

# *Teaching & Media: A Systematic Approach*

## The Gerlach & Ely Model

**A Critique by**

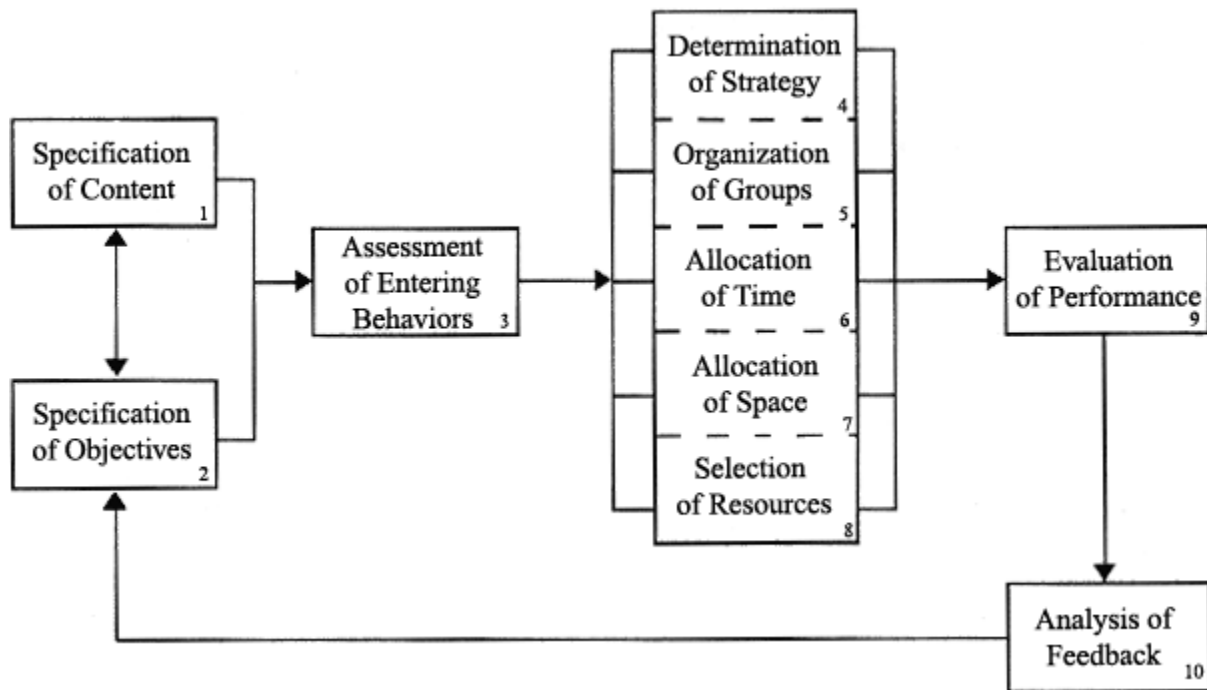
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EDIT 6180

## The Gerlach & Ely Model



From *Teaching and Media: A Systematic Approach*, Second Edition, by V.S. Gerlach & D.P. Ely, 1980, Boston, MA: Allyn and Bacon. Copyright 1980 by Pearson Education.

## Introduction

Vernon S. Gerlach and Donald P. Ely created the Gerlach and Ely model with the idea that the average teacher was an instructional designer. The model takes on a systematic approach to teaching and learning with most of the necessary elements contributing to instruction included. According to Dr. Ely, the model “has stood the test of time” and “serves the classroom teachers well (Ely, 2003).”

## Conceptual Base

The Gerlach & Ely model was created for the first edition of *Teaching and Media: A Systematic Approach* by the authors in 1971. The authors decided that there was a great need for a comprehensive overview of teaching and learning. They observed as academia began to focus its attention on systems and the elements that are part of an instructional system. Models were beginning to flourish around this time, i.e. Gagne & Briggs (1974), Dick & Carey (1978), and Kemp (1971), so the authors decided to try to create a model that could explain each element of teaching and learning, while also establishing a relationship to the media of instruction.

