

Trainer's Guide



## Trainer's Guide

### **H&H Publishing Company, Inc.**

1231 Kapp Drive

Clearwater, FL 33765

1-800-366-4079

[www.hhpublishing.com](http://www.hhpublishing.com)

[hhservice@hhpublishing.com](mailto:hhservice@hhpublishing.com)

**Copyright 1994.** H&H Publishing Company, Inc.

All rights reserved. It is a violation of the law to copy any or all of this publication without written permission of the publisher. Do not reproduce this publication in any form using any media including computer memory devices without written permission of the publisher.

### *Acknowledgements*

It is impossible to thank the large number of individuals who have contributed to the development of START. Many generations of graduate students, numerous colleagues, and other friends have generously given of their time, talents, and skills. Although we cannot thank everyone individually, a number of people have made such enormous contributions that they deserve individual mention: our psychometric consultant for this project, Dr. Gary Hanson; our development assistants, particularly Larry Davis, Doug Dierking, Erin McCann, Indu Muddapu, and Michelle Soper; our field consultants Lucien Rouze, Virginia Ross, and Dr. Karen Watkins; and our wonderful publisher, Bob Hackworth, who believed in our vision and helped to make it a reality. Finally, we want to thank a very special person who inspired, encouraged, and supported us in our work in so many different ways, the daughter of the senior author, Leona Sheryl Weinstein.

# Strategic Assessment of Readiness for Training Trainer's Guide



**Claire E. Weinstein, Ph.D.**  
**David R. Palmer, Ph.D.**  
Department of Educational Psychology  
University of Texas at Austin

## Table of Contents

<b>Part 1:</b>	<i>Overview of START</i>	<b>2</b>
<b>Part 2:</b>	<i>Description of START Scales</i>	<b>4</b>
<b>Part 3:</b>	<i>Administration and Scoring</i>	<b>8</b>
<b>Part 4:</b>	<i>Using START to Improve Instruction and Enhance Learning</i>	<b>9</b>
<b>Part 5:</b>	<i>The Development and Psychometric Properties of START</i>	<b>14</b>

# Part 1: *Overview of START*

## *What is START?*

The **Strategic Assessment of Readiness for Training (START)** is a powerful assessment tool designed to diagnose adults' learning strengths and weaknesses and to provide prescriptive information and guidelines for both trainers and learners. Each individual scale relates to an important aspect of an adult's readiness to profit from training and other learning experiences. The focus is on both covert and overt thinking, beliefs, and behaviors that relate to successful learning and that can be altered through educational interventions. START has excellent psychometric properties and is based on a model of strategic learning which represents the latest thinking of specialists in the areas of adult learning, cognition, and performance. More than 60 specialists nationwide participated in the development of START. These specialists included educational and cognitive psychologists, experts in adult development and education, experts and practitioners in human resource development, and professional trainers.

**Note:** START is not designed for selecting among candidates for employment, promotion, or as the sole criteria for participation in training opportunities.

## *Uses for START*

START is designed to:

1. provide a diagnostic assessment of adults' strategic learning strengths and weaknesses in a work setting;
2. provide baseline data about adults' readiness to profit from training or other learning experiences early in a training needs assessment process;
3. increase individuals' awareness of their strategic learning strengths and weaknesses;
4. provide individuals taking the measure with valuable feedback about each scale, what it measures, their individual scores, and suggestions for ways they can improve their strategic learning knowledge, attitudes, and skills;

5. help trainers understand the individual and group learning strengths and weaknesses of participants;
6. provide concrete suggestions to trainers for ways to design, modify, or enhance instruction to adapt it to the strategic learning strengths and weaknesses of the participants;
7. help trainers design, develop, and implement effective and efficient training for a targeted population;
8. increase the application of ideas, knowledge, attitudes, and skills presented during training into the work setting.

## *Introduction to START Scales*

A completed START has scores for eight separate scales (seven items per scale), each of which relates to an important aspect of readiness to profit from training experiences. Descriptive statistics and psychometric properties of each of the scales can be found in the tables in Part 5. The eight START scales are: Anxiety, Attitude, Motivation, Concentration, Identifying Important Information, Knowledge Acquisition Strategies, Monitoring Learning, and Time Management.

The **Anxiety Scale (ANX)** measures the degree of confidence or anxiety someone experiences about performing well in learning situations. It is reverse-scored so the higher a score, the lower the reported anxiety.

Do participants worry so much about learning new things that it is difficult for them to pay attention and learn what they will need to know?

Are they easily discouraged about being able to use the new information or skills in a work setting?

The **Attitude Scale (ATT)** measures general attitudes toward training and the degree to which it is valued.

How important is professional and personal development to the participant?

How clear are participants about their job goals and the role training can play in helping to meet them?

The **Motivation Scale (MOT)** measures willingness to participate in training and complete the tasks and work involved.

Do participants see how successful completion of training relates to personal and work goals?

Do participants accept much of the responsibility for their own learning and performance?

The **Concentration Scale (CON)** measures general ability to concentrate, focusing and maintaining attention on training-related activities and tasks.

Do participants focus their attention on what is going on in a training session despite potential distractions, such as other work responsibilities?

Do participants maintain their attention over time?

The **Identifying Important Information Scale (III)** measures how well participants select important information from training to learn and transfer to the work setting.

Do participants identify the important material for in-depth study?

Do participants select out important ideas and knowledge from unimportant material or supporting instructional material?

The **Knowledge Acquisition Strategies Scale (KAQ)** measures methods for acquiring new knowledge and skills in a manner that will facilitate their retention and later use in the work setting.

Do participants try to find relationships between what they already know and what they are learning during training?

Do participants think about how they will use what they are learning during training in their job setting?

The **Monitoring Learning Scale (MON)** measures the degree to which participants keep track of their learning and whether or not they are meeting their performance goals.

Do they stop periodically and review what has been presented?

Do they check to see if they understand what is being discussed by the trainer?

The **Time Management Scale (TMT)** measures participants' ability to create and use schedules effectively in a training setting.

Are they well organized?

Do they anticipate training-related scheduling problems?

## *Administration and Scoring*

START takes approximately 15 minutes to complete. It uses a self-report format and does not require any special administration procedures. Specialized training is recommended but not required to administer (or complete) the assessment. (Specialized training is available for trainers to learn how to maximize their use of START for designing and implementing more effective and efficient training. Contact the publisher, H&H Publishing, at (800) 366-4079 for further information about the specialized training available.)

