Psychological Foundations of the Curriculum

Presentation

EDCI 547 Foundation of Curriculum Studies
For
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Learning Outcomes / Focusing Questions

1. In what ways do psychological foundations enable curriculum workers (teachers, educators, supervisors, and curriculum developers) to perform their educational responsibilities?

2. How would you compare the three major theoretical schools of learning?

3. How has the view of multiple intelligences influenced the field of curriculum? How might this concept of intelligence influence the field in the future?

4. How does constructivism incorporate the most recent views of learning?
Learning Outcomes / Focusing Questions (cont’d)

5. How should the concept of learning styles influence the thinking of those responsible for curriculum development and delivery?

6. How should an educator use the information about various types of thinking?

7. How would you define humanistic learning in schools?

8. In what ways can addressing emotional intelligence be justified in the curriculum?
Why Psychological Foundations of Curriculum?

- Curriculum is influenced by psychology.
- Psychology provides information about the teaching and learning process.
- Psychology seeks to answers as to how a curriculum should be organized in order to achieve students’ learning at the optimum level;
- Seeks to recommend the amount of information that can be absorbed in learning the various contents of the curriculum.
Psychology is interested in how people learn.
Pounder on this:

Why should a curriculum developer have knowledge about the psychology of learning?
Psychology of Learning

- Psychology theories provide insight into understanding the teaching and learning process:
- What is learning?
- Why do learners respond as they do to teachers’ efforts?
- What impact does the school and culture have on students learning?
Psychology of Learning  (cont’d)

- Psychology theories provide principles and direction for curriculum developer:
- How should curriculum be organized to enhance learning?
- What is the optimal level of student participation in learning the curriculum’s various contents?
EVERYTHING THAT IS DONE MUST ENSURE THAT

LEARNING TAKES PLACE!!!
Essential Questions

1. How should the concept of learning styles influence the thinking of those responsible for curriculum development and delivery?

2. How should an educator use the information about various types of thinking?

3. How would you define humanistic learning in schools?

4. In what ways can addressing emotional intelligence be justified in the curriculum?
Essential Questions (cont’d)

5. How should the concept of learning styles influence the thinking of those responsible for curriculum development and delivery?

6. How should an educator use the information about various types of thinking?

7. How would you define humanistic learning in schools?

8. In what ways can addressing emotional intelligence be justified in the curriculum?
• Psychology provides:
  • Basic understanding of teaching and learning process
  • HOW
    • Learners respond
    • Cultural experiences
    • Curriculum organization
    • School impact
    • Students level of participation;
Understanding Learning

- Psychology
  - derived from Greek word *psyche* (soul)
  - Study of behavior, mind and thought
  - Deals with mental processes that shape behavior, thinking
- Psychology in learning
  - Provides basis for understanding of human learning process
  - To your mind, why should a curriculum developer have knowledge about the psychology of learning?
Psychology theories provide insight into understanding the teaching and learning process:

- What is learning?
- Why do learners respond as they do to teachers efforts?
- What impact does the school and culture have on students learning?

Psychology theories provide principles and direction for curriculum developer:

- How should curriculum be organized to enhance learning?
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Psychological Perspectives Influencing Curriculum

- Behaviorism
- Constructivism
- Cognitivism
- Humanism

CURRICULUM
• Curriculum and Learning are connected by psychology;

• John Dewey: *Psychology is the basic for understanding how individual learner interacts with objects and persons.*
Major Themes / Theories in Psychology

- Behaviourism
- Cognitive Psychology
- Phenomenology and Humanistic Psychology
Psychology is the scientific study of mental functions and behaviour including:

- perception, cognition, behavior, emotion, personality, and interpersonal relationships.

The major theories of learning have been classified into three groups:

1. Behaviorist theories:
   - Focuses on stimulus response and reinforcers;
   - Studies conditioning, modifying, or shaping behavior through reinforcement and rewards

2. Cognitive theories:
   - Focuses information processing in relation to the total environment
   - Studies developmental stages, understanding, multiple forms of intelligence, problem solving, critical thinking, and creativity.