The original concept for the Gerlach & Ely model can be closely linked to the work of the Special Media Institutes Consortium (Syracuse, Southern California, Oregon State System and Michigan State). This group developed the Instructional Development Institute, or Idi, model. This model is comprised of three parts: design, develop and evaluate. Each part is then broken down into three steps as shown in the table below.

<b>Design</b>	<b>Develop</b>	<b>Evaluate</b>
Needs Assessment	Identify Objectives	Test Prototype
Setting Analysis	Methods Selection	Formative Evaluation
Organize Management	Construct a Prototype	Implement

The Idi model is problem-oriented, based on team processes, and linear in its approach. Notice the similarities between the Idi model and the Gerlach & Ely model.

Due to the overall failed attempts of implementing a systems approach in the classroom, Gerlach and Ely sought after a more systematic approach to teaching and learning where teachers did not need tremendous amounts of time, money, or resources to develop effective teaching & learning strategies.

## **Theoretical Base**

The phenomenological and philosophical origins of this model can be accredited to communication theory, and to a lesser extent, learning theory. Both theories are commonly incorporated into educational settings, as well as teaching and learning strategies.

Em Griffin defines communication theory as a “careful, systematic, and self-conscious discussion and analysis of communication phenomena (Griffen, 1991).” Communication is key in the design, development and implementation of the products this model produces. Learning theory is intended to describe how learning takes place. The domains of learning: cognitive, psychomotor, and the affective learning, aid in this task. Since the model advocates learner-centered instruction, it is essential to examine each domain of learning in each project.

## **Operational Aspect**

The Gerlach & Ely model is an attempt to portray graphically a method of systematically planning instruction. Incorporated in this model are two items: the necessity of carefully defined goals and the tactics on how to reach each goal. Both parts are absolutely essential for effective teaching.

There are ten elements to this model. The first is the specification of content and the second is specification of objectives. The teacher is ultimately responsible for selecting what parts of the content will be taught when. These decisions can be based on many things, including state/local guidelines, supervisors, personal experiences, and long-range goals. Objectives are defined to be specific skills that the learner should be able to display under defined conditions at a designated time (Gerlach, 1980). The

authors prefer that the objectives are selected before the content, however they realize that in most scenarios that is just not possible. Many times, teachers are assigned specific content or curricula for specific times. The arrow between the first two (vertical) boxes denotes that either one can initially occur first, but ultimately they will be simultaneous and interconnected.

Step three consists of assessing the learner's entering behaviors. Every student affected by this particular model (or lesson plan) will come into the situation with different starting knowledge. According to the authors, the fundamental question that must be answered prior to formal instruction is, "To what extent has the student learned the terms, concepts, and skills which are part of this course (Gerlach, 1980)?" This can happen in a variety of ways, including a pretest.

Steps four through eight are dependent on one another. Any decision that is made in one of these steps will influence the range of decisions available in the others. These decisions are simultaneous and interactive. Determination of strategy is the first in this special group. The choices here can range from the expository, more traditional approach of the teacher presenting all the information, to the inquiry approach where the teacher is a facilitator helping students discover. Each approach is valid and has its own place in the learning experience. The next decision in this model is the organization of groups. Should instruction be self-study, involve small groups, the entire class, or another alternative form? The objectives can help select the most appropriate group size by answering the following three questions (Gerlach, 1980):

1. Which objectives can be reached by the learners on their own?
2. Which objectives can be achieved through interaction among the learners themselves?
3. Which objectives can be achieved through formal presentation and through interaction between you and the learner?

Answers to these questions will also narrow your choices steps six and seven, where the allocation of time and space are determined. Time can be divided up among the various teaching strategies, while watching out for time constraints such as school class

periods. Time also can greatly affect the possible learning spaces, and vice versa. The allocation of learning space is also closely tied to the organization of groups. Will students study in individual, small, or large group spaces? Or will the learning happen outside the classroom? The last step in this special group is the selection of resources. This is when appropriate instructional materials are located, obtained and adapted or supplemented to fit your needs. Notice that resources are selected rather than developed due to the time constraints on the classroom setting.

