



nstruction

Component

University of Kansas
Center for Research on Learning
Division of Adult Studies

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Instruction Component

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Goals

Goals

1. Provide instruction consistent with specific learning goals identified during individual adult learners' prescription meetings.
2. Help learners toward accomplishing specific outcomes (e.g., pass GED exam, improve literacy skills, learn English as a second language).
3. Provide instructional options that are appropriate for varied learning goals and desired outcomes.
4. Continuously monitor learner progress to determine appropriateness of instruction.
5. Provide a learning environment consistent with principles of andragogy and teaching for adult participants of varying ability and needs levels.

Intended Outcomes

Intended Outcomes

Adult learners will:

1. Remain actively enrolled at the AEC until accomplishing specific goals.
2. Accomplish specific learning and outcome goals.
3. Be prepared to complete the next phase of their education, which may include taking the GED or other exam, planning for transition, or entering employment or other educational options.

Introduction

Introduction

A variety of instructional options are available to adult learners to help them meet their learning goals. These options include independent study, content and skill classes, and learning strategy classes.

One program's experience

It is important to break negative stereotypes of past teacher/learner interactions. Therefore, we feel a relaxed seating arrangement is very important, i.e., around tables where the teacher doesn't appear to be "teaching" but rather "interacting" adult-to-adult. Some suggest that the teacher not stand in front of the class as is traditional, but that the teacher should sit among the learners.

Computers were available in our program both in individual classrooms along the perimeter of the wall and in a separate computer room. Often learners who are doing computer work do not like to be separated from the rest of the class and isolated in a computer room. However some do, so a separate computer lab accommodates this learning preference.

A significant drawback to class-wide teaching is the erratic attendance of many participants. Instructors who have learners missing one or more sessions have difficulty keeping the lessons on-track for all participants. Reviewing and peer-tutoring are useful solutions to this dilemma.

Since our center was part of a vocational school, many of our adult learners were post secondary and post-GED learners. We found that intermingling the pre-GED learners and these post secondary learners created a very positive setting. In fact, the post secondary adult learners were highly motivated and modeled what the pre-GED learners could become. This worked quite well and created a positive atmosphere.

Immediately prior to beginning the instructional phase, adult learners meet individually with an instructional staff member in a prescription meeting. Together, they will have developed an *Adult Learning Plan (ALP)* that specifies which instructional option(s) is appropriate for that participant. Most participants are likely to experience more than one instructional option during a given time period. During the instructional phase, options are routinely reviewed and revised based on a learner's progress and needs.

Instruction in all options is led by a staff member and adheres to principles of andragogy (see Appendix B) and is consistent with the unique learning needs and goals of individual participants.

The quality of adult education programs varies. To improve services for adult learners, the Indicators of Program Quality were developed. (For a complete listing of these Indicators, consult the appendix of the Introduction Section, pp. 46-49.) For this component these indicators are relevant:

1. Participants make significant education/workplace readiness/technology gains. (Measure 2.1)
2. Participants make significant educational gains, confirmed through nationally standardized assessments. (Measure 2.2)
3. Participants spend a significant amount of time in instructional activities. (Measure 3.1)
4. The program incorporates use of technology into participant instruction. (Measure 5.1)
5. The program provides technology-specific instruction, including current computer applications and use of internet. (Measure 5.2)

Component Materials

Component Materials

Consumables

- ♦ *Writing Skills Assignment and Progress Record*
- ♦ *Reading Skills Assignment and Progress Record*
- ♦ *Math Skills Assignment and Progress Record*
- ♦ *Social Studies and Science Assignment and Progress Record*

Procedures for All Instructional Options

Procedures for All

Instructional Options

Instruction is provided in nine-week “courses.” Specific instructional activities are at the discretion of the instructor. Principles of andragogy and techniques of teaching consistent with the nature of a specific instructional option are adhered to. For example, in the strategy classes and the content and skill classes, teachers typically organize and lead a combination of whole group and small group activities. In the learning strategy approach, teachers follow a strategic teaching sequence consistent with the specific strategy being taught.

