

CHAPTER 5 - REPRESENTATION AND DESCRIPTION OF A REFLEXIVE TEACHING MODEL

This chapter describes the reflexive teaching model, based on Joyce and Weil's (1996) conceptual framework, and represents our beliefs, intentions, and actions in using the model to teach instructional design. First, the goals of the model are described, its theoretical assumptions, and its underlying principles. Second, the model is examined by a description of its social system, syntax, principles of reaction, and support system for both learners and teachers. Third, the instructional (direct) and nurturant (indirect) effects of the model on learners are explained.

Model Orientation

This section describes the goals of the model, the theoretical assumptions of these goals, and the learning principles derived from the theory used to support ID learning.

Goals

The course introduces learners to the ID process. Two goals of the model are to provide learners with opportunities to (a) use the ID process to think and make decisions about ways to promote learning, and (b) examine their beliefs about learning and teaching. The first goal addresses ID process understanding and the uses of tools (e.g., task analysis, learning taxonomies) and processes (e.g., feedback, revision) to analyze instructional problems and design and evaluate instructional approaches that promote learning. The second goal ensures that not only are the technical features of ID addressed, but that the human participants acting within this process, and thus their learning beliefs will influence how they think, design, and act. Thus, the systematic aspects of ID, its components, tools, processes, continue to keep learning issues within the process and help to ensure responsive designs for learning result.

Stances towards Learning and Teaching that Support ID Learning

The views of learning and teaching that support this instructional approach to instructional design are three-fold; that (a) learning is constructed by the individual (Piaget, 1971; Bruner, 1990), but also that “meaning and reality are created and not discovered, that negotiation is the art of constructing new meanings by which individuals can regulate their relations with each other” (Bruner, 1986, p.149); (b) that learning is situated and mediated in social contexts (Brown, Collins & Duguid, 1989; Lave & Wenger, 1991), and that (c) teaching consists of assisting learners through a range of means (e.g., modeling, feedback, instruction, questioning, encouragement, cognitive structuring, reflectivity) (Magliaro & Shambaugh, 1997; Shambaugh & Magliaro, 1996-April; Tharp & Gallimore, 1988).

This pragmatic view of ID practice as a human activity regards instructional design as purposeful action. Its outcomes, that may include written plans based on careful reflection of instructional issues, emerge out of communicative transactions (Joas, 1996) with the design constituents, including learners, teachers, experts, designers, and evaluators.

Human dialogue is inherent in ID practice; thus, it is a critical component in the teaching and learning of ID. Dialogue provides an opportunity for communication, an “exchange of meaningful messages” (Pomorska in Bakhtin, 1984, p. viii) between participants. Dialogue must be modeled and practiced in the ID learning environment, both in and out of the classroom, as

well as the design of instructional materials. How these views of teaching and learning can be transformed into instruction can be facilitated by the development of a teaching model.

Nature of the Instructional Design (ID) Process

Three distinct features characterize instructional design. Instructional design is (a) a systematic problem solving process, (b) based on learning theory, resulting in (c) comprehensive, written plans that address these instructional problems (Gagné, Briggs & Wager, 1992; Seels & Glasgow, 1990; Smith & Ragan, 1993). In particular, the process characteristic, the ways and means by which instructional problems are analyzed and addressed, is represented in numerous ways by ID proponents. Furthermore, how one defines instructional design, whether through a definition, a model, or in practice, characterizes how one undertakes this process. On the one hand, instructional design can be characterized as a technical process driven by rules and principles (e.g., Dick & Carey, 1996; Richey, 1986). On the other, instructional design is an iterative process that must continually identify and interpret learning needs where rules or procedures fail to address the realities of an instructional situation involving humans (Rowland, 1993). Rules or procedures cannot hope to cover all contingencies.

One's definition of instructional design, whether implicit or explicit, also influences how one teaches instructional design. Instructional design practice has been characterized by some as an intuitive, heuristic, and iterative process (Rowland, 1993). However, instructional design has come to be regarded by novices as a linear, overly-prescriptive process because it is taught in this way (Edmonds, Branch & Mukherjee, 1994). Teachers regard instructional design as limiting their options in the classroom (Martin & Clemente, 1990). Rowland and colleagues (Rowland, Fixl & Yung, 1992) encourage the use of authentic design tasks, modeling of design expertise, and reflective activities in ID instruction. This dilemma of presenting a representation of ID appropriate for novices, while depicting the realities of ID practice, is a challenge to anyone teaching ID. The following definition, one that has emerged from my collaborative activity in the representation and teaching of instructional design, provides our particular view on the ID process and implies a supportive stance for ID instruction: "An intellectual process which systematically analyzes the needs of learners and provides features to assist designers construct structured 'possibilities' to responsively address those needs" (Shambaugh & Magliaro, 1997). Characterizing the process as an intellectual one suggests that instructional design uses the same high-level thinking tools characteristic of problem solving and decision-making (Nelson, Magliaro & Sherman, 1988). Employing a systematic structure helps to guide specific decisions within the overall picture of the instructional problem (Edmonds, Branch & Mukherjee, 1994). From our definition, analysis of an instructional problem and its subsequent design remains a recursive process, a continual revisiting of one's intent and what one has designed, open to multiple responses. The use of the term "instructional problem" suggests that a 'solution' is required. More accurately, a "working solution" (Simon, 1981), one that proposes an appropriate response based on careful consideration of the important issues, is the aim. In our view, responsivity is characterized and assessed in our work and student work by (a) considering the range of learner needs, (b) examining the nature of the "content" to be learned, and (c) acknowledging the realities of the instructional context.

