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ABSTRACT

The research on effectiveness of college teachers, college teaching, and what is known about how learning takes place is summarized. From the research on what is known about the characteristics of effective college teachers, effective teaching methods, and how students learn, four teaching strategies that college teachers can use are identified. Described are: instructional systems, lecturing as a cognitive process, facilitating inquiry, and group process strategies. College teachers are urged to use a variety of teaching strategies to meet the diverse needs of learners, for various learning goals, and for different subject matter. (Author/MSE)

STRATEGIES FOR COLLEGE TEACHING

by

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STRATEGIES FOR COLLEGE TEACHING

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Strategies for College Teaching

Faculty members are the most important educational resource of the university. Teaching is the primary, though by no means the only, professional activity of most faculty but there is no universal set of expectations which defines a college teacher's role.

Although there is little systematic evidence about how good the quality of teaching and learning actually is in most institutions, there is a general feeling that it can be improved. What do we know about the college teacher's task? What do we know about the way students learn and the teaching strategies that are appropriate for the college classroom?

Teaching is a much more complicated task than it appears on the surface. Teaching involves a complex set of attitudes, knowledge, skills, motivations, and values. Fundamentally the teacher's task is directing and motivating learning toward the attainment of instructional objectives. We need to re-think the nature of teaching itself. The most obvious block to re-thinking instruction is our fixation on subject matter as an end in itself.

There is so much to learn that we want the learning process to be as efficient and effective as possible. We can no longer defend the view of the teacher as the sole dispenser of information.

Most college teachers can agree upon goals. We generally agree that our work with students involves more than their training although some training does take place. Our task goes beyond teaching students a subject although having students grasp the content of a discipline is at the heart of what we hope to achieve. Most college teachers are also concerned about the "educated individual," a person who has acquired a habit of reflection and inquiry, a scholarly approach to social issues, and a concern for human values. We can agree upon the goals: the problem lies with the process of education. How

can we achieve what we want to achieve?

I will talk first about what is effective teaching, then what we know about learning, the research on the teaching methods, and four teaching strategies that college teachers may use.

College and university faculty members take their teaching seriously. A recent study conducted by the Center for Research and Development in Higher Education (Wilson, Gaff, Dienst, Wood, & Bavry, 1975) indicated the centrality of teaching in the lives of faculty. Over one thousand faculty from six institutions participated in the study. Most of the faculty surveyed (88%) considered teaching as their central activity as well as a major source of personal satisfaction. The study concluded that professors are concerned about the quality of their teaching and have confirmed their commitment to teaching.

Teacher Characteristics Associated with Effectiveness

What distinguishes a good teacher? What are the characteristics of the effective teacher? Many are quick to scoff--who can define effective? There is some truth to this. When we are asked to recall teachers who had significant impact on our educational lives, the examples are extremely diverse. And someone is certain to quote the article by Hilgard about the secondary economics teachers who did not know any economics and had to be taught by the students (Hilgard, 1965). Hilgard considered this economics teacher to be one of the best teachers he had.

There are many kinds of "good teachers" and "good teaching." When the concept of "good" or "effective" is applied to teaching it is more productive to consider "good for what?" and "good for whom?" If one of the purposes of teaching is to facilitate learning, one criterion of effectiveness can be learning by the student. What relationships exist between teacher behaviors

and student outcomes? Between teacher characteristics and student learning?

Analysis of data collected over several years in the Texas Teacher Effectiveness Project (Brophy & Evertson, 1976) has identified a cluster of variables describing the attitudes and beliefs that teachers bring into the classroom with them. Of this cluster of variables, the most pervasive is the teacher's basic role definition.

Some teachers perceive the job of teaching as an interesting and worthwhile challenge, approach it with resourcefulness and dedication, and take personal responsibility for the learning of their students. They see problems but they also believe they are capable of overcoming them.