During the time learners are participating in instructional activities, periodic reviews of progress are made with a member of the AEC staff. These periodic reviews are more than just checks on daily class work performance. They are important as a means to examine the learner’s goals, sense of accomplishment, possible roadblocks, and direction of the instruction and curriculum. Based on these reviews, changes in curriculum, scheduling, grouping, and instruction may be instituted immediately or appropriate options for the next nine-week period may be identified.

What we did...

During periods of time when the center was not fully staffed or attendance rates were low, we suspended the nine-week course schedule. If the ratio of staff-to-attendees allowed, we did continue to offer the various types of courses.

Depending on the nature of the instruction, a course might be completed in less than nine weeks. In other situations, only a limited menu of course options was made available.

Also, the nine-week length was determined by staff members as appropriate for the amount of content they thought needed to be covered. They took into consideration both what information needed to be included about a topic and how much adult education learners at the center, in general, could tolerate. The number of weeks another program uses for a “course” system may vary.

Materials

1. A permanent folder with materials from orientation, assessment, and ALP meetings, including: Learning Preferences Worksheet, Goal Setting form, Learner Progress Record, Learner Agreement, assessment forms and results, and Adult Learning Plan.
2. (Optional) Specific class folders that contain work in progress and benchmark work samples for a particular class. These work samples are kept at the teacher’s or participant’s discretion and may be discarded at the conclusion of the class.
3. Course syllabi (see examples in Appendix C).
4. Instructional materials selected from among resources of the adult education program (e.g., books, workbooks, teacher guides, computer terminals, and software) and other materials provided by the participants (e.g., job-related reading materials, a note written to a child’s teacher). Materials should be selected that learners and the instructional staff deem appropriate and that do not place undue burdens or expectations on the participants.

Preparation

1. Review the learners’ ALP to be certain the learners are participating in an appropriate option.
2. Plan instruction consistent with the option.

Requirements

The amount of time individual learners spend in the instructional phase of the program depends on several factors, including the instructional options selected, how regularly learners attend, and the rate at which the learners progress toward their goals.

Instructional options are offered in 50-minute time blocks, five days a week. Each instructional option is offered for a nine-week period. Thus, participants who enter into a specific option are expected to participate in it until the current nine-week period is completed. Whenever an instructor and a participant agree that a particular instructional option is inappropriate for that learner, and reasonable modifications will not likely resolve the problem, the individual may be placed into another option. That alternative may be independent study and may involve working with another teacher if a scheduling change is not possible.

Depending on what is being offered in a given nine-week period and participants' individual learning needs, participation in a specific option may or may not be repeated.

Procedures for Particular Instructional Options

1. Independent Study

Independent study is an option for all areas of study.

Adult learners are provided with materials designed for independent use. The teacher reviews with each adult learner the procedures for using the materials. The participants then work on the materials independently, seeking instructor help as needed. The instructor reviews progress with learners at designated intervals (i.e., predetermined time periods or progress markers).

Materials

Materials for independent study are those participants can use with minimal teacher interaction. Examples include GED practice exams, self-explanatory workbooks and computer programs appropriate for participants' independent literacy abilities. Features should include: a) clear instructions and manipulatives; b) tasks requiring little or no assistance (e.g., using a calculator, using writing instruments, using procedures that are easy to follow); and c) procedures for self-monitoring and correction.

Staff Preparation

1. Review participants' ALPs to determine whether the independent study approach is appropriate for specific learning goals.
2. Select materials appropriate for each adult learner's literacy skills so that learners may work at their own pace.

