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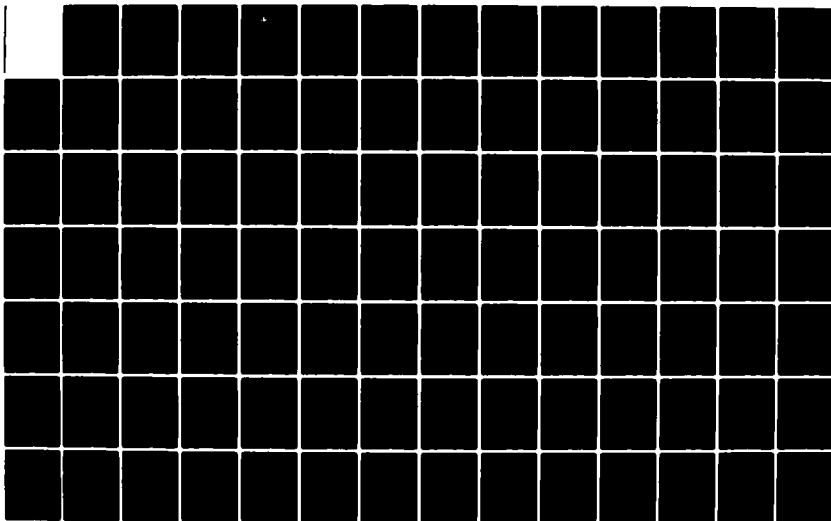
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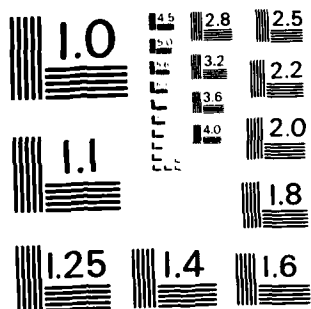
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THE ARCS MODEL OF
MOTIVATIONAL STRATEGIES FOR
COURSE DESIGNERS AND DEVELOPERS

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Disclaimer

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation.

PREFACE



"Don't tread on me!" These famous words reflect the spiritedness that helped this country grow and prosper. But, it isn't always fashionable to talk that way any more in America. What has changed? What difference does it make?

The answers to these questions, while not simple, certainly have something to do with the basic motivational fiber of our country. Different answers are offered. One group argues that we have lost something vital in our spirit. Another group argues that we have changed for the better into a more mature society. Still another group argues that the spirit is strong, it just needs more positive coverage in the press.

No matter what side you are on, it is pretty obvious that there is a problem, and nowhere is this felt more strongly than in military training programs. If you are a course developer or instructor in the U.S. Army or any other branch of the military, you know that motivation is a problem. It requires a tremendous effort to produce training that is both stimulating and effective. No matter whether the problems are the result of different attitudes toward patriotism, the challenge of keeping soldiers motivated in a peacetime army, or inherent problems in the training environment, we have to face the challenge in order to have an effective Army.

There is no reason why we can't have training that is both stimulating and effective. When course designers and developers put their minds to it, they do it. There are examples throughout the Army of training programs that not only stimulate the trainees, but actually inspire them. How do they do it? If we go the educational literature, we find very little that offers us systematic, practical help with the problem of making training motivating. This book is one of the first to deal specifically with this problem, and you, as users of this book, are helping us, the Army, lead the way. There have, of course, been leaders throughout history who could inspire their followers to tremendous feats of achievement. But, these successes have generally involved the fortuitous circumstance of the right person being in the right place at the right time. In other words, circumstances combined with individual charisma were strong factors.

Our concern is with the tremendous challenge of improving the vigor and persistence of trainees under day-by-day circumstances that are not extraordinary. This book has the goal of helping you prepare courses of instruction that will be more interesting and motivating than they are now. Or, in the event that you have a highly motivating course, the book is written in a way that invites you to put your own ideas into it. Chapters 2-4 all have numerous places where you are asked to jot down your own ideas. Eventually, we hope to pool our experience and knowledge in ways

that will produce the best possible solutions to these problems. Our goal is nothing less than to produce training which helps the soldier to become both competent and self-confident, and to take pride in his accomplishments, his organization, and his country.



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HOW TO USE THIS BOOK

What Is This Book About?

This book is about ways in which we can improve the motivational qualities of instruction. It suggests ways in which instructional materials and instructors can be more motivating, and it tells us how to look at lesson plans and courses from the standpoint of their interestingness. Briefly, the book contains an introductory chapter, four strategy chapters, and a course design chapter. Chapter 1 introduces the ARCS model. It describes the major components of the model, and its limitations. Chapters 2 through 5 contain the motivational strategies that you will choose from when developing a course, or a lesson. Chapter 6 tells how to use the ARCS model in conjunction with the general instructional systems development process, especially as it is described in the IPISD (TRADOC Pamphlet 350-30).

What Can This Book Do For You?

Very little, given the way in which the question is stated. If we were to ask, "What can this book help you do for your self?", then it can do quite a lot. The book contains a model that provides a very effective way of thinking about motivation. It helps us identify the critical elements of the general concept of motivation. This, alone, helps many people recognize aspects of motivation that they can improve. However, the book goes on to suggest a great many different kinds of strategies to use in instructional materials, or in live instruction. With this assistance, the challenge to you is to translate the strategies into concrete activities and events. But, even here, we have included some examples in the book. As you begin to use the book, we hope to obtain additional examples, and include them in a future edition.

What Is the Best Way To Study This Book?

That is like saying, "What is the best way to read a magazine?" I like to flip through the pages from back to front, looking at the pictures and reading the captions and headlines. My wife starts at the front and actually reads the articles that catch her interest. Obviously, personal styles will differ on a topic like this one.

Even so, we will make a recommendation. We suggest that you read Chapter 1 (it's short), and then skim through one of the four strategy chapters (i.e. Chapters 2, 3, 4, and 5) to get a sense of its structure (they are all similar in that respect). Next, read Chapter 6. It is also short, and it tells you how you are going to use the model. Now, go back and read all four strategy chapters. This will give you complete familiarity with the book, and you will then be ready to go back to Chapter 6 to begin to start using the book by applying it to a course development assignment that you are working on.

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<p>The stated concern for the book is with the tremendous challenge of improving the vigor and persistence of trainees under day-to-day circumstances that are not extraordinary.</p> <p>The characteristic and limitations of the ARCS (Attention, Relevant, Confidence & Satisfaction) model for motivational design are presented; ways to get make, develop or generate the ARCS are discussed; followed by suggestions for using the ARCS model in the various phases of IPISD.</p>																						

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THE ARCS MODEL
FOR MOTIVATIONAL DESIGN

INTRODUCTION

WHAT IS THE ARCS MODEL?

The ARCS model is a system for improving the motivational appeal of instructional materials, of instructor behavior, and of the way in which lessons (or modules) and courses are designed. It provides strategies which the course designer and instructor can use to make instruction responsive to the interests and needs of the learners.

WHY THE ARCS MODEL?

This model was created because of the lack of guidance that presently exists for improving the motivational quality of instruction. Much has been written about how to design instruction that will be effective in helping students learn providing they want to learn. But, there is very little that tells how to encourage them to want to learn. Most of the existing material about motivation deals either with psychological approaches to changing individual behavior, or with job satisfaction and work performance in business and industry. In an educational context, the material on motivation is fragmented and scattered throughout several different fields such as behaviorism and humanism. The ARCS model helps consolidate this material into a systematic procedure that a course designer can use.

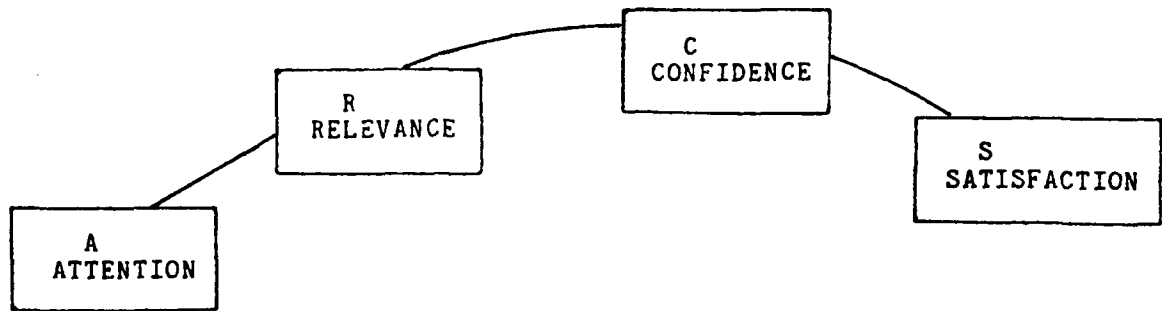
WHERE DID THE ARCS MODEL COME FROM?

The ARCS model has resulted from several years of research and application. This work focused on developing a synthesis of the various approaches to studying human motivation, and then using this synthesis as a basis for developing a useful set of categories and strategies of motivation. All of the strategies in this book are derived from research and practices that have resulted in motivated learners. This book is designed as a practical handbook, so it does not contain references to the supporting research. However, a paper describing the background research is available. See: Keller, J. M. "Motivational Design of Instruction." In C. M. Reigeluth (Ed.), Instructional Design Theories and Models: An Overview of Their Current Status. Lawrence Erlbaum, Publisher, in press (1982).

SECTION 1.1

CHARACTERISTICS OF THE ARCS MODEL

There are four major conditions that have to be met in order for a person to be motivated.



- A - The first requirement in motivation is to get the audience's ATTENTION. Their interest or curiosity must be aroused.
- R - Secondly, they have to see something of RELEVANCE. In other words, the instruction has to have some personal value or importance to them.
- C - Motivation also requires CONFIDENCE. People have to believe that they can accomplish the goal and be successful in order to feel motivated.
- S - A final requirement is SATISFACTION. External rewards are not always enough, intrinsic satisfactions are also important.

The rest of this chapter provides a brief introduction to each of these conditions, and closes with a description of some of the assumptions that underlie the ARCS model.

ATTENTION

BACKGROUND

Every instructor has his method for getting the attention of a class. Some do it quietly. They will stand and look intently at the class. The class will sense the instructor's authority and seriousness, and they focus on him to see what will happen next. Others do it noisily by slamming a book on a table, barking out an order, or blowing a whistle. All of these methods work depending on the personality of the instructor.

However, getting attention is not enough. It is also important to sustain the students' attention. All too often, we lose an audience's attention minutes after getting it. Here again, instructors have personalized strategies for regaining attention when trainees begin to get bored or fall asleep. One instructor that I observed has two large empty gas cylinders in the classroom. When someone becomes drowsy, he bangs the cylinders together with a resounding bong.

All of these methods, and similar ones that you have seen or used, are momentarily effective, but in a sense they result in only a shallow level of attention. You have produced a momentary incongruity in the environment, and the trainees look up to see what caused it and what will happen next. As soon as they solve the mystery, they go back into their characteristic mode of study.

The real challenge to the course designer is to produce a satisfactory level of attention throughout the course. We have to get their attention at a deeper level. To do this, we have to arouse their basic interest or curiosity in the subject matter. Ultimately, the best way to fight boredom and indifference is to stimulate their curiosities so that the instructor can spend more time directing their attention than in getting it.

DEFINITION

Now, we can define attention, in a motivational sense, by using some characteristics that were first used to define curiosity. They have been slightly modified here to fit this context. An attentive person is one who:

1. reacts in a positive way to strange, unexpected, incongruous, or mysterious things

that occur around him;

2. demonstrates a desire to know more about himself and the things around him;
3. observes the details of his surroundings and looks for new experiences; and
4. shows persistence in examining and exploring the things around him in order to know more about them.

In this book, Chapter 2 contains strategies that will help you design instructional materials and lessons that stimulate this sense of curiosity, and that help to sustain it.

RELEVANCE

BACKGROUND

As with attention, there are some aspects of relevance that are commonly recognized and used, but there are other aspects that are more subtle and challenging. For example, most course designers and instructors will try to find ways to make the instruction relevant to present and future career opportunities for the trainees. For example, the graduates of some Army schools, such as food preparation, are able to get certification from the civilian trade union. This adds a great deal of credibility and relevance to the Army school, even though not all of the graduates will want to be chefs in civilian life. Obviously, not all Army schools have a civilian counterpart, and even if they do, it is not always desirable to gear the Army school toward civilian certification. However, there are other characteristics of relevance that can be used.

People tend to be more motivated to study a subject if they see a connection between it and their past experience, especially if the past experience was positive. They are also more motivated if certain basic personality needs are met. For example, students have more fear than most people realize about being embarrassed or made to look ridiculous while learning something new. People need a relatively supportive environment while trying to learn something new, especially if the new skill involves problem solving. When people have become relatively confident with a new skill, then they are ready for competition and more critical tests of their skills. In practice, we often see a great deal of tension and pressure to perform

right in the beginning of a training program. This may be appropriate when people are mainly learning to follow orders, or to get a foretaste of the conditions they will be working under. But, it is not a desirable way to help people learn a new skill.

There are many other specific needs that people have, but there are three in particular that are important. People will see more relevance in a situation if they are able to find opportunities to meet their needs for affiliation, achievement, and power. With respect to affiliation, people have a need for companionship, to be able to participate in teams and social groups. This is why cooperative learning groups work well when people are learning a new skill, and it is one reason why people get tired of individualized learning. People also have a need for achievement, which means that they like to accomplish goals that require the attainment of certain standards of excellence. In other words, they feel good if they accomplish a task that has a moderate amount of challenge to it. Finally, people like to have some ability to exert influence on their environment and other people. This kind of power can be used for the benefit of the individual and the group; it refers to exerting one's will for the good of the group. It can also be used in a destructive way when the person is self-serving, and tries to exert a negative influence.

Even though all people have these needs, they don't have them to the same degree. That is why someone high on the need for achievement will spend a great deal of time on the task that he is trying to master. Someone who is particularly high on need for affiliation will try to spend more time socializing. And, a person highest on need for power will compete for leadership and other ways of exerting an influence on other people.

To the extent that a course of instruction offers opportunities for individuals to satisfy these needs, the person will have a feeling of perceived relevance, that this course is "for me."

DEFINITION

Relevance refers to the extent to which individuals perceive that important personal needs, or motives, are being met by the instruction. It is important to note that we are referring to the individual's perception. It doesn't matter, from a motivational point of view, if it is factually true that a particular course will be helpful to a person if the individual does not see it that way. Therefore, we will often refer to this factor as "perceived

relevance." In Chapter 3 you will see strategies that will help you design instructional materials and learning activities that will generate a sense of relevance in the student.

CONFIDENCE

BACKGROUND

Losers and winners. We've all seen them both. And we are not talking about the people who come in first or last in a competitive sport. We are talking about people who never quite make it, even when the odds are in their favor, versus the ones who always pull through no matter what the odds.

This characteristic is part of our third requirement for motivation. It has several popular names including confidence, which is the name we have chosen for this section, and others such as "will-power," "guts," and "the power of positive thinking." In a more formal context, it is called such things as expectancy for success, self-fulfilling prophecy, and personal causation. Essentially, it refers to a person's belief that if he tries to do something he will be successful.

In training and educational settings, we encounter this attitude all of the time, both the positive and the negative. A highly dedicated and persistent person will amaze us with his accomplishments despite what we initially perceived as moderate to marginal aptitude. In contrast, some trainees have plenty of native ability, and seem to want to be successful, yet they never quite make it. More often we see people of reasonable expectations for success who seem to do quite well in some contexts, and not so well in others. In some cases, the organization of the course of instruction, or the instructor's approach, seems to undercut the trainee's confidence. Other instructors consistently inspire their classes to outstanding levels of performance. Chapter 4 contains these strategies.

How can we explain some of these differences, and bring out the positive feelings of confidence? In the first place, we won't try to do all of the explaining "why" here. That is available in the theory books which are referenced in the article by Keller mentioned on the first page of this chapter. Instead, we will concentrate on the "how" part of generating feelings of confidence in the learners.

DEFINITION

Confidence refers to a person's belief in his ability to accomplish a goal, to be successful. This belief varies among people without regard to their actual ability. It has been shown without a doubt that people with greater levels of confidence do, in fact, achieve their goals more often despite the actual odds facing them.

This motivational condition is especially important in our Army training courses since many trainees joined the armed services precisely because they were tired of going to school. Many of them have a rather poor view of their aptitude for doing well in school. In most cases these men and women are capable of learning much more than they were led to believe in their elementary and high schools. Chapter 4 will present many specific methods for helping to improve confidence through effective instructional design and teaching. After reading that chapter, you will find that many of the strategies have been implemented in a great many Army manuals. This is one area in which Army course designers and technical writers have tried particularly hard to help the soldier with well designed material. The examples in Chapter 4 will illustrate this.

SATISFACTION

BACKGROUND

"Half of their food and wealth comes from our foreign aid, but they spit on us every time we walk down the street. These people sure are ungrateful."

How many military men and women have had to be stationed in countries that we subsidize, and have to put up with daily insults and outright anger when they leave the base? Too many to count.

To bring it closer to home, we find that people are not always happy to receive the help we offer. It seems to begin at age 2 1/2 or 3 when the toddler insists on feeding himself while slopping his soup bowl over the new carpet in the dining room. This condition continues and even worsens on through adolescence. Kids seem to resent our efforts to help them do what we know is best, and to give them rewards when they do it.

Despite the theories, giving people rewards for doing what you want them to doesn't always result in higher levels of positive motivation.

Why is this? Why do individuals and even whole nations get so resentful? According to reinforcement theory, nations should be more loyal if you reward their loyalty, and kids should behave more appropriately if you reward that behavior. An important part of the answer seems to be "control."

When we coerce someone into doing something to get a reward that we control, then we run into danger of creating resentment because we have taken over part of that person's ability to control his own life. That is why good deeds sometimes backfire. This is especially likely to happen when the behavior we control is one which the other person enjoys for intrinsically satisfying reasons. If you take something a person enjoys doing for its own sake, and make the person do it in order to get a reward that you control, then you decrease the enjoyment that the other person gets from that activity. On the other hand, there are appropriate ways to use extrinsic rewards in learning situation. Examples of both kinds of strategies (those that produce intrinsic as well as extrinsic satisfactions) are described in Chapter 5.

DEFINITION

Satisfaction refers to the motivational condition that results from the appropriate combination of intrinsic and extrinsic rewards that result from the successful completion of a task. Or, conversely, the negative consequences of failure. Both of these have an influence on the trainees motivation to continue trying to successfully achieve a given goal.

The proper use of rewards and incentives can improve a trainee's motivation to be successful, but as we just explained, they can also kill the intrinsic satisfactions that can be derived from personal accomplishment. Too often we underestimate the degree to which motivation can be increased by appealing to the intrinsically interesting aspects of the subject or the area of application of the new knowledge. In Chapter 5, there are a combination of strategies that will help you use an effective mixture of intrinsic and extrinsic motivational factors.

LIMITATIONS OF THE ARCS MODEL

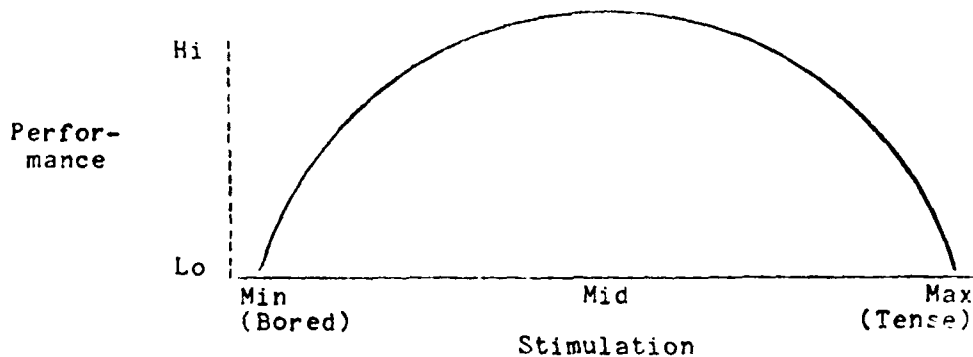
There are three major limitations, or assumptions, that need to be understood in order to use the ARCS model effectively. One is a general assumption in dealing with motivation, the second is related to the people using the ARCS model, and the third relates to the characteristics of the students, or trainees.

1. More Isn't Always Better

It is generally true in working with motivation that more isn't always better. Many years ago, two researchers with the improbable names of Yerkes and Dodson offered a formal description of this principle, which is why it is now called the Yerkes-Dodson principle. It is also called the inverted U-curve. Is is basically a very simple concept. All of us have observed that as we become more stimulated or excited about something, we exert more energy and the quality of our performance goes up. Without this stimulation, we tend to be bored or lazy in our performance. In other words, we get more done, or "play the game" better when our adrenaline goes up.

