

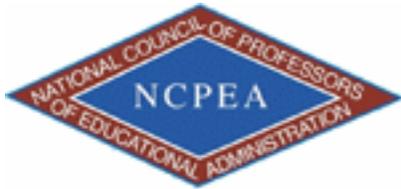
INSTRUCTIONAL STRATEGIES TO FACILITATE LEARNING*

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Abstract

Teacher behavior research has shown that teacher behaviors, as well as specific teaching strategies, make a difference with regard to student achievement. Ten durable instructional strategies are discussed: set induction, stimulus variation, reinforcement, questioning, recognizing attending behavior, lecturing or direct instruction, planned repetition, establishing appropriate frames of reference, closure, and race/class/gender equity.



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1 Introduction

Teaching, because it is an extremely complex process dealing with many variables, has been difficult to analyze (Lunenburg & Ornstein, 2012). Research on teaching and learning accumulated during the last four decades has provided a variety of teaching techniques that may be utilized effectively by teachers as they interact with, facilitate, and direct students within their educational settings (Ayers, 2011; Brophy, 2011; City & Elmore, 2010; Darling-Hammond, 2008, 2009, 2010; Gage, 2010; Good, 2009; Good & Brophy,

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2008; Greene, 2008; Hatch, 2006; Hayes & Apple, 2007; Hewitt, 2008; Joyce, 2008; Kauchak & Eggen, 2006; Lieberman, 2011; Marzano, 2010; Moon, 2008; Newmann & Wehlage, 2010; Shulman, 2005; Silver, 2007; Tuckman, 2008; Walberg, 2011; Wiggins & McTighe, 2008). Listed below are 10 durable research-based instructional strategies designed to help teachers improve their classroom performance and ultimately student learning.

2 Set Induction

Observers have noted that teachers usually do not spend much time preparing a class for an activity. They frequently say, “Read this story tonight for homework,” or “Watch this demonstration carefully,” and expect their classroom to be full of eager students who are anxious to learn as much as possible.

The problem that every teacher faces at least twice during each classroom period is to hit upon those introductory remarks (or procedures) that will produce the maximum payoff in learning. That is, when introducing an activity, what can a teacher say that will produce the maximum pay-off in learning? What words can a teacher use to produce the maximum in subsequent learning?

The concept of *set induction* comes from research on learning and the theory developed from that research (Brophy, 2011; Hunter, 1984; Jarvis, 2006; Marzano, 2010; McCombs, 2006; Shulman, 2005). The late Madeline Hunter (1984) referred to this technique as *anticipatory set*. This research appears to indicate that the activities preceding a learning task influence the outcome of that task, and that some instructional sets are superior to others. If some instructional sets are superior to others, then each teacher is faced with the need to find those types of sets that will be most useful for his or her purposes and then to modify these sets to fit the specific classroom situation.

Let us suppose that the teacher wishes the class to read Chapter 3 in their textbook as homework, and Chapter 3 is about Andrew Jackson and the changes which took place under the reign of “Andrew I.” The “problem” which faces the teacher is, what remarks or activities will produce the greatest learning for the next day. The teacher could say, “Now class, for tomorrow I want all of you to read Chapter 3 in the text.” Such a weak set would probably produce the usual response, and the next day the teacher will discover that half of the class has not read the assignment and the remainder claim that they studied but are unable to answer the teacher’s discussion questions.

To improve the set, the teacher might say: “For tomorrow, I want you to read Chapter 3 in the text and come to class prepared for a discussion.” This last sentence is an improvement because it gives the student more information about his goal, that of preparation for a discussion. But despite the obviousness of the addition, the student may need a good deal more help before she is able to prepare for the next day’s discussion. What will you discuss? What points should he consider as he reads? What should she focus on while she reads? How should he use his past information? Should he learn facts or principles? Should she compare, contrast, both or neither? A sufficient set, then, is one which gives the student adequate preparation so that while he goes through the activity he is able to come as close to the goals as the teacher wishes.

Activities for which set induction is appropriate include the following: at the start of a unit; before a discussion; before question-answer recitation; before giving a homework assignment; before hearing a panel discussion; before students present reports; when assigning student reports; before viewing a video; in a discussion after viewing a video; before assigning homework based on the discussion following a video; before a discussion based upon the homework assignment.

Following are 15 examples of set induction.