In contrast, the less successful teachers, that is, those whose students learned less, are more likely to look on teaching as "just a job." They respond to problems and frustrations by giving up and attributing the failure to outside causes. Examples of outside causes blamed for failure include, the class was too large, the hour was too early (or too late), students just are not motivated these days, or, I need a teaching assistant.

The differences between the successful and unsuccessful teachers are not in the kinds or numbers of problems. Rather the difference is in the way the teachers react to these problems. A "can do" attitude and assumption of personal responsibility for what happens in the classroom reflects a fundamental difference in the attitude of the successful teachers.

Some factors identified by the Texas studies as unrelated to cognitive learning were teacher affection, teacher politeness, and teacher enthusiasm. The more effective teachers held realistic rather than romantic or idealized notions about students. However, the critical factors appear to be the teachers' role definitions for themselves (their responsibility is to teach) and their expectations for their students (and the students' role is to learn).

Many researchers have argued that there can be no single model of effectiveness. Teaching effectiveness must be considered in relation to specific desired educational goals and the different learning styles of students (Bail & Dunn-Rankin, 1972; Good & Trotter, 1974; Sheffield, 1974). The research question being asked is: What kinds of teachers have what kinds of impacts on what kinds of students in different kinds of educational settings?

A recent study (Wilson et al., 1975) employed rather unusual methods to assess effectiveness in attempting to answer the previous research question. Faculty members at six universities were asked to nominate colleagues as outstanding teachers. In addition, students were asked to nominate faculty who were outstanding teachers. Data were collected from the same students when they were freshmen and again when they were seniors.

The effective teachers were designated as those nominated by both students and faculty. Differences that are not significant between the teachers judged as effective and those that were not included age of the faculty member, sociopolitical attitudes, and amount of organization. Differences that are significant are effective teachers evidence a greater commitment to undergraduate teaching. They find teaching enjoyable and their primary commitment is to teaching. They are more likely to work at making course presentations interesting than their colleagues. They use stories and analogies to make a point and examples from their own research. They display concern for issues that are of importance to students and they have more interaction with students outside the classroom. (Also supported by Diener, 1973.)

The study concluded that faculty members do make a difference in the lives of students and some faculty members are more effective than others in bringing about intellectual growth in students. (This conclusion was also supported by Blair in 1975.)

What We Know About Learning

What do we know about how people learn that may have implications for teaching? Although extensive research about learning has been documented in innumerable publications, some faculty do not have the time, the familiarity with its specialized language, or inclination to avail themselves of this literature. In higher education even elementary principles of learning have been neglected and abandoned to an abiding faith in traditional methods. Faculty members are not alone in their support of dogma about teaching and learning. Students also support this view.

Faculty and students share a serious misconception about learning. That is, learning is something imparted by the teacher to the learner. Many believe that this transmittal of learning is mainly through spoken words. In one study (Evans, 1968) 319 out of 400 faculty members in one university ranked lecture as the most used and most favored teaching technique. They also believed that the conveying of content was their most important contribution to teaching.

In a study of higher education, Mayhew (1967) found that with a few notable exceptions, classes and courses were routine lecture presentations. However, good lecturing is only one way to teach. A lecture can be effectively used to present information. Most lecturers speak about 150 words per minute and most students can read at the rate of about 500 words per minute. Even a modest library is far superior to a teacher as a source of information.

The question that needs to be considered is: What must the learner do in order to learn? Learning is an individual, internal, and personal activity; no one person can learn for another.

There are certain generalizations about learning that are well grounded in research data and accepted (Watson, 1961). One generalization is that

behaviors which are rewarded (reinforced) are more likely to recur. The behavior most likely to emerge in any situation is the one the learner found successful or satisfying in a previous similar situation. No other variable affects learning so powerfully.

A second generalization about learning is: Reward (reinforcement) to be most effective, should follow the desired behavior as closely as possible and be clearly connected with the behavior in the mind of the learner.

The way any of us learns or is motivated depends partly on the forces outside us (extrinsic) with which we continually interact and partly on our own psychological and functional characteristics (intrinsic). Learning is the acquistion of new skills, personal meanings, and orientation and not doing what one has done before. Learning something is accompanied by a change in behaving, thinking, or feeling.