START yields eight Total Scale Scores, one for each of the eight scales. No total START score is computed since this is a diagnostic/prescriptive measure. Each scale has been designed to stand on its own to give multiple sources of information about each participant and to provide guidelines for improvement for both the participant and trainer. These eight Total Scale Scores are compared to criteria provided graphically on Page 11 of START. Using these criteria, a participant can see immediately whether their scores are in the high, middle, or low range for each scale.

Descriptive information and prescriptions for personal improvement are provided on the instrument for each scale. Additional suggestions to training program developers and trainers for ways to design, modify, or enhance instruction to adapt it to the strategic learning strengths and weaknesses of the participants are provided in this manual in Part 4.

## Part 2: *Description of START Scales*

The following descriptions provide an overview of each scale, two sample items, and guidelines for interpreting participants' scores.

### Anxiety

Anxiety affects how we think, our ability to concentrate, our job performance, and our ability to benefit from training. If we are relaxed and relatively stress-free, then we are able to concentrate and direct our efforts toward learning the information and skills being presented to us when we participate in training. If we are worried about how well we will be able to learn or use the information and skills being presented during a training session, it will be difficult for us to concentrate and maintain our attention. Our worrying takes our attention away from the task at hand, such as listening to a presentation, and focuses it on our concerns, our self-criticisms, or our fears and the associated emotions we feel. The result is that we sabotage our own efforts. While other people are listening attentively, or working on a task, we are having negative thoughts and self-doubts about our abilities (e.g., "I am not good at this . . ."), intelligence (e.g., "I am not smart enough to learn all of this!"), future interactions with others (e.g., "How can I tell my manager I can't really do this."), or likelihood of success (e.g., "I could never learn all of this!"). These negative thoughts can occur when we feel tense, anxious, or worried about how well we will learn or use the information and skills we are supposed to be learning. It is these thoughts that can keep us from paying careful attention and concentrating on the task at hand.

Sample items from this scale are:

I worry that I will not learn the material covered during training.

It is hard for me to stay relaxed during a training evaluation.

A score on this scale gives an idea about how tense or anxious the participant is and how well the participant deals with this anxiety when participating in a training or continuing education program (note that this scale is reverse scored, that is, a high score indicates low anxiety and a low score indicates high anxiety). A low score on this scale (e.g., Total Scale Score below 21 and Average Item Score below

3.0), indicates the participant may be tense or anxious in training settings. Also the participant may not be very confident of their ability to learn new aspects of a job or how to approach new learning/training situations. A high score on this scale (e.g., Total Scale Score above 28 and Average Item Score above 4.0), indicates the participant may be relatively calm or able to deal well with anxiety in training settings. Also the high-scoring participant can focus attention and efforts on the task at hand. Individuals with high scores on this scale are often more confident, willing to take risks and try to use new information and skills, and actively participate in training activities.

### Attitude

Our general attitudes toward training experiences can have a tremendous impact on our success. This scale relates to how important, or valued, personal and professional development are to us. If we feel positively about participating in training activities, then we will be more likely to be diligent in our efforts and to concentrate on the task at hand. When we are able to see relationships between what we will learn during a training program and our own life and work goals, then we will often have a positive mind-set that will promote learning and transfer to the job setting. If we cannot see relationships between the training and our own goals, then it will be more difficult for us to generate and maintain the interest, concentration, attention, and work habits necessary to benefit from the training activities.

Sample items from this scale are:

I enjoy training programs that help me to develop knowledge and skills that will be useful to me in my work.

I would rather not participate in training.

A score on this scale gives an idea about how much the participant values training or continuing education programs, and how that level of commitment is related to doing what is necessary to successfully complete them. A low score on this scale (e.g., Total Scale Score below 21 and Average Item Score below 3.0), indicates the participant may have negative feelings or doubts about the benefits of training. A low-scoring participant may feel that training is not a good way to be spending time. A high score on this

scale (e.g., Total Scale Score above 28 and Average Item Score above 4.0), indicates the participant has positive feelings and beliefs about the benefits of training. When individuals can see how participating in training helps them fulfill their personal and work goals, they want to participate. For high-scoring participants, it will be easier to focus and maintain their efforts during training. Individuals with high scores on this scale are often happier, more interested, and willing to actively participate in the training program. They are also more likely to learn the material and to transfer that learning to the job setting.

## Motivation

The Motivation Scale is designed to examine the degree to which we are willing to participate in training and complete the tasks and work assigned to us. This differs from the Attitude Scale which measures general attitudes toward and valuing of training experiences. Individuals with high levels of motivation value training, they see how it fits in with their own personal and work goals, and they are committed to putting in the effort and doing what is necessary to benefit from the training. It is possible to have positive attitudes toward training but still not be motivated enough to do the work involved, such as getting to the sessions (even if there is other work we feel like we “need” to be doing), completing assigned tasks, and making sure we understand what is being presented. Motivation relates to the degree to which we accept much of the responsibility for our learning and our performance. Highly motivated individuals work at participating in the training sessions and at learning the material being presented.

Participants with low levels of motivation often are not interested in the training. They find it difficult to attend the sessions (particularly if they are given in or near the work setting) and do not put much effort into learning the knowledge and skills being taught. They take little responsibility for their own learning and often obtain minimal benefits from training. Participants with low levels of motivation are, therefore, less likely to transfer what was presented in training to their work.

Sample items from this scale are:

Even when training materials are dull and uninteresting, I manage to keep working until I finish.

I try hard not to miss any of the sessions during a training program.

A score on this scale gives an idea about the degree of interest and commitment the trainee has in participating and

completing training or continuing education programs. The Motivation Scale is an indicator of how much responsibility for participating in and successfully completing the program the participant is willing to take. A low score on this scale (e.g., Total Scale Score below 21 and Average Item Score below 3.0), indicates the participant may have difficulty seeing where training fits in with personal/professional goals. If participants cannot see why training might be important to their work or future job plans, then it will be difficult to motivate them to get to the sessions and participate fully in training activities. A high score on this scale (e.g., Total Scale Score above 28 and Average Item Score above 4.0), indicates the participant values training and is committed to participating fully. Motivated participants will generally not experience difficulty in attending and participating in training programs. This is particularly true when training involves learning complex information or skills.