3. Phenomenological and Humanistic theories:
   - Focuses on the whole child, their social, psychological, and cognitive development.
   - Studies focus on human needs, attitudes, feelings and self-awareness.
Behaviourism

Traditional Psychology – dominated the 20th century

- **Key Players:**
  1. Thorndike – Connectionism
  2. Pavlov (and Watson) – Classical Conditioning
  3. Skinner – Operant Conditioning
  4. Bandura – Observable Learning and Modeling
  5. Gagné – Hierarchical Learning
1. Connectionism

Edward Thorndike – the founder of behavioural psychology;

- Testing a stimulus and a response (classical conditioning);
- Knowledge resulted from accumulation of stimulus-response associations;
  - Teaching – arranging the classroom enhances learning.
Three Major Laws of Teaching

1. **Law of Readiness** – conduction (nervous system)
   - Often misinterpreted as educational readiness
   - Deals with attitudes and focus. “Why should I do this?”
   - If nervous system is ready, conduction is satisfying and lack of conduction is annoying.

2. **Law of Exercise** – intensity and duration
   - Strength of connections is proportional to frequency, duration, and intensity of its occurrence.
   - Justifies drill, repetition and review.
   - Seen today in behavior modification and basic skill instruction.

3. **Law of Effect** – satisfaction (experiences)
   - Responses that cause satisfaction strengthen connections and discomfort weakens connections.
   - Justifies use of rewards and punishments, especially Skinner’s operant model.
Thorndike believes…..

- Behaviour influenced by condition of learning;
- Learner’s attitude and abilities could improve over time through proper stimuli;
- Instructional experiences;
- Integrated, consistent and mutually reinforcing;
Thorndike’s Influence:

- 1874 – 1949
- Influenced Tyler and Taba maintained learning application can be used in other situations;
- Dismissed the importance of rote and memorization;
- Promotes problem solving and inquiry-discovery technique;
- Bruner-learning need structure or pattern (science and mathematics)
- Thorndike more progressive – various subjects;
Ivan Pavlov (1849-1936)

- Pavlov was the first to demonstrate Classical Conditioning.
- He is best known for his experiment with salivating dogs.
- Classical Conditioning
  - Eliciting an unconditioned response by using previously neutral stimuli.
  - Unconditioned stimuli create reflexes that are not “learned,” but are instinctual.
  - Neutral and unconditioned stimuli are introduced at the same time. Unconditioned stimuli are gradually removed, and the neutral stimuli elicit the same reflex.
- Environmental influence verses genetics;
James Watson

• Watson took Pavlov’s findings to another level.
• Emphasized that learning was observable or measurable, not cognitive.
• Believed the key to learning was in conditioning a child from an early age based on Pavlov’s methods.
• Nurture vs. Nature
  • Watson’s theories strengthened the argument for the influence of experiences as opposed to genetics.
Behaviourism - Curriculum

- Impacts on curriculum:
  - Increase learning relevant and enjoyable;
  - Connections should be built on student’s positive experiences;
  - Negative feelings identified and modified to positive results;

- Behaviourism:
  - Curriculum should be organized to master the subject matter;
  - Highly prescriptive and diagnostic;
  - Step by step;
  - Structured learning methods;
  - Critics: too mechanical- over reliance on classical conditioning;
Working Mental Model – Bandura

- Bandura- bridge/transition
- learning is social by observation, modeling, imitation

Environment \[\leftrightarrow\] Behavior

Behaviorism
Psychology
Pavlov  Skinner  Piaget

Cognitive
Bandura  Vygotsky
Maria Montessori (1870 - 1952)

- Rationale for including her:
  - Authors do not place her with progressive child-centered approaches - lack of “free play” vs. freedom within structure
  - Opposed behaviorist focus on only “doing” but focused also on looking and listening
  - Focus on how sensory stimulation from the environment shapes thinking
Montessori’s Legacy

• What she did:
  • Psychiatric Clinic at the University of Rome- taught “difficult” children to read at a normal level
  • 1906 asked to start a progressive school for slum children of Italy- Casa dei Bambini (Children’s House)