Once the group of simultaneous decisions is complete, evaluation of performance can be decided. How will students be measured on achievement and attitude toward content and instruction; and what was the overall effectiveness and efficiency of the lesson? And finally, the last step is the analysis of feedback. Now is the time to review all the previous steps. The arrow running along the bottom of the model from the last box on the right towards the first box on the left denotes this formative revision.

## **ADDIE Components**

### **Analysis**

The Gerlach & Ely model contains several of the analysis phase components. The first is the inclusion of instructional goals. In this model, the instructional goals are referred to as objectives. During step three, assessment of entering behavior, a type of performance analysis is taking place, most commonly a pretest. A learner analysis is not conducted, however, since it is assumed that a teacher generally is informed about his/her students prior to the lesson. The resource analysis takes place during step eight, selection of resources. The underlying principle is that the teacher will find the resources they need, not just use the ones they have. The last similarity is the determination of the probable delivery system, which appears in step four, determination of strategy.

## **Design**

During the design phase, a task inventory is conducted and performance objectives are formed. These steps do not take place in the Gerlach & Ely model. However, testing strategies are generated in step nine, the evaluation of performance. Return on investment is also calculated in step nine, the evaluation of performance, but not in terms of money. In this case, the return on investment deals with time, both student and teacher, and knowledge gained.

## **Development**

This phase has the most similarities with the Gerlach & Ely model. First, instructional strategies are generated in step four, determination of strategy. Media is selected in step eight, selection of resources. Notice that media is selected and not necessarily developed due to time, money and resource constraints. A learner guide is not developed, however, completing this model, especially steps four through eight, will technically develop a facilitator guide. The final likeness is formative revisions occurring during step ten, analysis of feedback. Throughout this step, all earlier steps are revisited. Notice that there is also no pilot test.

## **Implementation**

The Gerlach & Ely model helps the teacher develop the instruction but does not insist on implementation. It is assumed that the completed model will be implemented at some point in the future, but not necessarily. Therefore, there is no presence of the implementation phase in this model.

## **Evaluation**

Even though there is no stated implementation phase, parts of the evaluation phase do exist in this model. The main similarity is the selection of evaluation tools that takes place during step nine, evaluation of performance. Since there is no implementation, there also cannot be any summative evaluation.

## **Edmonds et al. Components**

### **Orientation**

The Gerlach & Ely model is considered to be prescriptive in terms of its orientation. The model describes how a learning environment can be altered or constructed, in order to affect the variables in a certain way or bring about the desired outcome (Edmonds, 1994). For example, this is evident in the section where steps four through eight occur simultaneously. When one decision is changed, the other decisions in the group will also be affected. This will then affect the completion of the desired outcome, the objectives. This model can also be considered to be generally linear, with several steps occurring simultaneously.

### **Knowledge Structure**

A procedural model, in terms of knowledge structure, is one that is intended to support how to reach the goal and not why we reach the goal. The Gerlach & Ely model emphasizes teaching towards the average student in the class and also how the students will meet the objectives.

### **Expertise Level**

This model is suitable for all levels of expertise to use. Whether the teacher is a novice, intermediate, or expert at using instructional design models, a noteworthy product will be produced with ease. The model is step-by-step, which adds to its simplicity.

### **Structure**

The Gerlach & Ely model was developed as a systematic approach to teaching and learning and not as a systems approach due to the failure rate of systems models applied to classroom teaching. In the authors opinion, teachers are not provided with enough time, money or resources to use a model as complex as a systems approach (Gerlach, 1980). In a systematic approach there is more emphasis on the learner, where



