Curriculum Development

Part I

How Curriculum Developed

Curriculum always develops in relation to…

- The nature of the subject matter
- The nature of society
- The nature of the individual
  - Understanding of what it means to be a human person

- The key point is the realization that the history of curriculum parallels the whole of human history
- How at a given point in time, society reflected the understandings of what it means to be a human person and what subject matter counts to be this human person

Western Curriculum Development

- The Greeks developed the Quadrivium:
  - Arithmetic
  - Geometry
  - Astronomy
  - Music

- The Romans developed the Trivium:
  - Grammar
  - Rhetoric
  - Dialectic
  - The Trivium and Quadrivium plus Philosophy and Theology (considered the Mother of all knowledge) become the Liberal Arts in the Middle Ages

Herbert Spencer (1820 - 1903)

- Social Darwinist
  - Coined the phrase "survival of the fittest"
  - 1859 – "What Knowledge is of Most Worth?"
    - The most central question to curriculum development
    - Along with….
    - Why is this knowledge worthwhile?
    - How is this knowledge acquired or created?

In United States:

- Committee of Ten 1893
  - Determines the structure of secondary school curriculum by stating subjects and how much time to spend on each subject

First Secondary School Year

- Latin (5 periods a week)
- English Literature (2)
- English composition (2)
- German or French (5)
- Algebra (4)
- History of Italy, Spain and France (3)
- Applied Geography (European political-continental and oceanic flora and fauna) (4)

Fourth Secondary School Year

- Latin (4)
- Greek (4)
- English Literature (2)
- English composition (2)
- English grammar (1)
- German (4)
- French (4)
- Trigonometry and higher algebra (2)
- Chemistry (4)
- History and civil government (3)
- Geology 4, first half year)
- Anatomy, physiology and hygiene (4 second half year)

Committee of Fifteen - 1895

- Sets Primary School Curriculum
- Determines 8 years of primary education
- Stating subjects and how much time to spend on each subject for each grade level

3rd Year

- Reading – 5 lessons a week
- Writing – 5 lessons a week
- English Grammar – Oral exercises
- Arithmetic – 5 lessons a week
- Geography – 5 lessons a week
- Natural science & hygiene -60 minutes a week
- Physical Culture – 60 minutes a week
- Vocal Music – 60 minutes a week
- Drawing – 60 minutes a week

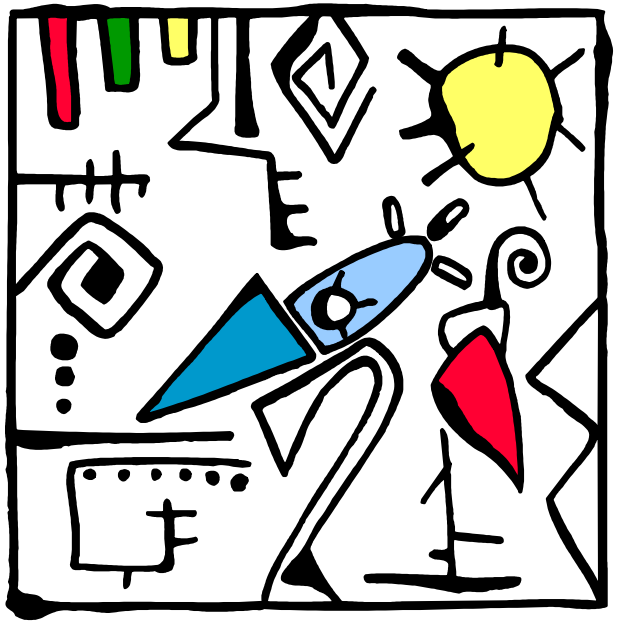
8th Year

- Reading – 5 lessons a week
- Latin – 5 lessons
- Algebra – 5 lessons a week
- Geography – 3 lessons a week
- Natural science & hygiene – 60 minutes a week
- US Constitution – 5 lessons a week
- Vocal Music – 60 minutes a week
- Drawing – 60 minutes a week
- Manual Training (Woodwork, welding) or Sewing and Cookery - one-half day each week

Curriculum Development

Part II
Curriculum Models
Tyler

Curriculum Models



- Are based on a body of theory about teaching & learning.
- Are targeted to needs & characteristics of a particular group of learners.
- Outline approaches, methods & procedures for implementation.