• Why she was important:
  • Pioneer of child advocacy- for exceptional children, low socio economic status (SES) children
Constructivism

- Some include this as a separate theory, other include it inside of cognitive theories
- What is learning?
  - Individual must construct own knowledge - make meaning
  - Learner must reshape words - mimicking is not enough.
  - Learners must make knowledge personally relevant
- How does learning take place?
  - New information is linked to prior knowledge, so mental representations are subjective for each learner
  - Learning is optimal when there is awareness of the process - metacognition
• Learning as an active construction of knowledge

• Constructivists

Bruner  Vygotsky  Piaget

• Knowledge construction involves (Piaget) :
  • Assimilation – fitting new experience into mental structure
  • Accomodation – revise existing scheme against new experience
  • Equilibirium – seeking cognitive stability
Learning as a social activity

- Social environment (experiences, skills, knowledge, culture) influence learning
- Cooperative, collaborative and group investigation allow students to discuss ideas, beliefs, misconceptions
- Zone of proximal development – difference between what learners can do on their own and with help of others (experts / peers)
• Constructivism in classroom
  • Student autonomy encouraged
  • Higher level thinking is encouraged
  • Students engaged in dialogue with teachers
  • Students engaged in discussions that challenges hypothesis

• Activity
  As an educator, how will you integrate the various learning theories to develop a meaningful learning experience for your learners?
“A common misunderstanding regarding constructivism is that instructors should never tell students anything directly but, instead, should always allow them to construct knowledge for themselves.

- This is actually confusing a theory of pedagogy (teaching) with a theory of knowing.
- Constructivism assumes that all knowledge is constructed from the learner’s previous knowledge, regardless of how one is taught.
- Thus, even listening to a lecture involves active attempts to construct new knowledge.”

Humanism

- Learner is seen as a person who has feelings, attitudes and emotions.
- Emotions – feelings, attitudes, self-assurance, intrinsic and extrinsic motivation
- Emotions can facilitate learning and at the same time can distract learning
Humanists

Abraham Maslow

- Observed humans are striving to control behaviour and gratify themselves
- Proposed “Maslow’s Hierarchy of Needs”
- When lower needs are satisfied, they will be more motivated to go higher level.

Carl Rogers

- Client- centered therapy (not tell directly what to do but create atmosphere, sense their taught and feelings)
- Classroom must be learner centered and teachers should facilitate learning.
Humanists

- Arthur Combs
  - Purpose of teaching is to help student develop positive self concept
  - Teachers as facilitators, encourager, helper
  - 6 characteristics of a good teacher
    1. Well informed about subject
    2. Sensitive of others’ feelings
    3. Believe in students’ ability
    4. Positive self concept
    5. Help students
    6. Use various methods of instruction

“Do you think our national schools give enough attention to the affective (emotions, feelings) of learning?”
Psychological Bases for Curriculum Decisions

How do learners grow and develop?
What are some of the ways in which they learn?
What does psychology say specifically to the curriculum improver?

Psychological factors are at the root of many curriculum decisions, for psychology is one of the mother disciplines in which education finds its rationale.
We shall look at the Psychological bases for Curriculum Decisions under the three following headings:

- Learners’ growth and development
- Understanding the learning process
- Some uses of psychology in making decisions about the curriculum
Learners – Their Growth and Development

- Learners have been studied from various points of view. Thousands of children at specific ages have been studied and then generalization made about their physical, mental, and behavioural characteristics at these ages. These studies see:
  - Growth involves increase in size of individuals;
  - Development increase in their physical complexity
In matters of mentality and emotionality (with which curriculum workers/developers are chiefly concern), growth and development are seen as having interchangeable meanings.

As students grow and develop, their ability to grasp concepts and ideas vary.