Instructional Procedures

1. Check with learners periodically during each study session to assist in monitoring learning progress. This may be done by asking the learners to “check in” after reaching a certain point in the learning task(s), or by planning to sit and chat with the participants at some point. To ensure reviews do occur, a time should be agreed upon at the out-set for this purpose (e.g., after completing particular activities, after studying a number of hours). A good idea is to “check in” on learners shortly after study has begun, to be sure they are starting out correctly. Topics a staff member might address include:
 - (a) whether the materials being used are helpful,
 - (b) if the participants have any questions or need help,
 - (c) whether progress meets expectations,
 - (d) how learners like the curricular materials and activities,
 - (e) feedback on performance to date, and
 - (f) praising participants for their work.
2. At the staff member’s and learner’s discretion, a time may be set aside for the staff member to correct/review some of the learner's work samples.

2. Content & Skill Classes

Content and skill classes are offered in the areas of reading, writing, and math. In the different areas classes may be offered at the basic, intermediate, and advanced

What we did...

The content and skill areas of reading, writing, and math were identified as appropriate based on three factors: (a) staff members’ observations of the most common learning needs of learners; (b) expertise of the staff; and (c) skills necessary for GED exam success, employment, or further education. Information related to science and social studies (areas of the GED exam) or the participants’ work or daily life can easily be woven into these three areas, or classes could be developed in those areas following the same format.

levels. Each time a class is offered, a specific content is taught to the learners. In these classes participants learn a body of skills and concepts related to the specific content area. For example, in a math content class, problem solving may be the focus, or it may be computation with fractions and decimals; in a reading class, structural analysis of words may be the focus; and in a writing class, the focus may be essay organization.

Materials

1. Instructional materials such as teacher guides and demonstration aids.
2. Learning materials such as practice workbooks and manipulatives.

Staff Preparation

The instructor should prepare a combination of activities for discussion, demonstration, and investigation that enable participants to comprehend and assimilate the skills and concepts being taught.

Instructional Procedures

Typically the instructor uses a combination of whole class and small group sessions as well as sessions when participants are actively involved in investigating and practicing the skills and concepts they are learning. As in all instructional options, the teacher describes and models skills but does not lecture. Active learner participation is critical.

What we did...

For the essay writing class, it is helpful to keep a portfolio of each learner's writings. After the participants received feedback on several of these writing samples, participants selected which of their writings to keep in a separate portfolio that was periodically updated. Traditionally, portfolios contain examples of learners' progress (i.e., successes), however examples of poor performances which have been "overcome" can also be powerful to see.

Example Content and Skill Class Offerings

The following descriptions provide a brief overview of content and skill classes that have been offered.

Solving Math Word Problems

Participants learn to use a five-step approach to solving word problems. Depending on pretest scores, participants are placed in Basic Skill, Pre-GED, or GED level classes.

Applied Math

Participants work on skill domains identified from diagnostic testing (e.g., CASAS Math Levels A-D). Benchmarks are used to determine progress. The five domains are computation, estimating, math concepts, measurement, and job-related computations.

Essay Writing

Participants are given options in ways to approach writing:

- (1) learning writing skills they need in their lives,
- (2) writing for pleasure and to enhance personal communication skills, or
- (3) writing essays to prepare for the GED exam.

Most participants choose option (3) which is probably the most difficult.

Each approach emphasizes writing as a process which involves pre-writing (planning, thinking, brainstorming) and post writing (editing, reviewing, revising). Each approach evaluates participant work based on the CASAS competencies:

- (1) relevant, sufficient and appropriate content,
- (2) well-developed, cohesive organization,
- (3) appropriate and rich word choice,
- (4) correct grammar and varied sentence structure, and
- (5) correct capitalization, punctuation and spelling.

Grammar Skills

Participants work independently at one of three skill levels to learn to recognize (1) verbs and subjects, (2) correct capitalization and punctuation, and (3) correct grammar and usage in order to identify complete and correct sentences. Much of the instruction is computer-based.

3. Learning Strategy Classes

Participants learn how to perform a specific learning strategy. A variety of learning strategies are taught, typically one per nine-week course. Examples of strategy classes include the Paraphrasing Strategy, the Test-Taking Strategy, and the Paragraph Writing Strategy.