1. Starting a lesson on tone in poetry by comparing a Joan Baez record with Goldfinger with the Rolling Stones

2. Before we read the story, “The Lottery,” I want to finish giving grades. I’ve decided to fail three students, and have placed three slips among these thirty slips in this hat which indicate that you fail. Now we will pass the hat.

3. As you read the *Turn of the Screw*, try to decide if this is a ghost story or one written by a neurotic who distorts reality.

4. Giving models of good book reports before the class writes their book reports (Such sets act as facilitating sets. Indeed, such sets are usually quite effective in obtaining desired responses.)
5. Giving an assignment of creating a character as a set for noticing character in the reading of short stories
6. Using the three hats which Lear wore as facilitating sets to understand the three roles which he had, and the three stages of his change
7. Developing times when individual class members have been confused over making decisions, and then using these as a facilitating set for the study of Hamlet or the conflict and betrayal between parents and children as set for Lear
8. As you read this chapter about the Civil War, think about how you would have gone about stopping the war if: you had a million dollars, intelligence, a cloak of invisibility.
9. In order to facilitate the teaching of order and categorizing behavior, the class were given 35 record jackets and asked to sort them into four categories—each student could make any category she wished.
10. We are going to take a trip to Rome but don't want anyone to discover that we are really Americans. How should we dress, act, etc? What small things do you think might give us away? Now read. . .
11. Understanding executive, legislative, and judicial branches of government by working through analogies to family, school, and city
12. Studying history from 1700 to 1900 by giving a set for developing "rules of history"
13. In any historical situation, setting up the problem which any nation faced (but not identifying the nation) and then asking the class to come up with responses to the nation's problem. Then they read.
14. Making up a set of questions on the constitution, giving this test to a member of the community, as a set for the study of government.
15. Beginning a unit in physics with a demonstration involving a piece of wood overhanging the edge of a desk. The part on the desk is covered with a piece of paper. When the teacher gives a sharp blow to the part of the wood hanging over the edge (because of the air pressure), the paper is undisturbed and the wood snaps.

3 Stimulus Variation

Stimulus variation deals with both verbal and nonverbal techniques for varying stimuli presented to the students. A variety of techniques can be used by the teacher. The skill is particularly relevant to activities such as direct teaching or teacher-led discussions, in which the teacher's ability to hold the student's attention determines his or her success.

The concept of stimulus variation comes from research on learning concerned with the effects of change and habituation (Mayer, 2011; Slavin, 2011). The research that has been done points to the fact that changes, any deviation from the standard, seem to result in higher attention levels.

Teachers should remember that most youngsters have short attention spans; they often lose interest after a certain period of time. Good teachers vary learning activities and their teaching behavior during a classroom session so that students receive new stimuli that will keep them interested. The stimuli constructed by the teacher compete, in a sense, with irrelevant stimuli that might distract the students.

Six behaviors can be used to vary the stimulus (Dai, 2012; Long, 2012; Richey, 2011). Each one will be discussed in turn.

3.1 Movement

Movement by the teacher requires visual and aural sensory adjustments from the student. The student does not shift from one primary receptor to another; rather, he or she adjusts each behavior. We can generalize from theories about attention and state that a high number of these sensory adjustments, per unit of time, will help the teacher keep the students attending to the message of the lesson (Harasim, 2011). The teacher behavior required is that of moving throughout the lesson in a pattern which insures: (a) that on numerous occasions the teacher is perceived in both the left and right sides of the classroom; (b) that on numerous

occasions the teacher is perceived in both the front and back of the teaching space; (c) that occasionally the teacher moves among and/or behind the students. The wireless multimedia presenter used with PowerPoint presentations is useful here.

3.2 Gestures

Hand, head, and body movements are an important part of communication. The oral message alone is not as effective in conveying meaning as an oral message combined with gestural cues. One can think of the effective communications of Marcel Marceau and Harpo Marx as one end of a continuum and the relatively dry and lifeless communication of Ed Sullivan as the other end of the continuum. Maximum communicative effectiveness probably lies somewhere in between.

3.3 Focusing

This behavior can be produced either through verbal statements, through specific gestural behaviors or by some combination of both. Some examples follow:

1. Verbal Focusing: “*Look* at this diagram!” “*Listen* closely to this!” “Now, here’s something *really* important!” “Watch what happens when I connect these two points!”
2. Gestural Focusing: teacher points to object. Teacher bangs the dry-erase board for emphasis.
3. Combinations of Verbal and Gestural Focusing: “*Look* at this diagram (Teacher points to diagram)!”