Model Description

A description of the teaching model, based on Joyce and Weil's (1996) approach, consists of four components: its syntax, social system, principles of reaction, and support system.

Social System

The social system is described before the procedural syntax to lay out the interactions of the major components of the model, which explicitly represent the participants and the participation structures. This social system can be depicted with a visual representation. The major components of the reflexive teaching model, as seen in Figure 56, include learner characteristics and roles of instructor and learner, co-participation structures, and dialogue. Each will be described.

Within this reflexive model teachers and students are viewed as co-participants, as co-learners in the course. Activity within this approach is roughly distributed equally between teacher and student. Roles for each, however, are different. As Arnett (1992) has written, "A role carries unique responsibilities, calling for particular commitments and obligations" (p. 12).

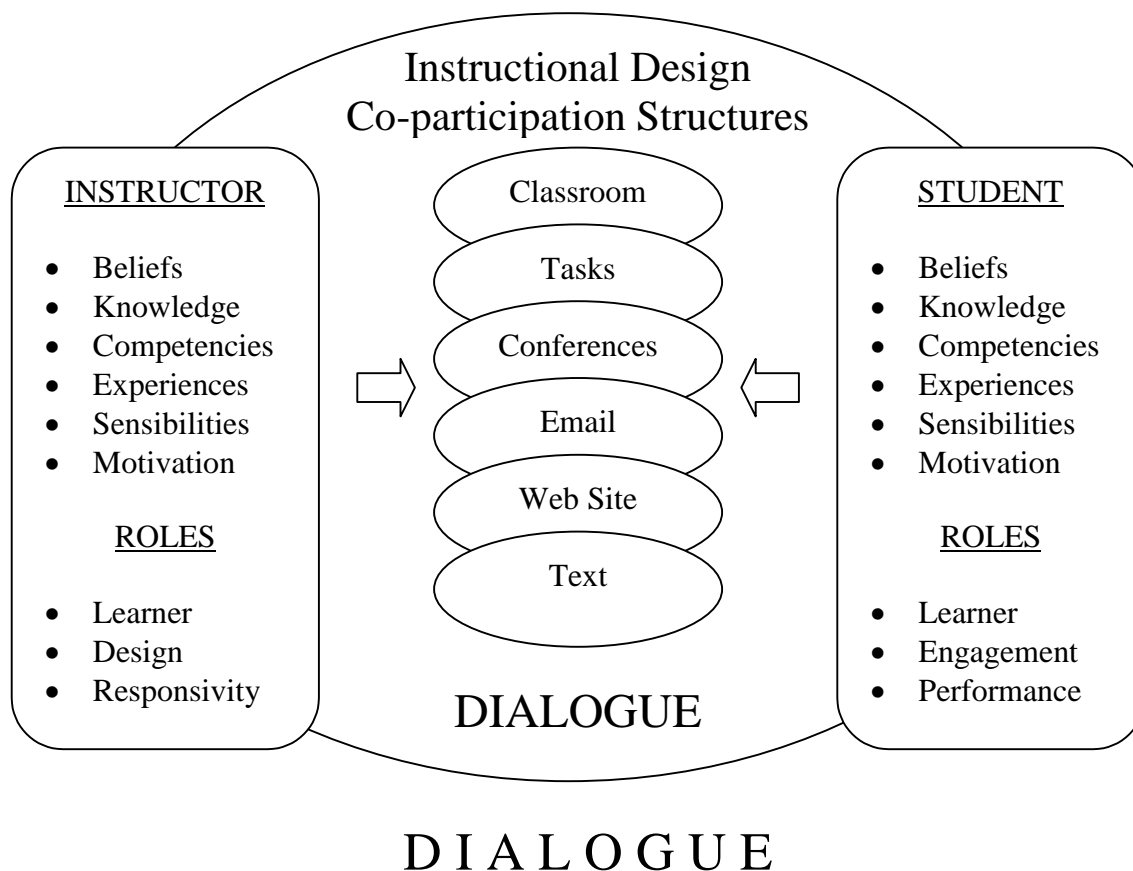


Figure 56. The reflexive teaching model.

Instructor characteristics and roles. All participants bring with them a set of beliefs about learning, teaching, and their role as teachers or learners. Being a reflexive model, self-examination of these beliefs is necessary in order for one to be clear about the basis or framework one operates under as a designer or teacher.

