THE UNIVERSITY OF BRITISH COLUMBIA

Faculty *of* Education

Department of Curriculum and Pedagogy

EDCP 374A and 377A (3)

Curriculum and Pedagogy in Design and Technology I & II

Course Content from

Advanced Teaching Methods for the Technology Classroom

Preface .....
- Teaching Technology .....
- Organization of the Book .....

Part I— Analyzing and Designing Technology-Based Instruction

Chapter 1. Communicating and Planning for Instruction .....
- Characteristics of an Effective Teacher .....
- Communication
  - Audience Analysis .....
  - Preparation .....
  - Practice .....
  - Delivery .....
  - Feedback .....
  - Reflection .....
  - Presentation Media and Communication Technology .....
- Demonstrations
- Lesson Plans
- Instructional Objectives .....
  - Cognitive Domain: Knowing .....
  - Affective Domain: Feeling .....
  - Psychomotor Domain: Doing .....
- Projection and Reflective Practice .....

Chapter 2. Organizing Knowledge for Instruction .....
- Intelligence
  - Gardner's Multiple Intelligences .....
  - Sternberg's Triarchic Theory of Intelligence .....
- Knowledge
- Cognitive Skills: Reasoning .....
  - Deductive Reasoning .....
  - Inductive Reasoning .....
- Articulating Knowledge .....
  - Procedural Knowledge- Know how .....
  - Propositional Knowledge- Know why, what, when, who and where .....
- Integrating Knowledge .....
- Organizing Knowledge for Instruction .....
- Procedural Knowledge: Procedure Sheets .....
- Propositional Knowledge: Images .....
  - Mind Maps .....

Schematics
Taxonomy Trees and Systems
Timelines, Tables, Charts and Graphs
Scientific and Technical Visualization
Propositional Knowledge: Information Sheets
Technological Literacy Dispatch
Projection & Reflective Practice

Chapter 3. Feelings, Values, Ethics and Skills
Technology and Emotions
Emotional Labor
Emotional Intelligence
Technology, Emotions and Skills
Technology, Values and Skills
Models of Moral Development
Technology and Ethics
Skill Acquisition
Enhancing Skill Acquisition
Projection & Reflective Practice

Chapter 4. Instructional Methods and Learning Styles
Instructional Systems
Teaching Methods
Controversial Issues
Values Clarification
Class Discussion
Cooperative Learning or Dyads
Debriefing
Research Methods
Teaching Styles
Personality Types
Learning Styles
Projection and Reflective Practice

Chapter 5. Creativity and Ingenuity, Design and Problem-Solving
Creativity, Imagination and Ingenuity
Design
Design and Problem-solving
The Ecology of Design and Problem-solving
Life Cycle Assessment, Resource Stream and Footprint
Disclosive Analysis
Designerly Thinking & Laws of Media
Basic Causes
Quotidian Deconstruction
Reverse Engineering
Sociologics
Systems Analysis
Technology Assessment
Technological Forecasting
Design Briefs
Fasten(at)ing Technology—Paper Clips
Projection and Reflective Practice

Part II— Analyzing and Designing Technology-Based Curriculum

Chapter 6. Learning Theory, Technology and Practice
Head, Heart, Hand and Feet
Feeling and Knowing Issue from Doing
Practice Draws From the Disclosive Power of Technology
Dewey's Theory of Experience
Kolb's Theory of Experience
Dale's Cone of Experience
Modes of Learning with Technology
Agency, Embodiment, Technology and Determinism
Learning Theories
Behaviorism
Piaget and Cognitive Development
Constructivism
Situated Cognition
Constructionism
Activity Theory
Distributed Cognition
Projects
Projection and Reflective Practice

Chapter 7. Justifying Technology Studies
Significance of Technology
Technological Literacy
Technological Capability
Critical Technological Literacy
Gender Equity
Character Values
Integration
Employability Skills
Tech Prep and Technical Trades
Appropriate Technology and Ecodesign
Craft, Design and Engineering
Projection and Reflective Practice

Chapter 8. Technology Content, Processes and Standards
Technology Content
Technology Content and Standards
Technology Content, Standards and Benchmarks
The Disciplines of Technology
Task Analysis
Processes as Content
Universals of Technology?
Imperatives of Technology Content
Projection and Reflective Practice

Chapter 9. Curriculum and Instructional Design
Curriculum Design and Theory
Instructional Design and Theory
Principles of Curriculum and Instructional Design
Evaluating C&I Products
Projects
Units
Normative Units

Modules
Delivery Systems
Course Design: Putting it All Together
Copyright for C&I and Academic Freedom
Projection and Reflective Practice

Part III— Implementing and Evaluating Curriculum & Instruction

Chapter 10. Assessment and Evaluation
Assessment in Technology Studies
Projects
Authentic Assessment
Portfolio Assessment
Performance Assessment
Criterion-Referenced Assessment and Rubrics
Problem-solving
Tests and Measurements
Constructing Effective Tests
Grading, Marking and Reporting
Grade Inflation
Questionnaires and Scales of Technological Literacy
Evaluation
Projection & Reflective Practice

Chapter 11. Classroom Management, Facilities Design and Safety
Components of Professional Practice
Code of Ethics
Managing Students and Facilities in Technology Studies
Setting the Tone
Humor
Gender, Sexuality and Diversity
Discipline with Dignity
Critical Incidents of Behavior
Classroom Incivilities
Violence, Bullying and Hazing
At-Risk and Special Needs Students
Learning Disabilities
Assistive Technology
Safety
Liability
Class Size
Facilities Design and Management
Facility Evaluation
Ergonomics of Labs and Workshops
Budgets and Inventories
Projection & Reflective Practice

Glossary