- Development" describes the *process* of curriculum-making.
- "Design" describes the end result, or the *product* of curriculum development.

The Tyler Model of Curriculum Design
Ralph Tyler (1902 – 1994)

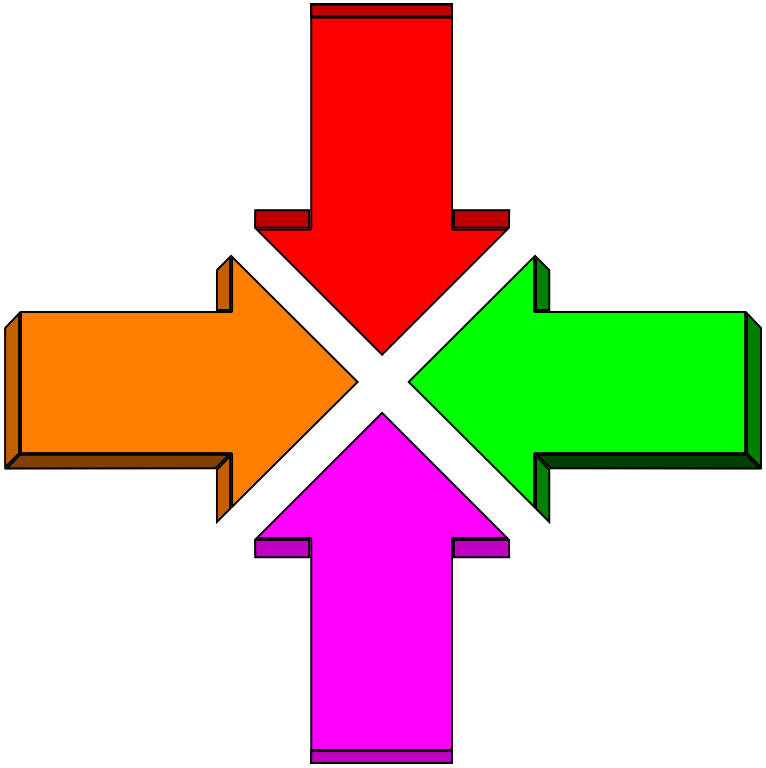
- The nature & structure of knowledge
- The needs of the society
- The needs of the learner

Curriculum Development Process

- *Philosophy of Education*
- Goals & Aims
- General Instructional Objectives
- Specific Instructional Objectives & Outcomes
- Task Analysis & Content Selection
- Learning Activities

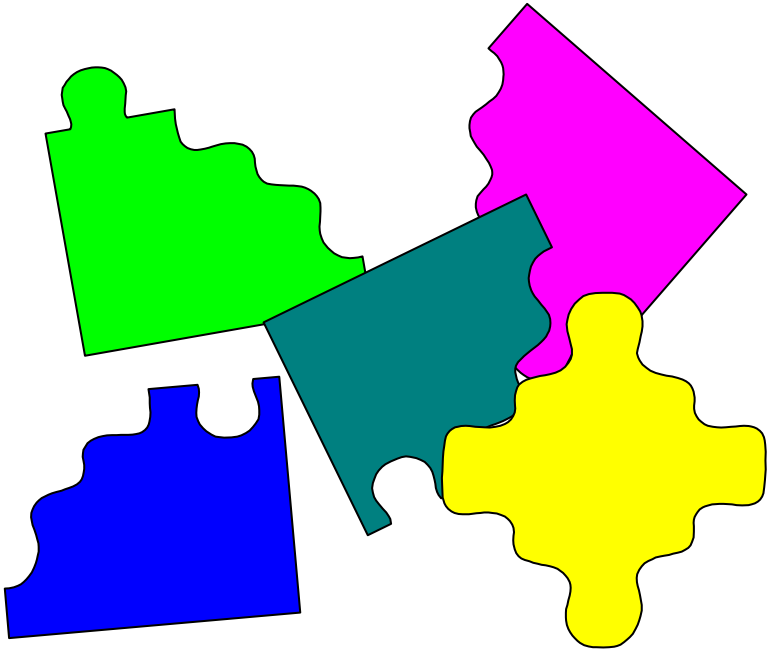
Fundamental Questions in Developing Curriculum