But, if we get too excited or nervous, the quality of our performance decreases. If we go past that critical point of peak arousal, we begin to get tense and anxiety-ridden, and we start making mistakes or "freezing-up." At this time, we have gone to the opposite extreme from boredom to severe anxiety. At both extremes, the quality of our performance decreases, even though it is for different reasons.

It is easy to illustrate this in a graph. On the vertical axis we have quality of performance. The higher the curve, the higher the quality of performance that can be expected. On the horizontal axis we have the amount of motivation in terms of degree of physiological arousal or stimulation. The further we move to the right the more stimulated or tense the person is. As you can see, performance is at its peak at a midlevel of stimulation.



When a person is at the midpoint on stimulation, his performance is at the maximum. At this point, we would say that the person is highly motivated. If he goes beyond this point, we begin to say he is tense, stressed, or "up-tight." In every part of this book, no matter what kind of strategies we are talking about, you must keep in mind that it is possible to do too much as well as too little. We want to keep the audience highly motivated, but not to the point of being excessively tense or stressed.

The exception to this would be those times when it is important to teach the soldiers how to behave or respond under highly stressful conditions as would exist during combat or another type of emergency. But, in this case it is important to remember the distinction between the early stages of learning a new skill versus the final stages of performance under terminal task conditions. During the early stages people learn best under conditions that aren't too stressful (or too boring). Part of the reason for learning the task thoroughly under ideal conditions is so the soldier will be able to maintain an appropriate level of motivation (or calmness) when the external conditions become stressful. This helps the soldier maintain high quality performance without panicking or "freezing up."

2. Application of the ARCS Model is Not Mechanical

How much is enough? How do we know how many motivational strategies to use? How do we know when we are doing enough to keep the trainees near the top of the motivational curve? The answer to these questions is that it requires experience and personal judgment. The course designer and the instructor have to have some knowledge and understanding of their audience, of the characteristic problems they encounter in trying to teach a particular subject to a particular audience.

Every school in the Army, and every course within each school has its particular problems with regard to motivation. You can use the ARCS model to identify the specific kinds of motivational problems that you have in a particular course or school (see Chapter 6), and this will give you a basis for deciding what kinds of motivational strategies will be most important to add to the course.

There is one important principle that should be kept in mind, and this ties in with the issue discussed in Item 1. A little sometimes goes a long way. For example, if a class comes to you already motivated to learn something, you do not want to inject a lot of extraneous motivational strategies. This would slow the class down and distract them from their orientation to the task. You would want to do only those things that would maintain their interest and avoid boredom, and help them derive feelings of satisfaction with their accomplishments. In other cases, it sometimes takes only a few sincere words to emphasize the importance of something, or to win a group's dedication to trying hard to finish a task.

The strategies in this book are proven, but their effectiveness, and the exact way in which they are implemented depends in part on the personality of the instructor, and the type of atmosphere that the commander wants in the class (e.g. formal versus informal). When it comes to the final decisions as to which and how many strategies, it requires a judgment from you part based on your experience. The ARCS model is limited to helping you identify the varieties of types of strategies that will help accomplish certain motivational goals. But this, in itself, is an important step forward in our efforts to create more systematic ways of understanding our to make training more effective.

3. Assumptions About Learners

The ARCS model is designed to help you make a course of instruction more motivating for an ordinary class of trainees. By ordinary we mean a group of trainees who are within a normal range of boundaries with respect to their basic interests and cooperativeness. This means a class in which some people will be very cooperative and interested, others will be indifferent and bored, and some may even be slightly antagonistic. However, the group as a whole will be responsive if an effective set of motivational strategies are employed.

The ARCS model is not intended to solve the problems of the individual person who has severe

motivational problems, or, from the other side of the fence, the instructor who has a basically negative attitude toward the course and/or the trainees. In the first case, the student would need some counselling or other personalized attention to help him get on track. The ARCS model is based on a generalized theory of motivation, which means that it can be used to help solve the motivational problems of individual students, but it is not presented in for that purpose in this book. A person who already has some counselling skills could use the ARCS model to help in the diagnosis and remediation of individual problems, but it is not recommended that the course designer or course instructor take responsibility for this.

The same basic principles apply to the unmotivated, or negatively oriented instructor. Either someone will have to work with that person to help him change his behavior, or he will have to be removed from the classroom, or he will have to be tolerated.

The ARCS model is like a car. It will help you get from here to there, but it won't drive itself, and there are a number of ways in which it can break down. But, the more you get to know it and work with it, the better it will perform for you.

CHAPTER 2.0

WAYS TO GET AND KEEP TRAINEES' ATTENTION

INTRODUCTION TO THE CHAPTER

Before any learning can take place, the learner's attention must be engaged. The best designed instruction will be completely wasted if the trainee's mind is elsewhere while it happens. This chapter focuses on that critical instructional event and provides guidelines for ensuring that the soldier is processing what we preach.

OBJECTIVES OF THE CHAPTER

By applying the strategies in this chapter, the course designer will be able to:

1. Design instructional materials that arouse and maintain the attention of the trainee.
2. Prescribe to course instructors some strategies that maximize learner interest.
3. Design and sequence the events within a lesson or module so that attention is sustained throughout.
4. Design and sequence an entire course so that trainee attention is held at an optimal level and boredom is minimized.

ORGANIZATION OF THE CHAPTER

This chapter and the three chapters that follow are organized in the same way. It contains four sections, each of which focuses on one aspect of motivational design. Within each section, you'll find an introduction, and strategy pages with examples.

USER ADVICE

Many of the strategies in this chapter will seem familiar. The elements of good attention-getting instruction are those that excellent instructors and designers use intuitively. Still, there are many separate components to the business of maintaining learner interest, and it's easy to forget a critical principle. This chapter should be read once quickly, then studied again at a slower pace. Read the chapter with a pencil in hand, and note any strategies that seem especially applicable to the problem at hand, or which remind you of similar strategies you've used successfully in the past.

One bit of advice given in the introduction to the ARCS model is particularly true of the strategies in this chapter: More is not necessarily better. The strategies described here to arouse attention should be used in moderation, since some may prove distracting if the trainees are already interested in the instruction. As with all prescriptions, the guidelines in this chapter must be tempered and adapted by the professional judgment of the course designer and instructor.

SECTION 2.1

WAYS TO GET AND KEEP TRAINEE'S ATTENTION WITH INSTRUCTIONAL MATERIALS

INTRODUCTION

When well designed, instructional materials can amplify and extend the interest generated by live instruction on a topic. Instructional materials can also be the source of problems when there are flaws in their design. Problems can arise, for example, when print materials appear densely packed with reams of information. The trainee with a history of academic difficulty will be turned off instantly by such materials. Similarly, unless certain strategies are followed, audiovisual materials presented in a darkened room can lure even well-intentioned soldiers into sleep.

This section will provide the course developer with practical strategies for making instructional materials more interesting to trainees.

SYNOPSIS

Three different strategy clusters are included. Each of these represents a different approach to the problem of making instructional materials interesting. The strategies are as follows:

1. Arouse and maintain the learner's attention by varying the appearance of the instructional materials.
2. Make every important abstraction visible and concrete in some way.
3. Violate the learner's expectations.

STRATEGY PAGE

STRATEGY CLUSTER 2.1.1. Arouse and maintain the learner's attention by varying the appearance of the instructional materials.

Explanation: Sameness kills curiosity. Nothing looks more intimidating and uninteresting to a soldier than a book with page after page of identical-looking blocks of print. No film or video presentation could be more sleep inducing than the "talking head" production in which the camera stays fixed on the narrator. To make instructional materials interesting, we have to vary the way they look and sound.

Sample Strategies:

1. Break up print materials by use of white space.
2. In print materials, change typefaces to highlight titles, quotes, rules, etc.
3. In film or video materials, change shots at least every 30 seconds, and more often if the subject is still or silent.
4. In film or video materials with off-camera narration, use two different narrators whose voices are distinct from each other.
5. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Suggestions for Strategy 2.1.1.1

Space does not permit a separate example of text which uses white space well. Immodestly, let us offer this entire manual as such an example. In general, white space should be used to define separate types of information, and to break up long stretches of prose.

Suggestions for Strategy 2.1.1.2

Different types of information should be highlighted by use of different typefaces when production budgets permit. Headings should be in bold, larger type, while rules or quotes should be printed consistently in some other size and style. The key is consistency of purpose: avoid using multiple typefaces merely to jazz things up.

Suggestions for Strategy 2.1.1.3

Andy Warhol once made a movie in which the camera stayed fixed for hours photographing the Empire State Building until the film ran out. An artist might be able to get away with that, but an instructional designer cannot. The use of frequent cuts can help compensate for an inherently uninteresting subject matter. Watch a network television talk show closely, for example, and you might notice that cuts from one camera to another are made more frequently when a guest is bombing. For still media such as filmstrips, the need for frequent scene changes is especially important, particularly when what is on the screen is low in complexity.

Suggestions for Strategy 2.1.1.4

The need for variety applies to sound as well. Listening to one voice over an extended period can sometimes be deadly. Switching among several voices can be helpful, as long as there is enough of a pattern in the switching to avoid confusion. For example, a tried and true format is that of the question and answer...with one voice standing in for the audience and the other being the "real" narrator.

STRATEGY CLUSTER 2.1.2. Make every important abstraction visible and concrete in some way.

Explanation: It goes without saying that instructional materials that concern tangible objects, places and people should contain pictures, drawings or diagrams of their subject. It is also important to try to create visualizations of the intangible parts of the content. We all feel more comfortable with things we can picture than with abstract words. Unfortunately, much of what we learn in formal instruction is in the form of abstract generalizations. It has been shown that abstract words are harder to remember than concrete words, and that instructional materials with words and pictures are more readily remembered than those with words alone. To keep the attention of the trainee from wandering, we need to include concrete representations of every important idea. These concrete representations can take several forms.

Example Strategies:

1. Make general principles concerning personal conduct, military behavior, values, etc., more concrete by using anecdotes, case studies, or biographies.
2. Make complex relationships among concepts more concrete by using metaphors.
3. Make step-by-step procedures or relationships among concepts more concrete, by use of flow charts, diagrams, or cartoons.
4. Give examples of every important concept.
5. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 2.1.2.1

In a handbook on the conduct expected of a prisoner of war, case histories of several American POWs were detailed. The actual names of these exemplary soldiers were used, and the consequences of their heroism were described. This made for much more interesting reading than the usual list of procedures and regulations.

Example for Strategy 2.1.2.2

In describing how the memory of a particular piece of computer equipment is allocated to various tasks, one manual compared the memory to a tall building. Certain floors contain offices filled with artists. This is analogous to the portion of computer memory devoted to graphics. This metaphor made a very abstract notion more interesting and easier to remember.

Example for Strategy 2.1.2.3

Space does not permit an example of this strategy, but the flow charts used to describe the IPISD model should be familiar to most readers of this manual. Without such diagrams, it would be difficult to get a handle on the entire procedure....and motivation would suffer accordingly.

Suggestions for Strategy 2.1.2.4

This, of course, is just plain good instructional design. Every concept that is to be learned will need to be accompanied by several examples and non-examples of the concept. Often, however, auxiliary concepts are referred to in a text without examples being given. If the trainee doesn't understand the concept, any reference to it will cause his eyes to glaze over. Be generous with examples.

STRATEGY CLUSTER 2.1.3. Violate the learner's expectations.

Explanation: Everyone loves a surprise. Our minds make certain assumptions about our environment at a given moment, and these assumptions allow us to relax a little. Once a set of expectations has been created, we can spend our time looking primarily for violations of those expectations. When something doesn't appear to fit, we pay close attention and try to understand it. The sensation of finding a violation of our expectations, processing it, and then revising our expectations as a result of understanding it arouses and focuses attention on the instruction offered.

Example Strategies:

1. Use a consistent format in print materials, but deviate from it once in awhile.

EXAMPLES AND SUGGESTIONS

Examples for Strategy 2.1.3.1

Begin a section on nutrition with words like these...
"Everyday people consume poisonous substances ... "Then go on to explain how many minerals and vitamins are poisonous if consumed in too great a quantity, but are required by the body in smaller amounts.

WAYS TO GET PEOPLE'S ATTENTION
WITH INSTRUCTORS

INTRODUCTION

We all remember instructors in our past who never failed to keep our attention, even when the content of the instruction wasn't inherently fascinating. We've all had the opposite sort of teacher as well: one that sent us into daydreams and drowsiness within minutes of the start of class. What distinguishes the first sort of instructor from the latter? Clearly there are behaviors that tend to keep the eyes and ears of learners attuned to the instructor. This section summarizes some of the strategies that excellent teachers use naturally.

This section will provide the course developer with strategies for developing guidelines for instructors to arouse and sustain the attention of the trainees.

SYNOPSIS

This section includes three different strategy clusters. Each one prescribes ways to get and maintain the attention of your trainees. The clusters are:

1. Arouse the learner's attention by varying the way you present the material.
2. Engage the soldiers' attention by providing concrete examples of the concepts and procedures being taught.
3. Arouse attention by introducing conflict or uncertainty in the mind of the soldier.

STRATEGY PAGE

STRATEGY CLUSTER 2.2.1. Arouse the learner's attention by varying the way you present the material.

Explanation: Nothing brings on boredom faster than something that doesn't change. Imagine standing guard on an empty field in Kansas on a day without breezes or clouds. Or picture yourself watching a conveyor belt with millions of identical soup cans filing past. Both situations would cause you to lose attention very quickly. Our minds require something to chew on during every waking moment, and neither environment described above provides much food for thought. Many classroom situations --both military and civilian-- have a lot in common with conveyor belts. To avoid boredom in the classroom, we need to introduce variability in the way the material is presented. The instructor can play an important part in adding this necessary variety.

Sample Strategies:

1. In stand-up delivery of material, vary the tone, volume, and speed of your voice.
2. During the course of a lecture, move around the room rather than remaining fixed behind the podium.

(Additional strategy on the page after next)

EXAMPLES & SUGGESTIONS

Suggestions regarding Strategy 2.2.1.1

Some military instructors, having noted that a loud, commanding tone of voice never fails to get the attention of a soldier in the ranks, adopt a similar tone in the classroom. As with many other things, however, this quickly loses its effect with overuse. The key idea underlying this strategy is that there is no one best way of speaking that's guaranteed to garner attention, but that it's the change in ways of speaking that captures the soldier's ear. Instructors should be urged to let their voices range beyond a monotone in pitch, and to speak slowly or softly sometimes, and quickly or loudly at other times. Those who seem to feel that a dramatic range in presentation is unmilitary or unmanly should be reminded of the speeches of General Patton.

Examples for Strategy 2.2.1.2

Military classrooms are often equipped with a podium and a table for the Vu-Graph projector. Instructors sometimes fall into the habit of rooting themselves behind the podium and standing there from the beginning of the lecture until the end. The soldiers' eyes remain fixed in one direction and soon glaze over.

To introduce a bit of visual variety into the situation, instructors should occasionally shift themselves between various locations in the front of the room or walk at least part way down the rows of trainees while speaking. If equipment is to be used in class for illustration, the instructor should read it around so that the soldier's attention is directed to several focal points at various times in the lecture.

Of course, moving around can be easily overdone. The instructor should use judgment in gauging the right amount of motion between monotony and distraction.

Sample Strategies: (continuation)

3. Break up stand-up delivery of information by pausing before and after important ideas, especially within a sentence.
4. (Your Strategy):

EXAMPLES & SUGGESTIONS

Example for Strategy 2.2.1.3

An occasional pause in delivery can be very effective in punctuating a stand-up presentation. The interruption in the flow of speech causes the listener to quickly replay what has been said so far...and to predict what the next part of the sentence will be. The following sentences illustrate effective uses of the within-sentence pause.

"Be sure to engage lever A first. If you DON'T..."
(pause) "...the vehicle will ignite." (pause to let that sink in)

"There are four W's to remember when reporting information of possible intelligence value....."
(pause) "Who....." (pause) "What....." (pause)
"When....." (pause) "and Where....." (pause to let them absorb all that)

Note: this strategy suggests an occasional pause within a sentence, to separate important ideas, not between sentences or between unimportant ideas. The latter sort of pause might lead the soldier to think that the instructor has fallen asleep and the temptation to join him will be strong.

STRATEGY CLUSTER 2.2.2. Engage the soldiers' attention by providing concrete examples of the concepts and procedures being taught.

Explanation: People, by and large, prefer concrete, specific information over abstract generalities. In fact, the preceding sentence is uninteresting for exactly that reason. Private Joe Smith is more likely to perk up his ears when presented with something he can see or at least visualize. Pvt. Smith would pay more attention to the previous sentence than to the first sentence in this paragraph. Good, attention-getting instruction contains references to things we can picture.

Sample Strategies:

1. Where appropriate, use anecdotes and examples from your own experience to illustrate the points being made.
2. Use props to represent concretely an abstract bit of information.
3. Verbally use the names of people and places instead of speaking completely in generalities.
4. (Your Strategy):

EXAMPLES & SUGGESTIONS

Suggestions for Strategy 2.2.2.1

To some extent, this strategy comes naturally to the military instructor, especially the more experienced ones. The use of "war stories" in instruction has a long history, and is now in disfavor with the push towards systematically designed, "lean" instruction. Still, the war story can be motivationally useful if carefully chosen. Instructors are urged to use these stories pointedly, to serve to make clear by example a general principle that would otherwise be unclear and difficult to remember. The use of anecdotes just to fill time or to plump the instructor's ego is not encouraged.

Example for Strategy 2.2.2.2

The creative instructor can make abstract ideas more tangible by bringing appropriate props to the classroom. In a class on maintaining computer equipment, for example, one instructor uses props to show how a computer operates. He uses pieces of paper to represent computer programs, a box to represent the computer's storage medium, and a clipboard to stand for the computer's active memory. By moving papers from the box to the clipboard, manipulating them and returning them to the box, he is able to illustrate many processes in an interesting way.

Examples for Strategy 2.2.2.3

The instructor has many opportunities to make instruction more real and concrete in every lesson. One way is to create examples or problems using the names of real places and people. Such examples or problems are far more likely to maintain the attention of the soldier. Here are two ways to elicit the same performance.

Abstract way: "Private Jones...what is the procedure for giving first aid to a casualty with a major burn?"

Concrete way: "Private Jones....you're on patrol in a desert in Saudi Arabia. Your buddy Johnson is walking ahead of you when suddenly you hear an approaching enemy aircraft. There's no cover, so you both flatten out and cover your heads. The enemy drops a few bombs and flies off. When the smoke clears you see that Johnson has been severely burned. The nearest medic is five miles away. What do you do now?"

STRATEGY CLUSTER 2.2.3. Arouse attention by introducing conflict or uncertainty in the mind of the soldier.

Explanation: Too much uncertainty makes us uncomfortable. When presented with something that conflicts with our idea of what is true, we are usually driven to study the environment until our uncertainty is reduced. A skillful instructor can take advantage of this principle by raising some conflicting notions in the minds of students and guiding them to a resolution of the conflict.

Sample Strategies:

1. When the content of the instruction involves matters of opinion or judgment, play devil's advocate.
2. When the content of the instruction involves matters of opinion or judgment, lead the trainees into debate with each other.
3. (Your Strategy)

Example for Strategy 2.2.3.1

In a communications equipment maintenance course, one instructor often presents a sample piece of gear and proposes an almost-correct analysis of what's wrong with it. E.g.: "Looks to me like the r.f. stage is weak. What do you think?" He continues to argue for his faulty analysis until the soldier can make a convincing case for the correct analysis.

Suggestions for Strategy 2.2.3.2

Debates can be prearranged or can grow out of differences of opinion that occur spontaneously in a class. In the latter case, the instructor should resist squelching debate and providing his own opinion, and instead ask leading questions that draw out the best sides of both arguments. This should continue long enough for all important sides of the issue to be aired, but not so long as to become tedious.

Prearranged debates can be set up by assigning two or more soldiers to prepare conflicting arguments ahead of time. Student involvement in the debate can be maximized by having those trainees not debating judge the winner.

SECTION 2.3

WAYS TO GET AND KEEP ATTENTION THRU

LESSON DESIGN

INTRODUCTION

Each lesson should be planned with these six different types of attention-getting and sustaining strategies in mind:

(1) incongruity, conflict, (2) concreteness, (3) variability, (4) humor, (5) inquiry, and (6) participation. While any one lesson will not incorporate strategies from all of the above areas, it is important to incorporate at least one or two during a lesson. It is also important to remember that the first step is to get the student's attention, and the second is to keep it.

SYNOPSIS

In order to get students' attention, it is necessary to arouse their curiosity. This can be done through one of two ways: (1) provoking mental conflict or incongruity or (2) presenting something of high interest value. The first and second strategy clusters deal with these types of strategies.