Instructors teach a strategy following specific instructional guidelines which are appropriate for that strategy and consistent with the principles of andragogy. Both teacher-directed and practice activities are involved. Consistent learner participation is necessary during all strategy lessons.

Materials

1. Strategy teaching manual. (See Appendix A for information on Learning to Teach the AEC Way.)
2. Duplicates of instructional support materials for overheads and/or handouts, e.g., cue cards, practice sheets.
3. Typical adult education curricular materials (e.g., GED practice books, job applications, reading materials) with which the strategy can be practiced.
4. In the case of some strategies, instructors may need to identify practice materials in advance of practice lessons (e.g., a list of writing topics or reading passages written at specific reading levels).

Staff Preparation

1. For the specific learning strategies we used, teachers must be “trained” in the teaching procedures in advance of teaching the strategy. See Appendix A for information on “training.”
2. Teachers need to prepare materials for a given lesson (e.g., cue card handouts, tape recorders). Appendix D includes modifications of the learning strategies.

Instructional Procedures

Instruction on learning strategies is ideally offered in a small group setting where learners are able to learn from each other as well as practice various strategy activities together. Strategies can, however, be taught in one-on-one situations. Some aspects of the instruction necessarily require individualized attention from the instructor.

After establishing the need for learning a strategy, the teacher typically begins learning strategy instruction in a describing and modeling phase. That is, the teacher takes primary responsibility for describing the learning strategy and modeling its procedures. Gradually, the teacher moves to a facilitator phase, in which the instructor guides the participants as they assume increasing responsibility for performing the strategy. Eventually, as the participants begin to master and work on generalizing the strategy, the teacher moves into a coaching phase in which the instructor merely prompts the strategic participant to perform the strategy appropriately.

4. Topic Classes

Participants study in-depth a specific skill or concept from one content area. For example, in a math topic class on computation, learners study how to add, subtract, multiply, and divide fractions and related skills (e.g., reducing fractions, borrowing from whole numbers, and predicting outcomes). Depending on the topic of the class, there may be prerequisites for learners to participate (e.g., already familiar with the concepts of fractions and whole numbers).

Instructor Tip

Teachers do not always have to administer assessments to determine whether learners can perform a prerequisite skill. Teachers may rely on their observations to judge how well learners are doing. If an assessment does seem necessary, often an informal assessment can do the trick. For example, ask the learners to complete five sample problems involving fractions. Judge the learners' skill level on how the problems are completed and if the responses are correct.

Materials

1. Instructional materials such as teacher guides and demonstration aids.
2. Learning materials such as practice workbooks and manipulatives.

Staff Preparation

The instructor should prepare a combination of discussion, demonstration, and investigation activities that enable participants to comprehend and assimilate the skills and concepts being taught.

Instructional Procedures

Typically the instructor uses a combination of whole class and small group sessions and other times classes are structured so that participants are actively involved in investigating and practicing the skills and concepts they are learning.

5. Learning Strategy Classes

Learning Strategy classes are an applied example of the Topic classes described previously. In these classes the topic is a specific learning strategy and participants learn how to use it. A variety of learning strategies are taught, typically one per nine-week sequence. Examples of strategy classes include the Paraphrasing Strategy, the Test-Taking Strategy, and the Paragraph Writing Strategy. The strategy classes can be organized around a year-long calendar similar to how the Content or Skills Classes are organized. Typically, the strategy classes continue longer than a Topic class.

The strategy classes are not appropriate for every learner. We believe the first important learner characteristic is that the learner has developed basic skills at a fourth grade level or higher. These strategy classes are not designed for the learner with severe learning problems. For those learners with severe learning needs, a much more intensive, individualized approach is needed. The second characteristic is that the learners have demonstrated a commitment to improving their skills.

Since the strategy classes are organized as a group effort, instructors (and the other participants) will find that learners' level of effort and regular attendance are both critical to success. Class size seems to work with a group as small as three, but gets better as the number of participants increase to five persons who are attending regularly.