Within this model the teacher assumes a supportive role, not unlike that of a coach (Schön, 1987), calling upon various means to support student learning, including modeling, instructing, contingency managing, feeding back, questioning, cognitive structuring, and reflecting (Tharp & Gallimore, 1988; Shambaugh & Magliaro, 1995-April). The reflective means of support can be seen to model instructional design's formative evaluation component by a continual self-evaluation and inquiry stance toward his/her actions. In terms of knowledge and competencies, the teacher must bring to the course not only expertise in instructional design, but subject matter knowledge, pedagogical knowledge, pedagogical content knowledge, and knowledge of the learning principles of instructional design (Shulman, 1986). All aspects of these forms of knowledge are called upon to help students in their learning of the ID process, particularly in their ID projects.

In addition to knowledge and skills, the teachers brings to the teaching a range of previous educational and life experiences and sensibilities that characterize one's view and approach to teaching and learners. Finally, motivation to use this model requires that a teacher be willing to model the content to be taught, support risk-taking and ambiguity, and continually evaluate and provide feedback to learners (Magliaro & Shambaugh, 1997). In addition, to be truly reflexive, the instructor must provide opportunities for participant interaction and be responsiveness to a complicated needs of individuals, the overall group, and the content to be taught.

Thus, the instructor roles within the model include that of a learner, a designer of an instructional environment, and responsivity of learner needs within this environment.

Student characteristics and roles. Like teachers, students bring to the learning a set of beliefs about teaching and learning, knowledge and competencies, human experiences and sensibilities, and motivations to learn instructional design. As students in the ID course, learning beliefs, some of which may be “fuzzy” and contain numerous inconsistencies, stem from their previous experiences with schooling. If the model's implementation is to be truly co-participatory than students' existing knowledge and previous experiences must be honored. Students' degree of competencies, skills, and capabilities must be also be openly valued so they begin to acknowledge what skills they may have or those that they do not have, so that they can be aware of these capabilities in their design efforts and realize that they as designers and teachers are also learners. Students have various motivations to enroll in the course, but their motivation to participate in the course's participation structures is essential. One of the roles of the instructor is to model this motivation by actively engaging in the course, listening and promptly responding to learner concerns and performance, taking risks, encouraging feedback on instructor efforts, and studying one's own teaching. Providing student choice and negotiation of an instructional design project, for example, also contribute to student motivation.

In summary, student roles in the reflexive model include that of a learner, a willingness to engage or participate in the participation structures, and performance on learning tasks.

Co-participation structures. This model views teaching and learning as a co-participatory process and represents this aspect in a number of participation structures, including the

classroom, learning tasks, individual conferences, electronic mail, web site, and text (textbook, readings). See Figure 57 for a summary of learner and teacher participation.

Participation Structure	Learner Participation	Teacher Participation
Classroom	Take risks, discuss, share, reflect, work together, change roles	Structure, listen, prompt, encourage, reflect, model, solicit feedback
Learning tasks	Commit decisions to writing, revise, reflect	Structure, provide prompt feedback, prompt, encourage, question, summarize student work and share findings
Conferences	Verbalize, think-aloud, share previous experiences	Listen, question, guide, prompt
Email	Question, respond to student queries	Promptly respond to queries; post agendas, reminders, resources
Web site	Consult, provide feedback	Structure, update, solicit and respond to feedback
Text	Read, negotiate features, reflect, provide feedback	Structure, relate to course activities, solicit feedback

Figure 57. Participation structure by learner participation and teacher participation

Although careful consideration must be given to the design of these structures, some negotiation of their features by students is also encouraged. The key to this feature for a teacher is being open to feedback and periodically “stepping outside” a teacher's perspective to consider these suggestions.

Within these structures dialogue between the participants is crucial. For example, in a group activity, dialogue enables the knowledge of instructional design (and one's views and experiences) to be shared in an open and testable way, initiating a shared reflective process. Cooperative learning, presentations, and peer and teacher evaluations are among the key components in this group-oriented aspect of the model. It is in this interactive participation that a class community of learners is supported. Within the structures dialogue with oneself through individual reflective tasks promotes ID understanding and understanding of one's own thought processes. Weekly written project drafts and feedback on one's performance help to support the development of reflective activity.

Because the model distributes activity equally between teacher and student, the model can be viewed as exhibiting a moderate amount of structure between teachers' use of mini-lectures and in-class task structure, and student's use of discussion and group activity. This structure, which can be described in the model's syntax below, varies according to the dynamics of the class and needs of the students.

Syntax

Classroom syntax. The syntax or procedural flow of the classroom activities, based on the experiences and research conducted on Cases 1-6, includes three phases: (a) setting the stage, (b) representing understanding by participants, and (c) debriefing the participants. The following syntax description is based on a 2-hour, 50-minute class session, meeting once per week.

