



Module XI: Curriculum Development and Evaluation

Introduction

This manual is intended as a guide for instructors using Project MAINSTREAM materials to train fellows and other participants in developing and evaluating curricula addressing the problem of substance abuse. The manual presents an outline of notations that accompany the instructor slides, as well as time estimates for the various sections of the workshop.

As noted in the participants' workbook "Curriculum Development and Evaluation: A Workbook for Health Professions Educators" the workshop is divided into a total of 6 units:

Part One: Curriculum Development

Unit One: Identifying the Target Learner and Deciding Level of Learning Desired

Unit Two: Planning the "Whole Picture" of the Curriculum

Unit Three: Planning Individual Units or Lessons

Part Two: Curriculum Evaluation

Unit Four: Deciding What to Evaluate

Unit Five: Stages of Evaluation

Unit Six: Selecting the Evaluation Questions, Sources and Methods

Part One addresses curriculum development, while Part Two addresses curriculum evaluation. This workshop is intended to be delivered in a one day session (8 hours), with the time roughly split 70% for Part One and 30% for Part Two. If more time were available, it would best be used by structuring peer-review and instructor review of participants' draft written work.

I. Purpose (Slide 2)

The purpose of this module is that health-care providers will be better-trained to screen, diagnose and treat substance abuse through well-designed instruction.

II. Learning Objectives (Slides 3-4)

At the end of this training, health care professionals will be able to draft:

- a description of target learners and the level of learning to be attained.
- a course rationale or problem statement.
- one or more course goals.
- one or more course objectives.
- a list of curriculum topics.
- a series of lessons or units that address the curriculum topics.
- one or more goals for different levels of curriculum evaluation.
- a set of evaluation questions.
- sources of evaluation data and information.
- choices of evaluation methods.

III. Chronology Full day workshop

This material is best taught over approximately a full-day workshop, including time for breaks and application activities. Below is a suggested schedule for presentation and application sessions on curriculum development and evaluation. There are instructor presentation notes visible in the “Notes” view of the PowerPoint slides.

A. Part One: Curriculum Development (5 hours)

20 minutes - Introduction (Slides 2 - 10)

Present the workshop rationale, goal, objectives prerequisites, agenda and overview. Record any preliminary questions participants may have.

10 minutes - Who are my learners? (Slide 11)

Present the wide variety of health care professionals who might have roles to play for patient screening in substance abuse, and for which participants may have training responsibilities. Ask participants whom they may train at their home institutions, and for which roles.

15 minutes - Levels of Learning (Slide 12)

Describe the four Levels of Learning according to Miller. Note that as one goes up the Learning pyramid, the levels of learning below the pyramid will also have to be addressed as “enabling” or “prerequisite” learning.

10 minutes - Application (Slide 13)

Have participants make their initial decisions about whom they will be training in substance abuse services, and the desired level of learning for target trainees. Participants should fill in the appropriate workbook sections.

25 minutes - The Secret of Instructional Design (Slide 14)

Introduce the Secret of Instructional Design, noting the different components and the basic principle: For instruction to be successful, there must be certain components present, and they must be consistent with, or aligned with, each other. Note that you will address each component in detail next.

10 minutes - Problem Statement/Rationale (Slides 15 - 16)

Describe the necessity of any instructional program (course, workshop, lecture series, etc.) to address a lack of knowledge and/or skills. If there is no lack of knowledge and/or skills, then instruction will be a waste of time! Further, given how much busy professionals are pressed for time, it is critical to specify a real world performance problem brought about by the lack of knowledge and/or skills. This provides a rationale for the curriculum, why people should spend their time learning new knowledge and/or skills.

Note that, while in most curriculum development projects, the first step is to conduct a needs assessment that results in a problem statement and rationale for the

curriculum, this work has been done for participants. At most, participants may need to modify the rationale for specific audiences.

10 minutes - Curriculum Goals (Slide 17)

Describe curriculum goals as the “instructional destination” for the entire curriculum - what curriculum completers should be able to do as a result of the curriculum, And easy way to remember this is “G” (for “goals”) = “G” (for “graduates”). This learning should directly address the real world performance problem previously described.

10 minutes - Application (Slide 18)

Have participants describe at least one real-world performance goal for their target learners. They should record their goal(s) in the appropriate space provided in the workbook.

30 minutes - Curriculum Objectives (Slides 19 - 26)

Define an objective as “a description of the final test” and review the example on slide 20. Note how this statement describes a final examination.

Describe the three components of an objective: conditions, behavior, criteria and review their associated examples. After presenting each component, have participants draft their own components. End this section with participants compiling their complete statements of objectives into full statements.

10 minutes - Attitudes (Slide 27)

Note that sometimes, it is important for health care professionals to display certain attitudes (e.g., non-judgmental, supportive, etc.) when addressing substance abuse with patients and clients. Note further that attitudes can also be a component of instruction by specifying behaviors that characterize desired attitudes. Have participants quickly brainstorm examples of desirable attitudes and their associated behaviors.

20 minutes - Content (Slides 28- 31)

Describe content as the “stuff” of instruction - the knowledge and skill to be mastered by learners. Stress the importance of “essential” content - only that content that is directly related to attaining the objective should be included. “Nice to know” content that doesn’t help students attain the objective, but that the instructor “feels” is important, should be deleted entirely.

After giving examples of knowledge and skill content, direct participants to develop their own lists of content they feel is essential to attaining the objective(s) they specified previously.

15 minutes - Teaching and Learning Methods (Slides 32 - 36)

Describe the differences between methods for explanation, demonstration, and practice. Note that, of all the instructional components being discussed, “practice” is

the most important, and the most predictive of learning success. Therefore, it is extremely important that time and planning be given to learner practice of knowledge and skills, preferably with feedback.

After presentation of teaching and learning methods and their associated examples, have participants make preliminary decisions about their choices of methods. Pay special attention to how participants are planning for learner practice.

15 minutes - Learner Evaluation (Slides 37 - 39)

Note that learner evaluation has already been specified - in the objective, the description of the test. In addition, it is important to include mechanisms for getting feedback to learners on their strengths, areas to improve, and how to improve their test performance. Tests can be developed to measure knowledge and performance on “enabling” or “prerequisite” objectives, as well as overall curriculum objectives. Note further, that different test methods are required for different types of content and behaviors as specified in the objective(s).

Have participants describe how they will evaluate their learners, making sure their decisions reflect the conditions, behavior, and criteria specified in their objectives.

5 minutes - Summary Thus Far (Slide 40)

Review the major concepts presented up to this point:

- good instruction includes a picture of the whole.
- a good “whole picture” includes:
 - a statement of the problem/rationale
 - goal(s)
 - objective(s)
 - content (essential only!)
 - instructional and learning strategies
 - learner evaluation strategies
- all components are present and consistent with each other.

10 minutes - Units/Lessons (Slides 41 - 42)

Briefly introduce the next task of curriculum development, focusing on lesson or unit development. Define a lesson as a piece of instruction intended to be delivered in one session. Define a unit as a series of topically related lessons extending over more than one session.

Note that the principle of the Secret of Instructional Design applies to lesson and unit-level development as well - essential components must be present, and they must be consistent with each other. Describe a lesson as having a beginning, a middle and an end, and each section has its own components. Note that the order of components is not critical for the lesson beginning and end, but as will be seen, it is very important for the lesson middle.

25 minutes - Components of the lesson beginning (Slides 43 - 55)

Present the components of the lesson beginning: motivation, overview, objective, prerequisites, and agenda. Note their similarities to the associated components for the entire curriculum. As each component is presented, review their associated examples. Upon completion of the presentation of the components of the lesson beginning, have participants draft their own components. Reiterate that the order of presentation of lesson beginning components is not important.

25 minutes - Components of the Lesson Middle (Slides 56 - 65)

Present the components of the lesson middle: explanation, demonstration, practice, and performance/test. As with the presentation of the components of the lesson beginning, review the examples of each lesson middle component as each component is explained. Inquire about further examples from participants.

Note that there is no one method for explaining new content, and that it is useful to “mix methods” such as lectures, videotapes, readings, field trips, etc., to maintain learner interest.

Prior to having learners practice, it is very important that skills be demonstrated. Effective instructors find ways of making “the hidden tricks” of a good performance clear to students. Consider where to position students so that they get a good view of the demonstration.

Learners practicing skills should be observed and should receive feedback on their performance to identify problematic steps that require further practice. Additional demonstrations of skill steps may also be required as a result of such observations. Paired “peer feedback” is a useful techniques to provide performance feedback efficiently. Provide performance checklists from which to judge skill quality.

Any skill worth learning is worth being tested. Participants should plan for learner performance testing on the basis of previously specified objectives.

After presenting the components of the lesson middle, have participants draft their own ideas about how to explain and demonstrate the content, how learners will practice it, and how they will be tested.

10 minutes - Components of the Lesson End (Slides 66 - 72)

Present the components of the lesson end: summary, review objective and motivation, and integration. Review the examples for each section as appropriate, and ask learners for further examples from their written work.

Note that during the lesson summary, only the most important points of the lesson are reiterated and highlighted.

The review of objective and motivation, as implied, is a recapitulation of these elements. They serve to reinforce the importance of the lesson.

Integration places the lesson in the wider context of the “whole picture” of instruction, and reinforces lesson relevance in a wider context.

After presenting the components of the lesson end, have participants draft their own ideas for the lesson summary, restatement of the lesson objective and motivation, and lesson integration.

10 minutes - What's left to do? (Slides 73 - 74)

Explain to participants that the picture of the whole and the lesson they've been working on is just the beginning. There remain many tasks yet to do, as specified on the slides. The best instructional developers engage in a process of review and revision to ensure their content, methods, and materials are the best they can be.

B. Part Two: Curriculum Evaluation (2 hours)

5 minutes – Agenda (Slide 75)

Present the agenda for Part Two of the workshop.

5 minutes – Evaluation Components of the Development-Evaluation Cycle (Slide 76)

Introduce the relationship between goals and objectives for learning (identified in Part One of the module) and creating an evaluation plan for the unit. Distinguish between learner evaluation and curriculum evaluation, which will be covered in this session. Establish expectations for what will be developed in the evaluation component of the module.

20 minutes - Selecting the Focus of the Evaluation (Slide 77 - 80)

Just as the Miller graphic guided the levels of learning expected of the student (e.g. Knows or Shows) this graphic (Kirkpatrick's Model slide #78) describes the different outcomes of learning that can be designed into the evaluation. A general principle to follow from this model is: “Any higher level of evaluation should consider evaluations from the lower levels in the overall all plan.”

Have participants choose a level of evaluation from Kirkpatrick's Model and record their choices in the workbook.