Motivation is a process that can (1) lead students into experience in which learning can occur, (2) energize and activate students and keep them reasonably alert, and (3) keep their attention focused in one direction at a time. If motivation is examined from the viewpoint of the students, students are never unmotivated. They are sometimes motivated to move away from rather than toward what we have in mind. There is no one formula, or strategy, or set of devices which will motivate all students in the same way or in the same degree.

Learning must become integrated with the student's purpose. The learner must pay attention and be actively involved. The learners will not be ready to try new responses, that is to learn, material which is too difficult, valueless, or too threatening. The experience results in greater learning when accompanied or followed by satisfaction.

Learners progress in any area of learning only as far as they need to in order to achieve their purposes. We have all known students who only do enough to "get by."

A good technique for keeping students motivated is to provide them with information regarding their performance. Immediate, meaningful, specific knowledge of results tends to increase performance levels.

Feedback on student performance involves more than a grade, such as "B." This provides students with little information about what they did well or where they need to improve. Research data indicate that praise, remarks such as "good" or "excellent work" are differentially effective (Thompson & Runnicutt, 1944). The same is true for blame or criticism as feedback; remarks such as "messy," or "you can do better." Whether praise or blame is associated with increased student performance is dependent upon the personality characteristics of the student. Indiscriminate praise is just as detrimental to student motivation as indiscriminate blame or criticism. The most effective feedback is informational. Here the teacher raises questions, points out gaps, and makes suggestions in an informational way rather than in a judgmental fashion. However, if you really pressed for time, anything is better than nothing.

The great diversity among students is a major reason why attention should be given to individualizing the learning experiences and tailoring them as much as possible to each student. For most students, listening is preferred when the content is easy while reading is preferred when the content is difficult. Also better retention results from reading than from listening. Could students in your class have a choice of reading or listening?

Student learning and retention can also be increased by giving specific instructions prior to the reading of an assignment. Why is the student to read the chapter; to learn isolated facts? to draw inferences and conclusions? to

answer questions in the book? or, to relate the content to what has been previously learned?

Motivation, teaching, and learning are complex interrelated processes. When we consider the multiplicity of teacher and student variables, it is plain there is no one best way of teaching any more than there is one best way of learning. There are many best ways of both teaching and learning.

Teacher interaction styles are related to motivation, attitude, and learning. Teachers able to use a variety of teaching methods and able to assume a variety of roles are more effective, that is, increased learning results. Teachers who are less successful consistently use the same instructional procedures and interaction styles. Every day is the same.

Characteristics of teachers who motivate students include:

1. the willingness to be flexible, to be direct or indirect as the situation demands
2. the capacity to perceive the world from the student's point of view
3. the ability to "personalize" their teaching
4. the willingness to experiment, to try out new things
5. skills in asking questions (as opposed to seeing self as a kind of answering service)
6. knowledge of subject matter and related areas
7. skills in establishing definite examination procedures
8. willingness to provide definite study helps.

Research on Teaching Methods

However, implicit in many discussions about teaching is the notion that there probably is a certain kind of teaching which is really better than all other kinds. We hear of "student-centered" teaching, "inductive" teaching, "inquiry" teachers, teachers who "really work with students," and others who

"really make it interesting." The usual implication is that there exists a certain definable way of working with students which helps them grow more than any other way.

The research evidence dealing with this question is remarkably ambiguous. There have been several hundred studies comparing one general teaching method to another, and the overwhelming portion of these studies show few if any differences. Although the results are very difficult to interpret, the evidence to date gives no encouragement to those who hope that we have identified a single, reliable multipurpose teaching strategy that is best for all purposes, for all teachers, and for all students. Rather than search for a single right way we need to concentrate on the possibilities available from the use of a variety of teaching strategies.