Setting the stage. In the first stage, "setting the stage," which may run from 10-30 minutes, the teacher welcomes students and checks for overall student concerns at this stage in the semester. The teacher presents the agenda for the class session and provides reminders of upcoming current events and class activities and addresses other "housekeeping" activities. The teacher then addresses student concerns from in-class questions, "exit slips" from the previous class session, and electronic mail that may be of interest to the whole class. Work submitted from the previous class session is returned and the teacher's assessment of student performance is discussed in class.

Representing understanding. The second stage of the model, "representing understanding," occupies about two hours of the class session, and is divided up by a short break. This second stage includes activities by both teacher and students that represent their understanding of a component of the instructional design process. Labeling this second stage as "representing understanding" acknowledges that teachers and students may have different conceptual understandings of the process, before, during, and after the course. Two types of paired activities are used: mini-lecture and group activity. A mini-lecture, lasting 20-30 minutes, is based on the teacher's representation of her understanding of the ID process component or the use of a particular conceptual tool (e.g., taxonomies) or procedural tool (e.g., task analysis). With group activities, usually lasting 45-60 minutes, students represent their initial understanding of an ID component or tool and discuss with other students in groups and with the entire class issues of their instructional problem.

Either of these activities may begin the second phase of the model, depending on how the instructor has appraised student needs or the nature of the content to be introduced. A group activity may be used to begin students' thinking and as a way to frame the issues addressed by that ID component. A structured task is distributed in handout form to support learners' efforts. The purpose of the activity is explained, usually a task to explore this ID component or to apply what one has learned from the mini-lecture (i.e., to begin making decisions). Students are divided up into groups, along some rationale: mixing experience, project choice, student choice. The task is explained along with the role of the members. Usually, the structured task asks that the group members discuss and record a summary of issues, decisions, or questions to be reported back to the overall class for discussion. This inductive approach, however, takes time and the results are unpredictable. The group activity may last over an hour, particularly, if student interactions are productive or the task is very complex. In addition, the instructor may view what students are "representing" in their discussions and summaries as requiring a shift in subsequent instruction for the rest of the class and possibly the course over the next several weeks.

A more deductive approach would use a 20-30 minute mini-lecture, or lecturette, to introduce students to a new ID component or design tool. For example, with needs assessment, the first lecturette would confine itself to describing the benefits, features, and examples of a needs assessment, while a subsequent group activity would have students identify important learner, content, and contextual issues that a needs assessment would inform. A mini-lecture

would typically include a visual review of "where we are" in the ID process, as well as a possibly visual organizer to organize the conceptual aspects of the ID process component. The presentation and discussion would describe the component's purposes, rationale, uses, sub-components, and issues surrounding the component. Examples of its use by other students might also be presented. Handouts of articles that address this ID component may also be distributed. A task sheet for an in-class group activity may be distributed.

Debriefing participants. The third stage of the reflexive model, debriefing participants, would brief students on the ID process component through a written task sheet, which explains the purpose of the task, lists suggested instructions on working through the task, provides assessment criteria, including the date due. Debriefing also includes reminders on assigned readings and upcoming activities. The instructor also asks for written feedback on questions or concerns through "exit slips" or electronic mail. The syntax of classroom activities address only one of the model's co-participation structures. A cycle of responsivity provides a means to describe how all of the proposed participation structures come into play between teacher and student.

Responsivity cycle. The teaching model is best described within a cycle of responsivity to learners, which practitioners of this model might typically employ (see Figure 58). Although this cycle would be highly individualized, its description acknowledges that any choice of a teaching model or strategy is based somewhat on how the teacher views learners. Initially, the instructor's role in design creates participation structures for a learning environment: classroom activities, learning tasks, and the use of texts. In the ID course under study, conferences, electronic mail, and web site were added to increase participation and dialogue. Within the structures, students participate, question, read, design, and reflect on their learning. Questions and concerns are communicated by students through the participation structures to provide the instructors with more insight on student thinking and performance. Based on student questions, queries, and task performance, the instructor responds to student needs through written comments on student work, personal conversation, email, conferences, and classroom feedback. Furthermore, shifts in instruction, including tasks, group activities, and instructor presentations may be necessary.