30 minutes - Stages of Evaluation (Slide 81 – 84)

Explain that all curricula evolve through different stages of development and selecting the best evaluation plan is influenced by the maturity of the curriculum and how far it is in meeting broad goals. (Show slide on stages of curriculum evaluation) The Project Mainstream Faculty Development Program has undergone several levels of evaluation throughout its development. An important principle is knowing what your needs are in conducting a larger scale curriculum evaluation.

We all have ideas about what makes the “best” evaluation - be cautious that “One size fits none.”

Have your participants select an evaluation stage according to their evaluative purposes and level of maturity of their curricula, and record their choices in the workbook.

25 minutes - Developing Evaluation Questions (Slides 85 – 87)

Selecting the right question to guide the curriculum evaluation is a critical step. Hint: this is a planning step that benefits from input from other faculty and administrators at your institution. The questions can focus on “content,” “process,” “participants,” and “outcomes.”

Using the worksheet, participants develop their own evaluation questions.

20 minutes - The “Who” of Evaluation/Selecting Evaluation Methods (Slides 88 – 91)

Different evaluation questions will require different sources of evaluation data and information, as well as different methods data and information collection. It is also useful to consider multiple sources of data and information so that your evaluation will be more valid. There are many ways to gather data and information; consider “mixes” that work best for you in your institutional context.

It is useful to create a “matrix” of evaluation questions, sources and methods, as in the example

Have participants create their own evaluation matrix, filling in specifics about the What-Who-How of their own curriculum evaluation.

10 minutes - Next Steps (Slide 92)

In the planning process, explain that this is just an initial phase, there is much more to be developed. Specific tasks are identified in the last slide and participants should be encouraged to think critically about what they need to do at their home institution to continue the process of developing a curriculum evaluation.

III. Facilitator Materials

- Power Point Slides
- Instructors Manual
- Participants Workbook

IV. Participant Materials

- Participants Workbook
- References

Module XI: Curriculum Development and Evaluation: A Workbook for Health Professions Educators

Introduction

The goal of this workbook is for participants to be able to develop plans for instructional lessons and programs addressing the content of Project MAINSTREAM and evaluating them and their impact. Project MAINSTREAM focuses on training the healthcare workforce to address substance use disorders in clinical settings and in communities. The Interdisciplinary Faculty Development Program in Substance Abuse Education Syllabus, Module I, notes “the basic competencies germane to all health care professionals include:

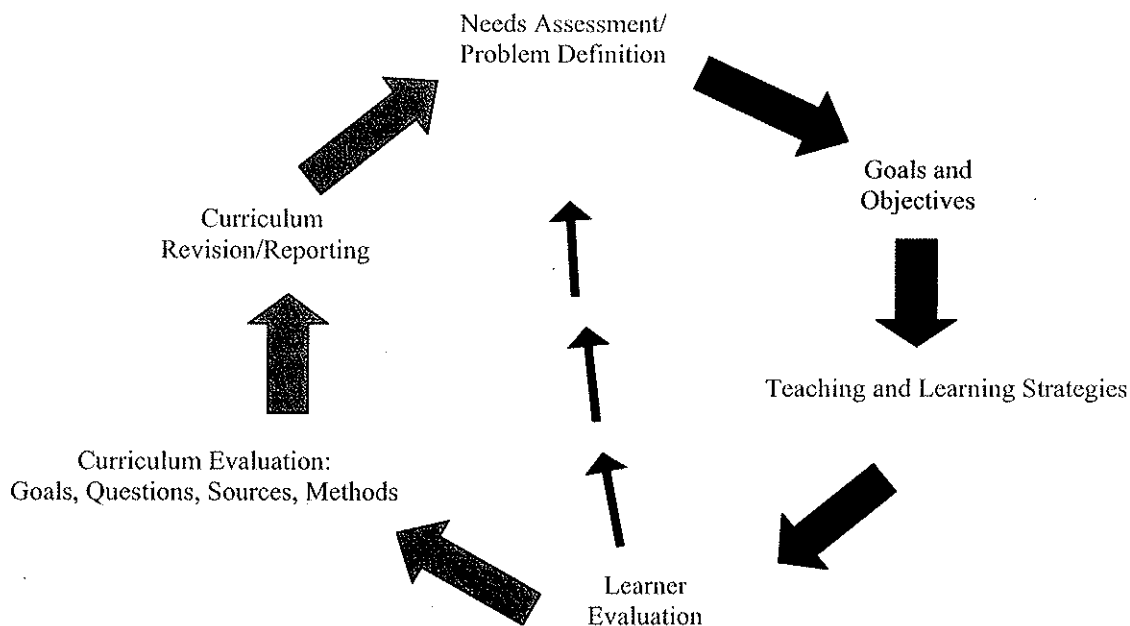
- 1) Screening
- 2) Assessment
- 3) Referral
- 4) Motivational interviewing*
- 5) Identifying and assisting children of substance abusing parents
- 6) Community-based substance abuse prevention*
- 7) Continuous quality improvement

*Level of competency varies by profession

These activities should be part of the practice of all health care professionals according to their professional role.

In order to prepare Project MAINSTREAM Fellows to train local health professionals for their roles addressing substance abuse, it is important for Fellows to have a basic level of conceptual competence in the areas of curriculum development and evaluation. This workbook and the accompanying instructor presentation materials are intended to provide that conceptual foundation.

Curriculum development and evaluation is a systematic process that involves a number of steps, as depicted in Figure One.

Figure One: The Process of Curriculum Development and Evaluation

In its widest view, the process of curriculum development and evaluation has two main steps that are mirrored in this workbook: development of the curriculum and all associated materials (instructor slides, learner handouts, tests, etc.), and evaluation. The steps for development are shown in Figure One as those connected with green (darker) arrows, and those for evaluation are shown connected with red (lighter) arrows.

Curriculum development is comprised of needs assessment/problem definition, setting goals and objectives, determining teaching and learning strategies, and developing appropriate learner evaluations. These steps of curriculum development can form a “closed loop” in which results from learner evaluation are compared against the initial needs assessment/problem definition, with the (re)development cycle followed anew.

Often, there is a need for more in-depth evaluation, not only of learners, but of other aspects related to the curriculum and its longer term effects. This evaluation cycle is depicted by the elements connected with red arrows. As with development, curriculum evaluation is a systematic process with critical elements that must be consistent with each other. Evaluation is guided by a set of evaluation questions, which then determine sources of data and methods of data collection and analysis.

This module will address both aspects, development and evaluation. The workbook is divided into 6 units:

PART ONE: CURRICULUM DEVELOPMENT

Unit One: Identifying the Target Learner and Deciding Level of Learning Desired

Unit Two: Planning the “Whole Picture” of the Curriculum

Unit Three: Planning Individual Units or Lessons

PART TWO: CURRICULUM EVALUATION

Unit Four: Deciding What to Evaluate

Unit Five: Stages of Evaluation

Unit Six: Selecting the Evaluation Questions, Sources and Methods

The workbook and instructor's materials are intended to be implemented in a full-day workshop. Should extra time be available, the time devoted to application and participant planning activities can be expanded accordingly.

PART ONE: CURRICULUM DEVELOPMENT

Unit One: Identifying the Target Learner and Deciding Level of Learning Desired

All education is geared toward developing competence in the learner. By “competence,” we are referring to the individual possessing the knowledge and skill that enable one to perform effectively.

Prior to developing any curriculum, certain fundamental decisions must be made:

- Is there a problem of lack of knowledge and/or skill in an essential area?
- Who are my learners and what level of competence is desired in the learners?

The response to the first question has been answered for Project MAINSTREAM participants. The need for health care professionals to address the problem of substance abuse is well-established, as is the need for professionals to possess a core of knowledge, skills and attitudes to perform effectively. These knowledge, skills and attitudes are embodied in the Project MAINSTREAM curriculum.

It is the second issue that individual Fellows will need to clarify before beginning site-specific curriculum development: Who are my learners and what level of competence is desired in the learners?

Who are my learners?

Project MAINSTREAM intends for the widest possible spectrum of health care professionals to be involved in addressing the problem of substance abuse. Fellows who will be developing curriculum for their own institutional contexts must first decide who will be targeted for that instruction:

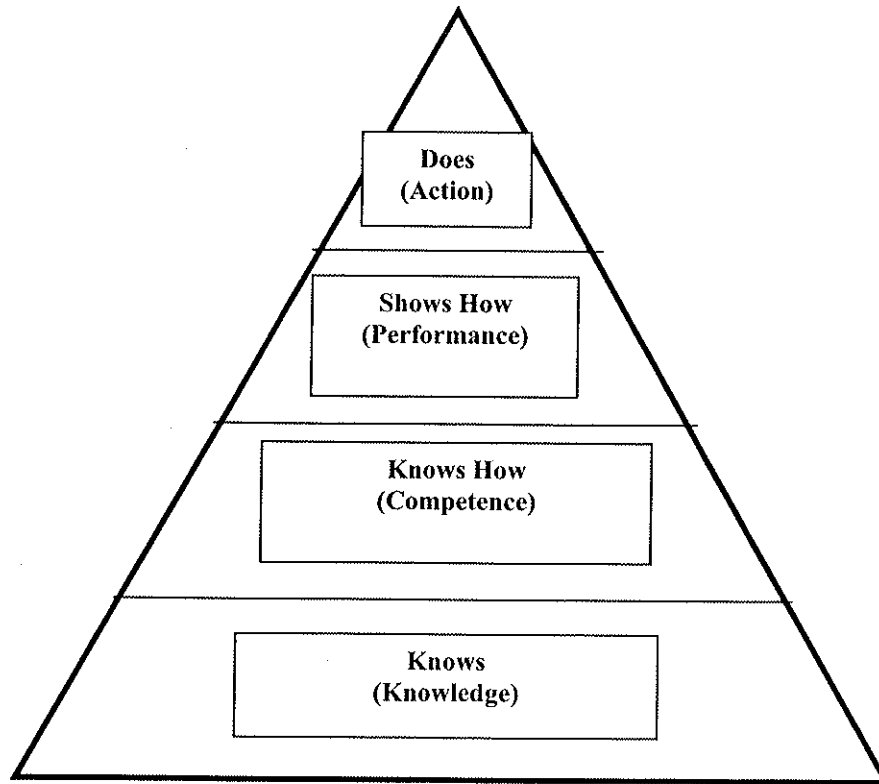
audiologists dentists dieticians nurse midwives nurse practitioners nurses occupational therapists pharmacists	physical therapists physicians assistants physicians (MD, DO) psychologists public health professionals social workers speech pathologists
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What Level of Competence Should the Learners Attain?

A second critical issue to be decided prior to curriculum development is the desired level of learner competence to be attained *as a result of the instruction*.