Examination of studies on teaching methods at the college and university level does reveal some overall trends and tendencies (Cohen, Rose, & Trent, 1973; Dubbin & Taveggia, 1968; McKeachie, 1972, 1970, 1963; Milton, 1972). For example, research has indicated that lecturing is an effective way of communicating information but other methods seem to be more important in achieving higher cognitive objectives. Discussions prove helpful in achieving certain objectives but vary in their effectiveness according to the manner in which the discussion is conducted, the size of the group, and the degree of "student-centeredness." Laboratory methods develop problem-solving abilities, provided that the emphasis in the laboratory is on solving problems. While independent study seems to increase motivation, it appears to be less effective in bringing about other desired educational outcome.

Teaching methods do interact with student personality characteristics to affect motivation and learning (Buxton & Prichard, 1975). Personality dimensions of student do make a difference whether one teaching method or another

will be successful as a motivating technique.

We do "know" some things about how people learn and the things we know have clear implications for college teaching. We know some things about how behavior is affected by reinforcement, how people process and remember information, and how question-asking behavior is related to learning. There are teaching strategies that a college teacher can effectively employ in the classroom.

What are we to conclude? Is one method as good as any other? It may be, however, that the answer is elusive because the question is more complex than it has appeared. Most research on college teaching has used a rather simple research design. Teaching Method A, say lecture, is compared with Teaching Method B, discussion. Student performance on the final examination is used to judge the effectiveness of the two methods. The result? Usually, there is no significant difference in the amount of student learning. The problem? Teaching is more complicated than this. More variables are included than are represented by the labels "lecture" and "discussion." What materials were used? What were the objectives? What did the students do? Was the "lecture" significantly different from the textbook? Did the students in the "discussion" section also read the textbook? Final examinations are probably not adequate as a criterion measure (Siegel & Siegel, 1967). Student performance on final examinations is dependent upon many variables in addition to the classroom method used; for example, studying from another student's lecture notes.

What is needed is a research paradigm broad enough to include learning environments, instructor variables, student variables, course variables, subject matter variables, objective, and evaluation, as well as method variables. The likely result would be that certain variables would interact with others and suggest a pattern of instruction which would produce certain results for certain

kinds of students. For example, students who have high academic aptitude and some previous knowledge of the subject usually have better factual recall when taught in large lecture classes. On the other hand, students who have limited knowledge of the subject may perform better if guided through step-by-step self-paced activities.

Most of us will not engage in this type of systematic research on college teaching. Our concern is more immediate: What do I need to pay attention to if I am to become a more effective college teacher? What are important variables over which I might have some control?

The possibilities are overwhelming. It seems likely that "everything matters." As a college teacher we cannot control all the variables--but we can control to a large extent one of the key variables: our teaching behavior. We can reflect on our role as teachers in the teaching-learning process and select and use teaching strategies based on learning theory to achieve our goals.

How can we put together what we know about learning and various teaching methods to develop effective teaching strategies? Any theory of learning tends to concentrate on particular kinds of learning goals to the exclusion of others. Theories of learning are generated from a view about human nature, about individuals, and what they should become.

Joyce and his colleagues have examined positions on learning and derived models of teaching from them (Joyce & Weil, 1972). These models or teaching strategies, then, are each based upon one learning theory or conception of how people learn.

Applied to college teaching, a teaching strategy is defined as a plan, method, or series of activities designed to achieve a particular educational goal. Sound teaching strategies are based on clear understandings of how people learn. There are different teaching strategies because we have different

conceptions of what learning is and how it takes place.

A teaching strategy implies that one knows what one is doing. Alternatives have been considered, plans have been laid, and a conscious choice has been made. This is not always true for college teachers. For many, their activity in the classroom is governed by tradition and convention rather than conscious choice. Many teaching strategies can be derived from different learning theories. I am going to talk about four strategies: (1) instructional systems, (2) lecturing as a cognitive process, (3) inquiry, and (4) group process strategies.