## Concentration

When participating in a training session it is important for us to focus our attention on what is going on in the training session and not on other things, such as personal problems, other work responsibilities, or the family get-together we are attending this weekend. All of us have a limited capacity to focus on what is going on around us and in our own thoughts. If we are able to concentrate well then we can direct our attention fairly easily to the task at hand, even if there are other potentially distracting things going on in our personal or work lives. However, if we have difficulty concentrating, then we will have less capacity to focus our attention. It will be difficult for us to direct and maintain our attention on the training activities and the things we are trying to learn.

Sample items from this scale are:

I find that during training sessions I think of other things and don't really listen to what is being presented.

I find it easy to pay attention during training presentations.

A score on this scale gives an idea about how well the participant is able to focus and maintain attention on presentations and learning tasks presented as part of a training or continuing education program. A low score on this scale (e.g., Total Scale Score below 21 and Average Item Score below 3.0), indicates the participant may have a difficult time directing and keeping attention on training activities. Low-scoring participants may be easily distracted by other things. A high score on this scale (e.g., Total Scale Score above 28 and Average Item Score above 4.0),

indicates the participant may have an easy time focusing attention on training activities and resisting or ignoring distractions. High-scoring participants are able to avoid letting their minds wander off and focus on other things. Individuals with high scores on this scale often benefit more from participating in training or continuing education programs and have an easier time using what is learned in the job setting.

## Identifying Important Information

To be effective and efficient learners we must be able to select the important material for in-depth study. We have to make judgments about what is and is not important to learn in a training program. This scale relates to our ability to discriminate key points from supporting details in the information presented during training programs. Most training presentations and materials contain repeated information, extra examples, and supporting details to help explain what is being taught or described. A major task of participants is to separate out the important from the unimportant and supporting instructional material that does not have to be learned and remembered. Lacking this skill makes training more complex and makes it difficult for us to know where to focus our attention and knowledge acquisition strategies. We waste a lot of time trying to learn and remember non-critical information.

Sample items from this scale are:

Often when going over training materials I seem to get lost in details and “can’t see the forest for the trees.”

I use headings as a guide to identify important information in training materials.

A score on this scale gives an idea about how easy it is for the participant to identify the important information in a training program. A low score on this scale (e.g., Total Scale Score below 21 and Average Item Score below 3.0), indicates the participant may have difficulty picking out the important, most relevant, information to focus on when participating in a training session. Low-scoring participants may not be sure where to direct their efforts in trying to learn the information and skills that will be most useful to them when they are in the job setting. A high score on this

scale (e.g., Total Scale Score above 28 and Average Item Score above 4.0), indicates the participant probably does not have difficulty selecting the most important and relevant information to concentrate on and learn. High-scoring participants can identify and separate key ideas from supporting detail or supporting instructional examples. Individuals who score high on this scale are often more efficient in their learning, as well as more successful.

## Knowledge Acquisition

Knowledge acquisition strategies help to build bridges between what we already know and have experienced, and what we are trying to learn and remember. They help us to be more effective and efficient learners. Using knowledge acquisition strategies helps us to convert information presented in a training program into knowledge that we can use in our work. They keep our mind actively focused on the task at hand and help us to make new information more meaningful and more memorable. If we do not use knowledge acquisition strategies, it can be very difficult to learn the information and skills presented in a training program. It is not enough to want to learn new things, we must also know how to do it.

Sample items from this scale are:

I translate what I am studying in my training materials into my own words.

I try to find relationships between what I already know and what I am learning during training.

A score on this scale gives an idea of how much the participant uses knowledge acquisition strategies to help learn and remember the new information and skills presented in a training program. A low score on this scale (e.g., Total Scale Score below 21 and Average Item Score below 3.0), indicates the participant may have difficulty succeeding in a training program. It may be difficult for a low-scoring participant to learn and remember the key ideas and skills needed in the job setting. A high score on this scale (e.g., Total Scale Score above 28 and Average Item Score above 4.0), indicates the participant will find it easier to acquire the knowledge and skills needed for their work. Individuals with high scores on this scale can take more responsibility for their own learning.

## Monitoring Learning

Reviewing and checking on our level of understanding are important for effective learning. This form of self-assessment helps us to know when we are understanding the information we are trying to learn and when we are having difficulties so we can do something about it before it is too late. On a cross-country car trip a person would not wait one week before checking to see if they were on the right route. Similarly, participants do not want to wait until the training is over before they check to see if they are understanding and learning the material. Monitoring our learning helps us to decide if we need to go over the material again or patch up some holes in our understanding. If we do not monitor our understanding, then we may have problems keeping up with the material in a training program or find that we have difficulty transferring what we are supposed to be learning to the job setting.

Sample items from this scale are:

I check to see if I understand what the presenter is saying during a training session.

I stop periodically while studying training materials and mentally go over or review what was presented.

A score on this scale gives an idea of how much the participant monitors understanding and learning while participating in a training program. A low score on this scale (e.g., Total Scale Score below 21 and Average Item Score below 3.0), indicates the participant may take for granted that the training material is understood only to find out later that there are gaps or large holes in their knowledge. Individuals who do not monitor their own learning well may find it difficult to transfer new learning to the job setting because it is incomplete. A high score on this scale (e.g., Total Scale Score above 28 and Average Item Score above 4.0), indicates the participant knows how to monitor understanding and is more likely to identify problems so that they can be corrected. Individuals who score high on this scale tend to check their understanding of new information and skills on a regular basis, review the information presented, and test their ability to apply the new information and skills they are learning.

## Time Management

Managing time effectively is an important support strategy for learning. Most of us have numerous demands on our time from both our personal and our work lives. Creating and using effective schedules helps us to accommodate these various demands and to take more responsibility for our time resource decisions. Self-awareness of our characteristics and preferences as learners also helps us to plan learning and study time effectively. The biggest enemy of time management is procrastination. Sometimes putting off attending training sessions or studying the materials provided also indicates low motivation and a weak commitment to the training program. Good time managers are able to create and use schedules to help them meet their goals. Participants with poor time management skills may experience difficulty in participating fully in training and having enough time to study and complete training tasks. They may have difficulty dealing with distractions, competing goals, and procrastination. The probability of succeeding in a training program is increased if the participants set realistic goals and create plans that facilitate goal achievement. These activities are supported by effective time management.