Miller has proposed a useful framework for thinking about level of competence (See Figure One). While Miller’s framework was developed with assessment of clinical performance in mind, it is a useful framework for any complex skill set.

Figure One: Miller’s Framework



[Source: Miller, GE. The assessment of clinical skills/competence/performance. *Academic Medicine*, v. 65, n. 9, S63-S67.]

- **Does (Action):** Individual functioning independently in practice.
- **Shows How (Performance):** Can document what learner/trainee will do in a real world setting.
- **Knows How (Competence):** Knowledge of how to use knowledge, Skill in acquiring information, analysis, interpretation, creation of plans. Done in an academic setting.
- **Knows (Knowledge):** evaluation of knowledge base.

Fellows will need to decide what level of learning they desire their learners to attain. It is important to note that as one “goes up the pyramid,” any level below the level decided will need to be addressed as part of the instruction. For example, if one desires one’s learners to be able to perform, the curriculum will also need to address the levels of “knowledge” and “competence” in order to enable learners ultimately to be able to perform.

Application

Instructions:

- 1) Decide who are your target learners, and
- 2) Decide what levels of learning you want your learners ultimately to attain.

Target learners:

Level of learning:

Unit Two: Planning the “Whole Picture” of the Curriculum

Once you have decided your target learners and desired level of learning, you are ready to begin planning for curriculum development. This unit will help you to begin developing the “big picture” of the curriculum - what does it look like as a whole?

One essential concept that will enable to you perform this task effectively is “the Secret of Instructional Design.” The “Secret” is this:

Successful instruction must contain certain elements, and they must be consistent with each other.

This is also called “alignment” of essential instructional elements. If your curriculum contains the following elements:

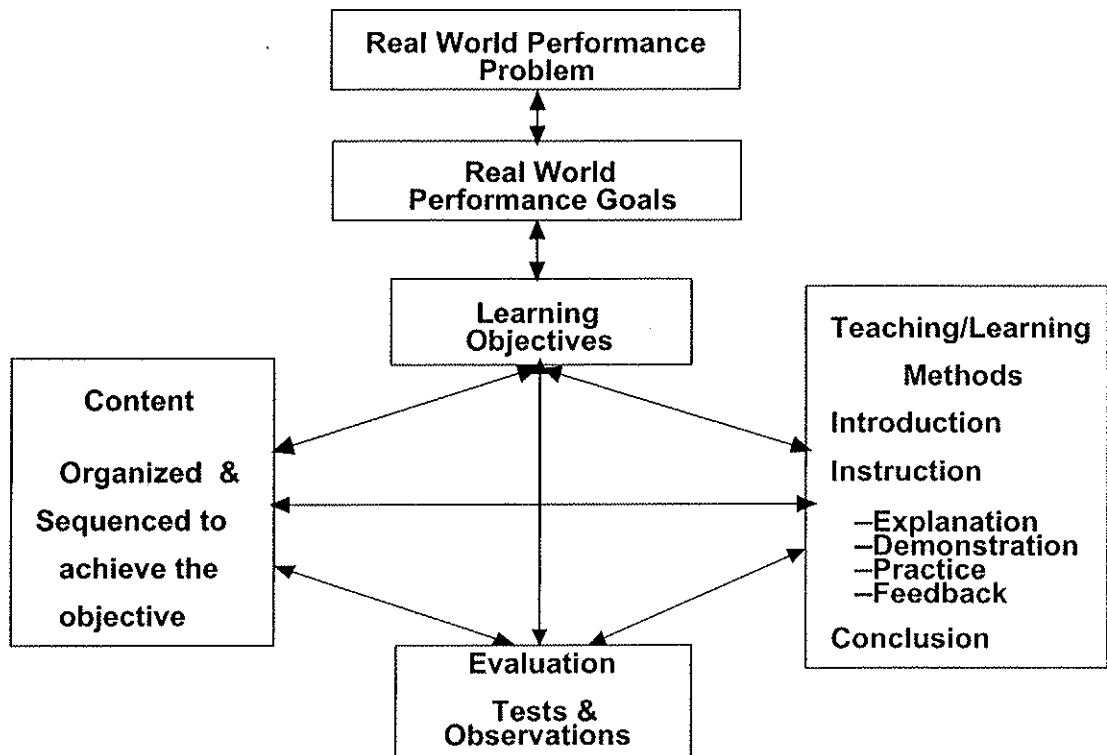
- problem description (also known as a “*rationale*” for the curriculum)
- goals
- objectives
- content
- instructional strategies
- learner evaluation strategies

AND, if those elements are consistent with each other, then your curriculum has a very good chance of succeeding!

- Instruction must address a *real-world performance problem*, i.e., a lack of knowledge or skill affecting the ability to perform a task. Other problems such as system problems (e.g., lack of appropriate infrastructure) are not solved through instruction! Including a description of the real-world performance problem provides a rationale for your curriculum.
- *Real world performance goals* specify what a graduate, or program completer, should know and be able to do in the real world to address the problem (remember: “G” = Graduate and Goal). A curriculum can have more than one goal.
- *Learning objectives* describe the final test, and should be a good approximation of the goal. A curriculum can have more than one objective. All objectives should include 1) *conditions or givens*, 2) *behavior that’s observable or recordable*, and 3) *criteria for acceptable performance*.
- All *content, teaching/learning methods, and evaluations* should be consistent with each other and aimed at attaining the learning objective.

Figure Two presents a graphical depiction of the Secret of Instructional Design.

Figure Two: The Secret of Curricular Design



[Source: Yelon and Berge. The secret of instructional design. *Performance and Instruction*, January, 1988. With additions from the Primary Care Faculty Development Fellowship, Michigan State University.]

Note the presence of the instructional elements and their consistency:

- The problem generates (a) real world performance goal(s).
- Performance goals suggest learning objectives that will tell us whether or not the student is capable of performing the goal in real life.
- Objectives describe the learner evaluations (tests); they determine what content students need to master; they suggest appropriate teaching and learning methods to promote attainment of the objective.

All elements must be present and consistent for instruction to work and learning to occur.

Example of a “Whole Picture” of a Curriculum

The following are examples of curricular elements that might be included in a curriculum that addresses screening, diagnosis, treatment/referral, and motivational interviewing. The format follows the application worksheets you will use to draft your own curriculum “whole picture.”

1. Draft at least one problem statement/rationale for your curriculum:

Substance-related disorders and risky substance use continue to be major US public health problems. There continues to be a need for competent substance abuse services. Among those services in which health care professionals need to be competent are screening, diagnosis, treatment and referral, and motivational interviewing. There is a need to train health professionals in the knowledge and skills of substance abuse services appropriate to their professional role.

2. Draft at least one goal for your entire curriculum:

In the course of a normal patient visit and when indicated, the graduate will screen, diagnose, and treat or refer for substance abuse as appropriate within his/her scope of work. They will apply motivational interviewing techniques when indicated.

3. Draft at least one objective for your entire curriculum:

a. conditions or givens:

Given real or simulated patient who presents with preliminary indications of substance abuse.

b. behavior that's observable or recordable:

the learner will perform appropriate screening activities

diagnose the substance abuse problem

treat or refer for treatment

c. criteria for acceptable performance:

according to the appropriate protocol (e.g., CAGE)

while applying motivational interviewing techniques

State the complete objective:

Given real or simulated patient who presents with preliminary indications of substance abuse, the learner will perform appropriate screening activities according to the appropriate protocol (e.g., CAGE)); diagnose the substance abuse problem; and treat or refer the patient for treatment; while applying motivational interviewing techniques."

4. Draft a list of knowledge and skills your learners will need to learn in order to attain the objective, organized and sequenced to help attain the objective:

a. Knowledge content:

knowledge of the indications of when to screen for substance abuse; knowledge of various substance abuse screening protocols

knowledge of diagnostic attributes of patients with different forms of substance abuse

knowledge of treatment guidelines and referral protocols

knowledge of appropriate motivational interview techniques

b. Skill content:

skill in identifying potential candidates for substance abuse screening; skill in patient interviewing with a focus on substance abuse.

skill in diagnosing cases of substance abuse.

skill in treating/referring patients with substance abuse problems

skill interviewing patients using motivational interviewing techniques

5. Draft your initial decisions about how learners will learn the content:

a. How will the knowledge be explained to the learners?

Instructor-delivered lecture presentations for learner acquisition of knowledge related to screening, diagnosing, treatment/referral and motivational interviewing; well-structured for learner acquisition and including use of memory aids, job aids, checklists, etc.

Pre-reading assignments on different screening questions for different purposes

b. How will the skills be demonstrated to the learners?

Instructor provides demonstrations of screening, diagnosis, treatment and referral, including motivational techniques where appropriate.

Learners view videotapes of good and bad examples of screening interviews.

Learners view videotapes of good and bad examples of the use of motivational techniques.

c. How will the learners practice using the knowledge and performing the skills?

Learners practice identifying clients for screening by working through multiple cases after having process explained and demonstrated.

Learners practice screening, diagnosing, treating/referring clients with substance abuse problems through paired role plays

Learners practice interviewing clients using motivational interviewing techniques through paired role plays.

Learners practice performing all skills together in pairs with instructor or peer observation and feedback.

6. Draft your initial decision on how learners will be evaluated:

a. On their knowledge base:

multiple-choice tests of knowledge of screening tests, purposes and questions

b. On their skills:

case reviews for testing diagnosis, treatment//referrals

OSCE stations of 5-8 patients for final evaluation; must get all 5 stations correct with respect to choice of screen

Application

1. Draft at least one problem statement/rationale for your curriculum:

2. Draft at least one goal for your entire curriculum:

3. Draft at least one objective for your entire curriculum:

a. conditions or givens: _____

b. behavior that's observable or recordable: _____

c) criteria for acceptable performance: _____

Write the complete objective _____

4. Draft a list of knowledge and skills your learners will need to learn in order to attain the objective:

Knowledge content:

Skill content:

5. Draft your initial decision about how learners will learn the content:

a. How will the knowledge be explained to the learners?

b. How will the skills be demonstrated to the learners?

c. How will the learners practice using the knowledge and performing the skills?

6. Draft your ideas for how learners will be evaluated:

a. On their knowledge base:

b. On their skills:

Unit Three: Planning Individual Units or Lessons

The “big picture” that you’ve begun drafting finds its ultimate expression in a series of units or lessons. Often, a unit is a series of lessons addressing a major topic of the curriculum and extend over several sessions. We will use the words “units” and “lessons” interchangeably here, as both must contain the same components.

The Secret of Instructional Design extends to the individual lesson level: there must be essential components present, and they must be consistent with each other. All lessons should have a perceivable structure: a beginning, a middle, and an end. Each section contains specific components.