1 What educational purposes should the school seek to attain?



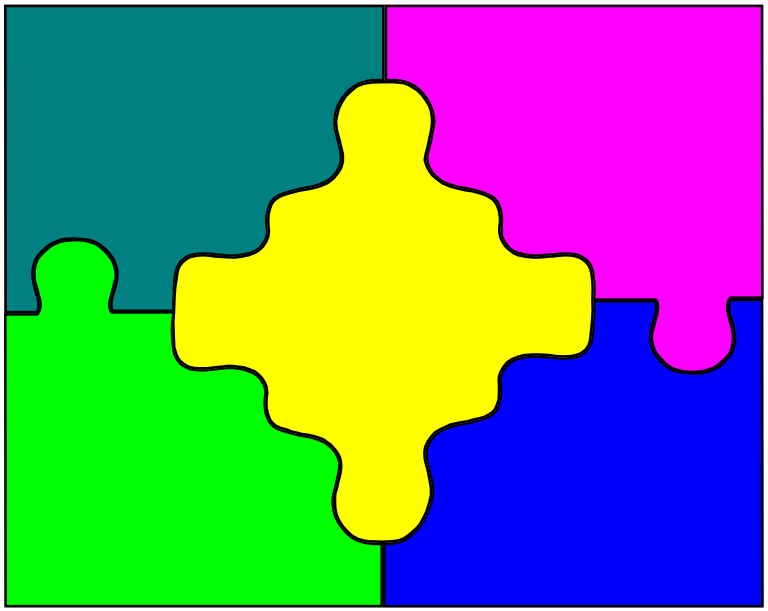
Fundamental Questions in Developing Curriculum

2 What educational experiences can be provided that are likely to attain these purposes?

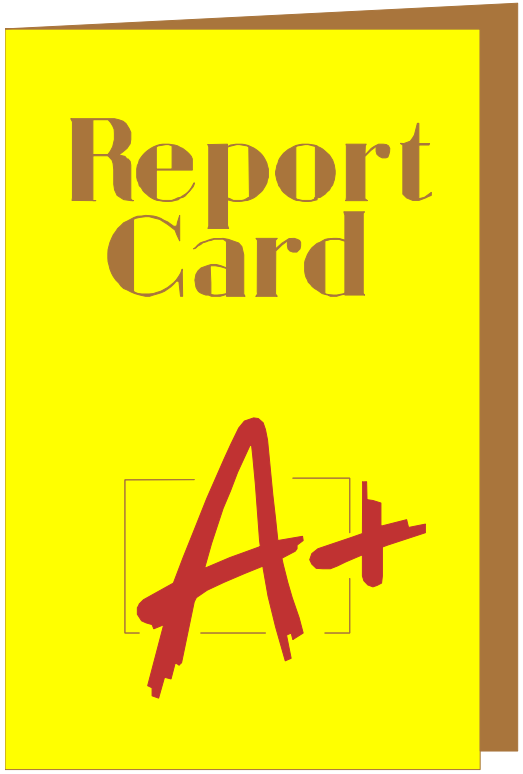


Fundamental Questions in Developing Curriculum

3 How can these educational experiences be effectively organized?



Fundamental Questions in Developing Curriculum



4 **How can we determine whether and to what extent these purposes are being attained?**

What educational purposes should the school seek to attain?

- What aims, goals, and objectives should be sought?
- Objectives should become the criteria for selecting materials, content outlined, instructional strategies, and assessments.

Curriculum Objectives

- Statements about student outcomes
- Should be measurable with an assessment tool.
- Can be worded in broad statements but should indicate what kind of specific behaviors are to be attained
- Utilize verbs from taxonomies of learning (Bloom, Bloom Revised, Marzano & Kendall)
- Utilize objects from subject matter

