Concept Attainment

We must learn to tailor our concepts to fit reality, instead of trying to stuff reality into our concepts.

Victor Daniels

About this teacher move

Concept Attainment is a constructivist approach to teaching and learning drawn from the work of Jerome Bruner (1956). In this instructional model students apply their prior understanding to determine the attributes of a concept through the processes of comparing and contrasting. This structured inquiry approach, gives students the opportunity to:

• distinguish between relevant and irrelevant information

• observe, classify, and hypothesize

• connect newly attained concepts with old information

• think inductively

The teacher's principal responsibilities are to provide examples, record student data, and ask probing questions. The principal goals of the concept attainment model are to enhance long-term learning and enable students to develop a habit of analysis through inductive reasoning.

Implementing this teacher move

1. Gather images, sounds, and words to use as exemplars.

2. Duplicate the Student Discovery Guide.

3. Obtain chart paper, markers, tape.

Managing this teacher move with students

A. **Stage One: Categorizing**

1. Post two pieces of chart paper or divide a marker board into two sections.

2. Label the charts or marker board sections as Positive Exemplars (Have the Attributes) and Negative Exemplars (Lack the Attributes).

3. Present several paired Exemplars (pictures, words, sounds, symbols, etc.) according to positive and negative categories. Begin the list with a paired example that has a High Attribute Value i.e., each member of the pair is strongly representative of that attribute. For example, if the concept was "sedentary", a sloth would have a level attribute value and a baby chimpanzee would score at a low value.

4. Working singly or in groups, students complete their Discovery Guides in which they attempt to determine common attributes by:

· Making comparisons within a single category

· Looking for contrasts between categories

· Answering focusing questions: What makes the items fit into that category? What prevents these items from being in the other category?

B. **Stage Two: Building Concepts**

1. Provide students with additional paired exemplars.

2. In the large group, students hypothesize about common attributes. The teacher charts student ideas.

3. Teacher presents a new, additional example to test students' hypothetical explanations.

· Ask students "Is this a positive or negative exemplar? Why?"

· Tabulate class data and confirm the example.

5. Students attempt to name the Category or teacher gives the category a name or label.

6. Students give additional examples of that concept.

C. **Stage Three: Attaining Concepts**

1. Students work in pairs to identify the Essential Attributes of the concept.

2. Student pairs prepare a final working description of the concept.

3. Students analyze and describe their thinking as they worked though the Concept Attainment processes.

D. **Suggested Formative Assessments**

1. Score the completed Student Discovery Guide.
2. Create a related concept map. You **Add Visual Components** for additional information.
3. Test for the ability to identify additional positive exemplars for the concept.

E. **Concept Attainment Glossary**

Attribute – a major feature or characteristic of something; e.g., robin – red breast.

Attribute value – the degree or strength to which the attribute is represented in the exemplar.

Category – a collection of examples that share attributes missing in the other exemplar list.

Concept – an idea, object, or event that can be given a name or label.

Data set – a large list of exemplars.

Essential attribute – the characteristic that is critical to understanding the concept under consideration.

Exemplars – subset of a collection of data presented as a pair.

Induction – process of reasoning that proceeds from the specific to the general.

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