

Model Resource

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The Smith and Ragan model for instructional design is rooted in the learning theory work of Robert Gagné. It is valuable for its prescriptive structure and detailed attention to instructional strategies for particular types of learning.

THE SMITH & RAGAN MODEL

Overview

Gustafson and Branch (2002), classify the Smith and Ragan model as systems-oriented. The classification signifies the model may be best suited for developing large amounts of instruction such as an entire course or curriculum. Other characteristics of systems-oriented models include the following; the availability of significant resources to a trained design team, high front-end analysis, emphasis on try-out and revision, widespread dissemination, and instructional delivery occurs without the design team. In their Survey of Instructional Development Models (2002), Gustafson and Branch suggest this model may be particularly useful for those interested in the psychology of instructional design.

In their position statement, Smith and Ragan claim that they do not encourage the use of any one instructional design model over another. Instead, they recommend understanding the principles that guide design. A solid foundation in theory, models, and design principles provides one with the knowledge base necessary to select and tweak elements from various models. They recommend using this model to develop a mental framework that will guide the process of “building your own model,” (Smith & Ragan, 2005, p. 11).

History and Key Individuals

Smith and Ragan credit Robert M. Gagné, M.D. Merrill, and C.M. Reigeluth for their work in learning theory and significant contributions to the development of instructional theory. They recognize that Gagné clarified the relationship between instructional events, the learning process, and learning outcomes. His work provided a foundation for conditions based models of instruction (Smith & Ragan, 1996). Implications of Gagne’s work can clearly be identified in Smith and Ragan’s philosophy and condition’s based model. In the third edition of *Instructional Design*, Smith and Ragan expand Gagne’s Nine Events of Instruction to provide generative and supplantive instructional strategies. In their article, *Opening the Black Box: Instructional Strategies Examined* (1994), Smith and Ragan explore the balance between instructional strategies and learner strategies in relation to the variables of context, learner, and task. They offer the proposition that there is a “middle ground” connecting supplantive instruction and learner-initiated actions in which the design facilitates the required cognitive processing (Smith and Ragan, 2001).

Smith and Ragan have utilized a wide array of literature and strategies for the development of a highly prescriptive model. They credit Reigeluth and Jonassen for the foundational work of their instructional theory. In a review of the philosophical perspectives of instructional design, the authors share the possible hazards of the constructivist theory as having the potential of “slipping into the activity for activity’s sake mode, (Smith & Ragan, 2005, p. 21).”

Until the *Black Box* paper (Ragan & Smith, 1994), there was little design guidance for instructional activities and sequences. Smith and Ragan scrutinized the literature and created a synthesis of instructional strategies as related to the expanded events of instruction. The resulting paper provided a strategy for each type of learning; declarative knowledge, concepts, relational rules, procedural rules, problem solving, cognitive strategies, attitudes, and psychomotor skills. Upon reading the 4th edition of *Instructional Design* (2005), and related writings, it has become apparent that the authors are quite thorough in their research and synthesis of related and applicable theories and strategies. In their publications, Smith and Ragan share the development of a conditions-based approach that includes micro-level instructional organization strategies. Their analysis and strategy phases are built on theories from Gagné, Jonassen, Mager, Merrill, Reigeluth, and many others. Smith and Ragan describe the Concerns-Based Adoption Model, (CBAM) from Hall and Hord, for implementation.

The Model

Smith and Ragan do not propose that their design model is unique. In fact, they suggest it is “A Common Model of Instructional Design,(Smith & Ragan, *Instructional Design*, 2005, p. 10).” The three major activities of analysis, strategy development, and evaluation are indeed part of many instructional design models. The primary distinction between this and

other models is the detailed treatment of instructional strategies. Careful attention and thoughtful prescription of instructional strategies is not often found in other design models(Gustafson & Branch, 2002).

A visual representation of the Smith and Ragan model can be seen in Figure 1.2, (Smith & Ragan, 2005, p.