In order to keep the student's attention it is necessary to provide appropriate pacing, types of materials, information, and activities. This can be done by varying the method and timing of presentations, through the addition of humor, and through opportunities for active learner involvement. The last strategy cluster deals with this area.

STRATEGY PAGE

STRATEGY CLUSTER 2.3.1 Arouse the student's curiosity by provoking mental conflict.

Explanation: Paradoxical, incongruous, or conflicting information will get the students' attention focused on the here and now and on the subject matter. Simultaneously such conflict can get attention, but other strategies will have to be used to sustain it.

Sample Strategies:

1. Present facts which contradict past experience
2. Present a paradoxical example of a concept.
3. Present conflicting principles or facts.
4. Present an opinion which will surprise students.

EXAMPLES AND SUGGESTIONS

Example for Strategy 2.3.1.1

Begin the lesson with a startling fact that seems to contradict their common knowledge. For example, "Junk food is important to your diet." Then go on to explain what you specifically mean.

Example for Strategy 2.3.1.2

Begin lesson on nutrition with an example of a well-balanced diet (but use unusual combinations of foods).

Example for Strategy 2.3.1.3

Begin lesson on properties of light with description light first as a wave, then as particles.

Example for Strategy 2.3.1.4

Begin lesson on dealing with subordinates by taking the position that discipline and respect are outmoded concepts.

STRATEGIES

STRATEGY CLUSTER 2.3.2 Arouse student interest through the use of concrete representations.

Explanation: Presenting something concrete and visible will get students to pay attention and focus on the lesson and the subject.

Sample Strategies:

1. Use visual representations when abstract ideas are first introduced.
2. Provide examples of every important idea or principle.
3. Use content-related anecdotes, case studies, etc.

EXAMPLES AND SUGGESTIONS

Example for Strategy 2.3.2.1

In an electronics lesson provide a model on an overhead transparency of flow of electricity through conductors.

Example for Strategy 2.3.2.2

In automotive mechanic parts lesson provide real engine parts or pictures of them.

Example for Strategy 2.3.2.3

In a nutrition class provide a brief account about the horror of scurvy, and the medicine found to prevent it.

STRATEGIES

STRATEGY CLUSTER 2.3.3 Keep the students' attention by varying the pace of the lesson and the types of materials and activities used.

Explanation: Change of pace, activities and degree of student involvement during a lesson helps the students stay alert and focused on what is happening. The strategies actually used will depend upon the designers judgment of several factors. These are (1) length of lesson (the longer the lesson the more variety is needed), (2) time of day (right before or after lunch or late in the afternoon are times when students attention is most likely to lag, (3) motivation of students (poorly motivated students will need more in sustaining their attention, and (4) complexity and/or difficulty of the information or skill to be learned (students may get bored easily if such there is not enough variation).

EXAMPLES AND SUGGESTIONS

Example for Strategy 2.3.3.1

An hour lesson could include twenty minutes of lecture, a ten-minute movie, and thirty minutes of questions and discussion by the students.

Example for Strategy 2.3.3.2

A lesson can begin with a humorous story but change to a serious style in dealing with specific facts and their consequences.

Example for Strategy 2.3.3.3

After viewing a course-study dramatized on videotape, the class card then spend the rest of the lesson involved in problem-solving.

Example for Strategy 2.3.3.4

Students can be passive listeners during part of a lesson, but then become actively involved in a game or simulation using the principles covered in the lecture.

SECTION 2.4

KEEPING STUDENT ATTENTION
IN COURSE DESIGN

INTRODUCTION

Keeping student attention engaged throughout the span of a course can be difficult. Individual lessons may prove to be hits, but all too often student interest and effort begins to lag after initial excitement of the introduction lessons and before the tension of preparing for the final exam. The following strategy cluster should provide the course designer with practical methods of keeping student attention throughout the course.

SYNOPSIS

The strategy cluster involves providing variations in the modes of delivering information, in the style of presentations, and in the amount and type of student participation.

STRATEGY PAGE

STRATEGY CLUSTER 2.4.1 Provide variation in the types and amounts of various modes of instruction, in the styles of presentation, and in student participation.

Explanation: It is important to provide variability for students in a course which runs into many hours of presentation, such as films, lectures, student presentations, audio and videotapes and site visits can keep student attention focused on the course. Presentation styles should also vary over the long run with a mix of both humor and serious classes. Finally, providing several different types of participation activities for students, such as games, simulations and role-playing, will keep student involvement strong, and decrease the chances of students becoming bored or the subject seeming stale.

Sample Strategies:

1. Vary the medium (or mode) of instruction enough to keep students from becoming used to only one type (and, hence, bored) with it.
2. Vary the overall styles of presentations (humorous - serious, fast - slow, loud - soft, active - passive) over the long run so that students are not subjected to several lessons in a row which are all serious, low-paced, low-keyed (they may end up too relaxed and bored to do any learning) or too humorous, fast-paced, noisy and active (they may end up too nervous and tired to learn).
3. Vary to types and amounts of student participation, so that students get chance to actively rehearse and try out new skills in a challenging, involving yet safe situation (games, simulations, role-playing), yet are also given opportunities for quiet reflection and studying.

EXAMPLES AND STRATEGIES

Example for Strategy 2.4.1.1

Plan a three month course for medical orderlies which uses several films, instructor-delivered lectures, site visits to hospitals, and student presentations.

Example for Strategy 2.4.1.2

Plan an eight week course for nutritional aides which includes a mixture or predominately serious lectures on basic food groups, visits from a chef with some humorous anecdotes on cooking procedures that went wrong, and site visits to in-operation mess kitchens.

CHAPTER 3.0

WAYS TO MAKE INSTRUCTION RELEVANT

Trainee: "Why do I have to study this garbage?
I need a wrench, not a book!"

NCO: "The only wrench you need is one that will screw
your brains on tight.
Now, shut-up and read Chapter 4."

INTRODUCTION TO THE CHAPTER

In the above dialog, the NCO's answer might convince the trainee that his textbook is important, but it is not likely. The trainee is asking a legitimate question from a motivational point-of-view, but the NCO either doesn't know the answer, or believes that his authority is being challenged. What kind of answer could the NCO have given?

Adults attend courses for one or more of three reasons: (1) they have an intrinsic interest in the subject, (2) they have a functional need for the knowledge or skills, or (3) they are required to by a higher authority. In technical training courses the most common reason depends on your perspective. From the commander's point of view, it is Number 2, but from the soldier's point of view it is often Number 3, with maybe a touch of Number 2. Ideally, from everyone's point of view, it would be nice if Number 1 were also a reason. This chapter will help you design courses so the participant will see the functional relevance of the course and, hopefully, will develop some intrinsic interest in it.

OBJECTIVES OF THE CHAPTER

By applying the strategies in this chapter, the course designer and instructor will be able to:

1. Design instructional materials that the trainees will see as being important to their present and future goals,
2. Describe and utilize instructional strategies that help convince the trainee of the relevance and importance of the course,
3. Design and sequence the events in a lesson or module so that the trainee will feel involved and challenged, and
4. Design and sequence the entire course to maximize the feelings of relevance and involvement of the trainees.

ORGANIZATION OF THE CHAPTER

The chapter is organized like the previous one. It includes an introduction, strategies, and examples for each of the four sections. The organization within sections changes slightly. Sections 3.1 and 3.2 present strategies that cover all of the basic dimensions of relevance. In contrast, Section 3.3 is more process oriented, and Section 3.4 includes the major influences at the course level.

USER ADVICE

In some ways this chapter is difficult for the course designer, because it deals with a rather "soft" area of human attitudes and personality. Nevertheless, a person's convictions are a very important aspect of his motivation. If a person is convinced that something is irrelevant, then you will have a hard time teaching him. We suggest that you follow the general examples carefully in this chapter. Also, we would like to emphasize the importance of reading the entire chapter quickly to get the general idea. Then, reread each section and try to think of your own strategies in each area and write them down in the book.

SECTION 3.1

WAYS TO MAKE INSTRUCTION RELEVANT WITH INSTRUCTIONAL MATERIALS

INTRODUCTION

In this section, we will present ideas for making instructional materials have more perceived relevance. Some manuals give us the feeling that, "This is for me," as soon as we open the cover. Others do not. In many cases, the materials are actually relevant, but the trainees don't perceive it. Therefore, we will often talk about improving "perceived" relevance to emphasize the importance of having the materials appear relevant as well as actually being relevant.

OBJECTIVE

By following the suggestions in this section, you will be able to improve the actual and perceived relevance of instructional materials that you produce.

SYNOPSIS

This section includes six different strategy clusters. Each of these represents a different aspect of the general problem of improving perceived relevance. Briefly, they are:

1. Improving relevance by relating content to trainee's past experience.
2. Explain the present worth of the material to the trainee.
3. Describe the future worth of the material to the trainee.
4. Include opportunities for personal need satisfaction.
5. Use positive modeling strategies by peers and superiors.
6. Provide opportunities for choice and self-determination.

STRATEGIES

STRATEGY CLUSTER 3.1.1. Connect the Instructional Materials to the Learner's Previous Experience.

Explanation: It is a normal part of human experience to want to see connections between the things we are doing now in our lives, and the things we are familiar with. We like novelty, but we like for the novel event to fit into a pattern. By helping a student see a connection between new material and former experiences, we help him see continuity, and we increase his receptiveness for the new material.

Sample Strategies:

1. State explicitly how the instruction builds on the learner's existing skills or knowledge.
2. Compare the present material to processes, skills, or concepts already familiar to the learner.
3. (Your Strategy):

EXAMPLES AND STRATEGIES

Example for Strategy 3.1.1.1. In the following example, notice how the new, technical vocabulary is related to things the soldier already knows. For example, the second sentence about the term "job," and Item c, the definition of "standard."

1-2. Definitions.

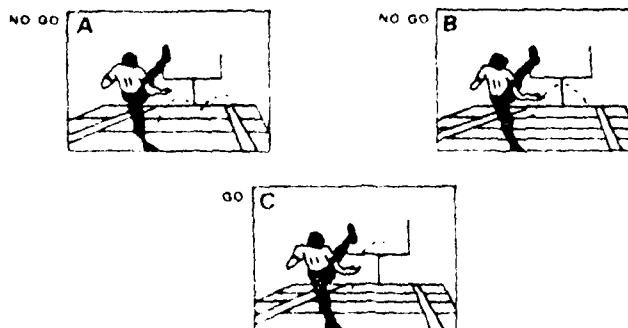
Let's look at some of the words used in the soldier's manual that you might not know. The first is a job. It can be looked at as being the same as any civilian job.

- a. Job or duty position - The duties and tasks performed by a single worker constitute the worker's job.
- b. Task - One of the things you do as part of your job.
- c. Standard - Tells you how well you must do the task or how exact something must be done. For example: "Cut a piece of wood at least 4 inches long but not more than 6 inches."

Example for Strategy 3.1.1.2. Notice how this example refers to something very familiar to most soldiers.

In today's SGT the soldier must meet a certain standard. These standards are in your soldier's manual. There are only two ways that you can be scored on a test; (GO) or (NO GO).

For Example: In the figure below three football players try to kick a field goal. Player A gets a NO GO. Player B did better and almost made it but still gets a NO GO, because almost is not good enough. Player C gets a GO; he is proficient.



STRATEGIES

STRATEGY CLUSTER 3.1.2: Describe the Present Worth of the Material

Explanation: Too often we neglect to take advantage of the intrinsic values, or benefits, of instruction as a means to improve motivation. If people are convinced that they are improving their mental or physical capacities, then the likelihood of their being motivated increases, even if the material itself isn't particularly useful outside the immediate situation.

Sample Strategies:

1. State the present, intrinsic value of learning the content, as distinct from its value as a link to future goals.
2. Use analogies, anecdotes, or commonplace examples of the utility of the underlying skill being taught.
3. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 3.1.2.1. This excerpt illustrates how you can create a sense of mission; that is, a sense of the relevance of the training to the survival and effectiveness of the group.

Following the termination of United States involvement in Vietnam combat, a major reorientation has taken place to prepare Army aircraft to survive and fight effectively against potential enemies posing a more significant threat than was found in the last days of Vietnam. This type of threat would be found in Europe, the Middle East, or anywhere else that firstline defensive and offensive military hardware might be deployed. The 1973 Middle East War provides a baseline in sophisticated equipment against which the capabilities of Army aviation assets can be measured. Middle East combatants employed large numbers of armored vehicles together with a complete family of modern air defense weapons and tactical fighter aircraft. Electronic warfare and weapons were employed with effective results. While they were not extensively used, night vision devices were a part of Egyptian and Syrian equipment indicating that future battles undoubtedly will be fought on an around-the-clock basis.

In the face of a threat this severe, we must add a fourth major factor to the doctrine—technology—threat equation. This factor is training. Given modern sophisticated equipment, appropriate doctrine and tactics, and an appreciation of the threat, the commander must train his forces to get the most combat capability out of his equipment and personnel. He must recognize that military history is based on the contest between firepower and mobility—to put it another way, on the contest between lethality and survivability.

Suggestion for Strategy 3.1.2.2. Try using some "before and after" illustrations as in the old "Charles Atlas" advertisements, or in weight loss and other ads. Show the soldier in the "after" picture using a skill he couldn't do before.

STRATEGIES

STRATEGY CLUSTER 3.1.3. Establish the Future Usefulness of the Instruction

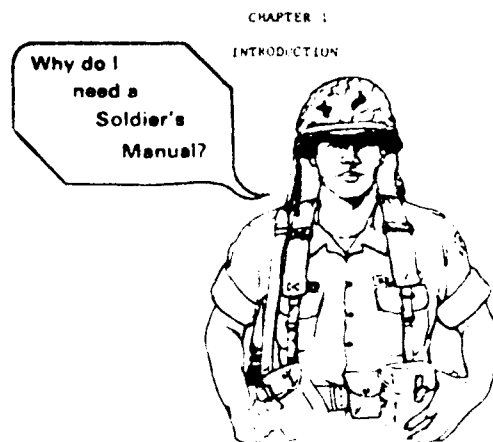
Explanation: Just as present value is important, the future usefulness of the instruction can be a powerful motivator. This is probably the strategy that course designers try to use most often. In war-time it is very effective, because almost any mission-oriented task can be related directly to the survival probabilities of the soldier. In peace-time, it is more difficult in areas that do not have a direct counterpart in civilian life. Even so, this remains an important motivational strategy area.

Example Strategies:

1. State explicitly how the instruction relates to the career development of the soldier within the Army.
2. Describe how this instruction can help prepare the soldier for a job in civilian life.
3. Describe how this instruction will improve the soldier's general life coping skills.
4. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 3.1.3.1. This example helps establish the usefulness of the training to the soldier's career. It is also a good attention getting device. In FM 44-24U1/2, this introduction is followed by a detailed presentation of the skill level requirements and the career progression chart for the MOS.



1-1. WHY DO YOU NEED A SOLDIER'S MANUAL???

This soldier's manual and the soldier's manuals of Common Tasks are what you will need to do your job as a HERCULES ELECTRONICS MECHANIC.

This manual will tell you how to get promoted and what the Army expects you to know, so that you can survive in combat.

Go to your supervisor if you need help with this manual and remember that while in the Army you must always try to learn and practice your new-found skills.

Suggestion for Strategy 3.1.3.2. The use of this strategy depends on the doctrine of your unit. Some commanders do not want to emphasize the applicability of military training to civilian occupations. However, when it is allowable, and when there is such a relationship, it will make the training have more relevance to the soldier to tell him about it. For example, Food Service Specialists are now able to get certification from the civilian trade union, and this has had a positive effect on their motivation.

Suggestion for Strategy 3.1.3.3. If you have any evidence that this training helps the soldier in areas of his life other than the specific area of training, it will improve relevance to describe it in the instructional materials. For example, if you know that people who do well in your courses often improve their scores on specific aptitude, or college entrance tests, increase their ability to get good grades in certain kinds of college courses, or improve their general employability in certain occupational areas, then you should mention it to them.

STRATEGIES

STRATEGY CLUSTER 3.1.4. Provide Opportunities for Personal Choice.

Explanation: If people have the opportunity to make a choice about their actions, then the relevance of the situation increases, and the person feels more motivated. However, the choices have to be real, not artificial, in order for them to have a motivating influence. Otherwise, they have the opposite effect; the soldiers will become suspicious and cynical.

Example Strategies:

1. Include orientation material that describes alternative ways in which the instructional material can be studied.
2. Allow self-pacing options that allow trainees to follow alternative sequences of study when there is more than one acceptable sequence.
3. (Your Strategy):

THE HISTORY OF

THE CITY OF BOSTON
FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME
BY
JOHN B. BOWEN
OF THE CITY OF BOSTON
IN TWO VOLUMES
VOL. I.
BOSTON: PUBLISHED BY
J. B. BOWEN, 10 N. BOSTON ST.
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THE HISTORY OF

I

THE HISTORY OF

STRATEGIES

STRATEGY CLUSTER 3.1.5. Appeal to Basic Needs of the Trainees.

Explanation: All human beings have certain basic needs, such as needs for security, contact with other people, self-esteem, and personal effectiveness. Our instructional materials will be more appealing if we stimulate some of these needs. For example, people are more motivated if they take pride in the organization they belong to, if they know what the standards of achievement are, and if they feel like they "belong" to the unit. There are many things an instructor can do to encourage these feelings (see Section 3.2.4), but there are also some things that can be done within the instructional materials.

Example Strategies:

1. Use personal language that make the trainee feel that he is being talked to as a person.
2. Include stories (anecdotes) that illustrate significant achievements of the unit, or of individuals in the organization. The stories should relate to high standards of achievement, and mastery of the course-related skills.
3. Make statements about the pride of accomplishment that the soldier will feel from his personal achievements, and from his contributions to his unit.
4. (Your Strategy):

STRATEGY CLUSTER 3.1.6. Use Effective Role Models.

Explanation: When people enter into a new situation, they generally look for role models, and follow their lead in terms of attitudes, work habits, and achievements. If the trainees have role models who value the the training, then they will tend to see the training as important and relevant.

Sample Strategies:

1. Include testimonials from graduates who describe how the training helped them solve a problem, or get promoted.
2. Include references to, or quotations from, people who can convincingly describe the benefits of the particular skill area.
3. (Your Strategy):

EXAMPLES AND SUGGESTIONS

This passage is from FM 90-1,
Employment of Army Aviation
Units in a High Threat
Environment, pg. 1-2.

Historically, man has attempted to enhance his combat effectiveness and to achieve tactical advantage over his adversaries through innovations in equipment or imaginative tactics. History indicates his success in these efforts. Such innovations as the spear, lance, stirrup, long bow, machine gun, tank, and airplane have all contributed to the furtherance of ground combat. Likewise, great military leaders such as Alexander, Hannibal, Napoleon, Patton, and MacArthur had the unique ability to take the resources available and use them to gain tactical superiority. We continue this same effort today.

In the early 1950's, the Korean War provided the first combat proving ground for United States Army helicopter units. The impressive lifesaving record of the medical evacuation helicopters, as they rescued wounded from among the grueling Korean ridgelines, bolstered the morale of the footsoldier and earned for the OH-13 its nickname of "Korean Angel." The untapped potential of the helicopter was ready to unfold.

Our early experience in Vietnam allowed us to temporarily lay aside some of our newly evaluated aviation doctrine in favor of techniques that were more suitable against an unsophisticated enemy. Our biggest threat was from enemy small arms and automatic weapons. Flights at altitudes slightly above the effective range of small arms fire eased this threat.

However, the picture changed toward the end of our involvement in that conflict. Two historical examples of airmobile warfare in a high threat environment came from the Vietnam War. The Cambodian Operation 29 April-30 June 1970, when United States and South Vietnam forces made a division size airmobile assault into Cambodia, was the first example contributing to our experience. Lifting four airmobile infantry battalions into Cambodia combined with an armor task force linkup, the assault proved to be an outstanding success. Tactics were employed that might be employed today in Europe or the Middle East. Formations of helicopters at the treetops or

Example 3.1.5.1. Notice the use of personal pronouns ("we", "they"), people's names, quotation marks, and the general story telling style of this passage.

Example 3.1.5.2. The first and fourth paragraphs in the example illustrate this strategy.

Example 3.1.5.3. The second paragraph in the example illustrates this strategy.

Example 3.1.6.1, and 3.1.6.2. The first paragraph illustrates the use of impressive role models. This section of the manual could be even more impressive with respect to relevance by including some direct quotations from graduates or other people who are close to the situation. These people should be saying something that illustrates how training helped them.

in folds of the ground followed routes carefully coordinated to take maximum advantage of terrain and the enemy situation. Available firepower was used to suppress known and suspected enemy antiaircraft weapons en route. Firepower included all means organic to the division as well as supporting tube and aerial rocket artillery. Close air support, including B52 bombers dropped high explosives within 1,000 meters of friendly troops. The known enemy situation presented a grim picture and large numbers of antiaircraft weapons were anticipated. Enemy troops were dug into well-prepared permanently constructed fortifications. U.S. forces simply smothered enemy resistance by employing all aspects of airmobility. In one of the most successful operations of the Vietnam War.