Instructional Systems

Teaching strategies involving instructional systems have been developed from principles of behavioral learning theory. The most basic principle of behavioral learning theory is that behavior is strengthened by its consequences which are called reinforcers. Behavior that is reinforced or rewarded is likely to be repeated.

Positive reinforcement involves rewarding behavior with something that someone will work for. Typical reinforcers in the college classroom include attention, praise, confirmation of correct answers, grades, and the Dean's list.

Negative reinforcement involves removing an aversive stimulus, something an individual will work hard to avoid. Most college students will work to avoid low grades, suspension lists, and critical remarks. Much "studying behavior" is initiated, increased, or maintained by negative reinforcement.

Behavioral learning theory can be applied in the college classroom in a variety of ways (Brown & Thornton, 1971). Teachers can guide the course of a discussion by the way reinforcement is handled. The general classroom atmosphere can be established as reinforcing or punishing. Student motivation can be increased by more frequent use of a variety of incentives.

Teachers have not carefully examined the question of what students are to do with the content (Garrison, 1976). Specifying behavioral objectives forces the teacher to consider this question (Gaff, 1973). Behavioral objectives are relatively specific statements of learning outcomes expressed from the learner's point-of-view that tell what the learner is to do at the end of the instruction (Burns, 1972, p. 5). What are the instructional purposes? What intended changes in the behavior of the students are expected as a result of the course?

Research has indicated that learning is effective when the things to be learned are clearly specified; when the learner understands what is to be accomplished. And teaching is effective when the content is identified and interrelated so that the elements needed to achieve a given level of performance are known; when content is ordered along a continuum from familiarity to understanding to application: when the content and process are ordered so each learner can progress at his/her own rate; when the methods of instruction are appropriate to the nature of what is to be learned. In other words, match the teaching method to the instructional objective (McCleary & McIntyre, 1973).

Once clear goals are established, a process for reaching the goals must be developed (Davis, Alexander, & Yelon, 1974). Principles from behavioral learning theory can be used to design instructional systems to achieve the objectives established. Some examples of instructional systems based on behavioral learning theory are: (1) self-paced instructional systems, (2) programmed instruction, (3) computer-assisted instruction, and (4) mastery learning.

The application of principles from behavioral learning theory can improve the quality of teaching and how students learn. Even the teacher who disagrees with some of the basic principles of behaviorism will find in a systems

approach a viable strategy for attacking systematically certain aspects of the task of college teaching.

Communicating through Lecture: Cognitive Processes

A second strategy involves communicating through lectures. Critics of the behaviorists say their model is inadequate for describing human learning. Humans, because they have the use of language, act upon and reorder the stimuli from the environment. Through language humans engage in complex mental activity that is not observable. Cognitive psychologists believe that the things that go on in the head, mental processes, are the key to understanding human behavior.

What does go on in the head of a student listening to a lecture? Attention mechanisms: we pay attention to certain stimuli for various reasons. Information processing: we relate new information to what we already know. Inputs enter the organism from a variety of sources.

Material that is organized in meaningful ways is easier to remember. Language becomes the all important information processing medium. What implications are there for college teachers from cognitive learning theory? How can a lecture be planned and executed to take into account what we know about the way persons attend to, process, and remember information?

First, students must attend to information before they can process it. We probably begin our lecture by suggesting why the topic of the lecture deserves attention. Then we identify for the students, the five or six key points or concepts the students need to attend to during the lecture. The teacher can play a key role in helping students focus attention on the main ideas.

A good lecture can be used to provide common background for all the students, to cover areas on problems where all students seem to have trouble,

and to supplement the text assignments. Lectures that duplicate text assignments demean the student and the instructor.

Teachers who take into account the way the mind works will be more effective than those who just stand up and talk. Those who employ lecturing as a teaching strategy need to recognize it for what it is, a highly complex mode of transmitting and receiving information. The message needs to be planned and transmitted in such a way that it can be received.

Facilitating Inquiry

A third stategy involves the development of inquiry. But our goal is to teach them to think, you say. We are not simply interested in their ability to recall facts. We are concerned with thinking; the problem is, what does it mean to teach someone to think. The ability to use language to think appears to be uniquely human. Thought and language are closely interwoven in man.