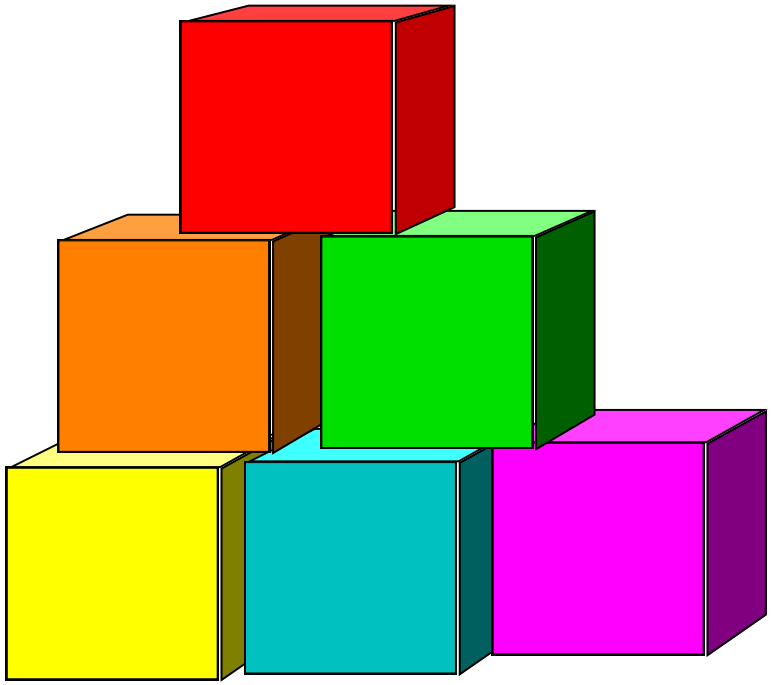
The Nature & Structure of Knowledge

- √ **Selection of subject matter**
- √ **Organization of subject matter or discipline**
- √ **Theoretical basis of methods & approaches**

- What educational experiences can be provided that are likely to attain these purposes?

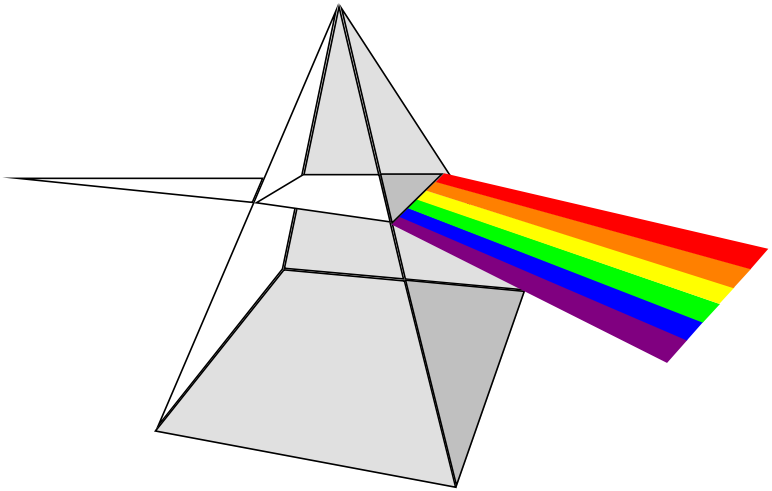
Selection of Subject Matter

- ⇒ **Criteria: Relevance, importance, priority**
- ⇒ **Scope: Amount, depth of coverage, concentration**
- ⇒ **Sequence: Hierarchy & progression of complexity or difficulty**

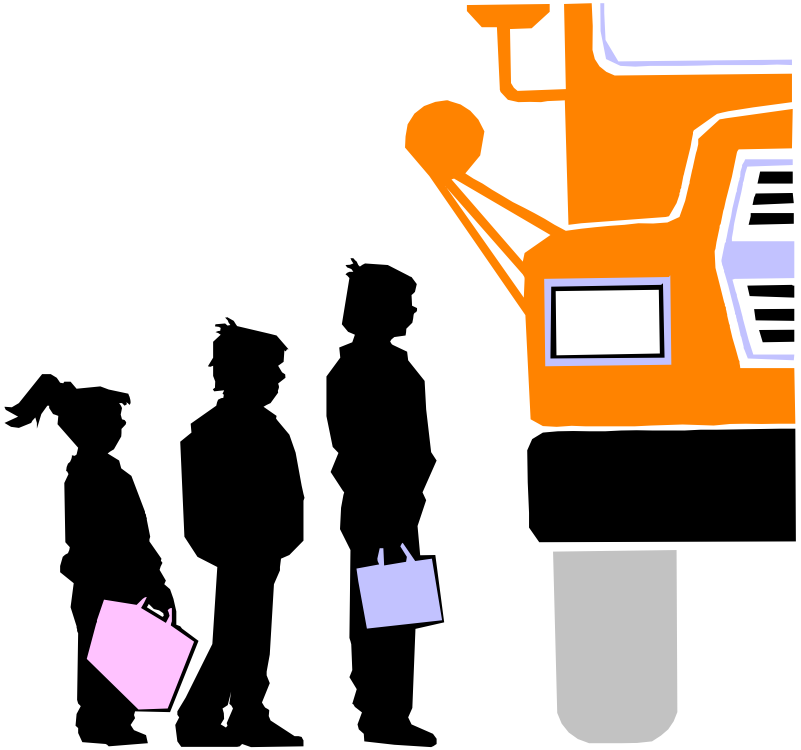


Approaches to Subject Matter

- **Textual**
- **Experimental**
- **Developmental**
- **Psycho-social**
- **Experiential**