SECTION 3.2

WAYS TO MAKE INSTRUCTION RELEVANT WITH INSTRUCTORS

INTRODUCTION

This section will build on the preceding one by suggesting specific things the instructor can do to help improve the perceived relevance of a class. The instructor plays an extremely important role in this regard. Many of the recruits will pick up cues from the instructor as to how he actually feels about the instruction. If the instructor secretly believes it to be a waste of time, he will undoubtedly communicate this to the class. In the instructor really believes in the importance of the material, then that attitude will be communicated. Take your pick. Ultimately, our body language, our gestures, our actual comments, and our total attitude give us away.

OBJECTIVE

By using the strategies presented in this section, the course developer will be able to provide the instructor with activities that will improve the perceived relevance of instruction.

SYNOPSIS

The organization of this section is similar to the preceding one. Strategies are organized according to the primary ways in which relevance is developed in people. Basically, these strategies include ways of relating the material to the students' past experiences, connecting them to the students' present and future goals, allowing personal choice, stimulating basic needs, and using positive modeling.

Some of the strategies in this section could be used directly by an instructor, but some will require the course developer to prepare the specific materials the instructor will need to implement the strategy. These materials and suggestions could be incorporated into the trainer's guide that is prepared to accompany a set of instructional materials or a course.

STRATEGIES

STRATEGY CLUSTER 3.2.1. Connect the Instructional Materials to the Learner's Previous Experience.

Explanation: It should be fairly easy for an instructor to find out somethings about the students backgrounds, and to find some points of connection between them and the instruction. Yet, often this doesn't happen. Sometimes the instructor simply doesn't realize its importance, other times s/he remains too aloof from the students, and still other times some instructors seem to enjoy showing how unrelated this new material is to the students' background. The challenge to the instructor is to emphasize some of the novel and interesting characteristics of the subject (see Section 2.2.1), but also to show how this material relates to skills or knowledge that the students already have. This peaks their curiosity while assuring them that there are connections between this and their previous experience.

Sample Strategies:

1. Find out what the learners' past interests are and relate them to the instruction.
2. Make comparisons between the skills required in a new task, and common skills that the soldier is likely to have.
3. (Your Strategy):

STRATEGY CLUSTER 3.2.2. Describe the Present Worth of the Material

Explanation: An instructor who is alert for the opportunities can often find ways of helping an audience see the present worth in what he is teaching. He has to notice specific aspects of the instruction that will may be useful in the soldier's everyday life, in his job, or in his general growth and development as a human being.

Sample Strategies:

1. Use direct statements that describe the usefulness of a skill or piece of knowledge.
2. Challenge the trainees to think of ways in which the material is or could be useful to them.
3. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Suggestion for Strategy 3.2.1.1

Provide the instructors with suggestions such as talking to the trainees before the course and during breaks, and asking them in class about their background. This kind of getting acquainted can also serve as an ice-breaker. Point out that as an instructor gets experience with a particular kind of group, he will find it easier to quickly get a reading on the class. Some instructors do this as a result of intuition or personal style. Others, however, would benefit from a suggestion in the Trainer's Guide that pointed out the importance of this kind of informal activity.

Example for Strategy 3.2.1.2

Following is a sample of instructor dialog that illustrates this point: "Learning to adjust this gauge is basically the same as adjusting the water faucet in your shower. In your shower, you want to be able to control the rate of flow, temperature, and intensity (fine spray or big droplets). With the gauge controls, you have to control (1) rate, (2) temperature, and (3) pressure. However, there is one important difference between the shower and this gauge. Here, the order in which you adjust the valves is important...."

Example for Strategy 3.2.2.1

In the Trainer's Guide, provide an advisory section in which you point out the importance of giving verbal cues as to the specific importance and relevance of appropriate skills and knowledge. Also, provide some sample phrases that the instructor can use, as follows:

"Here's something good to know!"

"Here's a useful item!"

"This is a skill you can use all your life!"

Note: This would be even more effective if the instructor illustrated it with a concrete example, but the comment by itself helps.

Example for Strategy 3.2.2.2

There is a very simple instructional strategy that workshop leaders and trainers often use to get audience participation. It could be described in the Trainer's Guide in conjunction with this strategy, and it could be used in other places as well. The instructor asks the trainees to list three ways in which the material in the lesson could be useful to them right now in their daily lives. He encourages them to be creative in their thinking. After seeing quite a few people list some ideas, he then conducts a group discussion, and begins to list the ideas on the chalk board or flip chart. He concludes by driving home the point that the material does have some usefulness to it.

STRATEGIES

STRATEGY CLUSTER 3.2.3. Establish the Future Usefulness of the Instruction

Explanation: The instructor can help establish the future usefulness of the instruction by drawing on personal experience, the experience of others, and the trainees themselves. If the instructor can find ways to show that the instruction can benefit the trainees, either directly or indirectly, then he increases the likelihood that the trainees will be motivated to learn the material.

Example Strategies:

1. Use anecdotes such as success stories to show how previous students benefitted from the course. The personal touch helps.
2. Use a device such as the future wheel (see the example for this strategy) to help the trainees relate the instruction to their own futures.
3. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Suggestion for Strategy 3.2.3.1. Include some stories in the Trainer's Guide that the instructor could use. Encourage the instructor to keep a file of these stories as he hears about them. Use specific details about the name of the person, setting, and specific accomplishment. These files could be passed on from person to person, or kept available in the Directorate of Training.

Example for Strategy 3.2.3.2. The Future Wheel is a strategy for class discussion that encourages the trainees to answer their own question about the relevance of a topic. Begin by putting the topic, no more than one or two words, in the center of a chalkboard or flipchart. Draw a small circle around it. Then ask the class what possibly could this lead to in a person's future. Write each idea down in a circular pattern around the topic. Draw a small circle around each of these, and draw a line or arrow from the original item to each of the added items. Then for each of the newly added items, ask what it might lead to. Continue this process until you have gotten several layers, or branches, of future orientation. This will help the trainees see the possibilities for how the current training might help them in the future. The following example began with the topic of "generator repair," and it spread from there.

STRATEGIES

STRATEGY CLUSTER 3.2.4. Provide Opportunities for Personal Choice.

Explanation: The instructor can help provide an atmosphere in which trainees feel that they have some personal choice, some self-determination. This increases the trainee's sense of relevance because it gives them the feeling that they are part of the situation, part of the team, rather than just being pawns or nonentities.

Sample Strategies:

1. Comment on your awareness of the trainee's desire to have some freedom of choice, then tell them the restrictions that are necessary due to the requirements of the situation, and also the areas in which they do have some personal freedom of choice.
2. Allow the group to provide input to decisions before making the decisions whenever it is possible.
3. (Your Strategy):

STRATEGY CLUSTER 3.2.5. Provide Effective Role Models

Explanation: Instructors communicate more to trainees than they sometimes realize. We will see one example of this in the next chapter under self-fulfilling prophecies, but it also applies here. Instructors communicate their instruction, and they also communicate their attitude about the instruction. If the instructor believes in the relevance of the material, he will communicate this in many ways, some obvious and some subtle. Trainer's guides should contain some advice, or strategies, for instructors that help them present a positive role model.

Example Strategies:

1. When teaching, appear enthusiastic about the material.
2. Bring in graduates of the course as enthusiastic guest lecturers.
3. In a self-paced course, use those who finish first as deputy tutors.
4. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Suggestion for Strategy 3.2.4.1.

Some of this information could be included in a Student's Guide, as some schools already do in some of their courses. But, it is also good for the instructor to tell the class. It helps confirm the truth of what is in the guide.

Suggestion for Strategy 3.2.4.2.

Often the schedules and POIs do not allow this kind of student - instructor interaction. But, whenever possible, it does help establish relevance if the instructor will ask class members for their input on a course. This information can then be evaluated and responded to accordingly.

Suggestion for Strategies 3.2.5.1 and 3.2.5.2.

These strategies hardly need an example, but they do need some verbal support. It has been shown over and over again that instructors who are enthusiastic about their subject are more likely to have motivated trainees. The effect of your personal interest in the subject will be reflected in the interest of your audience. You will get discouraged from time to time when it seems that nothing will reach a particular audience, but don't give up! If you continue to show your enthusiasm, you will have a positive effect on the class. If you can find enthusiastic graduates to come in and talk to the class, the effect will be even stronger.

Suggestion for Strategy 3.2.5.4.

This is a strategy that you will see several times in this book, because it has several motivational consequences even though it is a simple thing to do. It adds to relevance by giving the trainee an important role to play, and the trainee who is serving as a tutor provides a role model for the other. There is one caution here. If you choose someone who is a fast worker, but who does not have the respect of other trainees, then this person could actually have a negative influence on the group. So, you need to award this responsibility selectively.

STRATEGIES

STRATEGY CLUSTER 3.2.6. Connect the Instruction to Important Needs of the Trainees.

Explanation: The instructor has a crucial role in establishing a psychological setting in which the trainees can learn. Research has shown that most people have more anxiety about failure and ridicule in classrooms than teachers realize. If you want people to risk learning something new, or to try-out a new skill, then you have to make them feel psychologically secure. The strategies in this section build on those in Section 3.1.5. They help you meet the security needs of the learners while stimulating their desires to achieve and be successful.

Example Strategies:

1. Show the trainees that they can make mistakes while learning a new skill without being ridiculed or embarrassed; use a coaching instead of critical approach.
2. Describe the standards of excellence that are expected, and the feelings of satisfaction that result from achieving them.
3. Allow trainees to take leadership responsibility whenever possible.
4. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Suggestion for Strategy 3.2.6.1.

A coaching approach is one which is characterized by helpful feedback without value judgments. The instructor should give close attention to specific errors or problems the trainee has, and offer specific suggestions as to how the trainee could improve. Do not combine this with either criticism or falsely positive feedback. When concentrating on coaching for improvement, keep both positive and negative criticism to a minimum. Use them only when necessary to give the trainee a boost, or when you cannot avoid a reprimand.

Suggestion for Strategy 3.2.6.2.

People like to feel pride in their accomplishments. People who have a high need for achievement like to think about the pleasure they will feel when they achieve a certain goal. To help produce this feeling in your trainees, comment on the high (but achievable) standards in your unit. Tell the trainees that when they reach mastery, they will share this feeling of pride in themselves and the organization.

Suggestion for Strategy 3.2.6.3.

Leadership is important in the Army. By allowing trainees to take leadership responsibility you are increasing their sense of relevance. Whenever possible in a training environment, let them have some responsibility related to the learning process. You could give specific responsibilities to some of the better learners after they have mastered a certain topic. For example, on an impromptu basis you could say to one of the advanced trainees, "Hey George, watch those guys assemble that carburetor. Give them some help if you see them get into trouble."

SECTION 3.3

WAYS TO MAKE INSTRUCTION RELEVANT WITH THE LESSON PLAN

INTRODUCTION

It requires personal judgment to determine how much time to spend, and how many strategies to use to establish a sense of relevance. For this reason, the course designer and instructor have to know the audience's characteristics. Too much time spent on establishing this motivational condition is almost as bad as too little time. Even though this is an important motivational factor, it reduces instructional time if you use too many motivational strategies. This section suggests which types of strategies are usually most important at different times during a lesson.

OBJECTIVE

By studying this section, the course designer will learn how to design lessons that improve the perceived relevance of the course to the trainees.

SYNOPSIS

This section, like the lesson design section in Chapter 2, differs in organization from the two preceding sections. First, the strategies that are most important to use during the orientation phase of a lesson are introduced. Then, the strategies that could be used during a lesson are presented. Finally, there are a few strategies that could be used during the post instructional activities (practice, feedback, and testing).

It is assumed in this section that you have read Sections 3.1 and 3.2. In this section, read over each of the strategy areas and notice how the material from the preceding sections has been put into a context of the different phases of a lesson. You may have other ideas, which is perfectly acceptable. The configuration in this section corresponds to a typical classroom setting in which the perceived relevance of the instruction will not be immediately obvious to everyone. Your situation may differ, and there is room in the book, as in the previous sections, for you to jot down some of your own ideas.

There is one important difference in the structure of this section. The strategy recommendations are here as usual, but there are no example and suggestion sections. This is because the strategy sections draw heavily from the preceding two sections. Here they are organized according to the sequence in which you would be likely to use them. Furthermore, they tend to be very specific in terms of the ideas they present, and ideas for implementation are included in some of them. Therefore, the example pages were not included here in order to help keep this chapter reasonable in length.

STRATEGIES

STRATEGY CLUSTER 3.3.1. Establishing Relevance During the Orienting Phases of a Lesson.

Explanation: In the preceding chapter we talked about ways to get people's attention. Almost immediately after we get their attention, they are going to ask, "Why?" Consequently, we must deal with this during the orientation phase of a lesson. It may require nothing more than a few words of description when the relevance is self-evident. But, often it requires a more serious effort. The challenge to the course designer is to provide the information in the instruction materials and in the trainer's guide that will create this sense of relevance. You can draw upon the strategies in Sections 3.1 and 3.2, but we have included some here that might be most helpful in the orientation part of a lesson.

Sample Strategies:

1. Include a section in the orientation that relates the current instruction to past experience. This could be a written passage with active responding in a self-study course, or a lecture/discussion in an instructor-led group.
2. Provide some written material, or an instructor presentation, that briefly describes the present and future usefulness of the instruction.
3. Assure the trainees that they will be able to study and learn without embarrassment providing they are working sincerely and putting out a good effort. To accomplish this, use a friendly but firm style of presenting, and describe both the standards of achievement and the helpful, not critical, response to errors that you will use.
4. Describe any options for personal choice that the trainee must exercise. This can be in the instructions in the materials or in the briefing provided by the instructor.
5. (Your Strategy):

STRATEGIES

STRATEGY CLUSTER 3.3.2. Include Relevance Strategies in the Instructional Activities and Materials.

Explanation: Although it is particularly important to build a sense of relevancy during the orientation portion of the lesson, this must be reinforced from time-to-time during the lesson, especially when a lesson is subdivided into several sessions over a period of several days. The following suggestions are based on the basic relevance strategy lists, but are selected and included here to illustrate the kind of emphasis to give during the actual instructional period.

Sample Strategies:

1. Maintain connections between current learning activity and past experience.
2. Use formal and informal activities to maintain the perceived relevance of the material in terms of present and future goals. For example, the strategies mentioned in Sections 3.1.2 and 3.2.2 could be used during classtime, but informal, personal conversations during breaks are a good time to "sell" the value of the class.
3. Provide opportunities for individuals to set their own goals as to the method and rate of time by which they will achieve the standards of excellence defined for the course. This would, of course, have to be within the overall limits allowed for the course.
4. Provide competitions of the win-win type to encourage learning and achievement striving. A "win-win" competition is one in which everyone can define a goal to achieve, but the best performer wins a prize. In contrast, a win-lose competition is one in which a person or team can only win at another's expense (see Examples for an illustration).
5. To help give trainees a sense of power and responsibility, provide opportunities for them to exercise leadership.

6. Provide opportunities for trainees to work cooperatively in teams, especially while studying and learning new knowledge or skills. This social reinforcement helps satisfy their need for affiliation, and it allows them to help each other out in areas they see as being difficult.
7. Role modeling can be maintained throughout the instructional period by having the instructor present himself as one who seriously and enthusiastically believes in the importance of the subject, by using the natural leaders among the trainees as peer-tutors and advocates for the instruction, by bringing in credible outsiders from time-to-time, and by taking the class out of the classroom into the work-settings where the knowledge and skills will be used.
8. As the lesson proceeds, watch for opportunities to increase the personal responsibilities, and personal choice options of the trainees.
9. (Your Strategy):

STRATEGIES

STRATEGY CLUSTER 3.3.3. Maintain a Sense of Relevance During the Post Instructional Activities (Practice, Feedback, Testing).

Explanation: Many of the complaints in classrooms center around the practice activities and the tests. Either the practice activities do not seem to be related to the instruction, the tests are not related to the practice or the instruction, or none of these things is perceived to be related to the "field;" that is, the actual area of application. An important concept to keep in mind when talking about relevance in this context is "face validity." It is not enough that the exercises and tests are relevant to the area of application, they must also be perceived by the trainees to be related. In other words, the trainees have to see obvious relationships between the instruction, exercises, tests, and the on-the-job tasks.

Sample Strategies:

1. Use group activities, both cooperative and competitive, in the practice and performance phases of the lesson (as opposed to the learning phases) only if they are appropriate to the ultimate task conditions.
2. Use practice activities and test conditions that are as close as possible to the ultimate task conditions. This improves the quality of learning and the likelihood of transfer of training, and it also improves the perceived relevance of the instruction.
3. When it is not possible to make the practice and testing conditions similar to the ultimate task conditions, use verbal descriptions and analogies of the similarities to improve relevance.
4. (Your Strategy):

SECTION 3.4

WAYS TO MAKE INSTRUCTION RELEVANT WITH THE COURSE DESIGN

INTRODUCTION

There are countless jokes, not to mention actual occurrences, of military training being irrelevant to a person's past, present, and future. However, despite these problems, and they will always occur in a large organization, it is important to look at the overall course for characteristics that will help improve its relevancy to the trainees. This section offers some assistance in that regard.

By now you have learned a great deal about specific strategies that can be used with the materials or by the instructor, and how they can be used together in a lesson. As we look at the whole course, it is important to look at the context that surrounds it as well as its internal parts.

OBJECTIVE

By studying this lesson, the course designer will be able to design those elements of a course that will improve its perceived relevancy to the trainees.

SYNOPSIS

This section includes a number of strategies that will help the course designer and instructor improve the relevance of the course as perceived by the trainees. These strategies are organized according to the type of relevance producing activity, as in Sections 3.1 and 3.2.

Notice that there is a mixture of types of strategies here. Some describe specific things that could be done at a particular time in the course, while others refer to the relationships among several things that should be done in the course.

STRATEGIES

STRATEGY CLUSTER 3.4.1. Establish the Present and Future Worth of the Course

Explanation: At the course level, we can look at the sequencing of strategies to communicate the worth of the course to the individual trainee, and we can also introduce strategies (e.g. 3.4.1.1) that do not fit into a particular instructional lesson. It is usually to establish a firm sense of relevancy at the beginning of the course. It is easier to "get" the audience from the beginning than to "recover" it once you've lost it.

Sample Strategies:

1. At the beginning of the course, take the class on a site visit. Let them talk to job incumbents in the same or a similar job area. Have them talk to people who will give them a positive, but realistic, view of what they will have to do and how training ties in.
2. If a site visit isn't possible, or even if it is, the instructor and other personnel from the technical specialty should talk to the group in a friendly, conversational way about the "whats", and the "whys" of the career field and the course. This could be done in a special meeting away from the classroom if it interferes with discipline or other procedures within the school setting.
3. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 3.4.1.1 and 3.4.1.2.

Both of these strategies suggest ways to help the trainees see the "reality" of the settings in which they will be working, and how their training applies to it. When applying strategy 3.4.1.1, and you are unable to take the trainees to an actual field setting in their own MOS, it is sometimes possible to take them to a similar job site. For example, heavy equipment mechanics could be taken to the mechanics at ordinance if there is no field unit on the same base as the school.

On these trips it is important to have a few people who are enthusiastic about their work talk to the trainees. In addition to talking about how they do their job, they should talk about its importance, and the relevance of training to it. If an instructor or invited guest is trying to accomplish this goal in the classroom (Strategy 3.4.1.2) then he should try to make the same two points.

Another possibility is to make an audiovisual presentation of the actual work environment. A fairly inexpensive way to do it would be to make a simple slide-tape program. You could take a series of interesting photographs of people in various aspects of work, tape record some short interviews with them, and combine this with a narrative by the instructor or someone else who could tie it together. By keeping it simple and inexpensive, even fun, you increase the likelihood that you will update it from time to time to keep it fresh.

Suggestion for Strategy 3.4.1.2.

Often there is an instructor who enjoys having these kinds of conversations with the trainees. This strategy simply suggests that you do this more systematically. Plan on it. Allow time for it.

STRATEGIES

STRATEGY CLUSTER 3.4.2. Make the Course Responsive to the Personal Needs of the Trainees.

Explanation: The two strategies presented here illustrate how you, the course designer, should look at the overall combinations of strategies in the class, and how they relate to the progression of the trainees from learners to performers of the task.