Sample items from this scale are:

I make good use of time I set aside for studying training materials.

I have trouble arranging my time commitments so that I can participate in training.

A score on this scale gives an idea about how well the participant manages time so that success can be achieved in a training program. It is an indicator of how committed the participant is to the training program and how well the participant is able to create and follow usable time schedules. A low score on this scale (e.g., Total Scale Score below 21 and Average Item Score below 3.0), indicates the participant may have trouble managing time so that attendance and successful completion of a training program is likely. Procrastination, over-commitment to other activities, and a lack of desire to participate in a training program may also be factors affecting this score. A high score on this scale (e.g., Total Scale Score above 28 and Average Item Score above 4.0), indicates the participant has little difficulty managing time. Generally, high scoring participants will find the time to participate in training activities and to study and learn the material.

## Part 3: *Administration and Scoring*

START is designed to simplify administration and scoring as much as possible without losing power or diagnostic information. To help achieve this goal, a self-report format is used and there are no special administration procedures required. Specialized training is recommended but not required to administer START. The available specialized training enhances trainers' abilities to use START results to impact training programs they design and/or deliver and to provide their participants with relevant information for improving their skills in one or more areas. (Contact the publisher, H&H Publishing, at (800) 366-4079 for further information about the specialized training available.)

START is not a timed measure but most participants complete it in approximately 15 minutes. The directions for completing START are on page 2 of each instrument so that it can be used in either individual or group settings. These directions are reproduced as Appendix A, page 20 of this manual.

START questions are printed on pressure-sensitive paper to facilitate scoring. All responses are recorded on the Scoring Page which is page 9 of START. When you look at page 9, the Scoring Page, you will notice that approximately half of the items on START are reverse scored. That is, approximately half of the items are numbered from 1 to 5 while the other half are numbered from 5 to 1. This was done to reduce possible response biases. The items are stated about equally in either a negative or positive direction (for example, look at items 11 and 12 — "I have trouble arranging my time commitments so that I can participate in training." and "I check to see if I understand what the presenter is saying during a training session.")). The

participant does not have to worry about adjusting for the direction of the wording of an item when they score START since it is taken care of automatically when their scores are recorded on page 9.

The Scoring Page, page 9, is used by participants to tally their Total Scale Scores for each of the eight START scales. After completing page 9 but before transferring scores to page 11, the participant needs to remove the sheet separating page 11 from page 13. Directions for removal are clearly indicated in red type along the right edge of page 11.

The Total Scale Scores of page 9 are transferred to page 11 and then plotted on the graph of that page. This graph has lines across it to indicate the ranges for high, middle, and low scores. High scores fall in the upper 25 percent of the score range, middle range scores fall in the next 25 percent, and low scores fall in the bottom 50 percent of the score range. These cut-offs were designed by convention and expert agreement and can be modified to accommodate local norms, when necessary. The graph page is also pressure-sensitive so that a copy could be available for a trainer or human resource development specialist.

The graph of each participants' scale scores can then be used as a reference while they read through the scale descriptions and prescriptions. For any scale where their score falls in the low, or even the middle range, the participant needs to consider taking steps to improve their learning readiness. Some suggestions for how to do this are provided on START and others can be provided by the human resource development specialist or trainer administering START.

# Part 4: *Using START To Improve Instruction And Enhance Learning*

START provides diagnostic information about participants' learning strengths and weaknesses that every training program developer or trainer needs. This information is necessary to plan both the content and presentation of any instruction.

## *Using Anxiety Scale Scores To Improve Instruction And Enhance Learning*

Along with attitude and motivation, this scale may give some indication of the overall level of participation in training activities that can be expected of an individual. Someone with a low score may be reluctant to speak up, take risks, and be an active participant. They may also be hesitant to share and contribute to group activities and be overly concerned about demonstrating their skills in front of others. They may have trouble concentrating on the material and keeping their attention focused on training activities. They may doubt their abilities to learn, remember, or use the new things they are learning.

In training sessions where START profiles indicate a number of participants with low scores on the Anxiety Scale, training might incorporate one or more of the following suggestions.

1. Use warm-up activities to reduce tension and assist participants to feel more comfortable with each other, with you, and with the training objectives. For example, use small-group introductions (in pairs or groups of up to four individuals). If participants do not come from the same work group they could interview each other and find out who they are, what they do, and how they think the training program might be of use to them.
2. Use relatively "safe" small group exercises to develop confidence and increase participants' comfort levels.
3. Explain stress reduction techniques, such as deep muscle relaxation.
4. Make sure the performance criteria are clear to the participants. For example, ask them to explain in their own words the training goals and objectives. This can help reduce concerns about performance expectations and transfer to the job setting.
5. Point out the potential positive effects of successfully completing the training and the support you will give trainees to help them succeed.
6. Give case studies of how past participants have used the material and benefited from participating in the training (if it is a new program, generate constructed examples).
7. Have an open discussion about participants' concerns. Explain what you are going to do to help reduce the stress they may be feeling.
8. Have participants write a "letter" to a hypothetical co-worker who is worried about participating in the training highlighting what he or she could do or think about to reduce their anxiety.
9. Clarify how participants will be evaluated and how that information will or will not be used.
10. Try to include both high and low scorers in activity teams or small discussion groups to facilitate peer support and modeling.
11. Use more frequent guided practice exercises early in the training to build confidence and positive performance expectations.
12. Role play common situations or tasks and ask the participants to discuss their concerns and feelings while they are doing it. Give positive support as well as performance feedback.
13. Go over the training schedule to make sure it is not too rigorous for the participants and that you have provided opportunities for review, practice (when appropriate), and questions.
14. Check the level of difficulty of the course materials for the target population.
15. Videotape yourself, or ask someone to observe you, to see if there is anything you are doing that may be contributing to the participants' anxiety level.
16. Make sure other work demands are reduced while the trainees are participating in the training.