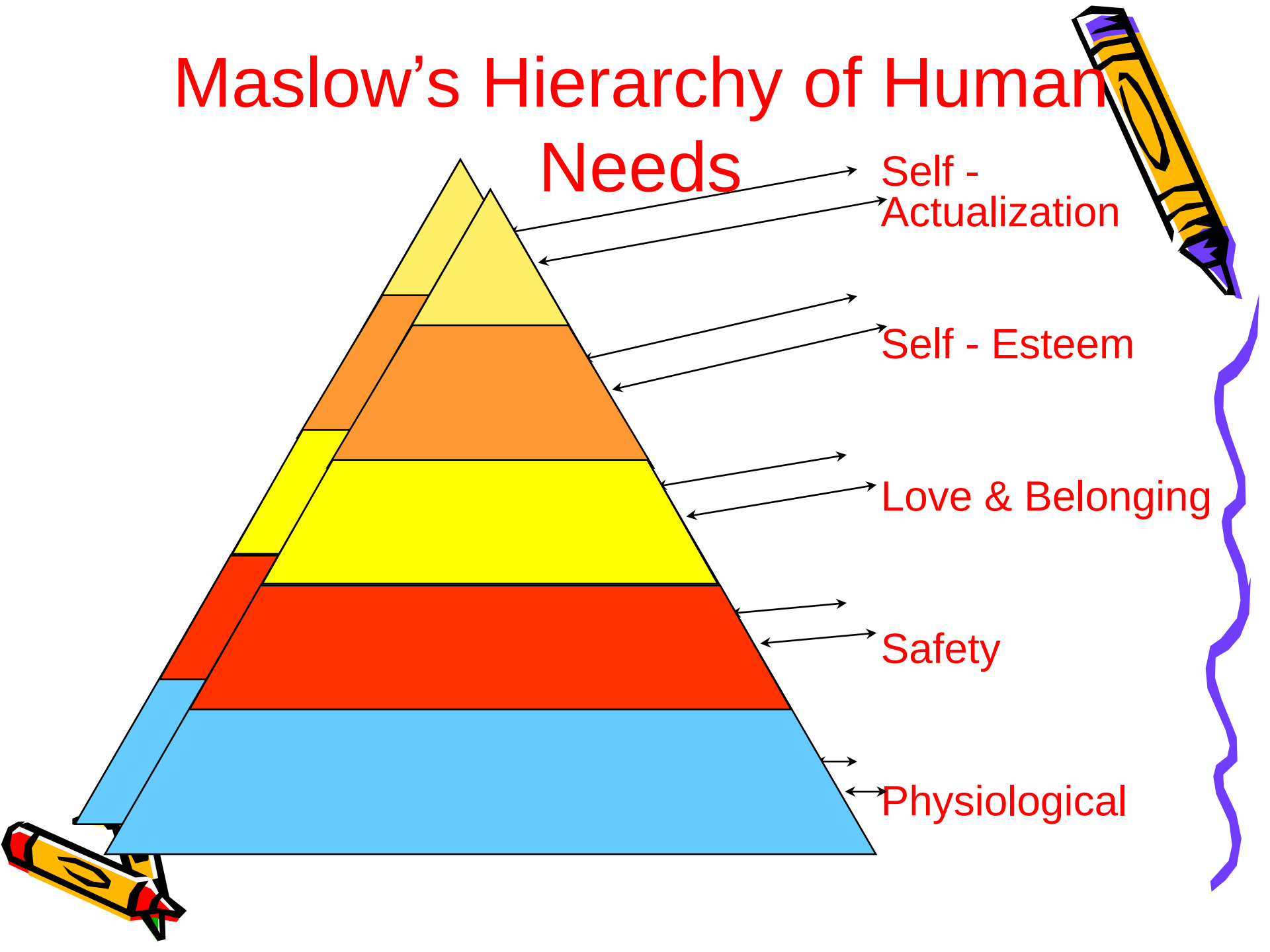


Needs of the Learner



* **Cognitive development**
* **Linguistic development**
* **Psycho-social development**
* **Moral/affective development**
* **Vocational focus**