Sample Strategies:

1. Make a distinction between the conditions of learning and the conditions of performance in the course. During the learning phase, it is more important to use the strategies which reduce stress, and respond to the security needs of the trainees (i.e. the knowledge that they can make mistakes without being ridiculed or embarrassed in the process of learning). Also, provide opportunities for group work and peer-tutoring. Trainees who work faster than the rest of the group often make excellent tutors.
2. As the course progresses, use more strategies that use competition (contests) as a motivator, and provide practice performance opportunities that are more like the terminal task conditions.
3. Use a variety of individual and group activities that allow individuals to work under conditions that are comfortable to their personal styles. For example, some people prefer to work alone, some people prefer competitions, and other people enjoy taking responsibility and leadership. All of these factors can help produce a learning environment in which the individuals feel a sense of relevancy and desire to learn.
4. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Suggestion for Strategies 3.4.2.1, 3.4.2.2, and 3.4.2.3.

It is very important to establish the right attitude early in the course. Often we try to motivate the class by telling them very sternly how difficult it is going to be to succeed, how many people will flunk out, and how much the trainees are going to suffer. There probably are situations where this is an appropriate approach. But, you should examine your goals very carefully before using it. To the extent that you can separate the things you need to do to establish discipline from the actual learning environment, the greater the likelihood that you will create a setting in which every trainee will have an opportunity to do his best.

On the one hand, it is important to be realistic with the trainees, and to let them know that there are negative consequences for not trying, or for not being able to do the work. But, on the other hand, people are not going to do their best when trying to learn something new if they are too anxious and intimidated.

Our primary suggestion here is that in addition to other comments you make, you should help the trainees understand that they will have a comfortable (i.e. psychologically comfortable) opportunity to learn the material before they are placed in stressful performance conditions. The specific strategies described elsewhere in this chapter should help you in this regard.

SECTION 4.1

WAYS TO DEVELOP CONFIDENCE
WITH INSTRUCTIONAL MATERIALS

A learner who does not feel capable of performing a task successfully will not be very interested in being trained in the performance of that task. The reasons for this lack of "faith" or ability are many. Perhaps the learner has no idea what to expect of the course, or what to do next. Perhaps the learner was overcome by too much work, at too tough a level, too soon. Whatever the reason, if a learner does not know what to expect of a course, or does not believe that his or her effort will alter the outcome of training grades and skill, he will be unable to effectively learn. Fortunately, there are ways to avoid this problem.

This fourth chapter will prescribe specific techniques to increase learners learners sense of confidence in their ability to perform expected tasks. If a person sees a task as important (relevant), and they believe that they can learn to perform the task, (confidence) the only job an instructor will need to perform is to direct the constructive energy of his or her trainees in the most productive direction.

With this section, you will be able to:

- Make trainees feel responsible for their own success or failure at a task.
- Make trainees believe that they can succeed at a task, regardless of past failures.
- Sequence instructional materials so that learners will accomplish specified tasks at a more rapid rate.
- Improve learner work effort and interest in learning, thus improving work productivity, through the design and sequence of instructional support materials. Sections 4.2, 4.3, 4.4, will show how to do this with the instructors of courses, with lesson design, and with course design.

SYNOPSIS:

This section explains five general approaches to creating an atmosphere of confidence in both the classroom and individual learners. These approaches pertain to:

1. Specification of expectations
2. Sequencing and presenting material in gradually increasing levels of difficulty.
3. Presenting instruction in a manner which provides the learner with a choice and a degree of control.
4. Developing a cooperative "team" approach to concept and skill learning.

USER ADVICE

Confident learners will produce independently functioning workers, who are able to solve problems on their own in a field situation.

Developing confidence in learners may seem to be contrary to the "military" way, which can, at times, be intimidating. However, there is as appropriate time to be intimidating and a time to be supportive. Training people at new skills in groups of peers requires support. To provide this confidence building support use as many strategies from section 4.1 the critical element in building confidence. Try not only to apply section 4.2, but add to it and improve it.

STRATEGY PAGE

STRATEGY CLUSTER 4.1.1 Incorporate clearly stated, appealing learning goals into instructional materials.

Explanation: Nothing frightens people more than the unknown. This holds true in learning situations as well as in war time encounters. A clearly stated objective, or "what I expected of you" statement can serve as a guide for learners. Such a statement removes the unknown from a learning situation, as will as any guessing games. If a training manual is a road-map to learning, then the objective tells the learner when he has travelled far enough to be minimally competent.

Sample Strategies

1. Clearly state in terms of observable behavior from learners, what is expected of them as evidence of successful learning.
2. Make goal statements in a context which is relevant and familiar to learners.
3. Provide self-evaluation tools which are based on clearly stated goals (see strategy 4.1.1.1)
4. Present objectives prior to instruction, and after instruction review which objectives have been achieved.
5. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.1.1.1

A goal in a clerk training manual might be:

The trainee shall demonstrate, in less than three minutes, the protocol for completing an equipment requisition as specified in manual section 7. (Note the emphasis (underlining) on a behavioral demonstration, and specific protocol).

Example for Strategy 4.1.1.2

After the objective in strategy example 4.1.1.1, a line providing an example such as, "This might allow the requisition of a car for a date on the week-end".

Example for Strategy 4.1.1.3

A review guide which listed earlier stated objectives (goals) and provided examples of how to practice, could be included at the end of any unit of instruction as a "hand-out", or as part of a training manual.

Example for Strategy 4.1.1.4

At the end of each chapter or section within a chapter of a manual list the objectives for that chapter, and the pages on which that skill was explained.

STRATEGIES

STRATEGY CLUSTER 4.1.2 Organize materials on an increasing level of difficulty. Structure the learning material to provide a "conquerable" challenge.

Explanation: Often learners can be overwhelmed by material which is either presented before more fundamental material, or in an intimidating manner. Many learners have pre-established doubts about their ability to perform (and it's often the loudest, most apparently cocky trainees in the lot) which need to be overcome by early success at learning attempts.

Sample Strategies:

1. Organize the learning environment in a clearly understood sequence.
2. Redesign components of instruction which frequently cause failure.
3. Convince learners of their ability to succeed at material.
4. Sequence relevant, but easily obtainable skills early in a training program.
5. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.1.2.1

Outline the structure of the course as a road map with 6 boxes to be checked off as each destination is reached. Use this as a time-table and table of content for a course manual.

Example for Strategy 4.1.2.2

If, for example, "accountant" trainees have failed early tests which deal with principles of accounting law, perhaps, breaking that section into topic areas such as "liability" and "depreciation" and teaching with examples and not principles, and testing more frequently on smaller scales would improve success, and thus confidence.

Example for Strategy 4.1.2.3

Include statements such as: "If you have successfully completed the preceding tasks, this should be readily achievable". Make reference to selection by aptitude and ability, in training texts.

Example for Strategy 4.1.2.4

Schedule a task such as replacing brake shoes early in a mechanics course. In this way a very practical skill is obtained, and the chance for failure is minimal.

STRATEGIES

STRATEGY CLUSTER 4.1.3 Overcome learners feelings of inadequacy toward subject matter.

Explanation: A common example of such a learner fear is the person who says "I've always been weak at math, I can't do it". With proper guidance and relevant practice, this attitude of helplessness can be replaced with one that says, "If I try, I might succeed."

Sample Strategy:

1. Build bridges from contexts familiar to the learner to the new subject.
2. (Your Strategy):

STRATEGY CLUSTER 4.1.4 Allow trainees opportunity to become increasingly independent in learning and practicing a skill.

Explanation: Increasing independence, through a student's exercising more choice over the instruction materials used and the practice of the skill, will enhance the student's sense of self-confidence both as a person and as a student.

Sample Strategies:

1. Break materials into alternative "modules" for student selection.
2. Provide alternatives in learning experiences, i.e., suggest several strategies as acceptable for achievement of objectives.
3. Provide an "extra" option to allow trainees to provide their own practice/learning strategies, pending instructor approval.
4. Solicit and recognize constructive criticism from learners.
5. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.1.3.1

If students are being taught basic procedures and to be used in the mess, relate them to everyday procedures used in a home.

Example for Strategy 4.1.4.1

Allow cooking school trainees to practice baking any form of bread which they choose. This would allow freedom of choice. Place the constraint that all types specified must be produced prior to study in another area. (This must be modified in situations where one skill must be taught before another, but it should always be applicable to some extent).

Example for Strategy 4.1.4.2

Computer programmers could prove proficiency at writing a code by either (a) producing code for an operation to protocol or (b) developing an alternative code which will run in less time than the protocol, or (c) reorganizing the operation and then writing code which is as efficient as the protocol.

Example for Strategy 4.1.4.3

Perhaps allow the option of "testing out" or of a trainee not even showing up for training on selected areas, if certain criteria are met. A list of criteria could be part of a training manual, and might include:

- a) greater than 90% performance to date in training evaluation
- b) Progress reporter to the instructor, where competence would be tested, at the same time as the rest of the class.

Example for Strategy 4.1.4.4

Include a form at the end of each training guide, inviting criticism, and provide with the form, the address of the development office. Respond to all criticism within one or two weeks of receipt, while trainees are still in learning environments.

SECTION 4.2

WAYS TO DEVELOP CONFIDENCE WITH INSTRUCTORS

CONTEXT

The very first impression most learners have of a subject is that given by it's instructor. Even after a learner has been exposed to a skill area, it continues to be the instructor who is the most dynamic influence upon learners attitudes toward a particular field. If a child's first exposure to animals is being bitten by a dog, his confidence is destroyed and replaced with an aversion to animals. Similarly, if a trainee's first exposure to electronic circuits is being intimidated and threatened by a trainer, he will not really want to perform. When this intimidating presence is removed, and the trainee is in a work environment, he will not perform any more than is absolutely necessary. Section 4.2 will provide strategies which can help make a trainee's most important interface with his skill area, the instructor, a source of both confidence, and a desire to learn.

With this section you will be able to:

Reduce the perceived threat of a subject and increase the confidence of learners by providing the instructor with mechanisms to serve as a "friendly" interface to the subject matter.

SYNOPSIS

This section will provide strategies which could be included in an instructors guide for a course, or used from this manual by an instructor to:

1. Clarify expectations demanded of learners
2. Present material in effective, challenging ways
3. Overcome learners fears and feelings of inadequacy
4. Provide learner control of training (safely)
5. Clarify what trainees can/should expect of the trainer and training

USER ADVICE

The instructor's activities are the most critical aspect of developing confidence in learners. Examples and sample strategies will be provided, but you must try to think of effective alternatives for developing confidence in learners with the instructor. As you do, write them in any white space available.

STRATEGIES

STRATEGY CLUSTER 4.2.1 Clearly state expected performance and evaluation standards. Do not refer to failure to meet standards.

Explanation: Trainers, like drill sergeants and fathers can establish a "love/hate" relationships with their students. If standards are set and clearly explained to trainees in such a relationship, they will strive to achieve those goals because (1) "it's expected" (2) "we'll show him" (3) there is an underlying desire to please a revered authority figure. Establishing these standards will not assure confidence, but it will establish a framework for further instructor-trainee interaction, which will develop learner confidence.

Sample Strategies:

1. Verbally "translate" objectives into readily understood slang.
2. Provide relevant examples of what achieving goals means to the ability of each learner, in multiple situations.
3. Relate goal achievement to learner career goals, or life goals.
4. (Your Strategy):

STRATEGY CLUSTER 4.2.2 Provide a structure to learning experiences which will increase the task difficulty as learner ability and confidence increase.

Explanation: Learner confidence is in part, dependent upon the difficulty of the work expected of him. This difficulty is of two "types", real and perceived. Real difficulty is the relative complexity of a task, it's relevance to the learner, and the type of skill demanded. Perceived difficulty is the difficulty a learner thinks a skill will present to him in learning. This is the result of previous learning experience, intimidation, support, and internal characteristics of learners. Both types of difficulty can be scheduled to an optimal level of challenge for learners, to provide successful learning, to provide successful learning experiences and thus strengthen confidence.

Sample Strategies:

1. Create a supportive learning environment. This means a cooperative environment, with the trainer and trainee teamed to tackle a task.
2. Restate/restructure learning problems to minimize perceived difficulty.

3. Find similarities between the subject at hand and positive learning experiences the trainee has already had.
4. Stress a casual relationship between learner effort and success at any training level (from the task level to total course competence)
5. (Your Strategy):

EXAMPLES

Example for Strategy 4.2.1.1

An instructor's guide might contain the recommendation to employ this strategy, and provide an example, such as:

Sample Objective (Goal): The trainee shall correctly identify a faulty circuit on any given circuit board for standard radar oscilloscope equipment, in three minutes, when given a malfunctioning piece.

Sample Translation: "This means we've got less than three minutes to find the problem with our monitors, or we could be vulnerable to sneak attacks in the field" (Note the cooperative tone of "we've", and the relevant reference to vulnerability)

Example for Strategy 4.1.1.2

One example of the relevance of the skill to learner ability is the sample for 4.1.1.1, where the ability to solve a problem could save lives. Another example would be an instructors reference which told learners that the same skill would allow the trainee to trouble shoot his faulty television circuit boards, or on observation system for a commercial airline, which would pay extremely well for such skill.

Example for Strategy 4.2.1.3

An instructor could introduce a section or course, and then have a short "bull" session with trainees, to find their previous exposed to similar material, and career aspirations. With each different aspiration, the instructor could select specific skills in the course which are especially applicable in such a setting.

Example for Strategy 4.2.2.1

Instructors should couch all demands of students in a cooperative, challenging fashion. This will reduce the threat of the material and the trainer, establish a "team approach to problem solving (this is critical to a functioning military). An example would be "we've got all the background material we need to repair this, let's get started. Any problems arise, you talk it over between you. If time's-a-wasting, check with me and we'll figure it out together". Compare this to "you've got one-half hour to get that engine back together.

Example for Strategy 4.2.2.2

Rather than teaching "chest anatomy and physiology as one unit of instruction to medics, (a) teach the bony structures of the chest (b) test (quiz) the bony structure, etc., until the ribs, heart, lung and lymphatic systems are covered.

Example for Strategy 4.2.2.3

A statement such as "the central processing unit of a computer is like the brain in a human being. It coordinates data input, as the brain does nervous signals from the hands", would relate a computer to a simple familiar concept of biology. This provides (a) reduced threat of an unknown concept and (b) an image reference for understanding a C.P.U.

Example for Strategy 4.2.2.4

Point out through verbal reinforcement and direction of learners attention to "before" and "after" relationships in a problem, such as "the only reason that entire communication system functions is because you two found the fault in the transducer, and replaced it". (example of a real life situation after this strategy 4.2.1.2) would further instil confidence.

STRATEGIES

STRATEGY CLUSTER 4.2.3 Improve student confidence by helping the student accept responsibility for their success.

Explanation: If learners feel that they are "no good at this stuff," any success they achieve will be seen by them as a matter of luck, or the good mood of the evaluator. If the student learns that he has over success at a subject, his effort will increase both in a learning situation, and later in job performance.

Sample Strategies:

1. Rationalize the logic of success with students.
2. Emphasize past successes, and present successes at learning.
3. (Your Strategy)

STRATEGY CLUSTER 4.2.4 Provide/Emphasize opportunity for trainees to control the elements of their training.

Explanation: This type of strategy relates closely to cluster 4.2.3. If a learner feels that the outcome of a learning situation depends upon his effort, rather than uncontrollable variables, that effort will be greater, so as to maximize the opportunity for success. In addition to this, learners will often be able to mold a learning situation so that it is more compatible to their learning style, if given an opportunity to do so. The role of the instructor in these strategies is to point out ways that the learning situation at hand provides these opportunities.

Sample Strategies:

1. Enlist trainee input into the explanation of concepts and skills to other trainees.
2. Verify and reinforce different understanding of a given concept. Invite "healthy" conflict between learners, and reinforce this conflict by playing the "devil's advocate", and then congratulating the learner for his defense of a contradictory view.
3. Encourage trainees to suggest applications for skills, then try to provide those applications as practice or review.
4. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.2.3.1 "You guys can't miss. I've pulled men with a lot less on the ball than you through this stuff, and they're some of the best at this now."

Example for Strategy 4.2.3.2

Reinforcement and observations such as: "You guys have shown me that you can do all of the tasks separately, so it shouldn't be too much for you to put it all together into one operation".

Example for Strategy 4.2.3.3

When mistakes occur, make comments such as "Mistakes show you are trying to learn, and that's the important thing". "Everyone makes mistakes sometime." "Improvements can only happen if you try and sometimes you'll make a mistake".

Example for Strategy 4.2.4.1

An instructor might ask a trainee for his understanding of how something functions. This will (1) provide another relevant perception and image for the rest of the class (2) make learners feel that their opinion is important. (N.B. never say anything such as "where did you get that idea" if a trainee has a mistaken impression of a concept. Such "negative" feedback will kill confidence).

Example for Strategy 4.2.4.2

Start an "argument" with a more confident trainee, and when he has presented himself clearly, thank him for his knowledge and courage. This will improve his confidence and also foster an attitude of mutual respect between a trainer and trainees.

Example for Strategy 4.2.4.3

An instructor of medics might ask for ideas on how to solve a problem with a simulation or a case study he has seen a journal, and "make believe" each suggestion is adopted. Then the trainer could provide feed back as to how those suggestions affected the imaginary patient.

STRATEGIES

STRATEGY CLUSTER 4.2.5 Clarify the boundaries of the expectations that learners can put on the trainer and the course.

Explanation: If trainees are told from the outset of a course or a lesson that an instructor has limitations and that nothing in training can be perfect, there will be a sense of relaxation toward learning and the subject at hand. This is for two reasons:

1. The mistake of a mystique of perfection is avoided. This removes the fear of failing to be perfect for trainees.
2. The sense of "me" vs. the "trainer" is avoided and a cooperative approach to learning is fostered. Whenever such a "team" works on a task, the individual fear of failure is lessened because there will always be a "team-mate" to help overcome weaknesses.

Sample Strategies:

1. Explain to trainees that though an instructor is good, maybe great, he is not perfect. Perhaps even the trainer can learn a thing or two from the course.
2. Invite suggestions for improvement from trainees, both in the focus of "other viewpoints", and long-term course changes. Tell trainees of action taken based upon their suggestions.
3. (Your Strategy):

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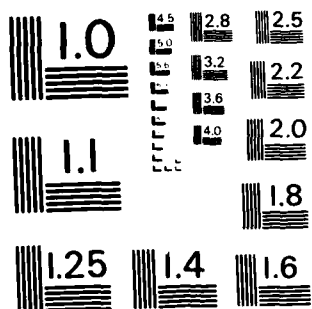
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EXAMPLES AND SUGGESTIONS

Example for Strategy 4.2.5.1

Statement such as "I" don't make mistakes too often, but if I do feel free to correct me, so I don't make the same mistake twice. I'll do the same for you. Between us, we'll end up damn near perfect."

Example for Strategy 4.2.5.2

Provide trainees with the opportunity to make anonymous critiques of the instructor, the materials and the organization of a course.

SECTION 4.3

WAYS TO DEVELOP CONFIDENCE WITH THE DESIGN OF THE LESSON

CONTEXT

Often, the organization of a lesson can impress a learner. Too often, however, due to a lack of cues as to what information is relevant, what the lesson goals are, and an inappropriate scheduling of tasks, the impression made upon trainees is that the lesson is totally incomprehensible, and what-the-hell am I doing here - anyway? With proper presentation of material and cue provision, this intimidation can be eliminated.

With this section you will be able to:

Design a lesson structure which will allow an instructor to provide training in an organized fashion, and to present instructor centered strategies in a consistently supportive environment. In this way, the organization and a lesson will not "fight" the efforts of the trainee to instill a sense of confidence in learner.

SYNOPSIS

This section, like those before it will break strategies into the following areas: Those dealing with specification of goals and evaluative criteria, strategies which deal with presentation order and style of material, strategies which deal with enhancing learner control, and the clarification of trainee expectancies.

USER ADVICE

This section contains many types of strategies as outlined in the synopsis. The most immediately effective, and therefore, most worthy of your close attention are those specified in clusters 4.3.1, and 4.3.2.

STRATEGIES

STRATEGY CLUSTER 4.3.1 Specify goals for each lesson, and provide evaluative criteria, so learners can assess their own achievement.

Explanation: Specifying goals for a content area, or a course may make perfect sense to developers, but the rationale should also be extended to individual class sessions. By providing visible goals for each meeting which are part of a larger course-level set of goals, each instructional meeting becomes a discrete unit of achievement for trainees, thus progressively building confidence. An added benefit of this is an improved more detailed method of obtaining feedback from trainees. This results from the success or lack of evaluation tests based on specified lesson achievement criteria.

Sample Strategies:

1. From a list of course objectives or goals, identify those which are to be accomplished at each meeting of trainees, and the methods to be used to evaluate this goal achievement.
2. Relate those goals for each class to the overall course goals.
3. (Your Strategy): Try to think of several, as this is an important concept)

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.3.1.1

Begin each lesson plan with a restatement of all objectives which will be covered in that particular meeting. A nice additional touch might be a list of all relevant prerequisite skills for each objective.