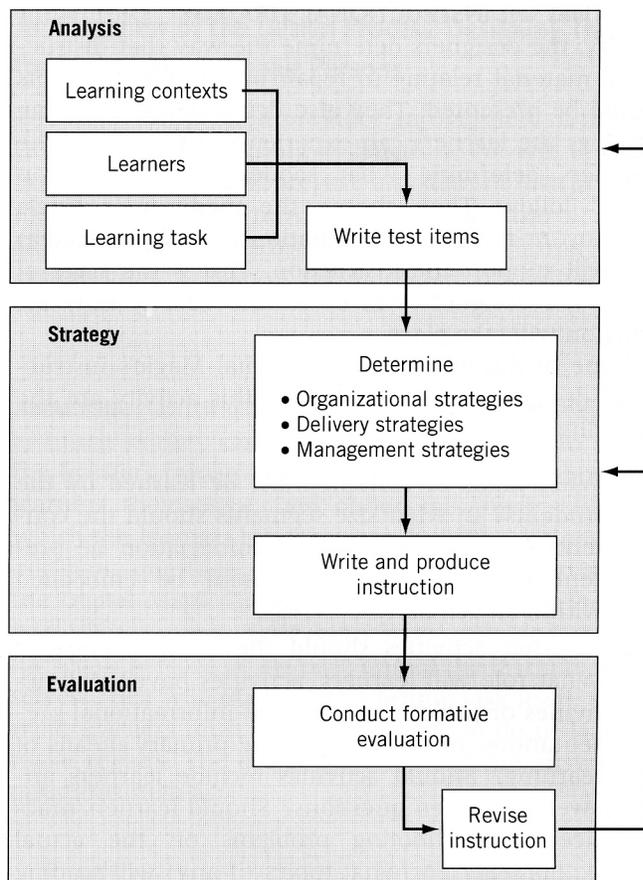
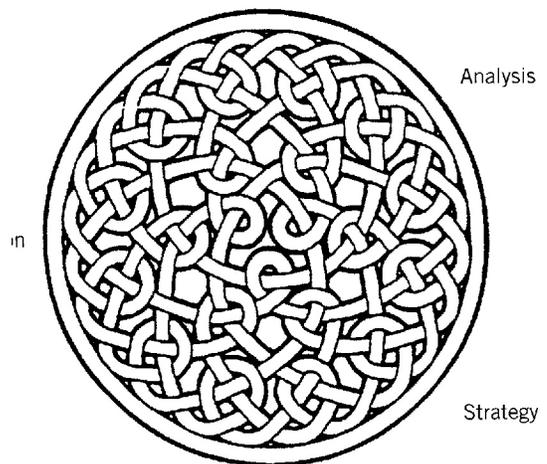


Figure 1.2 An Instructional Design Process Model



A More Realistic Representation of Instructional actice

10). In their text, Smith and Ragan discuss the natural yet mistaken, tendency to view the visual and assume the design process is linear in nature. The authors explain that the visual in figure 1.2 is a means to simplify and organize the discussion around the design processes. The authors describe the activities associated with the development of instruction as frequently being concurrent. The steps within each phase are often interwoven in such a way that changes in one step cause the designer or design team, to make changes in other steps (see figure 1.3).

General descriptions for each phase of the Smith and Ragan model have been summarized from their text, *Instructional Design* (2005), and can be found on the next few pages. They are organized as follows: (1) Analysis and assessment, (2) Instructional strategies, and (3) Implementation, management, and evaluation. All figures in this paper are available from the Instructor Companion Website and are duplicates of the figures found in the Smith and Ragan text.

ANALYSIS AND ASSESSMENT

The analysis and assessment phase occurs prior to the development of instruction and involves four components: contextual analysis, learner analysis, task analysis, and planning for assessment of the learning. In an effort to save time, designers often overlook or skip front-end analysis. Smith and Ragan argue that in the long term, focused attention on early analysis will save time, money, and frustration.

Context Analysis

This investment allows one to design and develop instructional materials that support learning what is truly critical, in a way that the materials can actually be used by the intended learners in their learning environment (p42).

The analysis of the learning context involves two major components: (1) substantiation of a need for instruction to help learners reach learning goals and (2) a description of the learning environment in which the instruction will be used (p43).

Needs Assessment

The first component of a contextual analysis involves conducting a needs assessment. Instructional designers use needs assessments to determine if the development of instruction and subsequent learning will result in the desired performance. Since desired performance and need should be examined in parallel, Smith and Ragan advise planning for the summative evaluation in conjunction with this phase (see figure 3.1).

