

Questions

What two papers did you use?

What was your average time aloft, for each paper?

Draw your wing design below.

What is your wing span?

What is the length of your plane?

Did the length vs wing span affect your planes flight?

If you could do this activity again, what changes would you make to your plane design?

**Free Discovery Lesson Plan—“The Salt Mine”**

**Elements of a Free Discovery Lesson Plan**

The following are elements typically found in a free discovery lesson.

**Standards**:

**Objective/Goal of Activity**:

* Students will find a method of separating two solids substances that make up a mixture.

**Materials**:

* Magnets
* Iron filings
* Salt
* Beaker
* Tweezers
* Water
* Filter paper
* Magnifying glass
* Scale (or balance)
* Optional: Electro-magnets, a battery, copper wire, and a steel nail (class would need prior knowledge before using these)

**Introction**

* In a group discussion, talk about what a mixture is. Two substances that are in the same place, maintain their own characteristic and can be separated by physical means.
* Discuss with students that the iron is an element, the simplest form of matter. Then discuss with the students that the salt is a compound. It is made of sodium and chlorine.

**Procedure**:

* Free discovery
* Part 1
* Give the students a magnifying glass and have them look at both the iron and salt. Have them describe it. The iron will be irregular shapes while every salt crystal will have a cubic shape.
* Have students communicate their findings to the class.
* Part two
* Have the students weigh or find the mass of the salt and iron
* Have the students mix the two substances on the filter paper.
* They will then need to find the best way to separate the two substances the best. The students will need to communicate their procedure to the rest of the class.

**Time Allotment**:

 1 class period

**Closure**:

* Questions
* What methods did you try?
* What method was the best?
* How much salt did you start with?
* How much did you recover?

Extension

* If you had a mixture of salt water, how could you separate the water from the salt?
* On the internet, research the eloctrolosysis of copper

**The Teacher Role in a Free Discovery Lesson**

The teacher will monitor progress for safety and to keep studentys on task

*Teacher creates a problem-solving situation for the student to utilize prior knowledge to discover new facts and relationships. The teacher can provide objects to manipulate, questions and controversies to explore, and experiments to perform.*