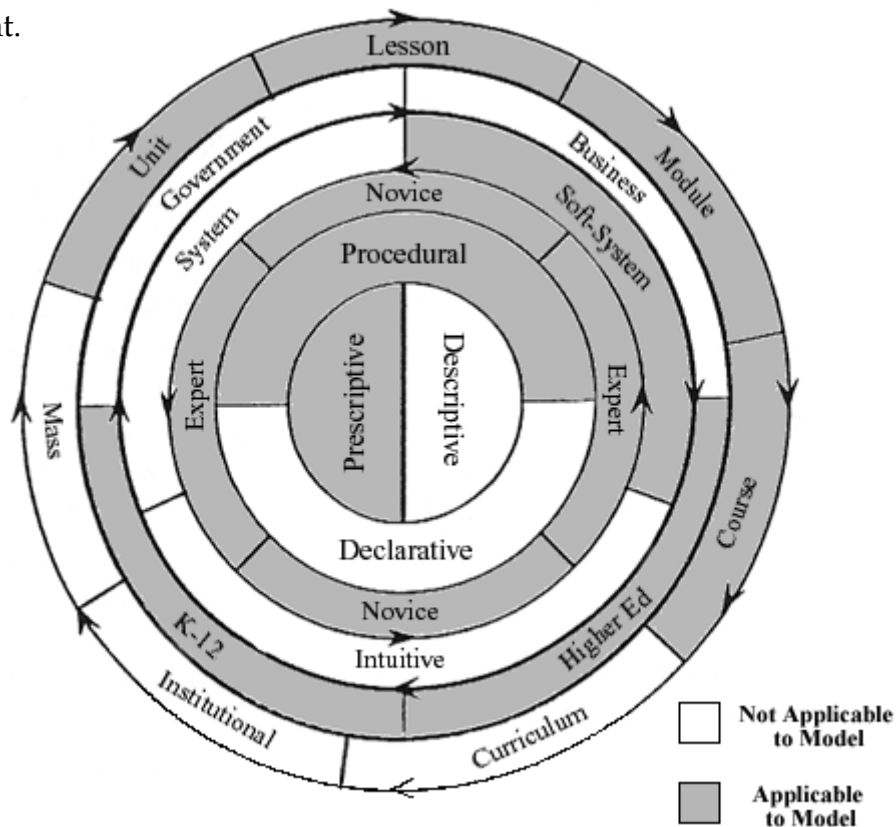
as in a systems approach the emphasis is on the entire outcome. The model can also be considered a soft-system-based model.

## Context

The classroom teacher was the inspiration for this model. It is fitting then, that this model is best used in a K - 12 classrooms setting or in a Higher Education setting as opposed to a business or government setting. The model takes into account the strain on time, money and resources that a teacher must deal with while preparing valuable instruction. The Gerlach & Ely model would not be as successful in a business or government setting due to the major differences between those settings and classroom type settings.

## Level

Since the Gerlach & Ely model was designed with the classroom teacher in mind, it is also appropriate that this model best addresses the levels of unit, module, lesson, and course. All of these levels can be found in the K - 12 and Higher Education environment.



## **Personal Perspective**

### **Scholarly Opinion**

In my opinion, the Gerlach & Ely model is a great asset to a beginner teacher. The model presents a roadmap for good teaching and learning, and also serves as a reminder to the important components that can sometimes be overlooked. Veteran teachers can also benefit from the experience of using this model by possibly gaining a fresh look at a subject, topic, or students they may be having difficulties with.

Realistically, I regret, that some teachers may not take the initial time to learn how to use the model. Certain veteran teachers tend to be set in their ways and not always open to trying new ideas. Novice teachers may not be aware of the existence of the Gerlach & Ely model as a tool to help them create teaching and learning strategies. However, I believe that the percentage of professional educators is on the rise. These teachers make every effort to improve their practice personally as well as the entire trade.

### **Conclusion**

The Gerlach & Ely model does indeed adopt a systematic approach to teaching and learning, and has most of the necessary elements contributing to instruction included. The model also shows the relationship between one component and another, and offers a sequential pattern that can be developed into a strategy for good teaching and learning. Hopefully this model will continue to stand “the test of time (Ely, 2003)” as more and more professional educators begin to employ it.

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