The components of a unit or lesson include:

1. Components of the beginning of a lesson:
 - a. **Motivation**: why should learners learn the stuff in this lesson?
 - relate to their motives: they’re here because they want to be competent at addressing the problem of substance abuse.
 - appeal to self-image: you have an important role to play in addressing substance abuse!
 - “cognitive dissonance” - only the best, most conscientious clinicians are ready for this!
 - what makes this lesson important?
 - b. **Overview**: a brief summary list of the main ideas. Creates a “mental scaffold” for the learner on which to hang all the lesson details. Can also take the form of a “visible model.” (See Appendix A for further information on visible models.)
 - c. **Objective**: a description of how learners will be evaluated on lesson content. Includes givens/conditions, behavior (recordable/observable) and criteria
 - d. **Prerequisites**: what learners need to know or be able to do in order to benefit from the main lesson content. Some prerequisites may be taught during the lesson to ensure everyone has the same level of prerequisite knowledge and skill.
 - e. **Agenda**: the sequence of lesson events to follow.

NOTE: The order of presentation of the lesson beginning elements is not important.

2. Components the middle of a lesson:
 - a. **Explanation** of knowledge and skill content

- b. **Demonstration** of how to use content.
- c. **Student practice** using content. (See Appendix B for further details on practice activities.)
- d. **Student performance/test** and instructor feedback on their performance.

NOTE: The order of presentation of the lesson middle elements is VERY important and should be maintained!

- 3. Components of the end of a lesson:
 - a. **Summary** of what has just been taught; Highlight the most important points.
 - b. **Review objective and motivation**.
 - c. **Integration** of lesson with what came before and what will come.

NOTE: The order of presentation of the lesson end elements is not important.

Example of a Lesson Outline

The following are examples components that might be included in a lesson that addresses screening. The format follows the application worksheets you will use to draft your lesson outline

1. Lesson Beginning

a. **Motivation:** Describe why learners should learn the stuff in this lesson. Relate to their motives; appeal to their self-image; relate to the overall goal of the course:

Individuals with risky or problematic substance abuse commonly present to health care professionals. Most people with substance abuse problems receive no treatment. Early identification and intervention can improve the health outcomes of this population, and save money in the long run. "Front-line" medical care providers are in a position to screen effectively for substance abuse problems.

b. **Overview:** Briefly summarize the main ideas in the form of a list or a "visible model":

1) Screening is a procedure to recognize individuals with a disorder or at-risk behavior before obvious manifestations of the disorder or apparent.

2) Choose screens by the number of items, method of administration, substances covered and accuracy.

3) If you have to use one screen for alcohol and drug abuse, use the "Two-Item Conjoint Screen"

a) "In the past year, have you ever drunk or used drugs more than you meant to?"

b) "Have you felt you wanted or needed to cut down on your drinking or drug abuse in the past year?"

c. **Objective:** Describe how learners will be evaluated on lesson content:

1). Conditions: Describe what learners will be given and be able to use during the test:

simulated primary care patients suitable for substance abuse screening

2) Behavior: Describe what learners will have to do during the test. Must be observable or recordable:

a) will choose the appropriate screening instrument

b) will screen for substance abuse

enabling: describe, either verbally or in writing, the substance abuse continuum.

3) Criteria: Describe how well learners will have to perform to pass the test (quality, time, lower limit test score):

assessing and addressing patient comfort (for screening)

within 3 minutes

Restate the complete objective(s):

1) Health care professional participant, when presented with simulated primary care patients suitable for substance abuse screening, will choose the appropriate screening instrument.

2) Health care professional participant, when presented with simulated primary care patients suitable for substance abuse screening and screen for substance abuse. This action will be performed while assessing and addressing patient comfort.

d. **Prerequisites:** Describe what learners will need to know or be able to do in order to benefit from the lesson; Describe what knowledge/skill learners will be assumed to possess before they start the lesson:

sensitivity, specificity, positive predictive value, negative predictive value. - include in presentation

assumed: basic patient interviewing skills

e. **Agenda:** Describe the sequence of lesson events:

-
- 1) Rationale for Generalist Screening*
 - 2) The Continuum of Substance Abuse*
 - 3) Prerequisites: Sensitivity, Specificity, Positive Predictive Value, Negative Predictive Value*
 - 4) Definition of Screening*
 - 5) Barriers to Involvement in Screening*
 - 6) Criteria for Choosing Screens*
 - 7) Available Screens:*
 - 8) Other Issues to Consider: culture, non-verbal cues, sensitive situations*
 - 9) Patient Discomfort and*

- 10) Transitions to Screening
 - 11) Demonstration: Two-Item Conjoint Screen
 - 12) Practice: Two-Item Conjoint Screen
 - 13) Summary and Test
-
-
-
-
-
-

2. Lesson Middle

a. **Explanation** of content.

- 1) How will knowledge content be explained/presented to learners?

Pre-reading assignments (screening text/article compendium or review - need to find!)

Lecture presentation of agenda items 1-10, supported by video examples and job aids of screening questions for different screens

- 2) How will skill content be explained/presented to learners?

Choosing screening test: lecture with supporting job aid

transitioning, patient comfort: part of videotape, use lecture to highlight major points

video of screening technique in conjunction with agenda item #11

b. **Demonstration:** Describe how the content is used. This includes “cognitive skills” such as diagnosis. Should mirror the objective, the student practice, and the test:

How to choose a screen: demo of using job aid to choose screen

How to transition to a screen: videotape

Addressing patient comfort related to substance abuse screening: videotape,

Conducting the screen: videotape

After videotape, but before student practice, the instructor will demonstrate all skills with a learner as a simulated client.

c. **Student practice:** Provide instructions to give to students to practice using the content. Should mirror the objective, the demonstration, and the test: (See Appendix B, “Practice Activities” on page 51.)

Paired practice of demonstrated skills, with peer feedback

At least one practice of all skills with instructor feedback

d. **Student performance/test:** Provide instructions and all test items and materials (e.g., cases, scenarios, etc.) Should mirror the objective, demonstration, and student practice:

Have each participant perform all skills with instructor observation and feedback at least once before final OSCE testing. All skills will be included in final OSCE.

3. Lesson End:

a. **Summary:** Summarize what has just been taught, highlight the most important points:

If you have the time, choose an appropriate screen. When in doubt, use the Two-Item Conjoint Screen.

Always start and end with “patient comfort”: “Comfort - Transition - Screen - Comfort.”

b. **Review objective and motivation:** Paraphrase the objective and motivation from the lesson introduction - - “In this lesson, you learned how to..... this will allow you to.....in future situations.”:

In this unit you learned to:

- Choose a screening test.*
- Assess and address patient comfort.*
- Administer the screening test.*

This will help you screen for substance abuse and address a major national problem. As a member of the front-line of health care, your role in this cannot be under-estimated!

c. **Integration:** Describe how lesson fits with what came before and what will come after:

“Last session, we reviewed the scope of the substance abuse problem and the roles health care providers can play in addressing the problem, Now that you have a foundation in screening, the next session will address “assessment” - the process intended to identify precisely the category of substance abuse on the continuum.”

Application

Use this template to organize your lesson elements into an outline.

1. Lesson Beginning

a. **Motivation:** Describe why should learners learn the stuff in this lesson. Relate to their motives; appeal to their self-image; relate to the overall goal of the course:

b. **Overview:** Briefly summarize the main ideas in the form of a list or a “visible model”:

- 1.
- 2.
- 3.
- 4.
- 5.

c. **Objective:** Describe how learners will be evaluated on lesson content:

Conditions: Describe what learners will be given and be able to use during the test:

Behavior: Describe what learners will have to do during the test. Must be observable or recordable:

Criteria: Describe how well learners will have to perform to pass the test (quality, time, lower limit test score):

Restate the complete objective:

d. **Prerequisites**: Describe what learners will need to know or be able to do in order to benefit from the lesson; Describe what knowledge/skill learners will be assumed to possess before they start the lesson:

e. **Agenda**: Describe the sequence of lesson events:

2. Lesson Middle

a. **Explanation** of content.

1. How will knowledge content be explained/presented to learners?

2. How will skill content be explained/presented to learners?

b. **Demonstration**: Describe how the content is used. This includes “mental skills” such as diagnosis. Should mirror the objective, the student practice, and the test:

c. **Student practice:** Provide instructions to give to students to practice using the content. Should mirror the objective, the demonstration, and the test: (See Appendix B, “Practice Activities” on page 51.)

d. **Student performance/test:** Provide instructions and all test items and materials (e.g., cases, scenarios, etc.) Should mirror the objective, demonstration, and student practice:

3. Lesson End:

a. **Summary:** Summarize what has just been taught, using the form of the introduction overview with some embellishment:

b. **Review objective and motivation:** Paraphrase the objective and motivation from the lesson introduction - - “In this lesson, you learned how to..... this will allow you to.....in future situations.”:

c. **Integration:** Describe how this lesson goes with what came before and what will come after:

What's Left to Do?

While you now have a draft outline of the entire curriculum and one unit or lesson, much remains to be done.

For the “Whole Picture”:

1. Make sure your content is up to date and comprehensive. If you're using the Project MAINSTREAM materials, then this will not be an issue. If you add content, you may want to check it with a content expert.
2. Determine what resources (people, material, logistical, financial) you will need to implement the curriculum. Check on resource availability.

For each unit or lesson:

1. Give time estimates for each agenda item, then increase by 10 - 20%. Delete content items until unit fits into time allotted.
2. Draft, revise, and finalize all instructor and participants materials (handouts, slides, observation checklists, job aids, tests.)
3. Decide how the test is to be graded. Some issues to consider:
 - a. If using a skill checklist, are some items “mandatory” - if missed during learner performance, would result in a failing grade?
 - b. If a knowledge test, what is the minimum score required for passing?
4. Pilot test the instruction. Make sure it “works” before doing it “for real.”

PART TWO: CURRICULUM EVALUATION

Unit Four: Deciding What to Evaluate

Part I of this module navigated through the steps involved in creating and evaluating a teaching unit or lesson. A critical first step was to define what was to be learned. In this transition to evaluating an entire curriculum or program, there is an equivalent question: What do you want to evaluate in the curriculum?