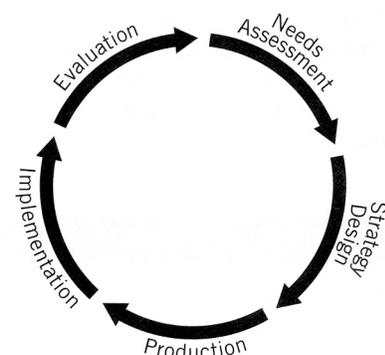


Figure 3.1 Relationship Between Needs Assessment and Evaluation

The authors discuss three types of needs assessment models:

- **Problem Model**- there is a problem to be corrected.
- **Innovation Model**- there maybe something new to learn.
- **Discrepancy Model**- an evaluation of program is necessary or required.

A needs assessment should result in a list of learner goals that will point toward what the learners should be able to do after instruction.

Description of Environment

The second component of a contextual analysis should describe the environment in which the instruction will be implemented. Smith and Ragan argue that a thorough understanding of the learning environment will help guarantee that the newly developed instruction will actually be used. The authors provide the reader with six questions aimed at gathering information about the learning environment. The questions focus on factors such as teachers, existing curricula, equipment, facilities, organization, and the larger system.

Analyzing the Learner

Smith and Ragan assert that careful identification and description of a target audience is crucial to the success of instructional design efforts. A thorough understanding of the learner provides the designer with the necessary information to build effective and appealing instruction.

Types of Learner Characteristics

Learner characteristics can be classified into four major categories: cognitive, physiological, affective, and social. The authors provide a detailed list of the primary characteristics to consider within each category (pp.69-70). Furthermore, every factor may not be necessary for the learning analysis of some projects.

Cognitive Characteristics

Cognitive characteristics can be further divided into four subgroups (dimensions) of similarities and differences that change over time or remain the same. Designers can begin gathering cognitive information about their learners within these four categories; stable similarities, stable differences, changing similarities, and changing differences (see figure 4.1).

Smith and Ragan point out that each of the four dimensions of cognitive characteristics have varying implications for instructional designers. According to Smith and

	Similarities	Differences
Stable	<ul style="list-style-type: none"> • Sensory Capacities • Information Processing • Types and Conditions of Learning 	<ul style="list-style-type: none"> • Aptitudes • Cognitive Styles • Psychosocial Traits • Gender, Ethnicity, & Racial Group
Changing	Development Processes <ul style="list-style-type: none"> • Intellectual • Language • Psychosocial • Moral • Other 	Development State <ul style="list-style-type: none"> • Intellectual • Other Prior Learning <ul style="list-style-type: none"> • General • Specific

Figure 4.1 Four Categories of Learner Characteristics

Ragan, prior knowledge is the most important characteristic of learner cognition. They also note that many educators have a propensity to focus on only one of the four dimensions and advise that careful study of learners, as presented in their text, will provide the designer with a thorough understanding of the targeted learners.

Analyzing the Learning Task

The needs assessment provides the designer with an understanding of what learners are unable to do. Learner needs drive the instructional goals and prepare the designer to begin analyzing the learning task. *The primary steps in performing a learning task analysis are as follows:*

1. Write a learning goal.
2. Determine the types of learning in the goal.
3. Conduct an information-processing analysis of that goal.
4. Conduct a prerequisite analysis and determine the type of learning of the prerequisites.
5. Write learning objectives for the learning goal and each of the prerequisites.
6. Write test specifications.

The final product of the learning task analysis is a list of goals, amplified with test specifications, that describe what the learners should know or be able to do at the completion of instruction and the prerequisite skills and knowledge that learners will need in order to achieve those goals. (Smith & Ragan, 2005, p. 76).

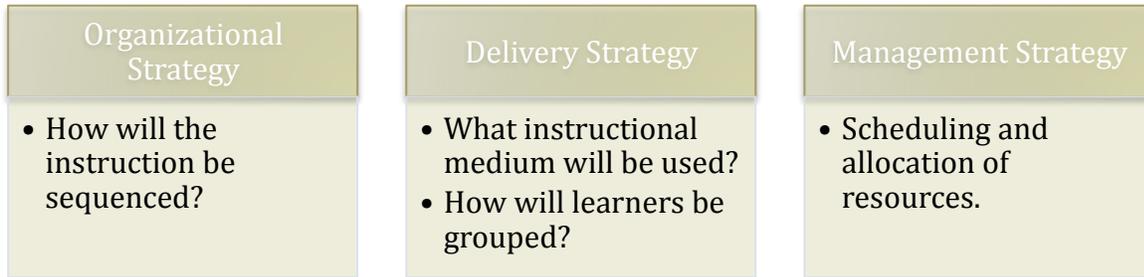
Assessing Learning from Instruction

Learning assessments provide information about student performance. In other words, does the instruction have the desired effect on learners' knowledge and skills? "A good designer generally begins to think about assessment instruments as she develops the learning objectives, (Smith & Ragan, 2005, p. 104)." Smith and Ragan recommend concurrent development of objectives and assessments because the result is criterion-referenced assessment items. According to the authors, quality assessment instruments stem from high quality objectives. The following list is an abbreviated version of the sequence recommended for designing assessments in the Smith and Ragan model (p.105).