## *Using Attitude Scale Scores To Improve Instruction And Enhance Learning*

Along with anxiety and motivation, this scale may give some indication of the overall level of commitment and participation in training activities that can be expected of an individual. Someone with a low score may be resentful about having to participate in the training program and may not want to be an active participant. They may be resistant or closed-minded to the content you are trying to present rather than seeing training as a resource to help them develop new skills or to advance within the organization. They may have trouble concentrating on the material and keeping their attention focused on training activities. Since they may not see any value of the training for them, they may have negative feelings about being there and can be disruptive to other participants who have more positive attitudes about the training.

In training sessions where START profiles indicate a number of participants with low scores on the Attitude Scale, training might incorporate one or more of the following suggestions.

1. Discuss directly how the training program relates to the work they are, or will, be doing.
2. Give specific examples of how the information and skills the participants will be learning can be applied to their jobs.
3. Provide case studies of how past participants have benefited from participating in the training.
4. Have students brainstorm in small groups about the various ways what they will be learning could be applied to their job duties.
5. Discuss possible problems or negative feelings participants have had in other training sessions and what you and they can do to try to make this one a more positive experience.
6. Discuss the positive feelings that go along with a job well done.
7. Point out possible benefits of the program in terms of variables such as job performance, salaries, and future promotions or transfers.
8. Generate examples during the training that directly relate to the participants' present jobs or the jobs they are being trained to do.
9. Provide frequent opportunities for application exercises or role plays.
10. Structure working and practice exercise groups so that participants with low scores are distributed among the groups.

11. Try to create a supportive and friendly environment so that the trainees enjoy being there.
12. Discuss the negative and positive effects of attitude on commitment, valuing, attention, and learning, as well as on peers and supervisors.

## *Using Motivation Scale Scores To Improve Instruction And Enhance Learning*

Along with the Anxiety and Attitude Scales, this scale may give some indication of the overall level of commitment and participation in training activities that can be expected of participants. Someone with a low score may not realize that there could be negative outcomes (e.g., poor performance assessment, lower salary, and missed promotions) associated with poor performance or negative behaviors exhibited during the training program. They may be closed to trying new techniques or approaches, or applying them to their work setting. They may have difficulty maintaining interest and persisting in training tasks, particularly if they encounter problems or the work becomes difficult. They may experience difficulty taking any responsibility for their performance or learning outcomes.

In training sessions where START profiles indicate a number of participants with low scores on the Motivation Scale, training might incorporate one or more of the following suggestions.

1. Many of the suggestions listed under the Attitude Scale will also help participants who score low on the Motivation Scale.
2. Discuss how training is an investment made by the employee as well as the company, business, or organization.
3. Have each trainee set goals for each session of the training (or the entire program if it is conducted in one session). Have them relate these goals to their current or future job setting and their personal goals.
4. Have each trainee discuss or write about the things they find motivating. Help them to relate the training to things on their list. This can be done individually or in small groups.
5. Have trainees monitor their own progress through the training program.
6. Place trainees who have high motivation in different small groups so that they can act as "spark-plugs" for group activities.
7. Use more group rather than individual activities, particularly if there are assigned tasks to be done outside of the training environment.

8. Use peer pressure to increase the participation and performance level of individuals with low motivation (e.g., group exercises where each participant is accountable to the group).
9. Try to use entertaining examples or exercises.
10. Use concrete bonuses or incentives (e.g., time off, recognition in the work place and by supervisors, certificates), when possible, for successful completion of the training.

## *Using Concentration Scale Scores To Improve Instruction And Enhance Learning*

The scores on this scale may give some indication of participants' attentiveness and ability to focus on training programs. Someone with a low score may have difficulty keeping their attention focused on training activities, particularly when they are complex or time consuming. They may be easily distracted by daydreams, thoughts about work or home responsibilities, or personal problems. It can be very difficult for low scorers on the Concentration Scale to keep up with the material and flow of the training program. Often, individuals who have short attention spans in a training setting feel embarrassed, guilty, or defensive about the holes in their learning or the problems they have transferring what was presented to the work setting. Concentration problems can also result from material that is either too easy or too difficult, uninteresting, or perceived to be irrelevant.

In training sessions where START profiles indicate a number of participants with low scores on the Concentration Scale, training might incorporate one or more of the following suggestions.

1. Make sure the difficulty level of the training materials is appropriate for the participants.
2. Use shorter presentations of material to reduce the load on participants' attention spans.
3. Use a variety of formats and presentation styles to vary the pace of instruction. Use dynamic speakers, when possible.
4. Vary the tone and loudness of each presenter's voice.
5. Use engaging and entertaining materials and exercises.
6. Provide many opportunities for active participant involvement.
7. Encourage participants to take notes.
8. Use smaller teams (2 or 3 individuals) for group work so that members must stay more involved.
9. Provide more application or summarization exercises.
10. Use challenging but not too difficult exercises.

11. Summarize and review the material routinely during the program. Provide written summaries of main ideas.
12. Administer periodic assessments of participants' learning and performance.
13. Provide frequent breaks.
14. Discuss with the participants ways in which the training could help them to be successful in their jobs.
15. Provide the training in a location away from the distractions of the work setting.
16. Encourage supervisors and managers to reduce the workload of participants while they are in training.

## *Using Identifying Important Information Scale Scores To Improve Instruction And Enhance Learning*

Scores on this scale give some indication of the ability of the participants to identify the key ideas in the instruction. Someone with low scores on this scale may have a hard time picking out the important ideas from the supporting ideas and didactic information which do not have to be remembered. It may be hard for them to learn and integrate the new information and skills, particularly in a way that will help them remember and use their new learning in the job setting. They may also experience frustration at the amount of effort they must expend to try to learn all of the material.

In training sessions where START profiles indicate a number of participants with low scores on the Identifying Important Information Scale, training might incorporate one or more of the following suggestions.

1. Make sure the instructional pace is not too fast for your participants.
2. Clearly differentiate between key points and supporting details in your presentations and materials.
3. Create activities that highlight important information.
4. Use highlighting, a different font, type size, color, boxes, etc., to focus participants' attention on key points in the instructional materials.
5. Use verbal cues in presentations.
6. Ask participants to identify key points in each section of the presentation or materials.
7. Pair up individuals with high scores on this scale with individuals who have low scores for group activities.
8. Point out the relevance of key information for enhancing job performance.
9. Give students an outline of the main ideas for a training session.
10. Summarize the important points at the end of each topic or subtopic.