3.4 Interaction Styles

A teacher can vary the pattern of the lesson by switching to different interaction styles. Three examples follow:

1. Teacher-Group: The teacher is presenting or demonstrating to *all* students, ask questions of the group at large and is nonspecific in the presentation or demonstration.
2. Teacher-Student: Here the teacher tries to make a point with or for *one* student or asks a particular student a question
3. Student-Student: The teacher can take a student’s response and direct it to another student for comment or clarification. Another technique is for a teacher to have one student explain something to another student. The goal here is to have the teacher withdraw briefly from the lesson by allowing student-student interactions to occur.

The deliberate patterning of these interaction styles serves to vary the context within which content is covered. This should result in a higher level of attention than would occur if only a single style were utilized (i.e., presenting or demonstrating) (Dai, 2012).

3.5 Pausing

The effectiveness of silence as an attention demanding behavior is well known by public speakers and little used by teachers. There is no reason to rush to fill silent space with talk or activity. In fact, there are some interesting events that occur when pauses are deliberately inserted into the lesson (Long, 2012). First, it breaks informational segments into easily processed units. Second, it captures attention by reducing the stimulus present (remember, attention is maintained at a high level when stimulus change occurs, not just when stimulus intensity is increased). Third, it probably causes the student to “strain” for cues and direction since the situation lacks structure. Finally, a distinct pause prepares the students for the next unit of teacher behavior.

3.6 Shifting Sensory Channels

By shifting the primary sensory receptors (e.g., ears to eyes) being used by the student, a necessary set of adjustments must be made by her to receive the teacher’s message. This is not a shift in reception through

the same sensory channel as we discussed in the section on movement. In this case, the emphasis is on the adjustments that must be made by switching the primary receptors. This should insure a higher level of attention. The behaviors the teacher must produce are those that shift the primary mode of information transfer.

Usually the teacher is conveying oral messages; these might be supplemented by visual messages through the use of PowerPoint, dry-erase boards, pictures, objects, etc. Tactile attention is demanded when the teacher passes around some object or asks students to adjust or manipulate some apparatus.

Combining of behaviors during the lesson can be very effective. For example, the teacher might move from one side of the room to the other, saying “Now watch this.” She writes on the dry-erase board. She then steps back, points at what she has written, and says nothing more. In this sequence, the teacher has used five behaviors: movement, verbal focusing, gestural focusing, pausing, and oral-visual switching. Each behavior attracts the students’ attention (Dai, 2012; Long, 2012; Richey, 2011).

4 Reinforcement

Research has indicated that if teachers reinforce students both verbally and nonverbally when they participate both in large- and small-group classroom discussions, irrespective of the correctness of their responses, students will participate more often and more actively in classroom discussion (Clutterbuck, 2011)). If teachers wish to get students to participate more often and more actively in class, they should discover what is reinforcing for particular students and then reinforce the students when they do participate in class. It would seem that the more techniques a teacher has at her disposal for reinforcing students, the better her chance for getting good pupil participation (Nash, 2009).

For example, when a student makes a particularly good response, the teacher might say, “That’s exactly it,” and nod her head affirmatively as she moves toward the student. In this case, she combines one positive verbal reinforcer with two positive nonverbal reinforcers. Such a combination produces a cumulative effect. Examples of positive non-verbal reinforcement include the following: The teacher nods and smiles; the teacher moves toward the student; the teacher keeps her eyes on the student; and the teacher writes the student’s response on the dry-erase board. Positive verbal reinforcement include the use of the words and phrases such as “Good,” “Fine,” “Excellent,” “Correct,” etc., or otherwise verbally indicating pleasure at the student’s response. Teacher actions and responses which act as negative reinforcement tend to decrease student participation and should be avoided. Examples follow: The teacher scowls or frowns; the teacher moves away from the student; the teacher fails to maintain eye contact with the student; the teacher responds with “No,” “Wrong,” and “That’s not it;” the teacher manifests expressions of annoyance or impatience.

5 Questioning

The use of questioning techniques is basic to good teaching. Generally speaking, questions can be classified into four broad categories: Initiating, probing, higher order, and divergent (Hussin, 2010; Lewin, 2010).

Initiating questions elicit an initial response from the student. Once the student has responded, the teacher probes the student’s response. Some of the *probing* questions the teacher asks require the students to remember facts or to describe something they see. The teacher also asks *higher order* questions, which require the students to make comparisons, inferences, evaluations, or to relate ideas.