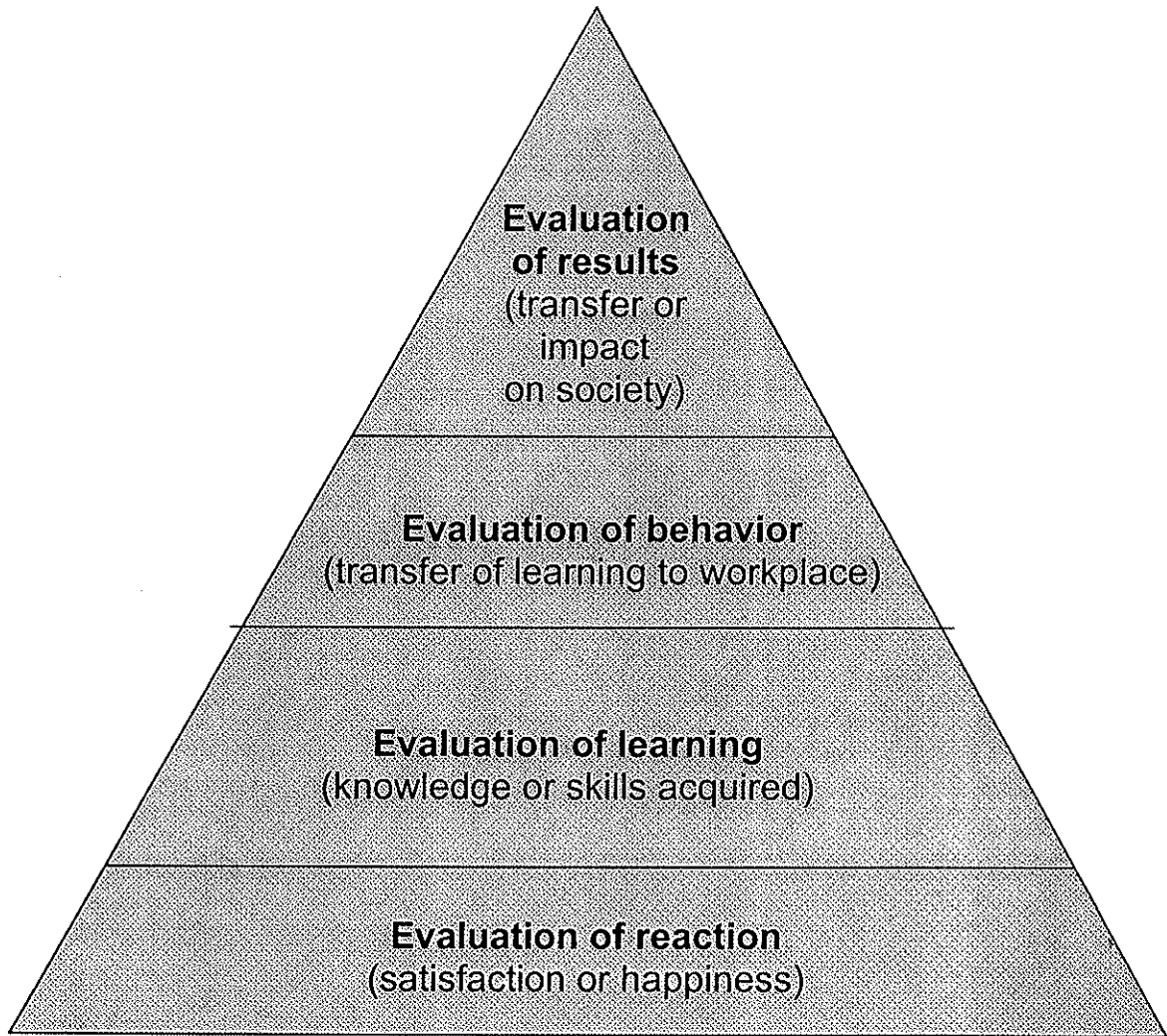
Prior to asking this question, it is helpful to return to the Curriculum Development and Evaluation Cycle. This graphic explains the relationship between the cycle of development of individual units or lessons as a preliminary process to planning the larger evaluation of the entire curriculum which will consider all the goals, teaching strategies, learner evaluations and resources.

One tool that is helpful in answering the question, “What should I evaluate?” is Kirkpatrick’s model for levels of evaluation.

What Levels of Evaluation Should the Evaluation Include?

Just as Miller’s framework proposed a useful way to think about levels of learner competence, Kirkpatrick created a framework for examining a hierarchy of the focus of a curriculum evaluation.

Kirkpatrick's (1998) Hierarchy of Evaluation.



Evaluation of Reaction: How did the learners or faculty perceive the curriculum; did they find it relevant to their practice needs?

Evaluation of Learning: Did the learners acquire the knowledge or skills necessary to perform screening?

Evaluation of Behavior: Can learners perform appropriate screening in clinical settings?

Evaluation of Results: Did the screening curriculum increase the rate of screening for substance abuse in the public health clinic?

Fellows will need to decide what level of this pyramid they expect their curriculum to achieve. Generally the higher levels will encompass evaluation activities that are included in lower levels of the pyramid.

Application

Instructions:

1. Decide what is the target level for your curriculum evaluation and
2. Within that level what is the focus of the evaluation

Target Level for Curriculum Evaluation: _____

What Will Be Evaluated Within Each Level:

Attempt to describe what will be evaluated in Levels 1-3. Level 4 may be beyond the scope of the plan at this time.

1. _____
2. _____
3. _____
4. _____

Unit Five: Stages of Evaluation

As you plan for evaluation think about the bigger picture and how the curriculum evaluation might be used. To determine what best represents consider the following hierarchy that reflects the maturity of a curriculum or program and how you might think about the way program maturity affects the overall purpose and context for the evaluation.

Stages of Program Evaluation:

- Pre-implementation: needs assessment; task analyses; problem definition;
- Accountability: documents what was done or accomplished; what is in place;
- Program Refinement: collecting information with the intent to improve something about the curriculum;
- Achieving Objectives: evidence that learning objectives were met;
- Program Impact: measuring change at the institution; establishing effectiveness.

Evaluators often consider two basic purposes in their evaluation planning:

- Summative Evaluation: activities that prove effectiveness of the curriculum often when a final decision is being made about individual or programs such as licensure or accreditation.
- Formative Evaluation: activities designed to improve one or more aspects of the curriculum. Part of the on-going cycle of feedback/modification.

Principle for Project MAINSTREAM participants:

Many of these curricula being developed are in an early stage of development and implementation. Evaluation strategies that emphasize formative evaluation are most effective now. Once the curriculum matures and you suspect it is achieving expected results, summative evaluation strategies become most appropriate.

Application

Instructions:

1. Based upon your thoughts about the maturity of your curriculum and the purpose of your evaluation (formative or summative) select the stage of evaluation most appropriate to your needs.
2. Describe why you selected this stage.

Stage of Evaluation

Why was this Stage selected?

Unit Six: Selecting the Evaluation Questions, Sources and Methods

The final step in this planning process is to develop specific evaluation questions and then determine the sources of information and methods of information collection to answer these questions. This section addresses the “What”, the “Who” and the “How” of curriculum evaluation.

An evaluation plan will include:

- evaluative questions ("what")
- possible sources of evaluative data ("who")
- methods for gathering evaluative data ("how")

WHAT: areas that the curriculum developer would want to evaluate

content: the timeliness, relevance, organization, and completeness of the curricular topics

process: how well the curriculum was designed; how well the curriculum was implemented; resources required

participants: affective impact and perceptions of curriculum on learners; impact of the curriculum on the faculty and staff.

outcomes: how well the participants accomplished the instructional objectives; effect of curriculum on real world performance; success rates for licensure/certification

WHO: sources of evaluative data for each area to be evaluated

content: content experts, professional boards and associations

process: instructional design experts, students, faculty, staff

participants: students, faculty, staff

outcomes: students, students' supervisors, licensing boards

HOW: methods for obtaining evaluative data for each area to be evaluated

content: document reviews, questionnaires, interviews

process: document reviews, questionnaires, interviews, small group review and discussions, audits

participants: ratings scales, questionnaires, interviews, small group discussions

outcomes: objective tests, performance tests, board examinations, ratings scales, questionnaires, interviews, follow-up studies

REMEMBER: Curriculum evaluation should be distinguished from student evaluation. The latter is only part of a much larger effort. Curriculum evaluation is aimed at improving the curriculum and determining its impact.

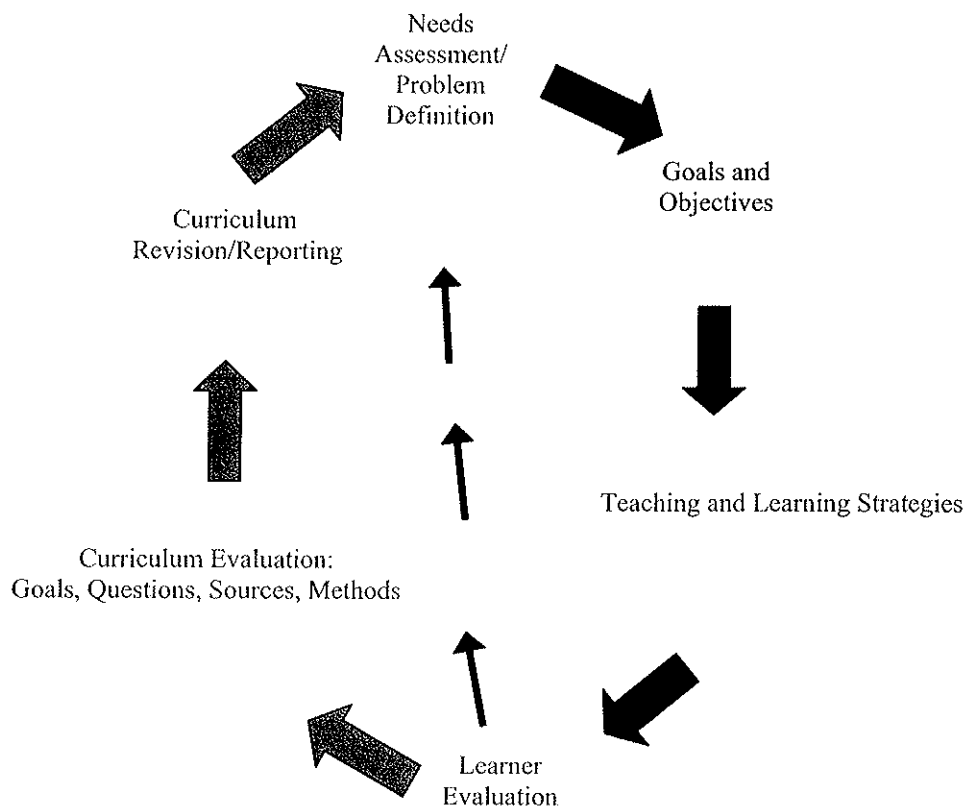
Application

1. Draft at least one evaluation question for each of the four evaluation components. Consider your “stage” of evaluation.
2. For each question choose at least one source and one method of data/information collection. Consider mixes of different sources and methods.

Questions	Sources	Methods
1. Content Evaluation Questions		
2. Process Evaluation Questions		
3. Participant Evaluation Questions		
4. Outcome Evaluation		

What's next?

