**Teaching Methods Chapter 9 Concept Teaching**

**-teaching students how to think is VERY important**

**-concepts in any subject are the basic building**

**blocks for thinking**

**-concepts allow individuals to classify objects and ideas and to derive rules and principles**

**-concepts provide the foundations for the idea networks(schemata) that guide our thinking**

**-focus on concept teaching and how teachers can help students attain and develop the basic concepts needed for further learning and higher-level thinking**

**Overview of concept teaching**

**-has been developed to teach key concepts that serve as foundations for student higher-level thinking and to provide a basis for mutual understanding and communication**

**Approaches**

**direct presentation**

**concept attainment**

**-present goals and establish set**

**-input examples and non-examples**

**-test for concept attainment**

**-analyze student thinking process**

**1.concepts and higher-level thinking**

**-involves the process of constructing knowledge and organizing information into comprehensive and complex cognitive structures**

**2.nature of concepts**

**-essentially putting things into a class and being able to recognize members of that class**

**A.concepts themselves can be placed into categories**

**Conjunctive concept-rules structures for these concepts are constant (island always is surrounded by water)**

**Disjunctive concept-one that contains alternative sets of attributes (noun may be as person, place, or thing)**

**Relational concepts-rule structure depends on relationships(time and distance are related-you must know both and how they are related to understand them)**

**B.Concepts are learned through examples and nonexamples**

**-learning particular concepts involves identifying both examples and non-examples of a concept (a cow is an example of a mammal but is a non-example of a reptile)**

**C.Concepts are influenced by social context**

**-concepts such as poverty changes from one social context to another**

**D.Concepts have definitions and labels**

**-all concepts have names or labels and more or less precise definitions**

**E.Concepts have critical attributes**

**-concepts have attributes that describe and help to define them (equilateral triangles-is a triangle and each side must be equal)**

**F.concepts have noncritical attributes**

**-some attributes may be found in some, but not all members of the class (size is a noncritical attribute of an equilateral triangle)**

**Human Development and Concept learning**

**-research has shown that children begin learning concepts at a very early age through object sorting and classifying activities and that concept learning continues throughout life**

**Piaget-Stage Theory of Cognitive Development**

**1.Sensorimotor-0-2 years begins to recognize objects and can imitate**

**2.preoperational-2-7 years-develops use of language and begins ability to think symbolically, can see another person’s point of view, lacks logical mental operations at this state of view**

**3.concrete operational-7-11 years-can solve concrete problems in logical fashion and able to classify**

**4.formal operational-11-15/adult-can solve abstract problems in logical fashion and has concern for social issues**

**Assimilation-trying to understand the new information by adapting it to what we already know**

**Accommodation-if individuals cannot fit the new data or situation into their existing thoughts, they must develop new concepts**

**-individuals are always adapting to their environment using prior knowledge**

**Planning and conducting concept lessons**

**A.planning**

**-teachers must make decisions about what concepts to teach and which approach to use**

**1.selecting concepts**

**-the curriculum and standards is the primary source for selecting concepts to teach**

**-teachers also need to make decisions about which of the new vocabulary words need to be directly taught as concepts**

**2. Deciding on an approach**

**-concept teaching has several components: name and definition, attributes, examples and nonexamples**

**-direct presentation-approach employs a deductive rule-to-example process where the teacher first name and defines the concept and provides students with examples and nonexamples to reinforce their understanding of the concept**

**-concept attainment uses inductive example-to-rule process where teachers give examples and nonexamples of a particular concept first and students discover or attain the concept themselves through inductive reasoning**

**3.defining concepts**

**-definition includes the critical attributes**

**-it is important to recognize that some words used in the definition are irrelevant**

**4.analyze concepts**

**-concepts need to be analyzed for examples and nonexamples**

**-examples serve as connectors between the concepts abstraction and the learner’s prior knowledge and experience**

**-charts, diagrams, and webs as well as pictures should be used as visual examples of abstract concepts**

**-the isolation of the attributes is critical to the analysis and teaching of concepts**

**5.choosing and sequencing examples and nonexamples**

**-initial examples should be familiar to the class**

**-teachers will often make noncritical attributes of the concept as different as possible to help student focus on the critical attributes common to each of the examples**

**6.Use of visual images**

**-using visual images affects the learning of concepts**

**7.use of graphic organizers and conceptual webs**

**-these devices can highlight the critical attributes of a concept and make the concept more concrete for students**

**-they can also provide students with an effective means for retrieving information from long-term memory so new concepts can be more easily understood**

**8.using analogies**

**-use it’s just like… or it’ similar to…**

**-they can point out similarities or like features between two things or ideas and allow comparisons to be made**

**9.Plan for time and space**

**-time requirements depend on the cognitive levels and abilities of the students as well as the complexity of the concept being taught**

**B.conducting concept lessons**

**1.clarifying aims and establishing set**

**-teacher needs to communicate clearly to students the aims of the lesson and how the lesson will proceed**

**-teacher might also go over the steps of the lesson and give students reasons why the concepts about to be taught are important**

**2.input of examples and nonexamples and testing for attainment**

**-the exact sequence for defining and labeling a concept or presenting examples and nonexamples varies according to the particular approach being used by the teacher**

**a.direct presentation**

**-naming the concept and provide students with a definition**

**-identifying the critical attributes and give examples and nonexamples**

**-testing for concept understanding by getting students to provide additional examples and nonexamples**

**b.concept attainment**

**-students already have some grasp of a concept or set of concepts and are asked to make decisions about whether or not particular examples are instances of a class**

**-provide students with examples**

**-urge students to hypothesize about the attributes of the concept**

**-when students appear ot know the concept, they name the concept and describe the process they used for identifying it**

**-teacher checks for understanding**

**-concept attainment is an inductive process that assists learners in organizing data according to previously learned concepts**

**-unlike the direct presentaiton approach, the teacher provides a label and definition only after the students have engaged in the discovery of the critical attributes**

**3.analying thinking an integrating learning**

**-final phase emphasizes teacher-directed activities aimes at helping students to analyze their own thinking process and to integrate newly acquired conceptual knowledge**

**-ask students to think back and recount what was going on through their minds as they were considering the concepts**

**Managing the learning environment**

**-this process is similar to the methods using with direct instruction**

**Assessment and evaluation**

**-ask students to do more than merely define the concept and words**

**-Students should be able to do the following:**

**1.define the concept and know its critical attributes**

**2.recongize examples and nonexmaples**

**3.evaluate examples and nonexamples in terms of critical attributes**