1. Identify the assessment's purpose and the type of development model that will be used.
2. Determine what kinds of assessments are necessary and where they should occur in the instruction.
3. Determine what forms the items should take (essay, multiple choice, etc.)
4. Write test items and directions.
5. Determine how many items are needed.
6. Write an instructional blueprint.

INSTRUCTIONAL STRATEGIES

Smith and Ragan credit Reigeluth (1983) for describing instructional strategies as comprised of the three following characteristics:



In chapter seven of *Instructional Design (2005)*, Smith and Ragan explain that the strategies above can be planned at the course level (macro) or lesson level (micro). The following brief descriptions summarize instructional strategies at the micro level.

Organizational Strategies

Individuals learn through mental operations, a process called selective perception. Smith and Ragan recommend carefully considering the type and amount of scaffolding to be provided by the instruction and/or by the learner. A designer’s organizational strategy should answer the following three questions: (1) what content is needed? (2) how should the content be presented? (3) how should it be sequenced? The authors share their expanded version of Gagne’s Nine Events of Instruction to provide generative and supplantive instructional strategies organized around the general instructional characteristics which seem to promote learning: introduction, body, conclusion, and assessment (see figure 7.1). The expanded nine events can be used as an instructional framework for sequencing events at the lesson level. Smith and Ragan write, “Instruction at both ends of the generative-supplantive continuum can be learner-centered, active, and meaningful (Smith & Ragan, 2005, p. 131).”

Expanded Events of Instruction	
Generative . . . student generates	Supplantive . . . instruction supplies
Introduction	
Activate attention to activity Establish purpose Arouse interest and motivation Preview learning activity	Gain attention to learning activity Inform learner of purpose Stimulate learner's attention/motivation Provide overview
Body	
Recall relevant prior knowledge Process information and examples Focus attention Employ learning strategies Practice Evaluate feedback	Stimulate recall of prior knowledge Present information and examples Gain and direct attention Guide or prompt use of learning strategies Provide for and guide practice Provide feedback
Conclusion	
Summarize and review Transfer learning Remotivate and cease	Provide summary and review Enhance transfer Provide remotivation and closure
Assessment	
Assess learning Evaluate feedback	Conduct assessment Provide feedback and remediation

Figure 7.1 The Expanded Events of Instruction

Delivery Strategies

In chapters 8 through 12 of *Instructional Design (2005)*, Smith and Ragan provide detailed examples and suggestions for developing knowledge specific delivery of instruction. According to Gustafson and Branch (2002), the detailed and prescriptive nature of

instructional strategies provided by Smith and Ragan are unique to their model. A summarization of those strategies follows.

General sequence of instructional delivery

Introduction	<ul style="list-style-type: none"> • Deploy attention/arouse interest and motivation • Establish instructional purpose • Preview the lesson
Body	<ul style="list-style-type: none"> • Recall prior knowledge • Process information and examples • Focus attention • Employ learning strategies • Practice • Evaluate feedback • Employ learning strategies
Closure	<ul style="list-style-type: none"> • Summarize and review • Transfer Knowledge • Re-motivate and close • Assessment of concept learning • Evaluate feedback and seek remediation

Declarative Knowledge- knowing something: labels and names, facts and lists, and organized discourse.

- Theory of propositional networks
- Delivery strategies:
 - Linking with existing knowledge
 - Organizing (chunking)
 - Elaborating
 - Classification
 - Concept mapping
 - Advanced organizers
 - Metaphoric techniques
 - Rehearsal strategies
 - Mnemonics
 - Imagery
- Sequence of delivery:
 - Preview the lesson
 - Body- stimulating recall of relevant prior knowledge
 - Process information
 - Focus Attention
 - Employ learning strategies
 - Practice
 - Feedback
 - Conclusion- summarize and review

Concept Learning- applying knowledge across a variety of instances: recognize patterns and generalize.