1. Develop Methods: Methods of data and information must be thought out and planned in detail: Who will do what in order to collect data and information?
2. Create instruments: Many methods require the development or adoption of various instrument such as survey forms, checklists, and interview protocols to facilitate data and information collection.
3. Collect and analyze data.
4. Develop recommendations: Keep relevant stakeholders in mind when preparing recommendations for curriculum revision.
5. Write report: Clarify audience – who will receive the report, and who's names will be on the report.
6. Feedback results to guide curriculum revision, and begin the cycle anew.



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Appendix A: Visible Models of Course Organization

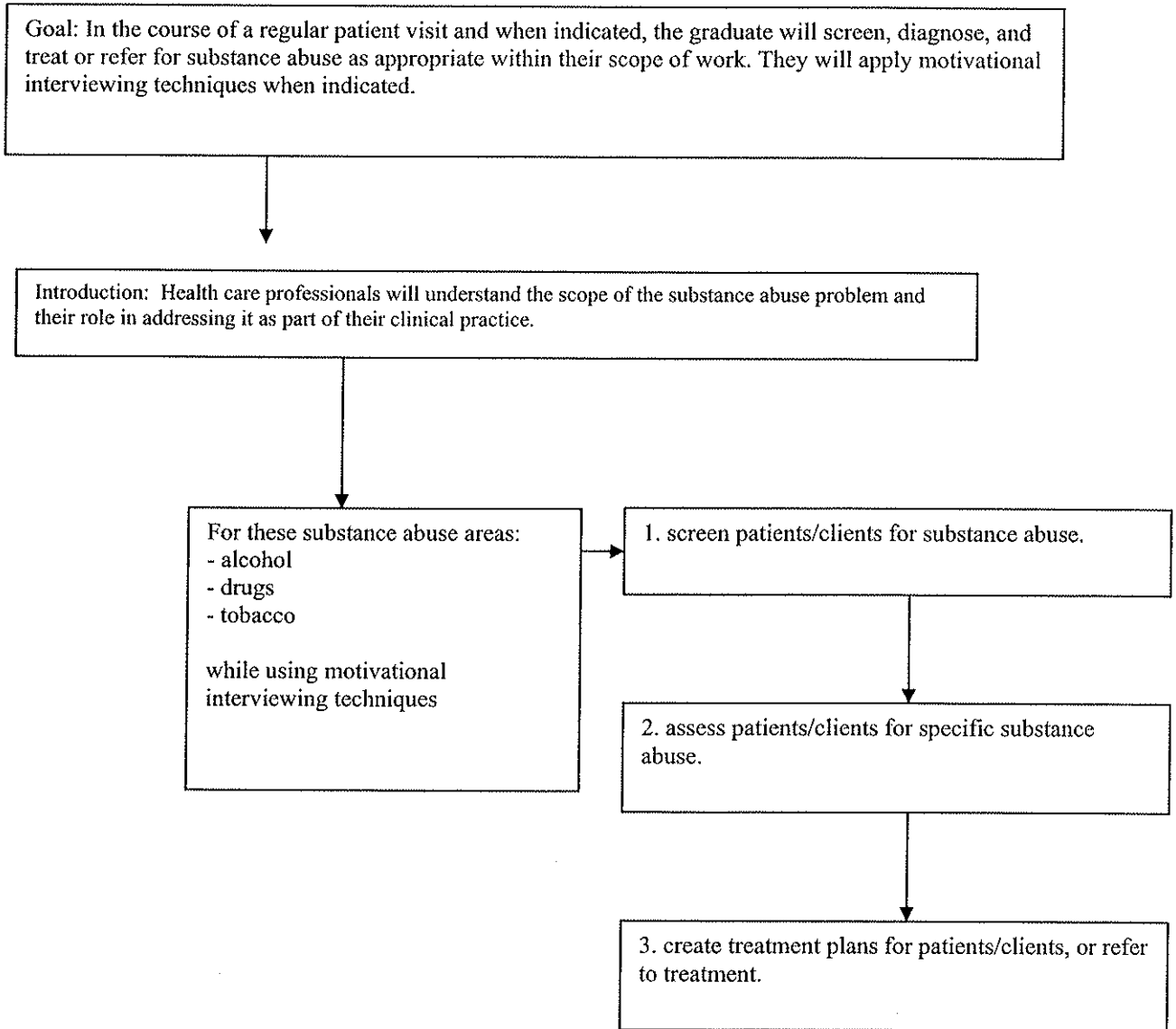
A visible model of course organization is an image that shows how the course components fit together and make a unified whole.

Such visible models are great ways to present, literally a picture of the whole course: all units and their relationships. This is an important way to help learners begin to organize the content of instruction.

- Design your course/unit/lesson visible model this way:
 1. Describe the parts of the course in terms of “units”. Unit titles can be thought of as subgoals of the course. Each unit title should be written with a verb and an object describing part of the desired real world performance goal.
 2. Describe the organization of the course. Courses can be organized many ways:
 - a. Chronologically: The events leading up to WWII, 1930, 1931, 1932...
 - b. Topically: The events leading up to WW II: politics, economics, geography
 - c. Simpler to more complex skills or applications: physical examination: from taking a blood pressure to the complete cardiac examination.
 - d. Component parts of a skill, all of which need to be performed: planning for disaster relief operations, from assessment to implementation and evaluation and reporting.
 - e. Other??
 3. Arrange your units according to your organization showing the relationships between all units and the overall real world performance goal.

[Source: Yelon and Reznich. Visible models of course organization. *Performance and Instruction*, July 1992]

Example Visible Model



Appendix B: Practice Activities

Definition: For our purposes, “practice activities” will refer to any activity in which students apply recently explained content to a problem or in response to a question or series of questions

Activities should have the following qualities:

- Purpose: the purpose of the activity should be clear, i.e., related directly to the objective(s).

“The purpose of this activity is to allow you to apply the principles of planning to a recent case study in disaster relief.”

- Directions: the activity should have clear, printed instructions that explicitly tell the learner what is expected.

“Read the following case study and answer the questions.”

“Develop a plan including all elements presented in the lecture.”

- Materials: there should be appropriate worksheets for recording responses during activities, if appropriate.
- Monitoring: learners should have access to the instructor or facilitators in case any questions arise.

“If you have any questions, or if anything is unclear, please raise your hand.”

- Feedback: appropriate mechanisms for providing feedback should be built in to any activity.

“Use the checklist to check your group’s work.”

“Show your completed plan to the instructor.”

“Be ready to demonstrate your technique to your instructor.”

Practice activities should be planned as part of an overall lesson.

Module XI: Curriculum Development and Evaluation



Project MAINSTREAM

Revised - 10/05

Purpose

- ◆ Health-care providers will be better-trained to screen, diagnose and treat substance abuse through well-designed instruction.

Learning Objectives: Part I

Health Professions Educators will draft:

- ◆ A description of target learners and the level of learning to be attained.
- ◆ A course rationale or problem statement
- ◆ One or more course goals
- ◆ One or more course objectives
- ◆ A list of course topics, or visual model of course units
- ◆ A complete unit or lesson

Learning Objectives: Part II

Health Care Professionals will draft an evaluation plan that will include:

- ◆ Goals for different levels of evaluation
- ◆ Evaluation questions
- ◆ Sources of evaluation data and information
- ◆ Evaluation methods

Why Have This Workshop?

- ◆ Well-designed curricula and evaluation will promote learning, and be accepted by learners.
- ◆ We know what goes into well-designed curriculum, and what it takes to evaluate them.

Prerequisites

- ◆ Knowledge of Project MAINSTREAM.
- ◆ Knowledge and skills in the relevant content areas such as screening, assessment, diagnosis, and treatment.

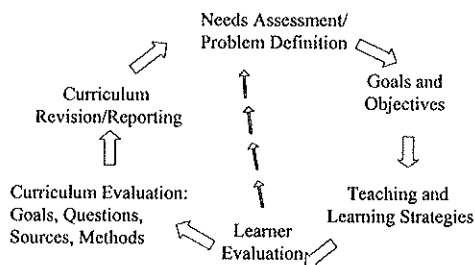
Agenda: Part I

- ◆ Identifying target learners and desired level of learning
- ◆ Drafting the “Whole Picture” of the curriculum/ The “Secret of Instructional Design”
- ◆ Drafting one unit or lesson of instruction
- ◆ What’s left to do?

Agenda: Part II

- ◆ Deciding level of evaluation and goals
- ◆ Drafting evaluation questions
- ◆ Deciding sources of evaluation data and information
- ◆ Deciding evaluation methods
- ◆ What Is Next?

Curriculum Development and Evaluation: Overview



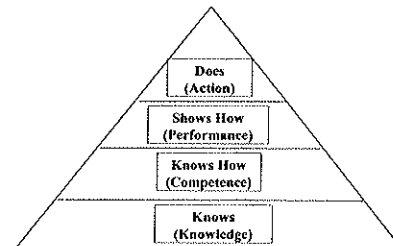
Overview (continued)

- ◆ In any piece of instruction, big or small, there must be certain elements, and they need to be consistent with each other.
- ◆ In evaluation, the choice of sources and methods is determined by the questions one wants to answer.

Who are the Learners?

- | | |
|---|---|
| <ul style="list-style-type: none"> ◆ Audiologists ◆ Dentists ◆ Dieticians ◆ Nurse midwives ◆ Nurse practitioners ◆ Nurses ◆ Occupational therapists ◆ Pharmacists | <ul style="list-style-type: none"> ◆ Physical therapists ◆ Physician assistants ◆ Physicians (MD, DO) ◆ Psychologists ◆ Public health professionals ◆ Social workers ◆ Speech pathologists |
|---|---|

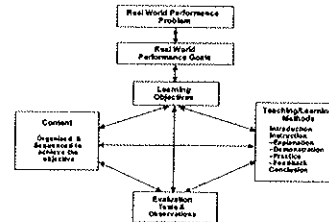
Level of Learning



Application

- ◆ Decide who are your target learners.
- ◆ Decide what level of learning you want your learners ultimately to attain.
- ◆ Record your decision in the space provided in the workbook.

The "Secret of Instructional Design": All Instructional Elements are Consistent



(Yelon and Berge, 1986 - with additions from the Primary Care Faculty Development Fellowship, Michigan State University).

Problem Statement or Rationale

- ◆ Real world performance problem: learners lack knowledge and/or skill.
- ◆ Provides a reason (rationale) for the curriculum.