Maslow's Hierarchy of Human Needs

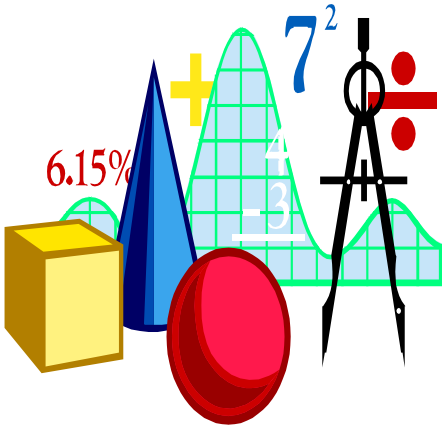


The Needs of Society

- √ Literacy
- √ Vocational skills
- √ Social order & morality
- √ Interpersonal skills
- √ Transmission of values & culture
- √ Creativity & innovation

How can these experiences be organized?

- **Discrete subjects or courses**
- **Broad fields or disciplines**
- **Core or interdisciplinary**
- **Skills or processes**
- **Projects & activities**



- Grade level
- Sequencing of content
- Integration
- Effective
- Efficient
- Instructional Strategies
- Time

How can we determine whether these purposes are being attained?

- What student needs were not met?
- Were the objectives met?
- How can the curriculum be modified to meet the unmet needs and objectives?

- Is the curriculum balanced and sequences properly?
- What additional resources are needed?
- How will we know that the students learned the content or attained the objectives?
- What will we do for those students who did not learn or attain the objectives?

- Source:
  - Tyler, Ralph W. (1949). *Basic Principles of Curriculum and Instruction.* Chicago: University of Chicago Press.

Curriculum Development

Part III

Taba- Schwab - Hunter

The Taba Model of Curriculum Design
Hilda Taba (1902 - 1967)

- Diagnosing Needs
- Formulating specific objectives
- Selecting content
- Organizing content
- Selecting learning experiences
- Evaluating
- Checking for balancing and sequence

Formulation of Objectives

- Basic knowledge
  - Concepts and generalizations
- Thinking
  - Concept formation
  - Inductive development of generalizations
  - Application of principles
- Attitudes, feelings and sensitivities
- Academic and social skills

Selection and Organization of Content

- Basic concepts
- Main ideas
- Specific facts
- Patterns for organizing content

Selection and Organization of Learning Experiences

- Sequence of learning experiences for cognitive development
- Sequence of learning experiences for affective development

Evaluation

- Diagnosis
- A range of instruments to evaluate whether objectives have been achieved

Four Taba Strategies

- Concept Development
- Interpretation of Data
- Application of Generalization
- Resolution of Conflict

Questions teachers should ask themselves to ensure learning

- How should facts be identified for mastery?
- What knowledge is most lasting?
- How is content to be used for application?
- How can achievement be best assessed?

Taba's philosophical ideas of curriculum development and design

- The renovation of curricula and programs is not a short effort but a long process.

- The development of new curricula and programs is more effective, if it is based on the principles of democratic guidance and on the well founded distribution of work.
- The emphasis is on the partnership based on competence and not on administration.

Notion of spiral curriculum

- Believes inductive teaching strategies should be used to develop concepts, generalizations, and applications
- Three levels of content organization
  - Key ideas
  - Organizational ideas
  - Facts

Thinking can be Taught

- Thinking is an active transaction between the individual and data
- The processes of thought evolve by a sequence that is lawful

Exemplars

- Taba Program in Social Sciences
  Grades 1 – 7 (1960)
- High School Geography Project (1970)
- Man: A Course of Study (1970)

- Source:

  Taba, Hilda. (1962). *Curriculum Development Theory and Practice.* New York: Harcourt, Bruce & World, Inc.

Practical Model of Curriculum Design Joseph Schwab (1909 – 1988)

- The Practical: A Language for Curriculum (1969)
- The Practical: Arts of the Eclectic (1971)
- The Practical: Translation into Curriculum (1973)
- The Practical: Something for Curriculum Professors to Do (1983)

Common Places of Curriculum

- The situations which give rise to curriculum problems invariably involve four components:
  - Subject Matter
  - Learner (Student)
  - Teacher
  - Milieu

- Someone (a teacher) is teaching something (subject matter) to someone else (a student) in a network of social and cultural contexts (milieu).