- Delivery strategies:
 - Inquiry approach (generative)
 - Expository approach (supplative)

Learning Procedures- procedures are usually unambiguous. They not vary and they may require making decisions. “The learning of a procedure involves the ability to apply that procedure in a variety of previously unencountered situations (Smith & Ragan, 2005, p. 189).” Procedures require concept recognition and a “bottom-up” sequencing is necessary for teaching them.

- Concepts are a prerequisite to learning procedures
- Procedural rules
- Relational rules
- Information process analysis
 - Recognize a procedure is appropriate
 - Recall the procedure
 - Apply the steps
 - Make decisions when needed
 - Choose the correct branches when necessary
 - Complete the branch steps
 - Determine if the procedure has been applied appropriately
- Design decisions
 - Writing the procedure
 - Simple versus complex
 - Expository or discovery strategy

Learning Principles- the relationship between two more concepts. The relationships are usually cause/effect in nature.

- Mental operations are called “productions”
- Principles are a prerequisite to problem-solving
- Meaningful learning
- Prior knowledge of represented concepts is needed
- Instructional delivery (conditions to support learning principles)
 - Share a perplexing situation depicting a relationship between variables (demonstration or description).
 - Learners ask questions to gather data (computer answers may be yes/no).
 - By the end, learners should be able to state a principle or rule about the relationship between the concepts presented.
 - Discuss the inquiry process. What worked and what did not work?

Learning Problem Solving- involves combining learned principles, procedures, declarative knowledge, and/or cognitive strategies in a new way with the purpose of solving a problem.

- Choosing, combining, and utilizing multiple principles until the problem is solved
- Complex or simple (fewer principles, clear problem)
- Well-defined (single solution) or ill-defined (multiple correct solutions)
- Cognitive processes required – the ability to apply principles is a prerequisite
 - Problem representation
 - Solution planning
 - Solution implementation
 - Solution evaluation
- Task analysis
 - 1. Clarify the given state (include obstacles and constraints)
 - 2. Clarify the goal
 - 3. Search for relevant prior knowledge, principles, and cognitive strategies
 - 4. Determine if conditions and goal imply a known problem
 - 5. Unpack the problem into subproblems and subgoals
 - 6. Develop a plan for addressing the problems
 - 7. Think about solutions (paths) for subproblems
 - 8. Select a solution path and apply production knowledge in the correct order
 - 9. Evaluate for goal accomplishment, if none then repeat 1-9.

Learning Cognitive Strategies- techniques learners use to think and learn.

- Learning strategies: learners who guide their own learning
 - Designers should ask how much cognitive processing could the learner provide?
 - Cognitive domain strategies support information processing
 - Affective domain strategies (support strategies) are self-motivational skills
- Divergent thinking strategies: guide learners through thinking about problems and generating new ideas
- Cognitive requirements
 - Analyze the learning task and requirements
 - Analyze ability to complete the task
 - Select an suitable strategy
 - Apply the strategy
 - Evaluate the usefulness of the strategy
 - Revise as needed
- Instructional delivery
 - Discovery/guided discovery
 - Observation
 - Guided participation
 - Strategy instruction
 - Direct explanation
 - Dyadic instruction
 - Self-instructional training
- Impediments
 - Low level strategy skills
 - Low motivation
 - Low self-efficacy

- Lack awareness of own memory and processing characteristics
- Lack knowledge of task characteristics
- Insufficient time
- Insufficient knowledge
- Assessments can resemble problem-solving assessments

Learning Attitudes- learning for transformation or change in attitude (choosing to do something).

- Affective domain
- Cognitive and Psychomotor domains have affective components, designers can integrate the three domains
- Components of attitude learning
 - Cognitive component: knowing how
 - Behavioral component: need to apply the attitude
 - Affective component: knowing why
- Instructional delivery
 - Demonstrate desired behavior (by a respected role model)
 - Practice the desired behavior (role play)
 - Provide reinforcement
- Assessment
 - Examine values or interests
 - Direct self-report, indirect self-report, and observation

Learning Psychomotor Skills- requires coordinated muscular movements that are new to the learner. Smooth movements and precise timing characterize successful learning.