What are the processes that take place when a person "thinks" in order to solve a problem? Usually the patterns of productive inquiry are seen as having stages (Murphy, 1974). First, the inquirer becomes aware of a problem, a situation that calls for some sort of answer or solution. The early stages of inquiry usually focus on problem definition. What precisely is the problem? Why is it a problem? To whom is it a problem? As the problem is defined, the inquirer begins to search for pertinent facts. Then hypotheses are proposed. Will this work? What if we try this? The inquirer begins to reduce the possibilities.

How can inquiry be used as a teaching strategy? Is it possible to teach people to think by guiding the process of inquiry? Concept formation, data gathering, interpretation of data, drawing inferences, hypothesizing, and

applying principles are all aspects of thinking that can be taught (Taba, 1967, 1966, 1962).

The key to developing inquiry includes getting the students involved in the process. You do not do this by exhorting the students, "Now think!" The most effective way appears to be through the use of questions. Students can be guided in their own thinking by answering carefully structured questions and by learning to ask productive questions themselves. Teachers need to talk less in order to allow time for students to talk.

The teacher must be willing to allow a line of inquiry to go where it will. As the teacher, you are less concerned about what the students learn than about how they learn. You do not attempt to "cover the content."

The teacher's role in an inquiry class is different as is the student's role. An inquiry strategy involves the teacher setting the stage, defining the task or posing the problem, and guiding the development of inquiry skills.

Inquiry, as a teaching strategy, is unsurpassed if the goal is to teach students to think. There is no substitute for the hard work involved in solving a problem. The only way to learn to think is to do it, over and over, in different fields, with different problems, and with different words. To learn the process, one must practice it.

Inquiry also has its limitations. It is slow; it is hard work; students may resist it. It is also not the most efficient way to present information.

Group Process Strategies

The fourth strategy I want to talk about develops the group process. The group process approach to education was developed by social theorists such as Carl Rogers, Maslow, and Rollo May who are concerned with the development of the mind, the development of the self, and the learning of academic subjects but are primarily concerned with educating students to relate to and improve

the society. Group methods are persuasive when opinions, attitudes, and beliefs are examined. Through group process students develop skills for participation in democratic social process (Thelen 1960, 1954).

There are an endless number of group methods. Some are designed for examining and cultivating group process rather than for teaching something specific about a subject. Group methods can be adapted to fit particular educational goals.

If you are concerned with the development or change of attitudes or beliefs about your subject area or the society, you may wish to consider an adaptation of some group process teaching strategy. Joyce and Weil (1972) present several group process teaching strategies which can be readily adapted to any subject area.

Choosing and Using a Teaching Strategy

I have talked briefly about four teaching strategies which college teachers can use. At certain times, given certain assumptions and goals, the argument of the behaviorists carries the day. Under other conditions the viewpoint of the cognitive psychologists makes more sense. For some, learning is primarily inquiry. It is difficult to know who is right and which strategy to choose.

The differences between the various strategies are real and significant. The advocates of different strategies are not all saying the same thing. Beneath each of the strategies are some assumptions about human motivation. The behaviorist recognizes the importance of external reinforcement in producing motivation. The teacher who uses behavioral learning theory and a systems approach to instruction will direct a great deal of attention to arranging external reinforcers to insure that the learner is motivated. The

teacher who uses an inquiry strategy assumes that the process of problem-solving is itself motivating.

Similarly each strategy implies a slightly different emphasis on what is important in teaching. The behaviorist wants to stress skills. Cognitive psychologists stress information. Those who use an inquiry strategy stress the reasoning process. Group process emphasizes personal interactions with others and the society. The differences are significant. No single teaching strategy can accomplish every purpose. The wise teacher will have available a repertoire of strategies.