11. Model how to identify important information.
12. Go over the training materials and point out what methods have been used to highlight the main ideas.

## *Using Knowledge Acquisition Scale Scores To Improve Instruction And Enhance Learning*

Scores on this scale give some indication of the ability of the participants to build meaning for key ideas in the instruction. Someone with low scores on this scale may have a hard time learning and remembering the information and skills they will need for the job setting. It will be difficult for them to relate their existing knowledge and past experiences to the new material. They may not know how to think about and analyze new information to make it more memorable and available for later use. Sometimes these individuals will experience frustration with their learning problems or have a difficult time keeping their attention directed toward the training activities.

In training sessions where START profiles indicate a number of participants with low scores on the Knowledge Acquisition Scale, training might incorporate one or more of the following suggestions.

1. Embed knowledge acquisition strategies into your instruction. For example, provide analogies and organizational aids.
2. Use concrete examples from situations that are as similar as possible to the job situations that the participants will encounter.
3. Ask participants to relate the information, ideas, and skills being presented to other things they know or have experienced.
4. Ask participants to identify ways they could use the information being presented in the job setting.
5. Ask participants to restate the information in their own words.
6. Slow down the pace of the program so that participants have more time to try to learn the material.
7. Periodically review the material.
8. Provide additional opportunities for practice and application exercises.
9. Pair up individuals with high scores on this scale with individuals who have low scores for group activities.
10. Relate new information to the existing knowledge and past experiences of the participants.
11. Provide some direct instruction in the use of knowledge acquisition strategies.

## *Using Monitoring Learning Scale Scores To Improve Instruction And Enhance Learning*

Scores on this scale give some indication of the ability of participants to monitor their understanding of new material on a routine basis during training. Someone with low scores on this scale may have a hard time learning and remembering the information and skills they will need for the job setting. They may have gaps or holes in their understanding and have difficulty integrating and organizing their knowledge for future use. They may suffer from what is often called the "illusion of knowing" – thinking we know something when we really do not. Sometimes these individuals will experience surprise and frustration during a final performance evaluation or when they go into the job setting and discover that their knowledge is not as complete as they thought it was.

In training sessions where START profiles indicate a number of participants with low scores on the Monitoring Learning Scale, training might incorporate one or more of the following suggestions.

1. Provide more frequent reviews.
2. Use frequent application exercises as well as case studies.
3. Generate diagnostic self-testing exercises.
4. Use diagnostic questioning techniques in class.
5. Encourage participants to ask questions.
6. Ask students to write summaries periodically during training.
7. Discuss the importance of monitoring learning and give suggestions about how to do it.
8. Provide checklists, when appropriate.
9. Evaluate the success of the training on a formative (on-going) and summative (at the end) basis. Provide feedback to the participants.
10. Structure team projects and discussions to give participants feedback about their learning and performance.

## *Using Time Management Scale Scores To Improve Instruction And Enhance Learning*

Scores on this scale give some indication of the ability of individuals to manage their time so that they can attend and participate fully in training. Participants with low scores on this scale may have a hard time making training a priority for them. They may be derailed by problems with procrastination or over commitment. They may also be unclear as to why they are participating in the training and how it can help them in their job setting. These problems could lead to incomplete learning and difficulties transferring this new knowledge to the job setting. It could also lead to negative feelings about training or increased anxiety over performance outcomes.

In training sessions where START profiles indicate a number of participants with low scores on the Time Management Scale, training might incorporate one or more of the following suggestions.

1. Suggest that participants read about time management principles and methods.
2. Provide instruction in time management techniques, particularly for training settings.
3. Hand out time guidelines for activities or assignments.
4. Try to limit assignments for work to be completed between training sessions (when there are sessions on more than one day). Provide more assignments to be completed in the training setting.
5. Break larger tasks into smaller, more manageable, pieces.
6. Create periodic deadlines during training when certain tasks must be done.
7. Model effective time management techniques.
8. Discuss time wasters (such as trying to learn all of the material rather than concentrating on the main ideas) and time consumers (such as perfectionism).
9. Have participants estimate how long it will take them to complete a task and then have them compare their estimate to the actual time it takes.
10. Suggest that supervisors and managers reduce or eliminate other work responsibilities while the participants are in the training program.
11. Use a buddy system to help participants help each other to keep on track with projects or assignments.

# Part 5: *The Development And Psychometric Properties Of START*

The developmental work that led to the creation of START began five years ago as part of the Cognitive Learning Strategies Project at the University of Texas at Austin. A number of major corporations had contacted the Project because of the publication in 1987 of the **Learning and Study Strategies Inventory (LASSI)**. This self-report inventory of college students' strategic learning was the first diagnostic/prescriptive instrument available in the area. (The LASSI is currently used in more than 40 percent of the colleges and universities in the United States and has been translated into more than 20 other languages.) The representatives of these corporations wanted to know if a similar instrument existed for business, industrial, or public-sector organizations. The answer was "no," but the START Project was created to help address this need.

In response to increasing demands from human resource development specialists and trainers from both the public and private sector, more and more work settings are becoming interested in the learning strengths and weaknesses of their personnel and what can be done to use this information to improve the effectiveness of training and the application of what is learned to the work setting. It is becoming increasingly clear that organizational competitiveness is predicated on the knowledge and skills of the people making up the organization. Tremendous amounts of money and other resources are directed to providing training for employees at all levels but not all employees know how or want to take advantage of this training. The developmental work that went into creating START was designed to generate an assessment instrument that could identify adults' learning strengths and weaknesses while also offering guidance for prescriptions to remediate their weaknesses and enhance strengths, or to modify and adapt instruction.

## *Initial Development Activities*

The initial development activities focused on data gathering. The research and conceptual literatures in educational and cognitive psychology, adult education, and learning in organizations were surveyed. This data was used to modify a general model of strategic learning to identify potential scales for an adult measure to be used in work settings. The tentative list of scales was submitted for review by more than 30 learning, adult education, and human resource development specialists. Using the results of this survey and analysis, nine tentative scales were developed. (The ninth scale, Self Concept as a Trainee, subsequently was eliminated when it was found not to be psychometrically sound because of high correlations with several of the other scales.)