Rationale (continued)

- ◆ *Substance-related disorders and risky substance use are persistent major US public health problems. There continues to be a need for competent substance abuse services. Among those services in which health care professionals need to be competent are screening, diagnosis, treatment and referral, and motivational interviewing. There is a need to train health professionals in the knowledge and skills of substance abuse services appropriate to their professional role.*

Curriculum Goals

- ◆ **Goals: The "Instructional Destination"**
 - A general statement of what a person who has finished the course should know or be able to do.
 - Example: *In the course of a normal patient visit and when indicated, the graduate will screen, diagnose, and treat or refer for substance abuse as appropriate within their scope of work. They will apply motivational interviewing techniques when indicated.*

Curriculum Goals (continued)

- ◆ **Application of Curriculum Goals**
 - Draft at least one statement describing what your target learners should be able to know and/or do when they have completed the curriculum.
 - Record your statement(s) in the appropriate space in the workbook.

Curriculum Objectives

- ◆ A description of the final test.
 - The test could be of any form:
 - Competent performance according to a checklist
 - Marking a given percentage of items right on a multiple-choice exam
 - Creating an original work that meets certain criteria
- ◆ An objective has 3 parts: conditions, behavior and criteria.

Objectives (continued)

- ◆ Example objective:
"Given a real or simulated patient who presents with preliminary indications of substance abuse, the learner will perform appropriate screening activities according to the appropriate protocol (e.g., CAGE); diagnose the substance abuse problem; and treat or refer the patient for treatment; while applying motivational interviewing techniques."

Test Conditions

- ◆ "Conditions" - What the learner will be given during the test:
 - A stimulus
 - "Given a simulated patient..."
 - A test form, instructions
 - "Given a multiple choice test of facts and concepts presented in the course..."
 - Resources
 - "Students will be able to use calculators."
 - "The exam will be open-book."
 - Time
 - "Students will have 2 hours to complete the exam."
 - "Students will conduct the screen in <1 minute."

Test Conditions (continued)

- ◆ Application:
 - Think about what a workshop "final exam" would be like.
 - Draft a statement of the conditions for that exam.
 - Write the conditions in the appropriate space in the workbook.

Test Behavior

- ◆ "Behavior" - what the learner is expected to do during the test:
 - Perform in a certain way:
 - "Perform a focused history and physical examination."
 - "Solve all problems in writing."
 - "Write a short story."
 - "Develop a plan."
 - NOTE: The behavior must be observable or recordable, and measurable:
 - Not observable: "know", "understand", "learn."
 - Observable: Write from memory, give an oral performance, produce an example of something (process and product).

Test Behavior (continued)

- ◆ Application:
 - Draft a statement of the behaviors for your final exam.
 - Write the behaviors in the appropriate space in the workbook.

Test Criteria

◆ Two parts:

- 1) How well the learner has to perform to "pass" the test.
 - Score "lower limit"
 - » "So that 85% of test items are answered correctly"
 - Process
 - » "So that all obligatory checklist items are present"
 - Product
 - » "So that the plan is complete in all aspects"
- 2) What will be used to judge learner performance
 - "According to the course materials and lectures"
 - "According to the performance checklist"

Test Criteria (continued)

◆ Application:

- Draft a statement of the criteria for your final exam.
- Write the criteria in the appropriate space in the workbook.
- When finished, compile the conditions, behavior, and criteria into an objective or series of objectives.

Attitudes

- ◆ Problem: "they're hidden" - but so are knowledge and skills
- ◆ We need behavioral indicators of attitude, as we do of knowledge and skills
- ◆ Example: "shows respect for patients"
 - Use their names plus an honorific (Mr/Ms)
 - Seeks to understand the patient's agenda
 - Maintain eye contact

Content

- ◆ The essential knowledge and skills learners must master in order to attain the objective.
- ◆ Must be organized and sequenced for ease of learning:
 - Easy to more difficult
 - Chronologically, categorically, by topic
 - By steps
 - Parts, then whole

Content (continued)

- ◆ Examples of knowledge content:
 - Knowledge of the indications of when to screen for substance abuse; knowledge of various substance abuse screening protocols.
 - Knowledge of diagnostic attributes of patients with different forms of substance abuse.
 - Knowledge of treatment guidelines and referral protocols.
 - Knowledge of appropriate motivational interview techniques.

Content (continued)

- ◆ Examples of skill content:
 - Skill in identifying potential candidates for substance abuse screening; skill in patient interviewing with a focus on substance abuse.
 - Skill in diagnosing cases of substance abuse.
 - Skill in treating/referring patients with substance abuse problems.
 - Skill interviewing patients using motivational interviewing techniques.

Content (continued)

- ◆ **Application**
 - Draft a list of knowledge content and a list of skill content that your learners will need to master in order to attain the objective.
 - Write the lists in the appropriate space in the workbook.

Teaching and Learning Methods

- ◆ The strategies and activities by which the content is explained and demonstrated by the instructor, and practiced by the learners.

Methods (continued)

- ◆ **Examples: Explanation**
 - *Instructor-delivered lecture presentations for learner acquisition of knowledge related to screening, diagnosing, treatment/referral and motivational interviewing; well-structured for learner acquisition and including use of memory aids, job aids, checklists, etc.*
 - *Pre-reading assignments on different screening questions for different purposes.*

Methods (continued)

- ◆ **Examples: Demonstration**
 - *Instructor provides demonstrations of screening, diagnosis, treatment and referral, including motivational techniques where appropriate.*
 - *Learners view videotapes of good and bad examples of screening interviews.*
 - *Learners view videotapes of good and bad examples of the use of motivational techniques.*

Methods (continued)

- ◆ **Examples: Practice**
 - *Learners practice identifying patients for screening by working through multiple cases after having process explained and demonstrated.*
 - *Learners practice screening, diagnosing, treating/referring patients with substance abuse problems through paired role plays.*
 - *Learners practice interviewing patients using motivational interviewing techniques through paired role plays.*
 - *Learners practice performing all skills together in pairs with instructor or peer observation and feedback.*

Methods (continued)

- ◆ **Application**
 - Make some initial decisions about how the content will be explained, demonstrated, and practiced.
 - Record your decisions in the space provided in the workbook.

Learner Evaluation

- ◆ The test
- ◆ The methods by which learner competence is determined
- ◆ As described in the objective
- ◆ Best to include feedback to learner: strengths, areas to improve and how to improve
- ◆ Can include tests of "enabling" content/skills, as well as final test

Learner Evaluation (continued)

- ◆ Examples: Learner Evaluation
 - Knowledge base:
 - *multiple-choice tests of knowledge of screening tests, purposes and questions ("enabling content")*
 - Skill:
 - *case reviews for testing diagnosis, treatment/referrals ("enabling skill")*
 - *OSCE stations of 5-8 patients for final evaluation; must get all 5 stations correct with respect to choice of screen ("final test")*

Learner Evaluation (continued)

- ◆ Application
 - Draft your initial ideas about how your learners will be evaluated, using your objective(s) for guidance.
 - Can have tests of enabling content/skills, as well as final test.
 - Record your ideas in the space provided in the workbook.

Summary Thus Far

- ◆ Good instruction includes a picture of the whole.
- ◆ A good "whole picture" includes:
 - Statement of the problem/rationale
 - Goal
 - Objective
 - Content
 - Instructional and learning strategies
 - Learner evaluation strategies
- ◆ All parts are consistent with each other.

Units/Lessons

- ◆ A unit is a series of lessons on a single topic, extending over several sessions.
- ◆ A lesson is a piece of instruction to be delivered in one session.
- ◆ The Secret of Instructional Design applies to units/lessons as well as the whole picture: Components must be present and consistent with each other.
- ◆ Focus: lesson.

Units/Lessons (continued)

- ◆ A well-designed lesson has a beginning, a middle, and an end.
- ◆ Each section has its own components.
- ◆ The order of components is not critical for the lesson beginning and end, but it is critical for the lesson middle.

Lesson Beginning

◆ Components of the lesson beginning:

- Motivation
- Overview
- Objective
- Prerequisites
- Agenda

Lesson Beginning (continued)

◆ Motivation: Why should learners learn the stuff in this lesson?

- relate to their motives: they're here because they want to be competent at addressing the problem of substance abuse.
- appeal to self-image: you have an important role to play in addressing substance abuse!
- "cognitive dissonance" - only the best, most conscientious clinicians are ready for this!
- What makes this lesson important?

Lesson Beginning (continued)

◆ Example: Motivation

"Individuals with risky or problematic substance abuse commonly present to health care professionals. Most people with substance abuse problems receive no treatment. Early identification and intervention can improve the health outcomes of this population, and save money in the long run. "Front-line" health care providers are in a position to screen effectively for substance-abuse problems."

Lesson Beginning (continued)

◆ Overview: a brief summary list of the main ideas.

- Creates a "mental scaffold" for the learner on which to hang all the lesson details.
- Can also take the form of a "visible model." (workbook Appendix A)

Lesson Beginning (continued))

◆ Example: Overview

1. Screening is a procedure to recognize individuals with a disorder or at-risk behavior before obvious manifestations of the disorder or apparent.
2. Choose screens by the number of items, method of administration, substances covered and accuracy.
3. If you use only one screen for alcohol and drug abuse, use the "Two-Item Conjoint Screen"
 - a. "In the past year, have you ever drunk or used drugs more than you meant to?"
 - b. "Have you felt you wanted or needed to cut down on your drinking or drug abuse in the past year?"
4. Always be concerned about patient comfort!

Lesson Beginning (continued)

◆ Objective: A description of how learners will be evaluated on lesson content. Includes givens/conditions, behavior (recordable/observable) and criteria.

Lesson Beginning (continued)

◆ **Examples: Objective**

1. *Health care professional participant, when presented with simulated primary care patients suitable for substance abuse screening, will choose the appropriate screening instrument.*
2. *Health care professional participant, when presented with simulated primary care patients suitable for substance abuse screening and screen for substance abuse. This action will be performed while assessing and addressing patient comfort.*

Lesson Beginning (continued)

◆ **Prerequisites:** what learners need to know or be able to do in order to benefit from the main lesson content.