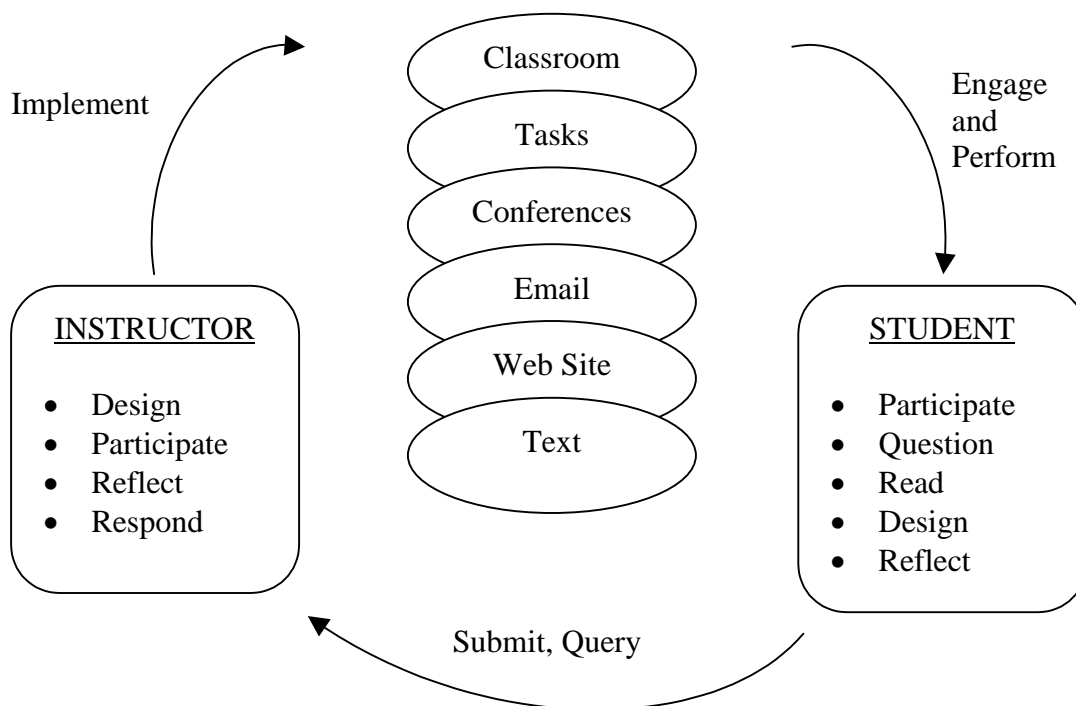


Figure 58. Responsivity cycle.

Instructional events of reflexive model. Gagné's (1992) events of instruction help to explore how the syntax of classroom activities addresses a full range of instructional moves (see Figure 59). This exercise can be applied to any teaching model, particularly for specific learning activities, although each model would address instructional events in different ways. For example, for "eliciting performance," direct instruction would use individual prompting, classroom discussion would use questions, simulations would establish a range of performance (Shambaugh & Magliaro, 1997).

Not all learning activities may need all of the instructional events or some may be emphasized more or less depending on the teaching model used. The emphasis of the reflexive model in terms of these instructional events depends on the participation activity used. For classroom activities an equal reliance on instructor-presentation and student-activity is used, while for learning tasks, events 2 (inform learner of objective), 5 (provide learner guidance), 7 (provide feedback and assess performance), and 8 (transfer) are of high priority.

Instructional event	Syntax feature of reflexive model
1. Gain attention	Organizer, activity, guest speaker
2. Inform learner of objective	Agenda posted on email and presented in class, web site
3. Stimulate recall of prerequisite learning	Visual of ID process
4. Present new material (ID process component, tool)	Classroom: purposes, uses, components, examples Web site: design activities, process hints Text: tools, design activities, reflective activities
5. Provide learner guidance	Structured task with instructions, performance criteria
6. Elicit learner performance	Group task, discussion, email
7. Provide feedback and assess performance	Written comments on work, email feedback, conferences
8. Enhance retention and transfer	Group activities; ID project

Figure 59. Instructional events of reflexive model.

Principles of Reaction

The following principles of reaction describe typical reaction by students and instructors along a 15-week semester course sequence.

ID context. The first three weeks of the course are used to establish the context for instructional design by examining one's learning beliefs and surveying important ID tools, such as ID models and designer expertise. Seven structured learning tasks are used to support student examination of their beliefs about learning and the ID process. Design A Lesson and What is Learning/Instruction? are in-class tasks to begin student thinking about how they currently plan instruction and their views on what learning is and how to promote it. Pedagogically, these two tasks help to identify in class important learning issues. A Learning Principles task prompts students to read assigned educational psychology readings and from these to draw up a list of learning principles they subscribe to. This task helps to activate prior knowledge and current practice. Typically, students identify a mix of behavioral, cognitive, and social-constructive views of learning, which is not altogether surprising since a reading representative of each theory is distributed and students tend to identify attractive principles from each. The learning principles list is also used to discuss these learning theories and their implications for instructional design.

Using the learning principles list, students are asked to write a Mission Statement as a brief, but enduring statement on their views of learning and teaching, and as a tool to guide them throughout the course. The mission statements include a prioritized list of principles, a mix of narrative and principles list, as well as a written narrative. It is rare that a brief, succinct statement is achieved on the first draft. Multiple drafts of the mission statement are frequently necessary. Some students express uncertainty or dissatisfaction with early versions. Commenting

on the mission statement submission, we prompt for clarification and examine overall consistency of statements, and encourage revision.

During this three weeks, students are asked to sketch a visual of their own ID model, plus an explanatory narrative, which is based on what they already know about instructional design. The resulting preliminary ID models include a broad range of personal metaphors that underlie their models, as well as a range of represented instructional issues, views of learners, and the teacher's role. Some students express an inability to draw a visual and a few resist the use of a visual, desiring instead to write a narrative. Sharing these ID models in class provides a transition to a survey of commonly presented ID models, as well as our conceptual organizer of the ID process.