Divergent questions have no “right” or “wrong” answers. When first asked divergent questions, many students are uncomfortable because there are no “right” answers for them to lean upon. They are reluctant to explore and hypothesize for fear of giving the wrong or foolish answers. As a result, they try to pick up cues from the teacher as to what answer is wanted. If the teacher gives these kinds of cues, however, her questions are not truly divergent. If, on the other hand, the teacher is not giving cues, some students are likely to feel uncomfortable and uncertain. This should be viewed as a favorable, not an unfavorable, sign.

6 Recognizing Attending Behavior

Related literature on student attending behavior indicates that pupil behavior can be classified as either work oriented or non-work oriented behavior and that these student behaviors can be distinguished from each other. Two important variables which are dimensions of total teacher behavior were reported in the literature as instructional technique and the immediate effect of technique on student attending behavior (Brophy, 2011; Good & Brophy, 2008). An inverse relationship has been found between student attending behavior and student disruptive behavior (Algozzine, Daunic, & Smith, 2010; Belvel, 2010).

Suggested criteria for recognizing attending behavior include the following: Eye contact with the teacher or the teaching media; active engagement in the task assignment (such as reading, writing, or note taking); a positive response to the teaching tasks; and participation in the class activity. Suggested criteria for recognizing non-attending behavior include the following: The student appears bored without eye contact with the teaching task; the student appears not to be taking part in the class activity; the student appears to be taking part in the class activity other than the assigned tasks; and the student appears to be responding negatively to the teacher's direction.

7 Lecturing

A *formal lecture* (or direct teaching) refers to a verbal presentation of subject matter content formally organized and unsupported by other learning media, extending over a period of time of not less than 15 or twenty minutes (Lewis, 2011). An *informal lecture* refers to a presentation involving multimedia (such as PowerPoint, video, or video streaming) and student interruption for questions and clarification. We might define an informal lecture as the teacher being the presenter for 90% of the information and the student 10% (Dennick, 2010).

Given these definitions, there are two main questions that the teacher needs to consider: (a) When is it effective to lecture? and (b) How can the teacher lecture effectively? (Hativa, 2009).

7.1 Why or When to Use Lecturing

1. The teacher may have information which is not accessible to the students. For example, an expert in some subject matter field, a scholar, one who has traveled widely, etc., will often have information which the student does not have.
2. A second reason for lecturing is to reinforce written work. Before or after students study a topic, the teacher may want to reinforce their learning by lecturing on some of the same material. This procedure will emphasize the main points of the unit. However, the teacher must be sure not to lecture on everything the student learns. The teacher need only lecture on those things which he wishes to emphasize.
3. A third reason for lecturing is to create a change of pace or, as we have discussed, to vary the stimulus situation. In this way, we can switch from the question-answer presentation to that of a lecture. Any method used exclusively usually results in a loss of attention and bored students.
4. Economy is an important reason for lecturing. Through a lecture, the teacher can synthesize many sources, although far too often this is not the case with a lecture. If a lecture is well done, it will have synthesized several sources so that all students can get a universal coverage of the subject matter.
5. The lecture can also inform learners of the expected outcomes of learning. For example, the teacher might say, "We are going to make up a particular unit in which we are going to concentrate on...and...will be expected of the students."

7.2 How to Lecture Effectively

The first assumption is that the listening audience, the students, must be verbal enough to respond to the lecture. You can only communicate to students who employ the language which is used by the speaker.

For the teacher, this means that she needs to consider the vocabulary which she uses in her lecture (Kryza, Duncan, & Stephens, 2010). In the formal lecture, the verbally adept students have a high potential for compressing ideas or synthesizing points of view. But those who are not verbally adept lack these characteristics which are features required to absorb the points of the lecture. In other words, if the teacher notes that slow learners are not verbal, then in most cases a lecture to them may be very wasteful and destructive to morale. The slow learner cannot respond to the concentrated medium of a formal lecture. Other oral media may be preferable for this group of students—such as the discussion or informal lecturing techniques with lots of visuals.

Another very important consideration to remember is that if the teacher is going to use a lecturing technique, the students need to be prepared for this formal lecturing technique. One of the skills that many students do not have is the skill of listening (Kneen, 2011). The teacher should provide opportunities for the students to listen in practice sessions, teaching them how to listen for main ideas (Dawes, 2011).