There are also some similarities. No matter what strategy you choose, teaching is complex. Everything matters. All of the strategies require clear objectives. Each strategy requires that the teacher have a precise sense of what is being undertaken, why it is being done, and what the outcomes will be.

Also, all of the strategies require precision in the communication process. Whether communication takes place through computer-assisted instruction, a lecture, or a small group, the exchange must be clear and precise. All strategies require some knowledge of where the student is.

How do you decide which is best? You may have a personal preference based on your educational philosophy. You must find the strategies with which you are most comfortable. But the only way you can do this is to try them out.

You may choose a strategy on the basis of student needs. All students are not alike; their needs are different.

Or you may choose a strategy to fit the goals of instruction. Each strategy is useful in achieving slightly different goals.

Recall the research question posed earlier: Under what conditions do which students learn what things? In choosing a strategy, ask yourself: Which students will learn what things if I use this strategy?

Teaching is not talking and learning is not listening. The effective teacher is one who has considered carefully how people learn. Unless the teacher has reflected seriously on what the outcomes of a course, unit, or lesson should be, there is little chance that either the teacher or the students will attain these outcomes. Having a deliberately chosen teaching strategy does make a difference. Effective teaching involves the use of a clear and identifiable teaching strategy which in turn involves a theoretical framework for conceptualizing how people learn. Effective teaching involves far more than knowing one's subject, being a nice person, and answering questions politely. Effective teaching emerges from the skillful employment of a particular strategy to achieve a specific goal.

Effective teaching doesn't just happen. Sound teaching strategies are based on clear understanding of how people learn. Effective teaching depends upon the teacher having a clear set of goals and a sufficient strategy for reaching those goals.

What Can You as a College Teacher Do?

Effective teaching involves helping students to attain desired learning objectives. Faculty members can be assisted to specify learning objectives for students, choose learning experiences designed to achieve these outcomes, and evaluate their attainment. These procedures can make learning more systematic, thereby increasing the probability that the desired competencies are attained. Techniques to increase effectiveness include:

1. providing students with a clear set of objectives, of what you expect them to have become by the end of the course.
2. making your lectures problem-oriented rather than information oriented (which is not easy to accomplish).
3. providing options in assignments.

4. asking questions to develop skills of inquiry rather than the recalling of information.

5. focusing on specific objectives rather than on vague ones such as "understanding the cause of the Civil War."

6. varying your rate of speaking to increase attention and concentration.

7. providing organizational structures on which the students can "hang" the content you present.

8. providing material that is challenging so the mind does not wander and not so difficult that it cannot be assimilated.

9. developing self-instructional materials for content that can be organized into expository form. Students can learn this type of content in minimal time when it is organized (Kelley,1973).

No matter what the size of the class you teach, a clear idea of objectives is of primary and initial importance in teaching. What is it, specifically, you want the students to be able to do at the end of your course?

Students need to have a sense of involvement with the subject matter of the course and to develop a questioning, analytical approach to the subject matter of the course.

What I have tried to develop here are some alternative teaching strategies from what we know about research on teaching methods, teacher effectiveness, and learning.

Finally, those of us who teach do so because we care about the students and we care about the subject matter. We want to do the best job possible, not simply because we want to be known as effective teachers, but because we know how important the subject is for the students.

To what extent are you aware of the diversity of student interests that exists in your classes? What are you doing to relate the course content to those various concerns?

Is your teaching style uniform or do you employ a variety of techniques depending on the nature of the students, the course material, or the teaching

setting?

What kinds of oral and visual presentation techniques do you use to stimulate student interest in course materials?

How do you go about conveying your enthusiasm for teaching to your students and colleagues?

Do you try to overcome the natural barriers between students and faculty? How do you go about indicating your accessibility to students?

How effectively do you use casual and informal conversations with students outside the classroom as a vehicle for teaching?

If we conscientiously continue to ask ourselves these questions, we will find ourselves meeting the needs of students. If we adopt a variety of teaching strategies to meet student needs, for various learning goals, for different subject matter, and to meet our needs, we will become more effective college teachers.

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