At the same time, students choose an instructional problem for a ID project and record their initial understanding of the problem through an Intent Statement task. This project choice is negotiated through written feedback, usually suggestions on clarifying, elaborating, or narrowing the problem. The choice of an instructional problem, the “instructional problem problem,” is a significant decision for many students. Choices are predominantly instructional problems, although some may be viewed as communication problems which are recast as instructional problems (e.g., staff development, orientation). Most of the instructional problems are of the ill-defined type with some, such as staff development/change problems being very complex, or as Churchman (1967) characterized, as wicked problems. This “wicked problem” label could also be applied to those projects which were not only class projects but projects that would be implemented in the near future, had actual client pressures, or were being implemented at the same time. A response to the instructional problem is frequently addressed early in the Intent Statement by proposing an instructional setting, such as units, courses, workshops, web sites. At this point we try to be careful that we and them do not prematurely bound the instructional problem before considering more of the possibilities.

Overall during these first three weeks, the above learning tasks are new and some students report that that this is the first time they have been asked to verbalize and record their learning beliefs. In addition to this beliefs examination, some students are overwhelmed by the course requirements, particularly, the scope of the ID project, which accounts for the majority of the grade (35% weekly submissions, 35% final project). Some students ask for more structure and clear expectations, some resist the structure, while others are excited about the prospects. Examples of previous projects are available for review, as well as a project outline of components is distributed. All out-of-class learning tasks include purposes for the task, instructions, due dates, and criteria of performance.

ID instruction. Three weeks are spent on needs assessment in order to examine the nature of the chosen instructional problem. Three categories of responses are described: (a) project choice/needs assessment efforts, (b) needs assessment findings, and (c) goals. Many students' needs assessment activities continue beyond this period, as their data from literature reviews, interviews, and surveys are gathered. A separate task sheet for each of the three weeks of needs assessment is distributed, depicting the recursive nature of instructional design; however, this awareness is not always clear and some students express confusion over the mismatch between these task sheets and the final needs assessment component for the ID project. The needs assessment endeavor requires time and effort and some students find it difficult to get started, to know where to begin, or how to make sense of the information they obtain. We responded with an in-class task, a Needs Assessment Strategy, which helped students to organize their efforts.

The timing of the first personal Conference provides one-on-one assistance on needs assessment in terms of what to examine, who to talk with, what references to consult, and how to summarize their findings. During this time we prompt students to revise their project Intent Statement and Mission Statement as they come to learn more about their instructional problem. Some Mission Statements begin to incorporate the project in the narrative. A major challenge for some at this point in the course is how to narrow the scope of their project, particularly those faced with teaching a course for the first time in the near future. Faced with a design over an entire school year, some students opt to design a unit for a course. Some students over a third of the 15-week semester continue to struggle on a project choice, some juggling options for several projects.

In terms of needs assessment findings, students are reluctant to conduct a literature review, considering the time and energy it requires, in light of their other courses. In particular, students do not report research on ways to teach their "content" as they've initially outlined, minimally summarize learners across a range of learner characteristics, the exception being Special Education students or teachers who spend a great deal of time learning about their students. The needs assessment may include a content outline, learner profile, and context analysis, but what they learn from these tools is frequently not summarized. Some students spend too much time on needs assessment, either being paralyzed by the amount of information they have discovered, or an inability to assimilate and report what they have learned. The nature of iterative work is new to some, as our steady and comprehensive feedback is both appreciated and of concern to those not used to diligent prompting and feedback. Additional guidance is supported in person, through personal meetings, and via electronic mail.

Based on needs assessment, students are asked to identify goals for their project. Submitted goals are frequently too broad (change goals), too specific (i.e., activity objectives), or fail to include learning levels associated with the goal (e.g., "appreciate cultural differences") to portray. Some goals are submitted before the needs assessment and are not revised based on what students may have learned from the needs assessment. Some students submit too many goals to keep track of, in which case we recommend that they limit their project goals to five to keep their project manageable.

During the needs assessment phase of the course, we provide guidance on project choice but allow students to make decisions on how to focus their design efforts. During class sessions, our grouping strategy is to mix up the participants so they learn from each other's previous experiences, point of view, and project choice. As the semester progresses, grouping is conducted along similar projects so that different expertise can be applied on similar projects. These group activities help participants to get to know and learn from each other and to share similar concerns about the course and project. Reporting back to class the findings of group activities helps to establish the climate of trust and sharing of differences and to take risks.

Weeks 7-13 are spent providing an overview of the Design phases, which include Sequence of Instruction, Assessment, Instructional Framework, Instructional Media, and Prototype Lesson; and Week 14 on Program Evaluation. The Sequence phase examines students' initial view on what their "content" is. Through a reading and subsequent in-class discussion of Eisner's (1994) curriculum ideologies, students are exposed to different conceptions of curriculum along content and process lines. Some of these ideologies, such as restructuralism, are new to students and they begin to see how their views resonate with aspects of more than one ideology. Student submission of sequence typically is along topical content, with less attention to some of their affective and social goals they may have identified. Weekly student submissions

for some become less regular as some are still grappling with project selection, needs assessment activities, and goal identification.