Another consideration should be that of note-taking. Robert Gagne (1985) argues that research shows that note-taking serves no useful purpose. On the other hand, there is some evidence that note-taking helps to assimilate ideas (Hewitt, 2008). Students need to be taught how to take notes effectively if note-taking is not going to be an obstruction to their learning. They need to be shown how to listen for the main ideas and put them into note form. Early in the lecture a teacher may ask a question such as: “What do you think the main idea is so far?” This is an attempt to involve the students in the lecture or in the learning process rather than have them as passive observers.

What are some of the other attributes of a good lecture? A good lecturer must have audience appeal—warmth, friendliness, and confidence. He must speak in a voice which is clear and easily understood. She should have very good control of the English language—syntax, word selection, enunciation, pronunciation, the use of meaningful figures, etc. Because of a lack of these characteristics, there may be individuals for whom the lecture is not the best means of presentation. Furthermore, lecturing may be completely alien to the personality and style of certain teachers. A beginning teacher must take these things into consideration in deciding if lecturing should play a major part in his teaching style. Using PowerPoint and a Wireless Multimedia Presenter can vary the stimulus and provide movement within the classroom space during a lecture (Harasim, 2011).

Let us turn our attention now to the lecture itself. Two essential components of a lecture are planning and pacing (Dennick, 2010; Lewis, 2011).

Planning. Planning is usually the first criterion of the well developed lecture. The teacher may find planning a very painful experience. The teacher’s objectives have to be sharply defined. The way the teacher develops his main points must also be sharply defined, and the supporting evidence well organized to make the lecture effective. The teacher should avoid unnecessary repetition or misplaced emphasis. Although the technique of repetition can be very effective to highlight important points, a good lecture needs to be clear and well organized. Notice how a newscaster organizes his presentation and enhances it with interesting sidelights and human interest stories. Most newscasters are good models of organization.

Pacing. We have, of course, already discussed pacing under the technical skill of varying the stimulus. This skill also applies to delivery techniques, using different visual materials, lowering or changing the pitch of the voice. All of these things are part of the total idea of pacing. Remember that one of the objectives of the teacher is to pace the students into the lecture rather than overwhelm them.

If you watch newscasters, you will see them using a rapid cadence of words, slowing down and speeding up. In other words, they are varying the stimulus that they give to their audience. Main ideas should be repeated and highlighted so that students will pick up cues that these are important concepts or ideas pertaining to the lecture.

As we design the presentation of a lecture (this is also related to pacing) there are some guidelines that should be considered. One model is often called the 10-30-10 principle (Hativa, 2009). A teacher who is going to make a fifty-minute lecture, should probably spend about ten minutes telling the students what she is going to tell them. This is incorporated into the idea of set induction which was discussed earlier. Thirty minutes should be spent in telling the students that material, and the last ten minutes should be taken in reviewing, explaining what the teacher already told them.

For secondary school teachers, the informal lecture method is probably far superior to the formal lecture method. The teacher needs to use visuals to enhance his presentation. Participation should be encouraged. If students do not understand points, they should be encouraged to raise their hands and ask questions of the teacher. Often times, the teacher will want to supplement the informal lecture with written hand-outs, PowerPoint presentations, videos, or slides. The main point is the use of technology should complement rather than be a substitute for the presentation (Harasim, 2011).

8 Planned Repetition

Planned repetition is a skill that requires careful use. On the one hand, the teacher wants to structure situations to encourage over-learning and relearning. On the other hand, the teacher does not want to “beat a dead horse” with constant repetition. Some teachers do not repeat enough and others bore the students with repetition.

If continuity from lesson to lesson is important, the teacher should be particularly alert to the possibilities of repetition (Stone, 2010a, 2010b, 2010c). In the actual classroom situation, an effective teacher uses the skill in several sessions. In essence, the teacher reviews previous material by repeating, or having students repeat, main ideas. If these ideas have been forgotten, they may be relearned as a result of repetition.

9 Establishing Appropriate Frames of Reference

A student’s understanding of the material of a lesson can be increased if it is organized and taught from several appropriate points of view. A single frame of reference provides a structure through which the student can gain an understanding of the material. The use of several frames of reference deepens and broadens the general field of understanding more completely than is possible with only one.

Teachers can be trained to become more powerful teachers as they are taught to identify many possible frames of reference that might be used in instruction, to make judicious selection from among them, and then to present them effectively (Cruikshank, 2008; Darling-Hammond, 2009).