Instructors teach a strategy following specific instructional guidelines that are appropriate for that strategy and consistent with the principles of andragogy. Both teacher-directed and practice activities are involved. Consistent learner participation is necessary during all strategy lessons.

Materials

1. Strategy teaching manual.
2. Duplicates of instructional support materials for overheads and/or handouts (e.g., cue cards, practice sheets).
3. Typical adult education curricular materials (e.g., GED practice books, job applications, reading materials) with which the strategy can be practiced.
4. In the case of some strategies, instructors may need to identify practice materials in advance of practice lessons (e.g., a list of writing topics or reading passages written at specific reading levels).

Staff Preparation

1. For the specific learning strategies we used, teachers must be "trained" in the teaching procedures in advance of teaching the strategy. (Contact the University of Kansas, Center for Research on Learning for information on how to obtain "training" for these strategies. See Appendix A.)
2. Teachers need to prepare materials for a given lesson (e.g., cue card handouts, tape recorders).

“Let’s look at some of your work and see what it tells us about how you have been doing.” (Discuss with the participant whether or not work samples indicate progress. Openly discuss any areas in need of work. Be sure also to highlight accomplishments.)

“Now, let’s talk about what you should be doing to continue toward your goal. One good class option for you might be (name class option[s]). What do you think about working in these areas now?”

Complete plans for each participant’s instructional choices. Use the Learner Progress Record to record information about the review and be certain that it is up-to-date.

What we did...

One of a teacher’s best resources for instructional planning and reviewing is the instructor’s colleagues. Teachers can benefit from bringing their ideas to others for review, or asking for suggestions when they are looking for a fresh idea. This type of interaction can be done on the run. A routine meeting time is better, however, so teachers can sit and discuss specific issues. You may want to think in advance about how to describe the topic to a consulting teacher(s), and perhaps bring relevant work samples with you. Because this should be a helpful event, teachers who do not see eye-to-eye may not be the best colleagues to bring together for these sessions.

One program’s experience

Not all participants have been taught the same social graces as are expected in educational settings or in the work force. Often, they interrupt or intrude into conversations. We have found that as we are teaching academic skills we also have an obligation to teach social skills to prepare them for the workplace. This can be done tactfully. Also, modeling correct behavior can be very effective. Our motto is always “It isn’t that they can’t do it or learn it, it’s just that they haven’t yet.” Try not to take things personally; they generally aren’t meant to be personal! Try to keep a sense of humor. We all should be continuously learning. If we are not, we should wonder about our effectiveness as good practitioners!

Next Steps

Next Steps

Learners may conclude participation in the instructional phase by dropping out of the program or passing the GED or other exam (e.g., vocational school entrance exam, pre-nursing exam), or by attaining a personal goal. In either case, they may simply cease to have contact with the instructional staff, establish contact with another service organization, or begin further education or employment. Whenever such a change in status is anticipated by staff or actually occurs, enrollees should be encouraged to participate in a transition meeting before moving on (see Transition Component). As soon as the staff becomes aware that enrollees will discontinue participation, a review of the participants' permanent file is made to be sure all appropriate materials are as complete and up-to-date as possible.

Consumables

- ♦ *Writing Skills Assignment and Progress Record*
- ♦ *Reading Skills Assignment and Progress Record*
- ♦ *Math Skills Assignment and Progress Record*
- ♦ *Social Studies and Science Assignment and Progress Record*

These consumables are available for your program to use and reproduce in the “Duplication Packet” of The Planner. Also included is a CD-ROM (labeled “Consumables Diskette”) that contains the consumables in Microsoft Word format, so that you may easily alter and print your own versions.