- Types of psychomotor skills
 - Discrete skills – single or few steps with specific beginning and end
 - Continuous skills – subtle beginning and end
 - Closed skills – no active influence from environment
 - Open skills – the environment causes the learner to make adjustments
 - Person and object motion- person or object may or may not be in motion
- Elements of psychomotor skills
 - Executive subroutines
 - Temporal patterning
- Practice
 - Massed or spaced
 - Whole or part
 - Progressive part method
 - Backwards chaining
 - Feedback is critical because learner does not know what it feels like to complete the task successfully
 - Product
 - Process
- Tasks analysis

- Cognitive phase – learning the vocabulary and verbal information as well as procedural rules
- Associative phase – learning how to physically perform the skill
- Autonomous phase – practice and feedback guide learner to smooth, precise movements. Success may appear effortless.

Macro Strategies- larger units of instruction or curriculum development

- Curriculum sequencing structures
 - World-related
 - Inquiry-related
 - Utilization-related
 - Learning-related
 - Concept-related
 - Elaboration model
- Tools and concepts
 - Scope and sequence
 - Object-oriented curriculum architecture
 - Articulation

IMPLEMENTATION, MANAGEMENT, AND EVALUATION

In the visual representation of the Smith and Ragan model, the evaluation phase appears to be separate from the strategies for instruction, implementation, and management. In reality, these sections are interwoven and the three topics are mingled with evaluation and revision.

Implementation

Implementation is the act of “putting designs into use in the context for which they are intended, (Smith and Ragan, 2005. p.305).” The authors advocate early conversations and decisions regarding the four key concepts of implementation: diffusion, dissemination, adoption, and stakeholders. Chapter 17 illustrates principles for encouraging implementation through the stages of the adoption process: awareness, interest, evaluation, trial, adoption, and integration. The authors present Hall and Hord’s Concerns-Based Adoption Model (CBAM) as a method to facilitate implementation. The CBAM has a user focus and addresses the viewpoints of potential users toward the implementation of a new design. The model’s general purpose is to support users within an organization in accordance with their needs and interests. The CBAM is useful for instances where the implementation desired is complex and will result in high levels of change for the organization and users.

Management of Instruction

Project managers facilitate the work of a design team. Design teams and managers must function efficiently within the following interdependent restraints of a project: quality/performance, cost, time, and scope. In addition to being a skilled instructional designer, a project manager should also be adept at communication, meeting facilitation, presentation, learning, revision, ethics, evaluation, budgets, etc (Smith and Ragan, 2005. p.315). The manager keeps all of the components of a project coordinated and ensures

deadlines are met. Management practices vary based on the culture and context of the work and rely on effective documentation for planning and tracking the development of a design project. In general, the larger the scope of a project, the more documentation will be essential to the success of the project. Smith and Ragan list the following seven documents as critical to management:

- Proposal
- Resource Analysis
- Schedule
- Budget
- Risk Analysis/Troubleshooting Plan
- Assessment and Evaluation
- Project Report/Summary

Formative and Summative Evaluation

Evaluation occurs during and after design development and informs the designer and the learner if the desired learning has taken place. In other words, evaluation determines if the instructional strategies and materials function as intended. Formative evaluation aids in determining flaws within the instruction so that revisions can be made to improve the materials and strategies of the project. Summative evaluation occurs after project development and verifies the overall effectiveness of the instructional materials. Smith and Ragan suggest both formative and summative evaluations should be planned in the initial phases of the design process in accordance with the types and learning and strategies for delivery. Smith and Ragan provide detailed guidelines for formative evaluation (Willis & Wright, 2000).

Formative evaluation involves tryouts of the instructional materials with the intended audience. Although such tryouts usually produce more efficient materials, formative evaluation is often passed over because of the expense required. Smith and Ragan argue that effective training results from quality formative evaluation and therefore creates a more profitable product.

The instruction should be formatively tested with members of the intended learning population. One-to-one evaluations result in identification of overarching problems within the instruction. Small-group evaluations enable the designer to test out the revision made as a result of data collected from one-to-one evaluation. Performance, attitude, and time data should be collected during small-group evaluations and used to revise instruction prior to field trials. Field trials evaluate the changes made after small-group evaluation and are used to determine potential problems that could occur during the administration of the instruction within the intended context. Finally, field trials enable the designer to test the instruction with a larger sample of the target population and make predictions about the effectiveness of the product.