◆ **Some prerequisites may be taught during the lesson to ensure everyone has the same level of prerequisite knowledge and skill.**

◆ **Other prerequisites may be assumed.**

Lesson Beginning (continued)

◆ **Example: Prerequisites**

- *To be taught: sensitivity, specificity, positive predictive value, negative predictive value. - include in presentation*
- *Assumed: basic patient interviewing skills*

Lesson Beginning (continued)

◆ **Agenda:** the sequence of lesson events to follow

Lesson Beginning (continued)

◆ **Example: Agenda**

- 1) *Rationale for Generalist Screening*
- 2) *The Continuum of Substance Abuse*
- 3) *Prerequisites: Sensitivity, Specificity, Positive Predictive Value, Negative Predictive Value*
- 4) *Definition of Screening*
- 5) *Barriers to Involvement in Screening*
- 6) *Criteria for Choosing Screens*
- 7) *Available Screens*

Lesson Beginning (continued)

◆ **Example: Agenda (continued)**

- 8) *Other Issues to Consider: culture, non-verbal cues, sensitive situations*
- 9) *Patient Discomfort and*
- 10) *Transitions to Screening*
- 11) *Demonstration: Two-Item Conjoint Screen*
- 12) *Practice: Two-Item Conjoint Screen*
- 13) *Summary and Test*

Lesson Beginning (continued)

- ◆ Application:
 - Draft ideas for all the components of the beginning of a lesson: motivation, overview, objective, prerequisites, agenda
 - Record your work in the appropriate spaces in the workbook

Lesson Middle

- ◆ Components of the Lesson Middle
 - Explanation
 - Demonstration
 - Practice
 - Performance/Test

Lesson Middle (continued)

- ◆ Explanation
 - How the knowledge and skills will be presented to the learners.
 - Common methods: lecture, pre-reading, videotapes and other media.

Lesson Middle (continued)

- ◆ Example: Explanation
 - *Pre-reading assignments (screening text/article compendium or review - need to find!).*
 - *Lecture presentation of agenda items 1-10, supported by video examples and job aids of screening questions for different screens.*

Lesson Middle (continued)

- ◆ Demonstration
 - Showing learners how to use the content of the lesson.
 - Most often associated with skills, but can be used for teaching knowledge: mental skills.
 - Should mirror objective(s).

Lesson Middle (continued)

- ◆ Example: Demonstration
 - *How to choose a screen: demo of using job aid to choose screen.*
 - *How to transition to a screen: videotape.*
 - *Addressing patient comfort related to substance abuse screening: videotape.*
 - *Conducting the screen: videotape.*
 - *After videotape, but before student practice, the instructor will demonstrate all skills with a learner as a simulated patient.*

Lesson Middle (continued)

◆ Practice

- Include clear directions, and any necessary materials (e.g., practice cases, handouts, worksheets, etc.).
- Provide feedback on performance:
 - What is done well
 - What needs improvement
 - How to improve
- Should mirror objective(s).

Lesson Middle (continued)

◆ Example: Practice

- *Paired practice of all demonstrated skills, with peer feedback.*
- *At least one practice of all skills with instructor feedback.*

Lesson Middle (continued)

◆ Learner Performance/Test

- As specified in the objective(s).
- Only after complete learner practice with feedback.

Lesson Middle (continued)

◆ Example: Learner Performance/Test

- *Have each participant perform all skills with instructor observation and feedback at least once before final OSCE testing.*
- *All skills will be included in final OSCE.*
- *OSCE: 5-8 stations with different paper cases or simulated patients with and without SA problems.*

Lesson Middle (continued)

◆ Application

- Draft your initial ideas about explanation, demonstration, practice and performance.
- Record your ideas in the spaces provided in the workbook.

Lesson End

◆ Components of the Lesson End

- Summary
- Review objective and motivation
- Integration

Lesson End (continued)

◆ Summary

- Highlight the most important points made in the lesson.

Lesson End (continued)

◆ Example: Summary

- *If you have the time, choose an appropriate screen. When in doubt, use the Two-Item Conjoint Screen.*
- *Always start and end with "patient comfort": "Comfort - Transition - Screen - Comfort."*

Lessons: End (continued)

◆ Review objective and motivation

- Examples:
 - *In this unit you learned to:*
 - *Choose a screening test.*
 - *Assess and address patient comfort.*
 - *Administer the screening test.*
 - *This will help you screen for substance abuse and address a major national problem. As a member of the front-line of health care, your role in this cannot be under-estimated!*

Lessons: End (continued)

◆ Integration

- Describe how lesson fits with what came before and what will come after.
- Learners see relevance of the unit in the wider picture.

Lessons: End (continued)

◆ Example: Integration

"Last session, we reviewed the scope of the substance abuse problem and the roles health care providers can play in addressing the problem. Now that you have a foundation in screening, the next session will address "assessment" - the process intended to identify precisely the category of substance abuse on the continuum."

Lesson End (continued)

◆ Application

- Draft your initial ideas for the components of the end of your lesson.
- Record your ideas in the spaces provided in the work book.

What's Left to Do?

- ◆ For the "Whole Picture":
 1. Make sure your content is up to date and comprehensive. If you're using the Project Mainstream materials, then this will not be an issue. If you add content, you may want to check it with a content expert.
 2. Determine what resources (people, material, logistical, financial) you will need to implement the curriculum. Check on resource availability.

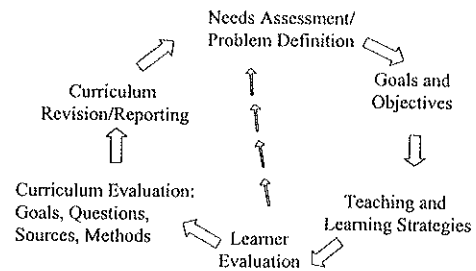
What's Left to Do? (continued)

- ◆ For each lesson/unit:
 1. Give time estimates for each agenda item, then increase by 10 - 20%. Delete content items until unit fits into time allotted.
 2. Draft, revise, and finalize all instructor and participants materials (handouts, slides, observation checklists, job aids, tests.)
 3. Decide how the test is to be graded.
 4. Pilot test the instruction. Make sure it "works" before doing it "for real."

Agenda: Part II

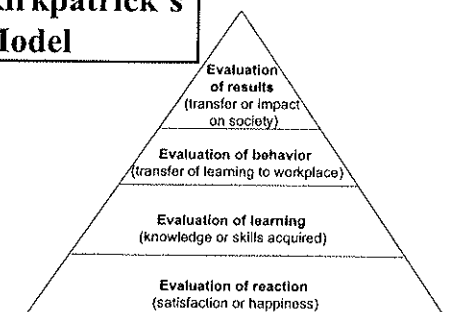
- ◆ Evaluation:
 - Deciding level of evaluation and goals
 - Drafting evaluation questions
 - Deciding sources of evaluation data and information
 - Deciding evaluation methods
 - What Is Next?

Curriculum Development and Evaluation



What Do You Want to Evaluate?

Kirkpatrick's Model



Level and Focus

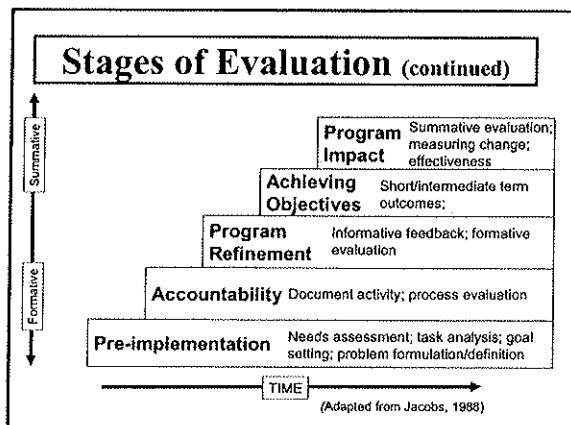
Evaluation Level	Focus
1. REACTION	<ul style="list-style-type: none"> ◆satisfaction ◆usefulness ◆motivation
2. LEARNING	Acquisition of <ul style="list-style-type: none"> ◆knowledge ◆skills ◆attitudes
3. TRANSFER	Real life transfer of <ul style="list-style-type: none"> ◆knowledge ◆skills ◆attitudes ◆problem-solving
4. RESULTS	Real world outcomes

(Kirkpatrick, 1998)

- ### Levels of Evaluation
- ◆ Application: Levels of Evaluation
 - Based upon Kirkpatrick's model, make a preliminary choice of evaluation level.
 - You can choose more than one level.
 - Make preliminary choices of evaluation focuses according to level.
 - Record your choices in the appropriate space in the workbook.

- ### Stages of Evaluation
- ◆ Two Considerations:
 - How "mature" is your curriculum?
 - Is it new or in first couple of years of implementation?
 - Is it "mature" - has it been used over the course of several years with repeated implementation?

- ### Stages of Evaluation (continued)
- ◆ What is the purpose?
 - Summative: to document effectiveness, e.g., whether it might be worthy of dissemination or accreditation.
 - Formative: to improve the curriculum.



- ### Stages of Evaluation (continued)
- ◆ Application: Stages of Evaluation
 - Based upon your thoughts about the "maturity" of your curriculum and your evaluation purpose, select the stage evaluation and describe why you selected it.
 - It is possible to choose more than one stage of evaluation.
 - Record your choices in the appropriate space in the workbook, describing.

Developing Questions

- ◆ What?
 - All evaluations should be “question driven.”
 - Basic question: What do I need to know that my evaluation can tell me?
 - Evaluation questions are based upon your decisions regarding level/focus and stage.
 - What can you ask questions about?
 - Content
 - Process
 - Participant
 - Outcomes

Developing Questions (continued)

Components	Questions	
	What?	
Content	Is my content up-to-date and complete? (program refinement)	
Process	Are my curriculum components well-integrated? Is the content appropriate for the objectives? (pre-implementation)	
Participants	Are my learners satisfied with the instruction? (program refinement) Do they intend on using it? (program impact)	
Outcomes	Are the skills being used on the job? (program impact)	

Developing Questions (continued)

- ◆ Application: Evaluation Questions
 - Draft at least one evaluation question for each of the four evaluation components: content, process, participants, outcomes
 - Keep your “stage” in mind
 - Record your draft questions in the appropriate space in the workbook.

Selecting Sources & Methods

- ◆ Selecting sources - “Who?”
 - Different questions require different sources of data or information
 - Multiple sources useful to detect trends

Selecting Sources & Methods (continued)

- ◆ Selecting methods - How?
 - There are many different types of methods for obtaining evaluation data and information: observation, tests, surveys, focus groups, interviews.
 - Consider “mixes” of methods: group/individual, survey/interview, open-ended/close-ended.

Selecting Sources and Methods (continued)

Components	Questions		
	What?	Who?	How?
Content	Is my content up-to-date and complete?	Content expert	Document review
Process	Are my curriculum components well-integrated? Is the content appropriate for the objectives?	Instructional design Expert	Document review
Participants	Are my learners satisfied with the instruction? Do they intend on using it?	Learners	End of instruction survey
Outcomes	Are the skills being used on the job?	Learners	Chart review Direct observation

Selecting Sources & Methods (continued)

- ◆ Application: Evaluation Sources and Methods
 - For each evaluation question, choose at least one source and one method of data/information collection.
 - Record your choices in the space provided in the workbook.

What Is Next?

- ◆ Develop methods
- ◆ Create instruments
- ◆ Collect and analyze data
- ◆ Develop recommendations
- ◆ Write report
- ◆ Feedback to curriculum and planning