Student views of assessment in their projects are sometimes unclear, particularly if their project goals are fuzzy. As a result, a lack of assessment purposes means that appropriate assessment methods cannot be appropriately identified. Instruction in assessment involves raising students' awareness to multiple purposes to assessment and that a variety of tools exist to serve these assessment purposes. Assessment remains a point of discussion during the three weeks spent on Instructional Frameworks, including at least two weeks usually reserved for student demonstrations of teaching models or strategies. Some students use this demonstration to field test an activity in their project.

Instructional media, although formally identified late in the course sequence, is addressed throughout the course, starting with needs assessment and through a prototype lesson. The key guidelines for media is to be open to a range of media possibilities and to make a case for why media is used; in particular, how media supports their goals. Responding to our requests, instructional media in student projects is usually represented as a list of media and supporting rationale for their use, with a minimal description of its affordances or complications.

During these Design phases, written comments on submitted work use students' Mission Statements and Goals as guiding criteria for feedback, as well as a continual prompting to be clear in their writing as to their intentions and to take responsibility for making and recording these decisions. A second personal conference is used to address project issues. Week 14 addresses the multiples purposes for Program Evaluation and suggests aspects of laying out details for formative and summative program evaluation.

The final week of the course revisits self-evaluation by asking students to submit revised personal ID models and a written self-evaluation of the course and their learning. Revised models sometimes use the same visual with additions to the representation and narrative, while others opt for a different representation. These new choices reflect new metaphors and additional ID components, although the relationships between the components are not always laid out. The Self Evaluation task asks students to summarize their learning and to assess features of the course. The final class meeting is used to share students' models and self reports on the course.

Support System

The support system, according to Joyce, Weil, and Showers (1992), includes those “additional requirements of the model beyond the usual human skills, capacities, and technical facilities” (p. 15). However, this model goes beyond traditional teacher role of teacher as authoritative transmitter of information and learner as passive recipient.

Many students are not used to this instructional approach in which significant attention and scrutiny is applied to their foundational learning beliefs as well as their thinking and written work. Weekly work submissions are a challenge to maintain over the semester. Taking responsibility for design decisions initially prompts student concerns from “Is this what she wants?” but evolves over the course to students asking themselves “What is it that I need to do?” Submitting drafts of work is uncomfortable for some. Different ways of thinking and making decisions sometimes is at odds with weekly work. For example, students have reported that they began to see the “big picture” towards the end of the course and that design decisions were easier to make at the end. Engaging and sharing in class activities requires risk-taking and reflective

activities are sometimes uncomfortable and new ways of thinking for some students. In terms of technical skills, some students who specified multimedia or web sites did not always have the skill (or time) to prototype computer-based instructional media. More fundamental skills of word processing used to communicate design decisions on paper varied widely across the participants. Although prompted to think about who would read this project as a means to improve communication, such focus or clarity was difficult to achieve in a class project.

For instructors, the reflexive approach requires a great deal of effort and energy to maintain the level of engagement inherent in true co-participation (Magliaro & Shambaugh, 1997). Real-time decisions are being made constantly, but, in return you receive high engagement and motivation from students. Meanwhile, students must be enabled and willing to take control of their learning, as well as the success of group work. For some students this requires a shift in their view of the student's role as passive recipient (i.e., "Tell me what to do and I'll do it."). Such a shift can be supported by the instructor but takes time, nurturing, and reinforcement through modeling, risk-taking, and consistency. A third challenge of this reflexive approach is that students are placed in situations in which errors are likely to be made. They must be willing to be evaluated and to self-evaluate in honest and open ways. A reflexive approach is helpful to provide dynamic, consistent, genuine, and ongoing assistance to support learning in such a risky environment.

Model Effects

The effects of any learning environment, according to Joyce, Weil, and Showers (1992), can be direct or instructional effects, "directly achieved by leading the learner in certain directions" and indirect or nurturant effects that result from having experienced the model. Both instructional or nurturant effects may have both desirable and undesirable effects, of which some may not come be known by the instructor.

Instructional Effects

The instructional effects include the two goals for the model: (a) examining beliefs about learning and teaching, and (b) thinking about ways to promote learning. The Mission Statement task became the principal and most efficient means to assess to what extent a student's learning beliefs were exhibited within the project. Meanwhile, ID process understanding, was evaluated over the entire course and performance on all learning tasks and engagement in the course. Analyzing finished ID projects by completeness, consistency, and coherence was a useful strategy for this research, however, a more holistic assessment was used in the formal evaluation. Considering this 15-week course was the first introduction to students of a complex, intellectual process, we had to remind ourselves continually about what was reasonable to expect from students' first tour through instructional design. The structured tasks and criteria of performance were useful during the semester to communicate task performance expectations, but the overall engagement of the student to the processes of ID seemed more relevant. Since instructional problems are ill-defined, even "wicked" (Churchman, 1967), it would be unreasonable to expect students to lay out an ideal design. However, self-examination, attention to big picture/details, iterative revisions, consulting outside sources, and examining possibilities for each of the ID components were valued as important ID processes.