Summative evaluations collect and summarize data in regard to the overall effectiveness, appeal, and efficiency of the instruction. Smith and Ragan suggest the following specific questions to guide summative evaluation (Smith and Ragan, 2005. p.343):

- *Do the learners achieve the goals of the instruction?*
- *How do the learners feel about the instruction?*
- *What are the costs of the instruction?*
- *How much time does it take for learners to complete the instruction?*
- *Is the instruction implemented as it was designed?*
- *What unexpected outcomes result from the instruction?*

The authors suggest summative evaluation should not take place during the first implementation of the program. They caution that trainers and teachers are often learning how to implement the instruction during the first administration. Summative evaluation procedures include the following:

- Determine goals of evaluation
- Select indicators of success
- Select orientation of evaluation
- Select design of evaluation
- Design or select evaluation measures
- Collect data
- Analyze data
- Report results

Differentiation and Conclusions

In the Survey of Instructional Design Models (2002), Gustafson and Branch describe the unique detailed and prescriptive nature of instructional strategies provided by Smith and Ragan. In fact, the entire model is prescriptive in nature and provides thorough descriptions and recommendations for not only each phase of the design process but also for the type of learning and learners involved. Other systems models such as the IPISD model may provide explicit and detailed processes for design but are so specific that they can only be used for one type of audience (in this case the military). The Dick, Carey, and Carey model provides detailed processes for analysis and evaluation but more general descriptions for instructional strategies.

In the Handbook for Educational Communications and Technology (2001), Smith and Ragan review conditions-based models from Landa, Tennyson and Rasch, Merrill, Li, and Jones. They further describe how notable scholars such as Jonassen, Grabinger, and Harris, Horn, West, Farmer, and Wolf, and E. Gagné have used conditions-based models in their work. Smith and Ragan's work is built on the conditions-based theory that learning outcomes can be categorized and the different outcome categories require different internal cognitive-processing activities. Furthermore, learning outcomes are dependant on learning hierarchies and different learning outcomes require different external conditions. Jonassen (1997, p. 66), reports that Smith and Ragan recommend the expanded events of instruction, although not entirely sufficient, for problem-based learning when the majority of instructional design literature has not tackled the task. The model can also be adapted for scaffolding of Web-based instruction, (Dabbagh, 2002). In conclusion, the Smith and Ragan Model places a strong emphasis on specific instructional strategies designed for

particular types of learning and learners. (Smith & Ragan, Conditions-based models for designing instruction, 2001)

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WEB RESOURCES

IDEAS: Instructional Design for Elearning Approaches, Blog

http://ideas.blogs.com/lo/instructional_design/

“Reflections and insights on elearning strategies and instructional technology design by Ferdinand Krauss.”

Instructional Analysis, Analyzing the Learners, student summaries

<http://www.angelfire.com/la2/learners/learners.html>

This webpage provides summaries for chapter four of Smith and Ragan’s text: Instructional Analysis, Analyzing the learners. Tables provide easy to understand organization of the key components described in the Smith and Ragan text.

Instructional Design, 3rd edition, Instructor Companion Site

<http://bcs.wiley.com/he-bcs/Books?action=index&bcsId=2112&itemId=0471393533>

Smith and Ragan provide an extended example for the design components of their model, text illustrations, PowerPoint presentations, and Job Aids in this instructor companion site.

Instructional Design, Component Display Theory

<http://www.instructionaldesign.org/theories/component-display.html>

The Smith and Ragan model has roots in Merrill's work, Component Display Theory. This website provides the reader with additional background information CDT not discussed in this paper.

Instructional Design Knowledge Base

<http://classweb.gmu.edu/ndabbagh/Resources/IDKB/evaluation.htm>

This website provides a matrix for identifying scholarly work and resources for formative and summative evaluation.

Instructional Design – ILIPG, PowerPoint Presentation

http://www.ilipg.org/sites/ilipg.org/files/bo/instructional_design.ppt

This presentation provides background information on instructional design and a comparison of models.

Robert Gagne's Instructional Design Model, The Nine Events of Instruction, on SlideShare

<http://www.slideshare.net/CPappasOnline/robert-gagnes-instruction-design-model-the-nine-events-of-instructions>

The Smith and Ragan Model is built on their expanded events of instruction, this presentation provides a thorough description of Gagne's original nine events.

Ten Trends Affecting the Field of Instructional Design and Technology, Blog

<http://drajphd.wordpress.com/2011/09/09/ten-trends-affecting-the-field-of-instructional-design-and-technology/>

This blog presents notes from Robert Reiser's presentation at Create describing the current trends (and benefits and challenges) in instructional design and technology.