An initial item set of more than 200 items was developed by a team of learning specialists and psychometricians. These items were subjected to critical review by more than 40 experts (approximately half were from the original group that assisted in scale development). These items were extensively pilot tested, analyzed, and revised or eliminated to produce a working pool of 126 items. This revised pool was then pilot tested and analyzed, resulting in a final pool of 90 items.

## *Field Testing*

The 90-item START underwent several field trials. A group of approximately 30 experts (10 who had not seen START before) reviewed START and several of them administered it to participants in various training programs. It was also field tested with trainees in a variety of training settings: a professional organization, a continuing education program, a manufacturing plant, and a technical services division of a major corporation. The results were analyzed and the administrators interviewed about administration and utility value of the instrument. The uniformly high evaluations led us into the third and final phase of development.

## *Final Scale Development and Psychometric Data*

The 90-item START was examined for its useability characteristics as well as selected psychometric properties of the scales. Part of the goal was to maintain the excellent scale statistics while trying to reduce the number of items and, therefore, the time to complete the measure. An optimum balance was achieved with seven items per scale, for a total of 56 items.

Final scale development was based on a sample of 226 persons enrolled in training programs at several different corporations. Tables 1 through 8 give item statistics for each scale. These statistics include the item mean, the item standard deviation, the correlation of the item responses to the Total Scale Score (Item-Total  $r$ ), the item's Reliability Index, the corrected item-total correlation (Item-Total  $r$  Excluding This Item) and the Coefficient Alpha of the scale if the item was removed (Coefficient Alpha Excluding This Item). The statistics in these tables show that all items contribute meaningfully to their scale. The mean, standard deviation and Coefficient Alpha for each Total Scale Score is shown in Table 9. The Coefficient Alpha for each scale is high enough to say that each construct on START is measured reliably.

The relationships among the scales were analyzed to demonstrate that each scale measures a unique construct. Table 10 shows the intercorrelations among the scales. The correlations are low to moderate and generally indicate independence among the concepts. As further analysis, the scale values were factor analyzed to determine the number of independent underlying dimensions represented by START scales. The factor analysis was a principal components analysis and the factors were rotated using Varimax rotation. The rotated factor loadings are shown in Table 11. It is clear from this table that each scale loads on one and only one dimension. The percent of total variance accounted for by each scale is shown in Table 12.

**Table 1**  
**Item Statistics for the Anxiety Scale**

Item Number	Item Mean	Standard Deviation	Item-Total r	Reliability Index	Item-Total r Excluding This Item	Coefficient Alpha Excluding This Item
5	3.829	1.062	0.699	0.743	0.586	0.862
16	3.636	1.026	0.768	0.788	0.679	0.850
25	3.461	1.183	0.762	0.902	0.653	0.854
33	3.341	1.185	0.745	0.883	0.630	0.857
41	3.267	1.208	0.743	0.897	0.624	0.858
44	3.816	0.957	0.785	0.751	0.708	0.848
49	3.668	1.074	0.784	0.842	0.694	0.848

**Table 2**  
**Item Statistics for the Attitude Scale**

Item Number	Item Mean	Standard Deviation	Item-Total r	Reliability Index	Item-Total r Excluding This Item	Coefficient Alpha Excluding This Item
1	4.461	0.812	0.658	0.535	0.515	0.660
4	3.881	0.894	0.577	0.516	0.394	0.686
8	3.580	1.149	0.655	0.753	0.433	0.680
24	4.461	0.754	0.634	0.478	0.497	0.666
27	4.151	0.912	0.513	0.467	0.311	0.706
28	4.210	1.030	0.578	0.596	0.362	0.697
35	4.434	0.896	0.663	0.594	0.503	0.660

**Table 3**  
**Item Statistics for the Motivation Scale**

Item Number	Item Mean	Standard Deviation	Item-Total r	Reliability Index	Item-Total r Excluding This Item	Coefficient Alpha Excluding This Item
6	3.714	1.008	0.573	0.577	0.360	0.614
18	3.973	0.945	0.632	0.597	0.451	0.587
20	3.598	0.986	0.618	0.609	0.422	0.595
29	3.455	1.012	0.597	0.604	0.389	0.605
46	4.339	0.973	0.478	0.465	0.253	0.645
48	3.254	1.078	0.524	0.565	0.281	0.640
50	3.848	0.899	0.565	0.507	0.377	0.610

**Table 4**  
**Item Statistics for the Concentration Scale**

Item Number	Item Mean	Standard Deviation	Item-Total r	Reliability Index	Item-Total r Excluding This Item	Coefficient Alpha Excluding This Item
7	3.731	0.888	0.709	0.630	0.587	0.808
9	3.256	0.962	0.702	0.676	0.565	0.812
17	3.619	0.800	0.683	0.546	0.568	0.812
36	3.601	0.931	0.736	0.686	0.615	0.803
38	3.821	0.935	0.674	0.630	0.533	0.817
43	3.332	0.978	0.752	0.735	0.628	0.801
45	3.484	0.830	0.688	0.571	0.569	0.811

**Table 5**  
**Item Statistics for the Identifying Important Information Scale**

Item Number	Item Mean	Standard Deviation	Item-Total r	Reliability Index	Item-Total r Excluding This Item	Coefficient Alpha Excluding This Item
14	3.644	0.947	0.624	0.590	0.440	0.726
19	3.982	0.811	0.710	0.575	0.582	0.696
22	3.639	0.829	0.537	0.445	0.361	0.741
30	3.721	0.998	0.555	0.554	0.341	0.751
51	4.005	0.894	0.712	0.637	0.569	0.696
54	3.699	0.975	0.687	0.670	0.518	0.707
56	3.945	0.750	0.626	0.470	0.488	0.717

**Table 6**  
**Item Statistics for the Knowledge Acquisition Scale**

Item Number	Item Mean	Standard Deviation	Item-Total r	Reliability Index	Item-Total r Excluding This Item	Coefficient Alpha Excluding This Item
10	3.516	1.054	0.642	0.677	0.458	0.765
13	3.511	0.979	0.656	0.643	0.492	0.756
34	3.874	0.885	0.659	0.583	0.515	0.752
37	3.278	1.026	0.638	0.655	0.459	0.764
39	4.166	0.778	0.675	0.525	0.555	0.747
47	4.018	0.898	0.688	0.618	0.549	0.745
53	4.076	0.830	0.679	0.563	0.550	0.746