Describe the recommended evaluation process as well as expected levels of performance at the beginning of each lesson. Also, provide a time line (approximate) of when the evaluation will take place.

Example for Strategy 4.3.1.2

Each lesson should provide in opening remarks, in a recapitulation, an explanation of when the skill taught will be used, or how they relate to skill performance.

STRATEGIES

STRATEGY CLUSTER 4.3.2 Structure material presentation in readily identifiable units, on a logically increasing level of difficulty.

Explanation: By clearly separating the tasks in a lesson into goal-related activities (i.e. we'll cover material x, y, and z, which will then allow you to complete goal 1, before going on the material D, E, and F; related to goal 2), trainees will be able to keep track of observable achievements in a subject matter. This will provide an "achievement ladder" which can be climbed by successive achievement of first, goal related skills and then the goals themselves.

Sample Strategies:

1. Recapitulate all material taught when a goal has been presented.
2. Provide practice of all skills related to a goal's performance after the entire goal has been presented.
3. Schedule breaks or distractions after a goal has been presented. If three major goals are taught in one lesson, a coffee break and a short discussion of related issues might break a lesson into three coherent "mini-lessons" rather than one long period where the elements of one skill would be confused with other skills by learners.
4. Begin lessons with the more easily obtainable of skills.
5. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.3.2.1

After training mechanic trainees in exhaust system repair, outline the steps in a diagram on a board, and numerically label key skills. Or, draw block diagrams or flow charts of course content, adding skills clusters as they are completed.

Example for Strategy 4.3.2.2

With those same mechanic trainees, after learning of exhaust systems allow to replace their own systems before proceeding to the next skill section. (This might also increase relevance and incentive).

Example for Strategy 4.3.2.3

Coffee breaks are the ideal here. Trainees can break, and in all probability, discuss the skills and concepts presented, especially if the trainer breaks with them. In this way the trainer could guide the "informal" discussions.

Example for Strategy 4.3.2.4

Begin lessons with identification of concepts, such as having M.P. trainees identify and classify job roles. Later, applications could be taught and practiced, such as "under what conditions would you serve this function". Which type of situation would probably require force to resolve the problem".

STRATEGIES

STRATEGY CLUSTER 4.3.3 Provide opportunities during lessons for students to "prove" that they can perform what is expected of them.

Explanation: If a lesson designer includes elements which will help overcome trainee doubt of ability, the strategies suggested for trainers to instill learner confidence in trainees will have a material environment in which to work. (Refer to clusters 4.2.3, and 4.2.4). Such lesson designs provide an opportunity for instructor strategies to be implemented. Instead, they may force a reluctant trainer to use strategy clusters 4.2.3 and 4.2.4, regardless of content.

Sample Strategies:

1. Design laboratories which require control of earlier presented material to set-up. Then enlist the aid of a trainee to set up the lab. This will provide an immediately relevant method to prove that the trainee has learned the instruction, hence he is capable of mastering challenges.
2. "Build in" intentional contradictions to a lesson content, in later stages of a course. Allow learners to identify the discrepancy and correct it. (This strategy does run the risk of misinforming students, so caution is advised in its use).
3. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.3.3.1

A medical lab training session on identification of cell samples would require someone to prepare representative slides for observation. Choosing a trainee with little self-esteem to help prepare this lab, and guiding him, providing reinforcement would be an example of this strategy.

Example for Strategy 4.3.3.2

In a review of a lesson on first-aid, an instructor might orally state that "limb wounds with stable blood pressure are of second priority" and wait for trainees to refute this statement. If they did not, the lesson plan would specify that the trainee correct his statement and encourage trainees to help "keep things right in class."

STRATEGIES

STRATEGY CLUSTER 4.3.4 Allow trainee ample opportunity to identify and strengthen their own weaknesses.

Explanation: Allowing learners a chance to "clean up" rough edges in performance prior to any evaluation, and even allowing a "second try" during evaluation is often appropriate in a lesson design. If the goal of training is to develop skills in learners of a minimally functional level, then allowing error correction serves the goal of training. Not only this, but learner confidence is enhanced by (1) reducing perceived threat and (2) allowing the learner to serve as an evaluator of his own performance.

Sample Strategies:

1. Build "remedial" paths into lesson design.
2. Allow a practice session before testing of behavioral skills.
3. Let trainees help develop self-evaluation tools.
4. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.3.4.1

Provide time for group review of tests, and after each item review suggest a reference source or practice technique for those who might wish to review that particular concept or skill.

Example for Strategy 4.3.4.2

Cook trainees could be allowed an hour and a half on the day before a skill assessment to practice making any type of food which would be part of a given diet, or to review the nutritional components of a diet plan. This time could be a "practice" lab, with little authority: only peer or instructor guidance, as requested. The instructors role here could be primarily that of a provider of supportive feedback (praise) and secondarily formative feedback (corrections).

Example for Strategy 4.3.4.3

Ask each trainee to provide questions for a practice test which the trainer will compile. Allow fifteen minutes at the end of a class for trainees to develop questions. Perhaps assign groups of three trainees to a particular content area within the material to be tested.

STRATEGIES

STRATEGY CLUSTER 4.3.5 Allow learners a degree of control over what is discussed or presented in training

Explanation: This strategy type not only improves relevance through learner confidence by providing a "support" for their values. This type of "shows respect" for what the learner considers important. If one's opinion is respected, one will naturally be more confident. Beyond this value, the opportunity exists for an instructor to adopt some of these learner selected issues for future use in the course.

Sample Strategy:

1. Allow trainees one lesson period per week to present their own issues relevant to the course at hand, or perhaps relevant to their collective career paths.

2. Your Strategy):

EXAMPLE

Example for Strategy 4.3.5.1

A language training course could provide fifteen or twenty minutes at the end of one class per week for trainees to "shoot the breeze" in the language being trained. The only requirements might be appropriate syntax and not English.

SECTION 4.4

WAYS TO DEVELOP CONFIDENCE WITH THE DESIGN OF A COURSE

CONTEXT

Previous sections in this chapter have provided suggestions on how to use specific techniques to develop confidence in learners. This confidence has been related to a learners belief in his ability to perform specific tasks in a "safe" environment for the term of the training. But what about the "real world" of employment, or even life-after-the army (if there is such a thing)? This section will provide suggestions for effective combination of these strategies, and for building learner confidence by relating training skills to trainees entire lives, as opposed to their work lives. All of these strategies will be achieved by effective use of course design, and curricular planning.

SYNOPSIS

Thus far, strategies have been presented to develop learner confidence in the immediate context of a training class. This section will provide strategies to develop confidence by the sequence of courses, by guiding learners through areas of perceived inadequacy, and by relating these types of strategies to a broad context of the learners past experiences and future plans. As with sections one, two, and three, strategies will emphasize clarification of learning requirements, sequencing courses to minimize real difficulty, designing courses to minimize perceived difficulty, and following a degree of learner control over his training.

STRATEGIES

STRATEGY CLUSTER 4.4.1 Establish learning requirements, and prerequisites consistent with trainee background.

Explanation: An analysis of learner backgrounds in any given skill area will provide some common experience. An example would be the great likelihood that most medic trainees have had experiences such as volunteering in a hospital, or paramedic or emergency first aid training. If courses are designed and introduced in a manner that emphasizes the importance of these common characteristics of learners, then trainees will feel less threatened by the prospect of mastering a great amount of material.

Sample Strategies:

1. Early courses in a program or early classes in a course could teach skills likely to be familiar to some trainees.
2. Show examples of "success stories", such as former trainees who started with very similar background experiences to the present trainee. These people will be living proof that the trainees have "what it takes"
3. Establish prerequisites which are common to trainees
4. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.4.1.1

Schedule early classes in a leadership course for officers - candidates to deal with basic principles of psychology. Most college graduates have heard some terminology pertaining to psychology.

Example for Strategy 4.4.1.2

A guest speaker in an electronics curriculum could be a successful engineer who began as an electronics specialist. The speaker could be a subject matter expert on skills currently being studied. Further, if possible, emphasize the speakers background similarities to present trainee.

Example for Strategy 4.4.1.3

Identify as prerequisite to an officers management course, experience in personnel management, management or psychology courses at the college level. Most officers today would be able to meet all three requirements, let alone one. This will decrease the "strangeness" of the material by relating it to familiar previous learning experiences. If several trainees were not exposed to all of the prerequisites, a short, intensive overview of management theory could be provided for those learners, as a remedial, or preparatory course.

STRATEGIES

STRATEGY CLUSTER 4.4.2 Develop confidence by sequencing course material in a familiar-to-new, and a easy-to-difficult order, stressing the incorporation of early skills into complex skills.

Explanation: This type of strategy builds confidence in trainees as training wheels do in a young bicyclist. Gradually increasing the abstractness, or the novelty of a training challenge will increase the chances for early success by learners. This criteria will increase the learner's belief in his ability to function.

Sample Strategies:

1. Early course material could review important skills from prerequisite experiences and classes. In this way material begins in a familiar context to trainees.
2. Early objectives should train readily achievable, functional skills, if possible, with "esoteric or five level" skills taught later.
3. Emphasize the importance of skills (after they have been mastered) in appealing, later skill units.

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.4.2.1

This strategy deals with "course-internal" elements of establishing confidence. A common example of this is a basic refresher in computational skills for accounting trainees. The probability of success at this is great, and, thus, learners will begin to develop expectations of success if they are willing to work.

Example for Strategy 4.4.2.2

There is a fine difference between this and strategy 4.4.2.1. This strategy deals with new instruction, to which trainees have not been previously exposed. 4.4.2.1 specifies the presentation of familiar concepts skills. An example of 4.4.2.2. would be to provide one-to-one guidance while teaching black and white photograph development from negatives, before teaching the chemistry of image resolution on photo sensitive paper. This skill is simple, but critical for photographers. Success is nearly guaranteed, so confidence building is an easy task. Beyond this primary consideration is the fact that there is now established a physical (the picture) and mental example to use in teaching the chemistry of the reaction later in the course.

Example for Strategy 4.4.2.3

An example of this would be emphasizing the importance of black/white print process as an application of the later chemistry. "This process may or may not seem simple to you now, but later, I'll show you exactly how complex the chemistry is in the development of photographs. Then you'll really appreciate the importance of this process".

STRATEGIES

STRATEGY CLUSTER 4.4.3 Provide learning experiences in meaningful contexts for trainees, outside of regular training classrooms.

Explanation: Designing certain segments of a course to be carried out in "non traditional" settings relevant to the aspirations of learners can serve to decrease the threat of performing for an evaluator, as well as prove to the learner that the skills are useful to his life, and not just to the United States Army. With some strategies in this cluster, an element of student determination of learning environment and strategy will also serve to increase trainee confidence.

Sample Strategies:

1. Incorporate a laboratory in "real" settings where course skills are used as an employment skill. An example of this would be allowing a practice of physical exam skills by medic trainees in a base clinic, with qualified medics as guides.
2. Teach a skill "on the job", at an actual job site, using that environment as instructional support material.
3. Use "internships" as possible in training curricula.
4. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.4.3.1

Allow cooking school trainees to prepare food under the guidance of an experienced cook, rather than in an instructor monitored kitchen. Here the cook can provide "tips" on practical shortcuts, to make a task easier, as well as give the trainee encouragement from a "real world" source.

Example for Strategy 4.4.3.2

Clinical training for medic trainees could be done on the floors of V. A. Hospital before class training is completed. Trainees could perform duties for patients as they acquired skills in classroom training. This would provide a "real" context for practice, opportunity for supportive feedback in the form of appreciation for patients, and instructional support in the forms of widely divergent patient charts, x-rays and prognoses.

Example for Strategy 4.4.3.3

The final training for drill instructors could be a two part internship, where part one could be observation of a drill instructor at work with a group of recruits, and part two would be for the trainee to assume command of the group, with the guidance of the "real" D.I. The D.I.'s role in part two would be to offer solicited advice. All troop interactions would be with the trainee.

STRATEGIES

STRATEGY CLUSTER 4.4.4. Provide opportunity for learners to self-select training skills to master.

Explanation: Learners will work "harder", if they are offered a chance to determine their own path through training. Self-selection of some course materials will produce training which is most consistent with the learners later career plans, and personal history. Such a consistency in choices will result in more meaningful training which is most compatible with the learners individual needs. In English, this means that learners will (a) work harder, (b) learn faster (c) be more sure of themselves if they have some say in their training curriculum.

Sample Strategies:

1. Develop and offer areas of "sub-specialty" with any possible job training.
2. Offer "optional" courses or routes through a training program.
3. Solicit trainee input to improve content areas.;
4. (Your Strategy):

EXAMPLES AND SUGGESTIONS

Example for Strategy 4.4.4.1

A sub-specialty of the job title "respiratory specialist" (classification number) could be acid-base management, with the training to include an intensive review of acid base physiology, blood-gas management, and respiratory control of acid base disturbances (also consider 4.4.3.3)

Example for Strategy 4.4.4.2

A multiple format approach to mechanic training could be devised where learners could choose their own balance instruction from: (a) lectures, (b) videotaped lessons or (c) self-instructional sessions. This would demand creativity of the developer, to package the same skills in two or three formats, and then to develop a single evaluative process, but the results could be beneficial.

Example for Strategy 4.4.4.3

A course evaluation form early in a program asking the classic questions:

- (a) What is the best thing about training?
- (b) What is the worst thing about training?
- (c) What one thing would you like to see changed? Changes should then be made as possible, before trainees leave the curriculum if not the course. If changes can't be made explanations should be made, so that trainees can develop realistic expectations of training.

SECTION 5.1
WAYS TO GENERATE SATISFACTION
WITH INSTRUCTIONAL MATERIALS

Section 5.1 shows strategies prescribed to improve trainee satisfaction through special techniques designed to generate a sense of accomplishment in learners through effective design of instructional materials, and through the appropriate use of rewards.

With this section you will be able to:

1. Increase student satisfaction both early and later during courses.
2. Schedule appropriate amounts and types of rewards at the correct times.

SYNOPSIS

This section contains five major strategy clusters. Each cluster deals with a specific way of designing instructional materials which will help foster personal satisfaction in learners, thus making them more inclined to try harder at learning the skills. These clusters are:

1. Using the intrinsic value of performance to provide satisfaction.
2. Providing satisfaction with rewards for performance.
3. Fostering personal satisfaction by providing positive reinforcement and feedback.
4. Avoiding unnecessary intimidation and other undesirable consequences.
5. Scheduling reinforcement for effective performances to guarantee satisfaction.
6. Think of ways to make learners satisfied by effectively using the A-R and C segments of the ARCS model in the design of class materials.
7. As you apply this section, try to use several strategies, rather than any one, with any given instructional material.

STRATEGIES

STRATEGY CLUSTER 5.1.1 Emphasize the natural consequences of learning skills as sources of satisfaction for learners in instructional materials.

Explanation: There is a sense of accomplishment which normally follows the mastery of any skill. Materials which emphasize this sense of accomplishment will give students a feeling of competence. This sense of confidence is very satisfying and will lead to new efforts by the students to learn even more.

Sample Strategies:

1. Allow a student to use a newly acquired skill in a realistic setting as soon as possible.
2. Allow a student who masters a skill to help others who have not yet mastered that skill.
3. Provide short vignettes of successful soldiers performing the skill.
4. (Your Strategy)

STRATEGY CLUSTER 5.1.2 Design instructional materials to provide rewards for effective performance.

Explanation: Some skills, such as computational ability may not provide intrinsic satisfaction by their completion. By providing external rewards which are dependent upon the performance of these tasks, a designer can create a satisfying environment for learners. This is similar to allowing a child dessert after he finishes his liver and spinach.

Sample Strategies:

1. Reward boring tasks with extrinsic, anticipated rewards.
2. Sequence relevant, but difficult instruction to assume success of early attempts by learners.
3. (Your Strategy)

EXAMPLES AND SUGGESTIONS

Example for Strategy 5.1.1.1

Use "case study" examples to practice new skills in training manuals or practice sheets. For example, a mechanic trainee could be given a scenario such as: "The General's jeep has broken down, and his driver can only tell you that the key turns, no noise comes from the engine, and the General needs to get to the latrine. Find the problem with General's jeep." (This might also improve the relevancy of the subject of automotive wiring).

Example for Strategy 5.1.1.2

Include instructions for those who have shown mastery of a task, such as identification of a type of jet by its characteristic features, to stand, and respond to other students calls for assistance. In this way satisfaction can be derived from mastery of the task.

Example for Strategy 5.1.1.3

For materials on setting up the reconnaissance posts, include a brief account of how the successful performance of this task in an emergency situation gave a soldier new courage and a sense of importance.

Example for Strategy 5.1.2.1

Include an option to "test out" if certain sections of a course by passing an early mastery test. For example, "If the trainee scores at least 90% on the following test of computational skill, he will be exempt from the section on a review of business statistics.

Example for Strategy 5.1.2.2

Provide simpler examples and practice problems early in a course, and gradually increase the difficulty of the work. Don't overwhelm trainees with too many difficult concepts together.

STRATEGIES

STRATEGY CLUSTER 5.1.3 Emphasize positive outcomes of task mastery.

Explanation: Some tasks are not satisfying to any given learner, for a variety of reasons. The task may be too hard, or it may not seem relevant to the overall course purpose. By including helpful pointers at appropriate time, a designer can create a manual which will help a trainee find some satisfaction in even the most menial aspects of a task.

Sample Strategies:

1. Provide informative, helpful feedback when it is immediately useful.
2. (Your Strategy)

STRATEGY CLUSTER 5.1.4 Avoid unnecessary intimidation and other undesirable consequences of instruction.

Explanation: Very often, out of frustration with a trainee's apparent inability to learn, or total lack of interest in a subject, an instructor feels the urge to "show those bums a thing or two" with an intentionally impossible exam or by assigning texts which are impossible to understand. Such demoralization of a class may earn respect for the instructor from the trainees, but it will totally destroy the confidence of the class for the subject. This in turn will kill any satisfaction of learners with this training.

Sample Strategies:

1. Avoid the use of threats as a means of assuring the learning of task performance. (Using threats to establish leadership over specific individuals is another matter, and that won't be part of instructional materials for an entire group).
2. Avoid (whenever possible) comparing the performance of an individual trainee to (a) other trainees or (b) other external standards. Instead compare his present performance with where he was earlier in the course. (see the section on confidence for more strategies of this type).
3. (Your Strategy)

EXAMPLES AND STRATEGIES

Example for Strategy 5.1.3.1

After posing questions in training tests, provide a relevant hint to help solve the problem. This hint should not give the answer away, but point the trainee in the right direction. For example with the earlier problem with the General's jeep, a hint might be: "Remember, start at the most common source of electrical failure, and work from there."

Example for Strategy 5.1.4.1

Keep the text of evaluations as "non-threatening" as possible. If there is no constructive purpose for including intimidating statements, do not use them.

An example of How to Intimidate would be to use very large, difficult words in instructional materials.

A better way would be to use simple everyday jargon whenever possible.

Example for Strategy 5.1.4.2

Never make reference to past performance by other groups, nor to the "average" level of progress on a given task.

An example of what to AVOID would be a textual statement of "The average time of task completion is nine minutes." If a trainee takes 10 minutes, but has improved from 15 minutes, and then he sees this statement, his confidence, and thus his desire to "try harder" may be decreased.

STRATEGIES

STRATEGY CLUSTER 5.1.5 Schedule reinforcements for learning in ways which will produce the most satisfaction within the learner, thereby improving learning frequency.

Explanation: Different amounts and frequencies of reinforcement re appropriate at different stages of learning. At the beginning of a new course the student requires more frequent positive reinforcement, while near the end less frequently rewards are necessary.

1. Provide frequent reinforcements when student is learning a new task.
2. Provide intermittent reinforcements as a student becomes more competent at a task.
3. Vary the schedule of reinforcements in terms of both interval and quantity.
4. (Your Strategy)

EXAMPLES AND STRATEGIES

Example for Strategy 5.1.5.1

Text examples and test problems for practice should be on small sub units of a task, rather than an entire task, when a trainee is first learning an area. Successful completion of units and tests should be accompanied by recognition of the achievement, such as the words "Great job" flashing on a computer screen. In a course on automotive repair, identification of the parts of the carburetor would be an appropriate beginning unit for carburetor repair. Positive reinforcement could be provided by written feedback in written materials or on a computer.

Example for Strategy 5.1.5.2

As the student becomes more skillful the performance tasks should become more complex, and reinforcement should be provided only after more demanding performances and longer units are accomplished. During a course in automotive repair course, a unit later on the course would be more complex than in the beginning, so that positive feedback would be given after a carburetor was successfully repaired, or the student successfully completed a detailed description of the process.