As teachers recognize these changes, several strategies are to be used by teachers in accommodating the educational needs of individual learners:

Some of these strategies that can be used are as follows:
1. Finding the individual in the group; then giving that individual special attention;
2. Varying learning activities and materials;
3. Preparing new and different packages of learning materials;
4. Varying the time needed to complete prescribed activities;
5. Allowing learners to individualize to suit themselves, as by choosing activities and utilizing time in their own ways;
6. Sub-grouping learners in numbers of groups formed for differing purposes;
7. Providing for independent study;
8. Preparing varied evaluation instruments and test and inventory items;
9. Following the procedures in mastery learning;

Translating characteristics, needs, and tasks into meaningful concepts to be used in curriculum development and improvement, is a special and difficult task for curriculum developers.

The following are some of the specific areas that are used by these planners: (a) educational objectives, (b) student characteristics, (c) learning processes, (d) teaching methods, (e) evaluation procedures.
Understanding the Learning Process

- since learning is considered change in behaviour, and psychology is the study of human behaviour, we can see quite clearly the close connection.

- A number of quotations / statements are next presented which have special psychological interest for teachers and other curriculum workers. They are, of course, subject to change as more is learned about psychology and about psychological bases for curriculum decisions.
A motivated learner acquires what he learns more readily than one who is not motivated.

Motivation that is too intense (especially pain, fear, and anxiety) may be accompanied by distracting emotional states so that excessive motivation may be less effective than moderate motivation for learning some kinds of tasks.

Learning under the control of reward is usually preferable to learning under the control of punishment.

Learning under intrinsic motivation is preferable to learning under extrinsic motivation.

Tolerance of failure is best taught through providing a backlog of success.

• Individuals need practice in setting goals for themselves: Realistic goal setting leads to more satisfactory improvement than does unrealistic goal setting.

• Active participation by learners is preferable to passive reception of the content to be learned.

• There is no substitute for repetitive practice in the over learning of skills or in the memorization of unrelated facts that must be automatized.

• Information about the nature of a good performance, knowledge of one's mistakes, and knowledge of successful results assist the learner.

• Learners progress in any area of learning only as far as they need to in order to achieve their purpose.
Transfer to new tasks will occur more smoothly if, in learning, the learner can discover relationships for himself or herself and has experience in applying principles of relationship within a variety of tasks.

"The most effective effort is put forth by children when they attempt tasks which fall in the 'range of challenge'-not too easy and not too hard-where success seems quite possible but not certain."

Learners engage in an activity most willingly if they have helped select and plan the activity.

Learners think when they encounter obstacles or challenges to action that interest them. In thinking, they design and test plausible ways of overcoming the obstacles or challenges.
When pupils learn concepts, they need to have the concepts presented in varied and specific situations. Then they should try the concepts in situations different from those in which they were originally learned.

Pupils learn a great deal from each other. When they have been together a long time, they learn from each other more rapidly than they do from peers who are strange to them.

Pupils remember new subject matter that conforms with their previous attitudes better than they remember new subject matter that opposes their previous attitudes.

Learning is aided by formulating and asking questions that stimulate thinking and imagination.
Some uses of psychology in making decisions about the curriculum

- Expectations of student achievement have been stated against a background of goals, objectives, and learning outcomes;
- Goals guide the educational thrust of the school, objectives and learning outcomes provide a specific direction in the selection of experiences to meet students’ educational needs.
- Several key questions reflect the relationship of psychology to the wise selection of objectives:
  - They are as follows:
Is the objective attainable by the school?

- How long will it take to attain a given objective?
- At approximately what age should striving for the achievement of given objectives be initiated?
- To what extent should objectives be repeated in subsequent years of schooling?
- In what ways are objectives multiple in their effects?
Findings in educational psychology suggests that in selecting and organizing school experiences for students, the following six (6) criteria may be used:

- Learning experiences should be designed to allow practice of the behaviours that the learning outcomes suggest.
- Learning experiences should express what the learner believes he or she is expected to know.
- Learning experiences should sometimes be of the self-activating type. Students need opportunities to proceed at their own rate through subject matter that suits them.
Learning experiences should be fostered, whenever possible, in intimate face-to-face relationships within small groups.

Learning experiences should be as varied as the learning outcomes they represent. There has been too great a tendency to utilize a few kinds of experiences to achieve several learning outcomes.

The ways in which learning experiences are put together greatly affect achievement of learning outcomes.