

Learning Objectives 101

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What is a Goal?

- Broad outcomes, aligned with competencies, that are expected from an academic program
- Knowledge, skills and attitudes students will possess upon completion of an educational program

What is a learning objective?

- An outcome statement that captures specifically what knowledge, skills, attitudes **learners** should be able to demonstrate following instruction
- Supports a plan for attaining goals



Why have learning objectives?

- Guides all teaching, learning, and assessment
 - Integrated/*connected learning to assessment*
 - *Identifies developmental milestones*
 - Guides selection of teaching/learning activities
 - Clarifies what to expect
 - **Foundation for assessments**



What are the key components of a learning objective?

- Learning objectives should be “**SMART**”
 - **S**pecific
 - **M**easurable/Observable
 - **A**ttainable for target audience within scheduled time and specified conditions
 - **R**elevant and results-oriented
 - **T**argeted to the learner and to the desired level of learning



Learning objectives help answer the following questions...

- What cognitive thinking will learners demonstrate as a consequence of this learning activity?
 - Knowledge
- What will learners be able to do as a result of this learning activity?
 - Skills
- What behaviors do/will they exhibit?
 - Attitudes



Examples: 3 Domains for Behavioral Objectives

#1 Cognitive (knowledge) Domain

Refers to intellectual learning and problem solving

- *The student will construct a treatment plan for a teenager newly diagnosed with IDDM. The treatment plan must contain the following:*

#2 Affective Domain

Refers to the emotions and value system of a person

- *The student will demonstrate a commitment to improving case presentation skills by regularly seeking feedback on presentations.*

#3 Psychomotor Domain (skill)

Refers to physical movement characteristics and motor skill capabilities

- *The student will calibrate instrument X before performing procedure Y.*



Quick Pearls

- Use measurable verb charts to diversify choices and verify domain and developmental level for K, S, A
 - (SEE CHARTS)
- **Avoid these *words for learning objectives:**
 - know
 - comprehend
 - understand
 - appreciate
 - familiarize
 - study
 - be aware
 - become acquainted with
 - gain knowledge of
 - cover
 - learn
 - realize

*Note: can be used with goal statements



Summary

“Medical teachers agree that the process of writing objectives leads to clarification of intuitively held teaching goals and thus leads to better teaching and testing decisions. To achieve this benefit, educators must invest considerable time, effort and creativity in the process.”

Williams RG and Osborne CE Medical Teachers' Perspectives on Development and Use of Objectives
Medical Education 1982 16: 68-71



APPENDIX



Check List

1. Does the learning objective stem from a course goal or objective? _____
2. Is the learning objective measurable? _____
3. Does the learning objective target one specific aspect of expected performance? _____
4. Is the learning objective student-centered? _____
5. Does the learning objective utilize an effective, action verb that targets the desired level of performance? _____
6. Do learning objectives measure a range of educational outcomes? _____
7. Does the learning objective match instructional activities and assessments? _____
8. Does the learning objective specify appropriate conditions for performance? _____
9. Is the learning objective written in terms of observable, behavioral outcomes? _____



Examples: Behavioral Objectives

- ***The learner will be able to prepare legible, comprehensive, and focused new patient workups that include the following features:***
 - ***Present illness organized chronologically, without repetition, omission, or extraneous information.***
 - ***A comprehensive physical examination with detail pertinent to the patient's problem.***
 - ***A succinct and, where appropriate, unified list of all problems identified in the history and physical examination.***
 - ***A differential diagnosis for each problem (appropriate to level of training)***
 - ***A diagnosis/treatment plan for each problem (appropriate to level of training)***



Examples: Behavioral Objectives

- ***The student will be able to name the five stages of mitosis.***
- ***The learner will be able to: take stool specimens infected with 1 of 10 possible ova and parasites and correctly identify them.***



Examples: Behavioral Objectives

- ***Students should be able to:***
 - ***recognize and draw the 20 basic amino acids that comprise the building blocks of mammalian proteins***
 - ***classify amino acids based on the charge and polarity of their side chains***
 - ***apply the Henderson-Hasselbach equation to predict ionic forms of amino-acids***
 - ***explain acid/base properties of amino acids in physiologic solutions.***
 - ***interpret and explain titration curves for a variety of amino acids.***
 - ***explain how amino acids combine to form polypeptide chains.***
 - ***describe the structural properties of the four organizational levels of protein structure (primary, secondary, tertiary, quaternary,) and the bonding types associated with each level.***
 - ***explain the relationship amongst the four levels.***