Example for Strategy 5.1.5.3

As learners become more competent, their reinforcement schedules should be altered occasionally. Instructional materials can do this by (a) offering shorter routes through material (b) modules of varying degrees of length and complexity (c) using rewarding feedback.

SECTION 5.2

WAYS TO GENERATE SATISFACTION WITH THE INSTRUCTOR

CONTEXT

An instructor is the filter through which knowledge must pass to students. The instructor can generate a sense of satisfaction in students regardless of the materials available for use, the immediate relevance of the material, or other constraints to learning. Section 5.2 will show some of the limitless possibilities which are available for instructor to generate a satisfying learning experience for trainees.

With this section you will be able to:

Provide the instructor with a variety of tools which will develop student satisfaction with successful performance and the subject at hand.

SYNOPSIS

This section also explores the general strategy clusters of natural consequences, rewards, outcomes of learning negative experience and schedules of reinforcement. With the live instructor, however, possibilities are much greater for effective strategies than with inanimate materials. For example, in developing guides for instructors, consider the nature of each audience of trainees when suggesting techniques for instructional presentation. What will that audience respond to? What is there about the subject which will appeal to them? Will rewards be necessary for a trainer's audience or not? Are students O.C.S. students, or foot soldiers? From these considerations, and the following strategies and examples, develop concrete activities.

STRATEGIES

STRATEGY CLUSTER 5.2.1. Use the naturally occurring sources of satisfaction which accompany learning to develop a rapport of acceptance by trainees.

Explanation: When a person learns something, and can be shown that he really can perform a new task, there is a natural sense of achievement which occurs. By providing an instructor with techniques to show students that there is a worth in learning, this intrinsic source of achievement is strengthened in trainees.

Sample Strategies:

1. Provide the student with relevant examples and practice for material being learned.
2. Remind the students of their accomplishments as they proceed through course work and complete difficult tasks.
3. As students master tasks, allow them to help others in their course to do the same.
4. Link task performance to the successful mastery of more desirable terminal skills.
5. (Your Strategy)

EXAMPLES AND SUGGESTIONS

Example for Strategy 5.2.1.1

Encourage instructors to use personal anecdotes of "what really happened" when explaining new concepts or skills to trainees.

Example for Strategy 5.2.1.2

Instructors should occasionally stop and recapitulate the progress of trainees, both on an individual and a class level. Note very carefully that the concurrent use of strategy 5.2.4.3 will make this work effectively.

Example of Strategy 5.2.1.3

Training guides for instructors could include recommendations for student involvement. For example, an automotive mechanics class could use trainees who could already remove a transmission to specified standards, to guide others, who had not yet mastered the skill.

Example for Strategy 5.2.1.4

A trainers guide for any given context should have units of instruction clearly separate from each other. Each unit of instruction could terminate with prescription for a synopsis by the trainer of the unit, and it's relevance to the trainee's job specialty.

STRATEGIES

Strategy Cluster 5.2.2 Present occasional, unexpected rewards for completion of intrinsically interesting tasks, and expected rewards for boring tasks which are contingent upon completion.

Explanation: Providing the instructor with suggestions or a sample of appropriate enjoyable experiences to present to trainees will improve satisfaction with training. It is important that instructors understand the reinforcing effects of associating the learning of skills and rewards as not only a mechanism for maintaining trainee performance and interest, but also as a tool for group management; i.e., a class is more likely to respond to a trainer in an appropriate fashion if he has something salient to offer them.

Sample Strategies

1. If learning tasks are intrinsically interesting to the students, provide only occasional unexpected rewards.
2. If learning tasks are boring to the students, inform the students of rewards which will be given upon the successful completion of the tasks.
3. (Your Strategy)

EXAMPLES AND SUGGESTIONS

Example for Strategy 5.2.2.1

An instructor might give a copy of a particularly relevant, interesting article to trainees who show a particular interest in a topic of training.

After completion of a difficult section of study, the group might be dismissed early, with the trainer, for a beer.

Example for Strategy 5.2.2.2

An agreement might be made that any trainees who can pass a diagnostic pre-test on an area of study can be exempted from the training session in that area.

STRATEGIES

Strategy Cluster 5.2.3 Use corrective feedback when the students' performance does not meet the standards, and motivational feedback when it does. Do not mix them.

Explanation: Instructor's manuals and training must emphasize the importance of constructive criticism and motivational feedback on trainee performance. These strategies operate on the principle that everyone likes to perform well, and criticism and encouragement should be offered which will stress "how one can become even better." It is best not to say such things as, "That was good! Terrific! Congratulations! But, I hate to tell you this. You almost screwed up the whole job."

It is much better to give compliments when the job is done well, and to give corrective feedback when it isn't. When you mix them up, the negative comments tend to cancel out the positive ones.

Sample Strategies:

1. Make comments on successful progress, such as, "These five answers are correct, Good job".
2. Provide personal attention to individual student progress.
3. Explain the difference between informative feedback and motivational feedback (praise) to instructors.
 - a. Provide corrective feedback immediately, when it is most useful, usually just prior to a repeated attempt at a task.
 - b. Provide praise after completion of an entire task regardless of the trainee's level of performance. (If nothing else, praise the effort made. If possible, praise the strong points of performance).

4. (Your strategy)

EXAMPLES AND SUGGESTIONS

Example for Strategy 5.2.3.1

Instructors could be reminded that praise, when used appropriately, can improve the performance of trainees.

Example for Strategy 5.2.3.2

A short scenario could be included in a trainers manual, and instructors could be asked to differentiate between examples of personal attention. No attention and surveillance by instructors, and to predict the effects of each on learning.

Example for Strategy 5.2.3.3

a- An instructor's manual might suggest examples of informative feedback in a positive fashion, appropriate points, in a courses development. Whenever a developer feels that feedback would be appropriate in a lesson a key of "I" might given in a text for the instructor, with an example.

Example for Strategy 5.2.3.3

a and b - An instructor training session might include role playing, where instructors could assume both roles; of student and instructor, and practice the appropriate use of feedback.

STRATEGIES

Strategy Cluster 5.2.4 Avoid the use of negative comments, or threatening behavior in training skills.

Explanation: If trainees are taught, for example, to perform a medical procedure by being yelled at, and berated when they make mistakes, they will be paying more attention to the instructor's berating comments than to the principles they are learning to apply. Hence, when the time comes to prioritize chest and head wounds for medical treatment, they may forget what comes first and remember when the instructor said, "That goes last you butcher." Consider the alternatives of strategy cluster 5.2.3 when designing instructional guides, and then note carefully the examples of negative influences which follow. Sometimes the difference between the two is a fine one.

Sample Strategies:

1. Never threaten a learner to obtain task performance at a desired level. Threats will counter-act the effects of strategy cluster 5.2.3. The only time a threat is functional is in certain interpersonal relationships, where authority and leadership are being defied. Threats are counterproductive to motivated performance in a learning situation.
2. Avoid constant surveillance of the faults in a trainee's performance. Surveillance is a negative, destructive form of attention, and will not increase effective training. Compare the examples for strategies 5.2.3.2 and 5.2.4.2 for the difference between attention and surveillance.
3. Whenever possible, compare the student's performance to past performances, and to the ideal.
4. Whenever possible guide trainees through a self-evaluation of performance. Let the trainee find his faults, while the trainer emphasizes the positive points. In this way the threat of evaluation from above is avoided. The threat is replaced by helpful guidance.

EXAMPLES AND SUGGESTIONS

Example for Strategy 5.2.4.1

Sample Instructor Guide

Non-threatening feedback on trainee performance encourages attention and persistence. Threatening feedback decreases trainee receptiveness to instruction.

Examples of non-threatening (N) and threatening (T) feedback are:

N: "Six out of twelve. That's a good starting point. Now, let me tell you how you might be able to raise that to ten."

T: "Six out of twelve! Do you know what the average IQ is of people who get less than nine on this exercise? Is that what you want people to think?"

Note that the same message is conveyed in two distinctly different fashions.

Example for Strategy 5.2.4.2

See example of strategy 5.2.4.1

Example for Strategy 5.2.4.3

Sample statements could be provided in a training guide for instructors which display first the appropriate use of the strategy, and then the inappropriate use of the strategy (examples and non-examples)

Example for Strategy 5.2.4.4

Trainers should receive practice at guiding learners through a self-appraisal process. Perhaps a training tape, where a scenario with model behavior of the roles of instructor and learner can be heard would provide a starting point for such practice. Such a tape would present techniques of guiding self-evaluation, and examples of the process.

STRATEGIES

Strategy Cluster 5.2.5 Schedule the type, timing and frequency of reinforcement according to level of progress through course material, and quality of performance.

Explanation: Early learning in a course requires a different type of reinforcement, at more frequent level than the learning of a student at a higher level of competence and a later stage of progression in course material. One stage of a trainees development receives frequent informative feedback to maintain motivation, while learning at another stage requires confidence building reinforcement to maintain motivation.

Sample Strategies:

1. Provide frequent motivational feedback and corrective feedback when a learner is approaching a new task.
2. As a learner becomes more competent at a task, provide less frequent reinforcement, after progressively greater amounts of work have been achieved.
3. As learning of a task progresses, randomly vary the timing and number of reinforcements given.
4. During the later part of a course, the instructor should use mostly reinforcing statements of praise, and should relate the successful accomplishment of tasks to these positive statements.

Sample Reinforcers

Intrinsic

1. Favorable comparison to a role model
2. Display of successful work as examples
3. Competitive gaming using skills taught
4. Apprenticeship of one day in a "real" environment, with actual practitioners.
5. Praise

Extrinsic

1. Early dismissal
2. Coffee break
3. Tokens with symbolic value
4. Money
5. Merchandise (Playboy)

EXAMPLES AND SUGGESTIONS

Example for Strategies 5.2.5.1, 5.2.5.2, 5.2.5.3

An instructors guide to a program could contain frequent notes to provide formative feedback early in a course, and gradually change the frequency of feedback recommendations the course progresses. Also valuable would be examples of formative feedback and motivational feedback.

Example for Strategy 5.2.5.4

Provide the instructor with several context specific examples of intrinsically motivating feedback. Emphasize the value of confidence building rather than the approach of "showing them that they don't know everything," when dealing with terminal - level trainees.

SECTION 5.2

WAYS TO GENERATE SATISFACTION WITH THE DESIGN OF THE LESSON

INTRODUCTION

This section, in as previous chapters, will discuss the application of content (achieving learner satisfaction) to the design of single units of instruction such as a class session or skill module. The lesson design should incorporate opportunities for rewarding outcomes for students, both those just beginning to learn a new skill and acquiring new knowledge, and those who are more competent. Lesson design must also provide the appropriate types of feedback, i.e. feedback which corrects mistakes or which confirms correct performance, and feedback which acknowledges a job well done. Incorporating these features into the lesson design will assure good motivation and performance.

With this lesson you will be able to:

1. Create lesson plans which provide opportunities for positive natural reinforcements to occur.
2. Create lesson plans which incorporate the appropriate types of feedback for the stage of learning.
3. Create lesson plans which provide the appropriate schedule of reinforcements for the stage of learning.

SYNOPSIS

Three strategy clusters are included in this section. The first is concerned with including natural consequences within the overall structure of the lesson. At the same time, however, the other motivational strategies must be interfaced appropriately. These are described in the second and third strategy clusters. As in other parts of the book, the distinction between corrective and motivational feedback is emphasized here.

STRATEGIES

STRATEGY CLUSTER 5.3.1. Provide opportunities for rewarding natural consequences to occur, if possible, during the lesson.

Explanation: Feelings of competence and self-determination increase as a student progresses in knowledge and skill. These natural consequences are rewarding to the student, and they increase his desire to persist in the learning activity and to try related new ones.

Sample Strategies:

1. Allow the student to use a newly acquired skill in a realistic setting as soon as possible.
2. Provide opportunities for the student who has mastered the task to help others who have not yet done so.
3. (Your Example):

STRATEGY CLUSTER 5.3.2. Provide opportunities for both formative and motivational feedback.

Explanation: Formative feedback means correcting student mistakes and providing the required response so that the student can see what the right answer or performance is. This gives students a sense of how they are doing and of what they still need to do. This can be rewarding if they are meeting standards. Motivational feedback is praise concerning the student's job, and should be focused on the performance or task, not the person. Motivational feedback, if properly given, will help to increase the student's sense of competence, and hence, intrinsic motivation for the task.

Sample Strategies:

1. Allow time during the lesson for formative feedback.
2. Allow time during the lesson for motivational feedback.
3. (Your Example):

EXAMPLES AND SUGGESTIONS

Example for Strategy 5.3.1.1

During a lesson on blood pressure, schedule a period for the students to take each other's blood pressure.

Example for Strategy 5.3.1.2

Ask students who show they have mastered the skill of taking blood pressures to help others who are still learning.

Example for Strategy 5.3.2.1

Provide answers to practice problems for students in an electronics troubleshooting lesson.

Examples for Strategy 5.3.2.2

Acknowledge either verbally, by written comment or some other means, the good job done by those students who have achieved mastery on the practice problems.

STRATEGIES

STRATEGY CLUSTER 5.3.3. Provide an appropriate schedule of reinforcements for the student, depending on whether a new task is being learned, or whether mastery has been achieved and must now be maintained.

Explanation: Frequent reinforcements will help a student to begin to learn a new task, but an intermittent reinforcement schedule will encourage the student to maintain mastery of the task.

Sample Strategies:

1. Provide frequent reinforcements when a student is learning a new task.
2. Provide intermittent reinforcements as a student becomes more competent at a task.
3. (Your Example):

EXAMPLES AND SUGGESTIONS

Example for Strategy 5.3.3.1

Schedule less complex, shorter problems in the beginning of an electronics troubleshooting lesson, and provide both formative and motivational feedback after each problem.

Example for Strategy 5.3.3.2

As students become more competent at cooking required recipes during a food preparation class, correct the student's techniques when necessary, but comment on cooking skills only when recipe is finished.

SECTION 5.4

WAYS TO GENERATE SATISFACTION WITH COURSE DESIGN

CONTEXT

The context design should incorporate the scheduling of feedback and other kinds of rewards at appropriate intervals. While these principles have been discussed in previous sections, it is important for the course developer to be aware of them and to specify them in the course plan and description.

With this section you will be able to:

- 1) Schedule feedback at appropriate intervals.
- 2) Effectively relate the course to trainees past experience and "outside" life, to create a desire in trainees to master course material.

SYNOPSIS

Section 5.4 will present strategies for relating course content to the entire context of the trainees' lives, past and future.

STRATEGIES

STRATEGY CLUSTER 5.4.1 Provide students opportunities to experience the natural consequences of their learning.

Explanation: The natural consequences of successful learning in mastery of information and for a skill. Opportunities to demonstrate this mastery will increase students' sense of pride on accomplishment (intrinsic motive).

Sample Strategies;

1. Schedule practice sessions for students acquired skills in a realistic (or simulated) setting as soon as possible.
2. Schedule tutoring periods where students who have achieved mastery (or have advanced to a sufficient degree) can guide less advanced groups of students.

STRATEGY CLUSTER 5.4.2 External rewards can be used to provide additional reinforcement.

Explanation: Unexpected rewards can boost morale of the class and provide more incentive to work harder, while not decreasing intrinsic pride in accomplishing the task.

Expected rewards can be used to provide reinforcement for boring tasks that provide little or no intrinsic motivation. These rewards should be dependent on the successful accomplishment of the tasks.

Sample Strategies;

1. Schedule several unexpected rewards for either the class as a whole or for individuals who have met mastery standards. These rewards must be unexpected.
2. Schedule several rewards which are dependent upon successful completion of task, and inform the students both of the rewards and of what they must do to achieve them. Use rewards for tasks or subject areas. Which seem likely to be boring with little intrinsic interest, for students.
3. (Your Strategy)

EXAMPLES AND SUGGESTIONS

Example for Strategy 5.4.1.1

Recommend that students studying cooking who have achieved specified mastery, to work as an apprentice with a master cook. (Realistic setting)

Recommend that students studying electronics to troubleshoot and state repair procedure using case study of a problem. (Simulated setting)

Example for Strategy 5.4.1.2

Recommend that students who have accomplished basic automotive mechanics to lead small group troubleshooting sessions.

Example for Strategy 5.4.2.1

Recommend that the entire class be rewarded unexpectedly with a break or shortened session if everyone achieves mastery of a difficult unit.

Recommend that individual students who accomplish mastery of a difficult unit be unexpectedly rewarded with an extra coffee break or with early dismissal from class.

Example for Strategy 5.4.2.2

For a boring and/or repetitive task such as practicing computational problems, tell the students in advance that they will be rewarded if they finish within a specified period. The reward could be a long coffee break or early dismissal, or tokens for exchange at the PX.

STRATEGIES

STRATEGY CLUSTER 5.4.3 Provide the appropriate amount of rewards at appropriate times.

Explanation: Assuming there is some modicum of respect in trainees for the trainer, the trainer should be able to establish expectations of success contingent upon an honest effort by trainees. If this expectation is based upon (a) established successes in earlier courses or (b) experiences common to all learners, it should serve to motivate trainees.

Sample Strategies;

1. Schedule more frequent rewards during early part of the course.
2. Schedule rewards less frequently as student progresses, requiring completion of more work and/or of greater complexity before a reward is earned.
3. (Your Strategy)

EXAMPLES AND SUGGESTIONS

Example for Strategy 5.4.3.1

Early units of a course with subject matter of little interest, such as learning supply and transport regulations and procedures, should have rewards recommended for completing even sub-units or even lessons.

Example for Strategy 5.4.3.2

Toward later part of course on being a supply clerk rewards should be recommended only after successful completion of a complicated parts order.

CHAPTER 6

USING THE ARCS MODEL IN COURSE DESIGN

INTRODUCTION

The ARCS model is a useful supplement to the course development process described in the IPISD (TRADOC Pamphlet 350-30), and elsewhere in similar models (for example, the Criterion Referenced Instruction model which is now widely taught). In this chapter, the major steps of the IPISD are briefly described in conjunction with the steps in the application of the ARCS model in each phase. Application aids are provided and should be helpful to you, but they are somewhat limited in scope. As we mentioned earlier, the ARCS model is new. It has been used enough to determine that it is a valid approach to improving the motivational properties of instruction. Many present characteristics of the model resulted from the feedback we got from field trips made while developing it. But, the model has not yet had extensive development in a workshop setting in which examples and procedures could be drawn from the target audience to help make it even more practical. We hope that you will find ways of improving on the suggestions made here, and share those with us for the future development of the model.

The first part of the chapter explains how the ARCS model might be used in job analysis, but the primary focus of the chapter is on the use of ARCS in course development and design. To use ARCS in job analysis would require a separate book on the many aspects of job performance, motivation, and satisfaction, not to mention the development of measurement instruments and field research studies to establish norms. Even so, by mastering the concepts in the ARCS model, you can improve your ability to identify the key motivational factors in any context of human performance, regardless of whether it is in the classroom, or on the job.

The remainder of the chapter describes the use of ARCS in course design. Figure 6.1 illustrates the major steps in applying ARCS, and how it relates to the IPISD. Each section of the chapter begins with an overview, describes the use of the ARCS model, and concludes with aids for application.

Figure 6.1

ARCS & IPISD INTERFACE

Only the ARCS steps which add a significantly new activity are listed here under the relevant IPISD phases.

- I. Analysis
- II. Design
 - Audience Motivation
 - Strategy Selection
- III. Develop
 - Strategy Specification
 - Activity Development
- IV. Implement
- V. Evaluate

PHASE I: ANALYZE

Overview Of Step I.1

"Phase I: Analyze" of the IPISD model answers the questions of what tasks, performed in what manner, under what conditions, in response to what cues, to what standard of performance, makes up the job. The analysis process involves breaking a particular job down into its component tasks, selecting out those tasks that must be taught, and developing measures that indicate a task has in fact been learned. If an existing course is found to coincide with current training requirements, the development process can stop, and existing course materials are used. However, if current requirements and existing courses are not congruent, then the process continues into the final stage of the analysis phase, and an instructional setting is selected to meet the new training requirements.

This phase of the IPISD is very much task oriented. Most of the analysis is conducted at the job/task level; that is, at the level of determining what tasks the person in that job must perform. There is no analysis of motivational factors that might be important in the job, nor is there any analysis of the learner characteristics that would be prerequisite to a person's being able to learn to do the job. Learner analysis is done, to some extent, in the Design Phase, but no motivational analysis is conducted.