**Table 7**  
**Item Statistics for the Monitoring Scale**

Item Number	Item Mean	Standard Deviation	Item-Total r	Reliability Index	Item-Total r Excluding This Item	Coefficient Alpha Excluding This Item
3	3.498	1.012	0.546	0.553	0.362	0.775
12	3.641	0.895	0.478	0.428	0.305	0.782
21	3.235	1.009	0.696	0.703	0.553	0.737
26	3.014	1.005	0.789	0.793	0.680	0.710
32	2.908	1.078	0.726	0.783	0.581	0.730
52	2.539	0.926	0.668	0.618	0.530	0.742
55	3.442	1.068	0.654	0.698	0.486	0.751

**Table 8**  
**Item Statistics for the Time Management Scale**

Item Number	Item Mean	Standard Deviation	Item-Total r	Reliability Index	Item-Total r Excluding This Item	Coefficient Alpha Excluding This Item
2	3.429	0.974	0.575	0.560	0.407	0.752
11	3.402	1.070	0.598	0.639	0.417	0.751
15	2.927	1.031	0.691	0.712	0.544	0.724
23	3.037	0.979	0.707	0.692	0.574	0.718
31	3.228	0.898	0.569	0.511	0.416	0.750
40	3.160	1.105	0.705	0.779	0.550	0.722
42	2.858	1.132	0.664	0.751	0.490	0.736

**Table 9**  
**Scale Statistics for the Final Version of Each Scale**

Scale Name	Mean	Standard Deviation	Coefficient Alpha
Anxiety	25.02	5.81	.87
Attitude	29.18	3.94	.71
Motivation	26.18	3.93	.65
Concentration	24.84	4.74	.83
Identifying Important Information	26.64	3.94	.75
Knowledge Acquisition	26.44	4.26	.78
Monitoring	22.28	4.58	.78
Time Management	22.04	4.65	.76

**Table 10**  
**Scale Intercorrelations**

	Anxiety	Attitude	Motivation	Concentration	Identifying Important Information	Knowledge Acquisition	Monitoring
Anxiety	1.000						
Attitude	.294	1.000					
Motivation	.294	.461	1.000				
Concentration	.367	.370	.509	1.000			
Identifying Important Information	.549	.483	.349	.399	1.000		
Knowledge Acquisition	.244	.393	.280	.244	.555	1.000	
Monitoring	.048	.252	.336	.368	.261	.452	1.000
Time Management	.275	.264	.524	.532	.308	.244	.429

**Table 11**  
**Rotated Factor Loadings**

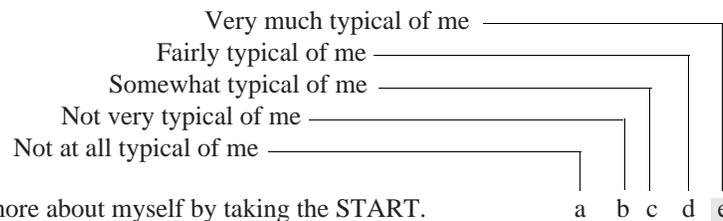
	1	2	3	4	5	6	7	8
Anxiety	0.099	0.946	-0.022	0.104	0.140	0.082	0.099	0.218
Attitude	0.074	0.110	0.084	0.931	0.131	0.159	0.190	0.175
Motivation	0.230	0.111	0.128	0.206	0.204	0.090	0.904	0.098
Concentration	0.231	0.161	0.155	0.142	0.902	0.063	0.206	0.131
Identifying Important Information	0.100	0.292	0.086	0.216	0.147	0.279	0.109	0.860
Knowledge Acquisition	0.069	0.089	0.217	0.161	0.058	0.924	0.085	0.225
Monitoring	0.181	-0.022	0.938	0.082	0.140	0.207	0.117	0.070
Time Management	0.913	0.109	0.194	0.076	0.222	0.071	0.223	0.087

**Table 12**  
**Percent of Variance Accounted for by each Factor**

Scale Name	Percent Variance
Anxiety	12.53%
Attitude	13.14%
Motivation	12.74%
Concentration	12.81%
Identifying Important Information	12.32%
Knowledge Acquisition	12.80%
Monitoring	12.34%
Time Management	11.34%

## *Directions for the Strategic Assessment of Readiness for Training (START)*

A sample START statement (numbered 59) is shown below. In taking the START you are asked to respond to 56 statements by judging how each of them describes you in one of the following ways:



59. I am looking forward to learning more about myself by taking the START.

To help you decide which response to mark, follow these guidelines:

By **Not at all typical of me**, we do not necessarily mean that the statement would never describe you, but that it would be true of you only in rare instances. **Mark** an **a** for this response.

By **Not very typical of me**, we mean that the statement generally would not be true of you. **Mark** a **b** for this response.

By **Somewhat typical of me**, we mean that the statement would be true of you about half the time. **Mark** a **c** for this response.

By **Fairly typical of me**, we mean that the statement would generally be true of you. **Mark** a **d** for this response.

By **Very much typical of me**, we do not necessarily mean that the statement would always describe you, but that it would be true of you almost all the time. **Mark** an **e** for this response.

For the sample statement above, we have darkened the **e**, indicating that this person is very much looking forward to taking the START. Try to rate yourself according to *how well the statement describes you*, not in terms of how you think you should be or what others do. There are no right or wrong answers to these statements. Please work as quickly as you can without being careless and *please complete all the items*.

Pages 3, 5, and 7 of this booklet contain the 56 START statements. These pages are pressure sensitive so that your responses are entered on the scoring page (page 9). After responding to the statements and completing the scoring page, you will enter your scores on page 11 and plot them on a graph.





## Trainer's Guide

© 1994, H&H Publishing Company, Inc.

---

---

This Trainer's Guide includes a history of the instrument's development, a complete description of the eight scales included in START, a section on administration and scoring, and a section to improve instruction and enhance learning after individuals have used START.

---

---

### **Ordering Information**

Complete information on ordering START is available from:

**H&H Publishing Company, Inc.**

1231 Kapp Drive  
Clearwater, FL 33765  
1-800-366-4079  
[www.hhpublishing.com](http://www.hhpublishing.com)  
[hhservice@hhpublishing.com](mailto:hhservice@hhpublishing.com)