Examples: Behavioral Objectives

- ***Jaundice: Students should be able to:***
 - ***Describe the sequence of events in bilirubin metabolism***
 - ***List the three pathophysiologic causes of jaundice***
 - ***List and explain the causes of unconjugated vs. conjugated hyperbilirubinemia***
 - ***Outline the clinical and serologic features of viral hepatitis A, B, and C***



Examples: Behavioral Objectives

- ***The learner will be able to: Retrieve information, demonstrating the ability to:***
 - ***Perform database searches using logical (Boolean) operators, in a manner that reflects understanding of medical language, terminology, and the relationship among medical terms and concepts;***
 - ***Refine search strategies to improve relevance and completeness of retrieved items;***
 - ***Use of standard bibliographic application to download citations from a search and organize them into a personal database; and***
 - ***Identify and acquire full-text electronic documents available from the www.***



Examples: Behavioral Objectives

- ***The learner will be able to:***
 - ***orally present a new patient's case in a logical manner, chronologically developing the present illness, summarizing the pertinent positive and negative findings as well as the differential diagnosis and plans for further testing and treatment.***

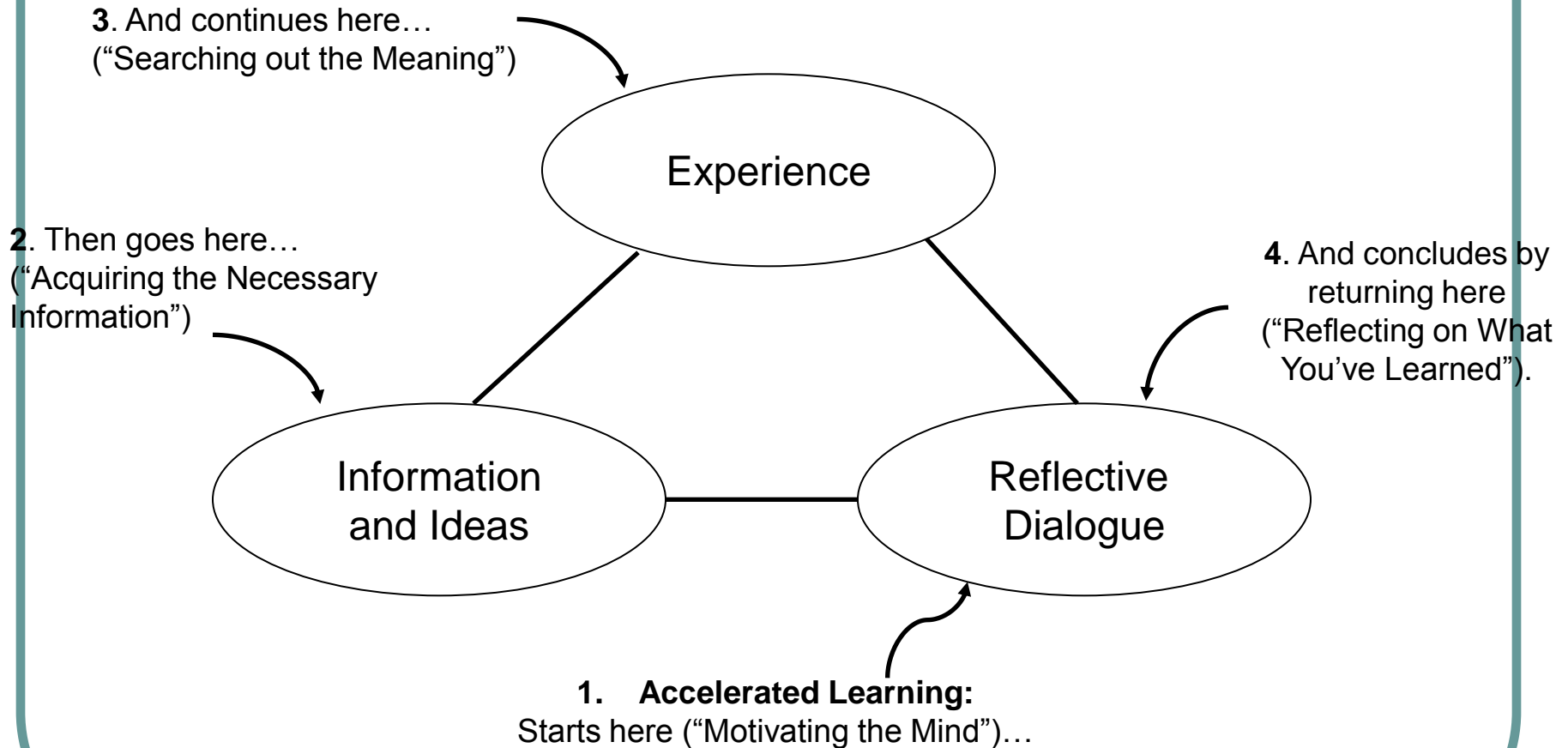


Examples: Behavioral Objectives

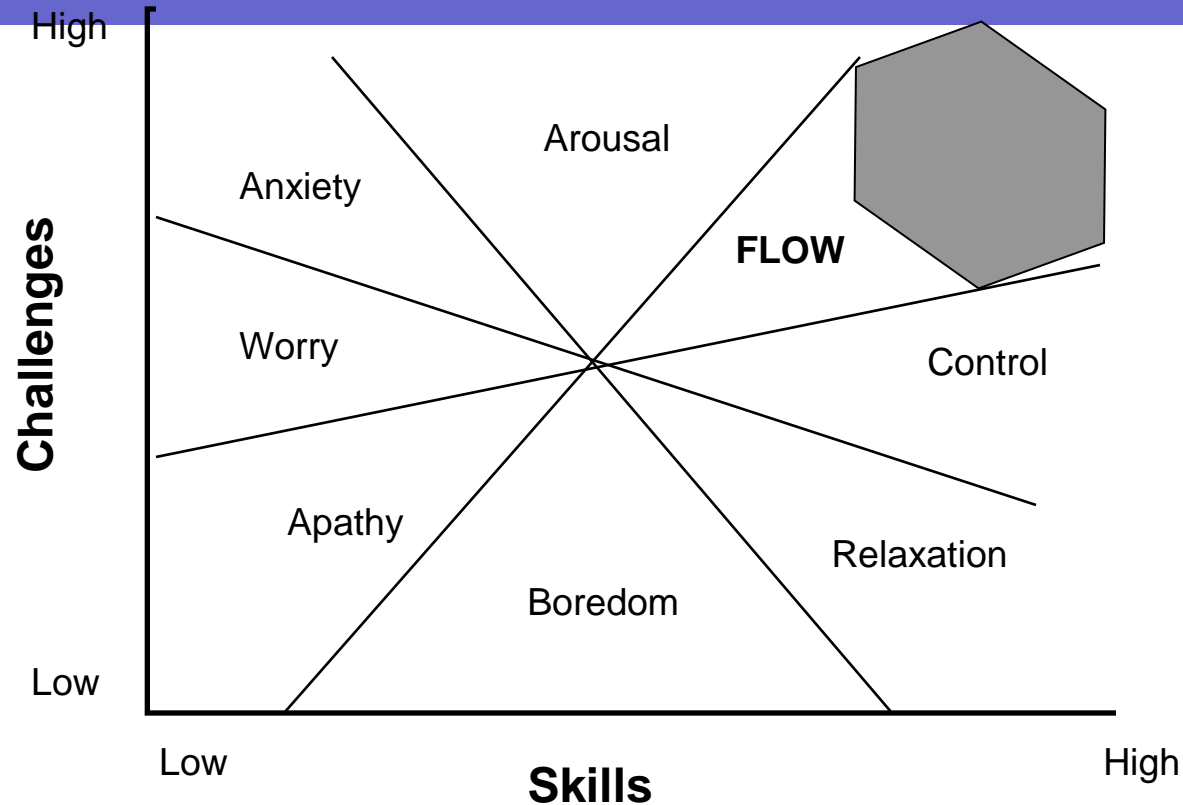
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FIGURE 4.12. SEQUENCE OF EVENTS IN ACCELERATED LEARNING.



**FIGURE 4.15. “FLOW” EXPERIENCES
IN RELATION TO CHALLENGES AND SKILLS**



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Steps in Integrated Course Design

Initial Phase: Building Components Parts

1. Situational Factors
2. Learning Goals
3. Feedback & Assessment
4. Teaching & Learning Activities
5. Integrate the Component Parts

Intermediate Phase: Coherent Whole

6. Course Structure
7. Teaching Strategy
- 8. Overall Set of Learning Activities**

Final Phase: Four Remaining Tasks

9. Grading System
10. Possible Problems
11. Write Syllabus
12. Evaluation of Course and Teaching

OVERALL SCHEME OF LEARNING ACTIVITIES FOR A COURSE

Instructional Strategy

Major Topics
in Course:

1.

In-class

Out-of-class

2.

In-class

Out-of-class

3.

In-class

Out-of-class

4.

In-class

Out-of-class

5.

In-class

Out-of-class

(1-3- week
blocks of time)

**Course
Structure**
(for whole
semester or term)