Role of ARCS

The ARCS model could be used as an aid to motivational analysis in Phase I of the IPISD (see Figure 6.2). In Step I.1, the IPISD calls for a job analysis. As the job is being analyzed in terms of critical tasks, it could also be analyzed in terms of motivational characteristics. This could help to define the kinds of motivational characteristics that contribute to success on the job, and could help discover gaps between actual and desired motivational conditions. In this sense, job satisfaction studies could be conducted using the ARCS model as a guide. For example, the people who make the best

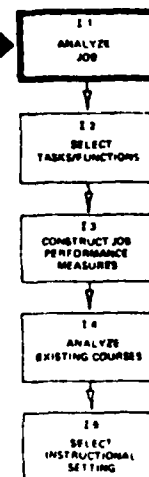


Figure 6.2

The ARCS model can be used as an aid to job related motivational analysis.

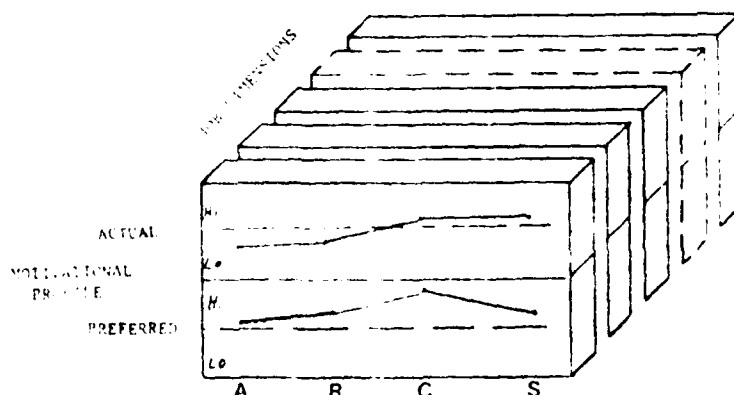
accountants might be somewhat low on stimulus seeking behavior (which is an aspect of Attention), high on need for achievement (an aspect of Relevance), high on internal locus of control (as aspect of Confidence), and high on intrinsic motivation for the task (an aspect of Satisfaction).

Figure 6.3 provides a schematic illustration of how this could be plotted. In real practice, the charts would be more complex, and the "preferred" versus "actual" curves would be superimposed to make comparisons easier. This same approach could be broken down into the major dimensions, or roles, that are found in a particular job. For example, a junior NCO in heavy equipment maintenance in the Corps of Engineers might have four major areas of responsibility: repairs of certain pieces of equipment or components, troubleshooting, recordkeeping, and supervision. A motivational analysis, just as a job/task analysis, could be broken down into the major role categories of the job. These examples are only hypothetical, but they illustrate how a profile could be build for various jobs, and compared with the profiles of job incumbents to determine the factors that relate to job satisfaction and quality of performance.

Despite this possibility for applying the ARCS model, it is not the focus of this book. Here, we will focus on the use of the model in the improvement of instruction. This means that our starting point is the motivational characteristics of the learners in a particular course, and how the course can be designed to have a positive effect on the learners' motivation. Therefore, our application of the model begins in Phase II of the IPISD.

Figure 6.3

Use of ARCS in Job Analysis



MOTIVATIONAL DIMENSIONS

PHASE I: DESIGN

Overview of Step II.3

In the design phase of the IPISD, model objectives are formulated and then structured into a learning hierarchy, which is called a learning analysis in the IPISD. Test items are then developed from the objectives. An entry test is also developed and administered to a sample. This entry test is used to determine whether the learners possess the expected prerequisite knowledge, skills, or abilities. The results of the entry test are used to revise the objectives and the learning hierarchy. The revised learning analysis is then used to judge whether the learning objectives are independent, dependent, or supportive of each other, and to sequence the objectives accordingly.

Role of ARCS

Step II.3 in the IPISD is the first point at which the audience is analyzed from an instructional point-of-view. Here is where the capability of the audience to learn the material is assessed. If the audience has gaps in prerequisite knowledge or skill, then plans for remediation are necessary. It is at this point, too, that the ARCS model begins to apply as an instructional design tool. Specifically, it is used as a tool to help determine whether there are any special motivational difficulties that must be accommodated. As mentioned earlier in this book, it is assumed that all audiences will benefit from attention to the motivational characteristics of a learning system. But, the difficulty is to determine how much attention. On the one hand, no matter how much intrinsic interest an audience might have in our course, it is always possible to bore them if we try too long. On the other hand, excessive concern with motivational components takes time away from task orientation, and irritates people who want to learn the material as quickly as possible. One way to find the "happy medium" is to conduct an audience analysis to determine whether there are characteristic motivational problems with the typical audiences in a given course.

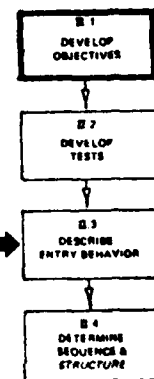


Figure 6.4

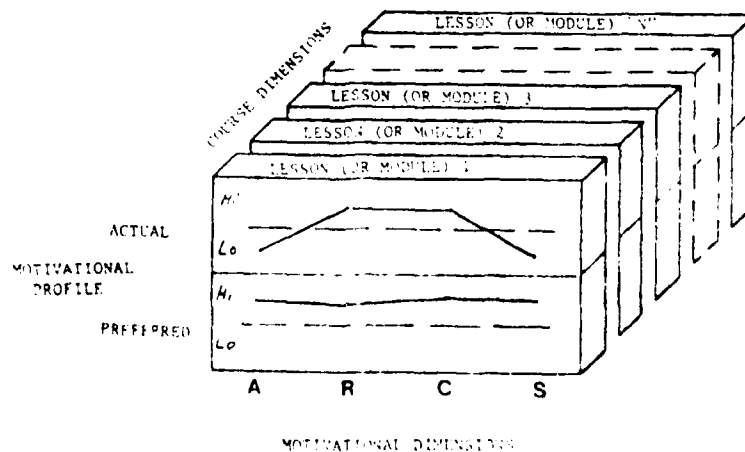
Use ARCS to determine audience motivation.

Application Suggestion

The ARCS model can be used as a basis for conducting such an analysis. By developing a set of questions based on the categories in this model, the course designer can determine whether it is particularly difficult to get and keep the attention of the audience, or to stimulate their curiosity about the subject. Also, questions can be asked about the problem of establishing a sense of relevance with the course, problems with learner confidence, and the degree to which trainees derive satisfaction from their accomplishments. The results of this analysis are used to determine which kinds of motivational problems, if any, will require special attention over and above the basic attention that should be given to each of these factors in the design process. Figure 6.5 illustrates the factors that would need to be included in this analysis. A fully developed system for conducting the appropriate interviews and other forms of analysis that would contribute to this step does not yet exist. Even so, you should feel confident in following these guidelines, and develop some simple questionnaires to give to instructors and other people who have experience with your trainees, in order to learn something about their motivational characteristics.

Figure 6.5

Use of ARCS in Audience Analysis



Overview of Step II.4

Step II.4 of the IPISD calls for the determination of the sequence and structure of the learning objectives for the course. The objectives that were selected for the course during the Analysis Phase are not put into a logical framework. In this process, the objectives are organized according to type and sequence. For example, a distinction is made between the terminal learning objectives (TLOs), learning objectives (LOs) and Learning Steps (LSs). Secondly, these objectives and steps are sorted out according to whether they are dependent or independent of each other (that is, according to whether you have to know "x" before you can learn "y", or whether knowing "x" has nothing to do with knowing "y"). Then, the objectives and steps are put into some kind of sequence. It could be based on any number of criteria such as "practical," "logical," or "historical," but the IPISD emphasizes an hierarchical organization. The results of this step feed forward into the Development Phase.

Role of ARCS

An important part of the motivational design process takes place at this time (Figure 6.6). Using the worksheet provided below, the course designer goes through Chapters 2-5 and selects all of the motivational strategies that might be useful in the course. This activity differs slightly from the corresponding step in the IPISD, because the objectives for the learning tasks are selected in Phase I: Analysis. In this step, they are simply organized and sequenced. In the motivational design counterpart, the motivational strategies, which form the basis for the motivational objectives, are selected and organized. This is the first point in the process described by the IPISD at which it is feasible to select motivational strategies, but this step belongs here because the strategies are also organized according to their type and their place in the course. It is, by the way, much easier to organize the motivational strategies than the learning objectives because the ARCS model provides the structure for strategy organization, as illustrated by the worksheet below (Figure 6.7).

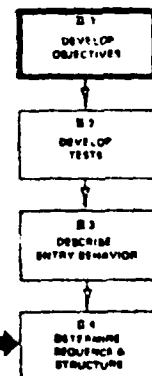


Figure 6.6

Initial selection and organization of motivational strategies.

Application Suggestion

Selecting and organizing the motivational strategies is somewhat like "brainstorming" in that the goal is to produce a rather large list of strategies that could apply to the situation. In addition to the strategies listed in this manual, the course designer should include other strategies that occur to him based on his past experience and creativity.

The procedure is to go through Chapters 2-5 and jot down the numbers and a brief summary of each strategy that might be useful. The following form (Figure 6.7) could be used for taking these notes. Notice that it allows you to record them in the same way they are organized in the chapters with respect to motivational type, and delivery (i.e. materials or instructor) type. The form also allows you to decide whether the strategy would be most effective at the beginning of the lesson, during it, or at the end. You can list a strategy in more than one square when appropriate. At this time, it is best to include as many strategies as possible, including any original ones that occur to you as you go through the book. In the next step, you will work on editing your list.

FIGURE 6.7
PREPARATION OF MOTIVATIONAL STRATEGY CLUSTER GRAPHS

INSTRUCTIONS: FILL IN THE RELEVANT INFORMATION IN EACH SQUARE OF THE CLUSTER GRAPH.

KEY: B = BEGINNING, D = DURING, E = END

	RELEVANCE	DELIVERY	TIME
A	MATERIALS		
	INSTRUCTOR		
R	MATERIALS		
	INSTRUCTOR		
C	MATERIALS		
	INSTRUCTOR		
S	MATERIALS		
	INSTRUCTOR		

PHASE III. DEVELOPMENT

Overview of Steps III.1 and III.2.

The preceding steps are primarily analytical in nature. The process requires an analytical approach to determining the specific tasks, objectives, and motivational strategies to include in the course, and the analysis of organizational strategies for the learning objectives and motivational strategies. In Phase III, synthesis is the more predominant mode. All of the parts have to be combined into an effective whole. It is probably this shift of mode of thought that contributes to many of the difficulties that we encounter in the course design and development process. Somehow, it seems to be easier to analytically tear a target situation (the terminal performance) down into parts than it is to create the combined group of activities and processes that lead to the accomplishment of that performance. When we shift from design to development, we are not just putting the output of design together in a building block fashion. We are required to call upon entirely different kinds of inputs (e.g. teaching strategies, learning conditions, personal attitudes, selection of critical prerequisites) than those provided directly as a result of job/task analysis.

Unfortunately, in contrast to the old saying, understanding the problem in this case is not half of its solution. Until more systematic and fully described methods are developed, the course developer has to employ some basic problem solving and creative strategies for producing a course that accomplishes the objectives defined by the analysis phase. As this manual is being written, there are other projects in progress which will help provide more of this needed guidance to you.

Why, you may be wondering, have we inserted this little lecture about problems in instructional design and development? The answer is that the next step in motivational design is going to call upon your problem solving skills in the same way that the general course design and development process does. For you to recognize the kind of thinking, or problem solving approach, that you need to use may not solve half of the problem, but it should help to some extent.

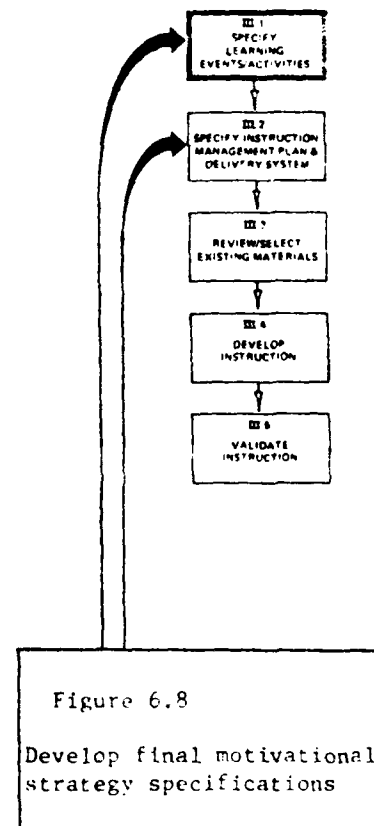
Our next tie into the IPISD includes both Step III.1 and Step III.2. These steps are somewhat difficult to distinguish, even in the original IPISD model. Basically, Step III.1 is concerned with the sequence of activities in a lesson, including the motivational, instructional, and feedback activities. In Step III.2 decisions are made about who will do what; that is, what portions of a lesson, or course, will be delivered by means of audio-visual media, textbooks, instructors, etc. Decisions are also made about the mode (e.g. group paced, self paced, etc.) of instruction. It is easy to describe the difference in these two steps, but they tend to be executed somewhat simultaneously. At an abstract level, it is possible to list the events in a sequence of instruction, as is done in Step III.1 in isolation

from the management decisions. But, at a concrete level of development, the actual activities included in the sequence of instruction are somewhat dependent on the management systems that are selected. For example, one event of instruction is to provide feedback on the correct response after a trainee as performed. It is impossible to specify in concrete terms what kind of feedback to provide until you have decided the mode of instruction. The management decisions put limits on the ways in which feedback can be provided, and even the types of feedback that can be used. Again, this is an example of the difference between analytically laying out the elements of a process, and the developmental, or synthesizing activities of putting it together.

Role of ARCS

With respect to the ARCS model, we will briefly describe the two steps together (Figure 6.8). As output from the Design Phase, you have an array of strategies organized by motivational type, sequence, and delivery method. Now, you will have to reduce this list of specific, ARCS related strategies into a final list of motivational strategies that will become the actual events and activities in the course. Working with the array of strategies on the previous worksheet, you will need to select or create the strategies that you will actually use in the course. In some cases, it is possible to write a single strategy statement that includes several motivational elements. For example, informing the trainees of the specific goals, or objectives, of the course, and the method by which they will be evaluated, can improve relevance as well as confidence. And, it is relatively easy to design introductory activities that both get people's attention and improves relevance. As you saw in Chapter 2, the use of personal pronouns, individual names, and direct quotes adds to the human interest of material, and helps get their attention. Using this style of writing is also effective when writing anecdotes or other passages aimed at improving relevance.

In this process of synthesis, you should end up with less than the original list of strategies. As to how many you should have, that will require your personal judgment. All we can say is, "Include enough to get the job done, but not too many." This isn't terribly helpful as a decision rule, but it does point up



an important act. One of the reasons we have human beings developing courses instead of robots or computers is that these kinds of judgments have to be made, and people do it well when they want to. You know your audience, and you know the instructors. Initially, you should include a few strategies that everyone will be comfortable with, and you should encourage the instructors to think about ways of motivating the class. A positive spiral of motivational improvement can occur just as well as a negative spiral of discouragement. The positive spiral might be more challenging to create and sustain, but it is certainly possible. Over and over again, we see it happen in schools that think it is important. specific strategies.

Application Suggestion

In order to effectively create these motivational objectives and integrate them into the instruction, you will need to determine how the course is going to be taught; that is, you will need to set up the basic management structure of the course. Then, as you review the motivational objectives, you will need to determine what can be done, and what can best be done by means of the instructional materials versus the instructor. This decision will be made in conjunction with your decisions as to the number of strategy objectives, and the specific activities for accomplishing them that you use.

The worksheet (Figure 6.9) can be used to list your final strategy statements. There is no column or row here for the ARCS distinctions because you are, in many cases, combining those into more general strategies. We recommend that at the end of each strategy statement, you include the initials of the ARCS types that you think the strategy includes. Then, after you are finished writing your strategies, you can scan the lists to see how well you have covered the various motivational dimensions.

When you finish this step, you will have a list of activities to accomplish your motivational goals for the course. This sequence will coordinate with the events of instruction as described in Step III.1 of the IPISD, the major sequence of activities in a lesson or course (introductory activities, instructional activities, and closing activities), and the management plan you have selected.

figure 6.9

DETERMINATION OF FINAL STRATEGY LIST

	MATERIALS	INSTRUCTOR
BEGINNING	1. (write strategy statement, followed by A,R,C,S initials that it includes.) 2. 3. etc.	1. 2. 3.
DURING	1. 2. 3.	1. 2. 3.
ENDING	1. 2. 3.	1. 2. 3.

Overview of Steps III.3 and III.4

The next important step in applying the ARCS model in a context of IPISD is to convert the motivational objectives into events and activities in the course of instruction. This again relates to two of the steps in the IPISD: Step III.3 and Step III.4. In these two steps, an effort is made to find existing instructional segments or packages that can be inserted into the course. When these can't be found, then new materials are written that will accomplish the learning objectives.

Role of ARCS

The same process is followed in motivational design. For each motivational objective, you should try to find existing materials to use as they are, or as models for the kinds of things you need to prepare. When these are not available, then you will have to create original material. Often the way in which the motivational objective is stated, or a review of the strategy statements that led to the objective will offer specific ideas as to how to prepare the motivational event. In other cases, you will need to look through books and trainers manuals from other contexts to get ideas to model your events after. The instructors manuals that come with books and workshops used in business and industry are a fruitful source of examples, as are some of the curriculum materials used in secondary education.

Application Suggestion

There are three specific suggestions we can offer to help you in this process. The first is to get a first idea of what you are trying to accomplish. All of the preceding steps of the IPISD and the ARCS Model are designed to help you do that. The second suggestion is to look around for examples and models. You will be surprised at the number of places you will find solutions once you have the problem clearly in mind. Browsing in bookstores and libraries, visiting other courses, looking through other Army manuals, and even listening to the way information is presented on television can be a source of ideas. You will find that the more time you spend being concerned about making instruction interesting, and the more successes you have, the more your ideas will multiply. The third suggestion is to have confidence in your intuition. You know your audience. You know what kinds of things will get and hold

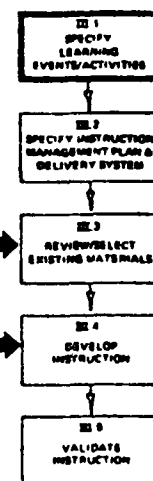


Figure 6.10

Develop the motivational events and activities.

their attention. You know what is important to them. And, you have a pretty good idea of what they are capable of. The worksheet for this section (Figure 6.11) provides a way to record your work as you identify or create activities for each strategy.

To summarize, once you have gotten a clear view of your objective, and have spent some time finding models to guide your development of a solution, then you need to think specifically about your audience and what they will respond to. At this point, your intuition - your "hunches" - should help you do a good job.

Following this development of motivational events, and the insertion of them into the course, they would be subject to the same tryout and validation as the instructional strategies. The only difference is that you would determine the extent to which they effectively improved motivation instead of learning. There should also be some improvement in learning if there are improvements in motivation, but this does not always show up in the short run. Due to the pressures to finish the course, trainees often do an acceptable job on the performance measures despite having motivational problems. The real benefits of improved motivation are often longer range. The more motivated trainee will learn the material more effectively, and will ultimately perform better on the job, and will take more pride in his work.

STRATEGY NUMBER _____		
IDENTIFICATION	STRATEGY STATEMENT	ACTIVITY
1. Sequence Type:		
2. Delivery Type:		
3. ARCS Type:		

FIGURE 6.11
CONVERTING STRATEGY STATEMENTS
TO ACTIVITIES

STRATEGY NUMBER _____		
IDENTIFICATION	STRATEGY STATEMENT	ACTIVITY
1. Sequence Type:		
2. Delivery Type:		
3. ARCS Type:		

STRATEGY NUMBER _____		
IDENTIFICATION	STRATEGY STATEMENT	ACTIVITY
1. Sequence Type:		
2. Delivery Type:		
3. ARCS Type:		

PHASES IV & V

Overview of Phases IV and V

The last two phases of the IPISD provide guidance for implementing and validating a course. At this time the course developer finds out whether the course fulfills the goals that were set for it, and what kinds of revisions might be needed. As always in trying out a new system, it is important to examine the process as well as the outcomes. It is possible to have an excellent course, but to fail to meet your objectives. This can result from any number of outside influences, but it can also result from simply not teaching the course the way it should be. In other words, the course does not always get a fair chance to prove itself. Therefore, before revising or rejecting something, it is best to observe whether it was presented as intended. This is especially important when trying out motivational strategies.

Role of ARCS

In the final two phases of the IPISD, the ARCS model can be used as a basis for defining the kinds of information needed to guide the implementation of the motivational strategies, and their effectiveness. The course developer will need to work with the instructors to determine what type of observations will verify that the motivation of the trainees is satisfactory. Specific questionnaires or worksheets for these steps were not prepared as part of the project for this manual, but there are simple, straightforward things you can do. For example, when you use these strategies you will often get immediate feedback as to their effect. Also, direct observation of the class, and interviews with the instructors are good methods for assessing your success with improving trainee motivation.

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