10 Closure

The skills of set induction and closure are complementary. Unless the students achieve closure, that is, perception of the logical organization of the ideas presented in a lesson, the effect of an otherwise good lesson may be negated. By using closure techniques, the teacher can make sure that students understand the material and its relationship to what they have learned already (Darling-Hammond, 2008; Marzano, 2010).

Closure is not limited to the completion of a lesson. It is also needed at specific points within the lesson, so that pupils may know where they are and where they are going. If the planned lesson is not completed, closure can still be attained by drawing attention to what has been accomplished up to the point where the lesson must end.

Closure can be facilitated in at least four ways (Darling-Hammond, 2008; Marzano, 2010):

1. *Drawing attention to the completion of the lesson or part of the lesson.* This can be accomplished in one or more ways: (a) Providing consolidation of concepts and elements which were covered before moving to subsequent learning; (b) relating the lesson back to the original organizing principle; (c) reviewing major points using outline; (d) summarizing the discussion including the major points which were covered by the teacher and class; (e) developing all the elements of the lesson into a new unity; and (f) reviewing the major points throughout the lesson.
2. *Making connections between previously known material, currently presented material, and future learning.* This can be accomplished by: (a) reviewing the sequence which has been followed in moving from known to new material; (b) applying what has been learned to similar examples and cases; and (c) extending material covered to new situations.

3. *Allowing students the opportunity to demonstrate what they have learned.* This can be accomplished as follows: (a) providing for pupil practice of new learning; and (b) providing for pupil summary of the learning.
4. *Developing unsuspected closure.* This can be accomplished by helping students to take what has been presented and to develop this material into a new, and unsuspected, synthesis.

11 Race, Class, and Gender Equity

The achievement of students of color continues to be disproportionately low at all levels of education (Howard, 2011; Paige, 2011). More than ever, culturally responsive teaching is essential in addressing the needs of today's diverse student population (Gay, 2010).

Biography-driven culturally responsive teaching is one powerful way to find common ground among all students in the classroom (Herrera, 2010). Everyone has a biography that is distinct and unique. By combining insights from multicultural education theory and research and research with real-life, biographies, all students will perform better on multiple measures of achievement when teaching is filtered through their own cultural experiences (Herrera). The best method of achieving gender equity is to improve classroom learning generally (Good & Brophy, 2008; Gurian, 2011).

Several scholars reviewed the literature on effective multicultural teacher practices and teacher characteristics (Darling-Hammond, 2010; Gay, 2010; Herrera, 2010; Keith, 2011; Lunenburg & Irby, 2006; Nieto, 2010, 2011; Raftery, 2011). They concluded that effective teachers:

1. have empathy for people from other cultures
2. accurately perceive similarities and differences between a student's culture and their own
3. describe a student's behavior without judging it
4. express respect and positive regard for all students through eye contact, body posture, and voice tone and pitch
5. use multicultural materials in the classroom
6. recognize and accept both the language spoken in the home and the standard language
7. help students develop pride in and identification with their native culture
8. praise all students equally and frequently for success
9. give feedback to the public responses of all students equally
10. pay equal attention or interact with all students frequently
11. demand the same from all students
12. interact the same way with all students and monitor and structure their activities equally
13. grade tests and assignments in the same manner, so that all students are given the benefit of the doubt in borderline cases
14. try to improve on students' responses to questions by giving clues or using other teaching techniques
15. evidence equal acceptance and use of ideas given by all students

These effective teaching practices and teacher characteristics will likely improve student learning, regardless of the teacher's philosophy of multicultural education (Bulach, Lunenburg, & Potter, 2008; Westley, 2011). What emerges from the list is a teacher who respects all students and who takes responsibility for knowing about their cultural backgrounds and using this knowledge in his or her teaching.

12 Conclusion

Teacher behavior research has shown that teacher behaviors and characteristics, as well as specific teaching strategies, make a difference with regard to student achievement. Ten durable instructional strategies were discussed: set induction, stimulus variation, reinforcement, questioning, recognizing attending behavior, lecturing or direct instruction, planned repetition, establishing appropriate frames of reference, closure, and race/class/gender equity. The ten strategies discussed represent a sampling of the kinds of things teachers can do to improve instruction. These skills should help a teacher to overcome weaknesses and improve performance in the classroom, which should result ultimately in improved student learning.

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