Writing Skills Assignment and Progress Record

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Reading Skills Assignment and Progress Record

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Math Skills Assignment and Progress Record

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Social Studies and Science Skills Assignment and Progress Record

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Date begun: _____ Date finished: _____ Pretest _____ Posttest _____

Materials _____

Assignment(s) _____

Include in learner's portfolio? _____ Yes _____ No

What did you learn from the assignment(s)? _____

Appendix A

Learning to Teach the AEC Way

Introduction

Introduction

From the Instruction Component: A variety of instructional options are available to learners to help them meet their instructional goals. These options include: independent study and content & skill classes (basic, intermediate, and strategy). Immediately prior to beginning the instructional phase of their participation, learners meet individually with a staff member. Together, they develop an Adult Learning Plan (ALP) that specifies which instructional option(s) is appropriate for that learner. Most learners will likely participate in more than one option during the same time period. During the instructional phase, options are routinely reviewed and revised based on the learner's progress and needs.

Instruction during all options is led by a staff member. All instruction adheres to principles of andragogy and is consistent with the unique learning needs and goals of individual learners.

Instruction for each option is provided in nine-week "courses." Specific instructional activities are at the discretion of the instructor, however principles of andragogy and techniques of teaching consistent with the nature of a specific option are adhered to. For example, in both the basic and strategy levels of the content & skill classes, teachers organize and lead a combination of whole group and small group activities; in the learning strategy approach, teachers also follow a strategic teaching sequence consistent with the specific strategy being taught.

During the time a learner is participating in instructional activities, periodic reviews of progress are made with a member of the staff.

Among the instructional options available to learners are modified versions of learning strategies developed as part of the University of Kansas' Strategies Instruction Model (SIM).

A **learning strategy** is an efficient and effective approach to completing a learning task. Typically learners can use a strategy independently once they have learned it.

The strategies taught in this project included: The Paraphrasing Strategy -to help learners comprehend what they read; The Paragraph Writing Strategy -to help learners plan and write cohesive paragraphs and essays; The Test-Taking Strategy -to help learners reduce stress and maximize their efficiency when taking tests; and The Self-Advocacy Strategy (see The Education Planning Strategy) -to help learners identify their personal education, employment, and daily living goals and to advocate for those goals.

Each of the strategies taught has been modified from its original form. These modifications have been developed and tested by adult education staff and researchers from the University of Kansas.

Strategies Taught at the Topeka AEC

The following strategies are taught at the Topeka AEC:

for Reading:

The Paraphrasing Strategy: Helps learners to understand and remember what they read. Steps are presented for learners to ask themselves questions while reading. As they answer these questions, they better understand main ideas and important details they have read and are able to remember them more effectively.

The Word Identification Strategy: Helps learners decode words. Learners learn steps to follow during reading to use context clues to help decode words they cannot read. The strategy sometimes helps learners identify the word's meaning, but is primarily a strategy for decoding.

for Writing:

The Paragraph Writing Strategy: Helps learners write paragraphs and essays. Learners become familiar with the parts of well-written paragraphs and essays. Steps are learned that remind learners to include all of the parts in their writing.

for Taking Tests:

The Test-Taking Strategy: Helps learners choose the best answers on tests and finish tests on time. Steps are learned for organizing time and finding the best answers to test questions. The strategy is not a substitute for having appropriate knowledge to succeed on a test.

What we did...

We found the Test-Taking Strategy very useful. It requires only a 2-3 week time commitment.

for Setting Goals:

The Self-Advocacy Strategy: Helps learners set goals and share them with teachers, case workers, and others. Learners learn how to set goals they can meet for learning, working, and daily living. Learners also learn how to share their goals with others who can help them make decisions about their plans.

What we did...

This excellent strategy has a time commitment of 2-4 weeks, and we found that few of our adult learners had previously used the self-reflection that this strategy employs. We observed remarkable personal and academic changes in learners' results after they learned this strategy and their self-image and self-concept greatly improved.

Teaching the SIM Strategies

The learning strategies used at the Topeka Adult Education Center were developed by researchers at the University of Kansas Institute for Research in Learning Disabilities/Center for Research on Learning. To maintain the integrity of the strategies, the authors only make them available to individuals who have participated in "training" to learn about them and the Strategies Instruction Model of which they are part.