- Schwab cautions against focusing primarily on the subject matter or content
- Schwab's "practical" respected the rigorous work of classroom teachers and administrators who did not have the luxury of creating knowledge but decide how to teach the knowledge in action with the learners in a concrete situation in place and time.

- "Curriculum is what is successfully conveyed to differing degrees to different students, by committed teachers using appropriate materials and actions in the teaching of specific group of students."

Example

- Biological Sciences Curriculum Study (1960s)

Mastery Learning Model Madeleine Hunter (1916 – 1994) Design for Lesson (Unit) Plan

- Objectives
  - Before the lesson (unit) is prepared, the teacher should have a clear idea of what the objectives are.

Standards

- The teacher needs to know what standards of performance are to be expected and when pupils will be held accountable for what is expected.
- The pupils should be informed about the standards of performance.

Anticipatory Set

- To put students into a receptive frame of mind
- To focus student attention on the lesson
- To create an organizing framework for the ideas, principles, or information that is to follow
- To extend the understanding and the application of abstract ideas through the use of example or analogy

Teaching/Presentation

- Input
  - The teacher provides the information needed for students to gain the knowledge or skill through lecture, media: visual and audial, pictures, etc.

- Modeling
  - Once the material has been presented, the teacher uses it to show students examples of what is expected as an end product of their work.
  - The critical aspects are explained through labeling, categorizing, and comparing.

Checking for Understanding

- Determination of whether the students have "got it" before proceeding
- It is essential that students practice doing it right so that the teacher must know that the students understand before proceeding to practice
- If there is any doubt that the class has not understood, the concept/skill should be re-taught before practice begins.

Guided Practice

- An opportunity for each student to demonstrate grasp of new learning by working through an activity or exercise under the teacher's direct supervision
- The teacher moves around the room to determine the level of mastery and to provide additional remediation as needed

Closure

- Those actions or statements by a teacher that are designed to bring a lesson presentation to an appropriate conclusion
- Used to help students bring things together in their own minds, to make sense out of what has just been taught

Closure is used

- To cue students to the fact that they have arrived at an important point in the lesson or unit
- To help organize student learning
- To help form a coherent picture
- To reinforce the major points to be learned

Independent Practice

- Once students have mastered the content or skill, it is time to provide for reinforcement practice
- It is provided on a repeating schedule so that the learning is not forgotten
- It may be homework or group or individul work in the class

Some Examples of Contemporary Curriculum Design Models

The Thoughtful Classroom Model

http://www.thoughtfulclassroom.com/index.php

Unit Blueprint

What facts and procedures do you want students to know?

Foyer
(Knowledge Anticipation)

How does the unit begin?

What activities do teachers use at the beginning of the unit?

What resources do they supply?

What do you want students to be like? (Habits of mind)

Workshop
(Practice)

What particular skills will be modeled and practiced during this unit?

Library
(Knowledge Acquisition)

What texts or other sources will the students use to acquire new information?

Porch
(Reflection)

What activities or strategies will be used to help students reflect on what they are learning or have learned?

What big ideas do you want students to understand?

Kitchen
(Assessment)

What assessment tasks will the students work on throughout the unit and at its close?

What do you want students to do? (Skills)

Big Picture Learning

- Big Picture Learning believes that high school graduates must know how to reason, problem-solve, and be active members of the community.
- At Big Picture Learning schools, there is no canon of information that all students must know. In a world where available information is growing exponentially, we believe that the most important thing a student needs to know is how to learn.
- Integral to the Big Picture Learning design are our five Learning Goals, a framework for looking at concepts, skills, and abilities and help guide the creation of personalized student curriculum.

The five Learning Goals are:

- Empirical Reasoning
- Quantitative Reasoning
- Communication
- Social Reasoning
- Personal Qualities
  - http://www.bigpicture.org/

Curriculum Integration

- An integration is a philosophy of teaching in which content is drawn from several subject areas to focus on a particular topic or theme.

Understanding by Design

- Stage 1: Identify desired outcomes and results.
- Stage 2: Determine what constitutes acceptable evidence of competency in the outcomes and results (assessment).
- Stage 3: Plan instructional strategies and learning experiences that bring students to these competency levels.