Nurturant Effects

Nurturant effects, according to Joyce, Weil, and Showers “come from experiencing the environment created by the model” (1992, p. 16). The nurturant, or indirect effects of the reflexive model, include that trust is necessary if one is to develop a community of learners that values participation by everyone. Trust is necessary before another can share, take risks and learn from others. This trust takes time to develop but can be supported by an instructor who values this outcome and creates opportunities for trust to develop among participants. Another nurturant effect, related to the above instructional effect of beliefs examination, is “stepping outside oneself” and one’s previous experiences, to learn from other points of view and to consider the possibilities in constructing responses to instructional problems. A third nurturant effect is a greater sense of professional identity gained by representing one’s foundational learning beliefs and by gaining a greater understanding of the teaching and learning enterprise. A fourth potential nurturant effect is developing habits of reflectivity and responsivity to learners.

A fifth effect is that teaching is worthy of inquiry. Although the ID course is a formal educational setting, the ongoing examination of teaching ID at the graduate level; in this case, a mutually-shared activity between the two instructors, could be regarded by what Wenger (1998) calls a “community of practice that people form as they pursue shared enterprises over time” (p. 7). Increased discussion with those who teach instructional design about the ways in which ID might be taught represent another potential “community of practice.” And finally, a sixth nurturant effect is the realization by instructors and students that all participants; in fact, all humans are learners (Friere, 1998).

Efficiency versus nurture. Another issue in choosing a model for teaching, according to Joyce, Weil and Showers (1992), is balancing instructional efficiency, or directness, with the nurturant effects. One of the concerns for us has been adequately addressing all of the ID components and sufficient tools in 15 weeks versus addressing individual learner needs in the course, which can vary significantly, depending in part on one’s familiarity with educational psychology and previous teaching experience. We continue to ask ourselves and students in the ID course if we are not asking them to do too much, and are the ways in which we structure tasks appropriately portraying ID processes?

Summary. Joyce and Weil (1996) categorize teaching models by “families,” which are based on similar theoretical perspectives and learning principles. Some models may include a combination of other instructional approaches and strategies (Joyce & Weil, 1996). The reflexive model represents an example of an additional family, an integrated family, which is based on instructional approaches that encourage multiple models in order to be flexible and responsive to learner needs (Shambaugh & Magliaro, 1996). These integrated models using multiple approaches, which might, for example, include cognitive apprenticeships (Collins, 1991) and discussion (e.g., Gunter, Estes & Schwab, 1995), would increase a teacher's repertoire over time (Shambaugh & Magliaro, 1997). A summary of the model description and effects is found in Figure 60.

Social System

The model has moderate structure with an even mix of teacher-presentation and student activity. Participants are viewed as co-participatory in the sense that instructor and students are learners. However, each has different roles. Instructor roles include design of participation structures which contribute to learning environment. Both instructor and students participate in participation structures. Students make decisions and design responses to an instructional problem. Students also question and query the instructor. Dialogue between instructor and students facilitate activity within these participation structures.

Classroom Syntax

Phase One: Setting the stage

- Instructor presents class agenda, checks for student concerns, summarizes student work..
- Students ask questions.

Phase Two: Representing understanding by participants

- Instructor presents mini-lectures, structures group activity, facilitates discussion.
- Students engage in group activity, in-class discussion.

Phase Three: Debriefing the participants

- Instructor distributes task guidelines.
- Students provide “exit-slip” feedback.

Responsivity Cycle

- Design and implement: Instructor designs participation structures (classroom, learning tasks, text, conferences, electronic).
- Mutual engagement, performance, reflection: Instructor and students engage in participation structures.
- Submit, query, respond: Students submit learning tasks. Instructor reflects on participation and responds to student needs.

Principles of Reaction

ID context

- Instructor structures learning task for beliefs examination and prompts for elaboration and clarification.
- Students make explicit their beliefs about learning and how to promote learning.
- Students construct an initial representation of the ID process.

ID instruction

- Instructor designs and implements participation structures.
- Students identify an instructional problem and propose a response.
- Students conduct research on the instructional problem and design features to address the problem.
- Students submit weekly drafts of their design components and instructor provides timely feedback.

Support System

Students new to beliefs examination, weekly work submissions, detailed feedback and responsiveness by instructor. Students are also new to the co-participatory, dialogic approach. This model requires a great deal of effort and energy to maintain the level of engagement by both students and instructor in true co-participation. Although instructor is responsible for the initial design and implementation of participation structures, control is shared in terms of their evolution over the course.

Figure 60. Summary of co-participatory and reflexive teaching model.