For information on how to obtain “training” in your area as well as strategy manuals and related materials, contact:

**Center for Research on Learning
1122 West Campus Rd.
JR Pearson Hall, Rm. 517
University of Kansas
Lawrence, Kansas 66045**

or

Call: (785) 864-4780

Modifications to the strategies developed at the Topeka AEC are described in *Adult Education Modifications to Learning Strategies* which is Appendix D of this component.

Appendix B

Appendix B

Teaching Adults with Learning Disabilities

Teaching Adults with Learning Disabilities

Teaching Adults with Learning Disabilities

Most teaching practices in use in school classrooms and learning center settings are used because the teachers (a) know how to do them and (b) believe they are effective with particular learners. Most of these practices were learned during teacher education, passed on by other educators, recommended in a staff development or curriculum guide, or developed by the educators themselves. Researchers report that as much as 80% of teaching materials and practices in use have not been researched to assess their effectiveness.

The practices described in this section **do** have a research basis. They are practices that have been studied and proven effective for teaching individuals with learning disabilities. Because a very limited amount of research has been done on teaching for adults, some of the practices included have been researched with adolescents or children only. The fact that these practices have been researched in some form to document their effectiveness should give you confidence. However, the context of teaching is never static; what worked in one situation does not always work as well in another situation. Thus, these practices have high potential to be effective but they must be carried out in ways that are appropriate to the special teaching situations in which you find yourself.

Many adult educators claim that the best practices for teaching adults with learning disabilities may also be the best practices for teaching other adults with limited literacy skills. While research has not been conducted to investigate this claim in all areas of teaching, literacy providers may find the methods discussed helpful for use with other adult learners. Adult learners without disabilities, however, may sometimes find the pace of these practices too slow and may actually be confounded by the “breaking down” of information into smaller chunks, which is an appropriate practice for those with LD.

Regardless of whether or not someone has a learning disability, all adults have preferred ways of learning. Good instruction takes into account the strengths of each adult learner and how the learner learns best. Good instruction has as its goal the strengthening of a learner's weaker skills as well.

Thus, **what is unique about an adult with learning disabilities, and the adult's strengths and weaknesses should be taken into account during instruction.**

Despite the fact that every individual's learning disability is unique, **certain principles of instruction and practices are appropriate for almost anyone with a learning disability.** These instructional principles and practices have been designed and adapted to be used with a broad audience of adults with learning disabilities.

Principles of Effective Instruction for Adults with LD

The following are effective instructional practices that take into account the special learning needs of adults with LD. Combining these with the principles of andragogy should result in teaching that is appropriate for adults with LD (and most other adult learners).

Set realistic learning goals.

Individuals with LD often have unclear or unrealistic goals for learning. Therefore, they don't always appreciate the incremental goals that are involved in reaching larger goals. For example, they may not understand what goals contribute to the general goal of "writing well enough to pass the GED exam."

Goal setting begins with identifying what the learner wants to learn and what the learner needs to learn. The need part is determined by goals related to skills and information which must be learned in the process of accomplishing goals. The instructor and learner should both be clear on what the goals are and be mutually committed to meeting them.

Helpful Examples:

To help make the suggestions in the Planner more meaningful, examples of adult education situations are provided in gray boxes to demonstrate how the suggestions may be carried out.

Bea has come to the Adult Learning Program to prepare for her GED exam. Lupe, an instructor at the ALP, sat down with Bea to discuss her goals. Bea explained that she has not participated in any education since she dropped out of high school early in tenth grade; she is now age 23. Bea reported being quite frustrated in school and that when she left school she “couldn’t do much better than I did as a kid at reading or math.” Bea explained that she will be eligible for a job promotion at her work if she earns her GED and develops some of her reading and math skills.

Lupe suggested to Bea that they should begin by identifying Bea’s goals and doing some quick placement tests to determine where to start working. Because Lupe thought Bea might have a learning disability she suggested that Bea might want to consider that possibility as well. As she explained, Bea might be entitled to special accommodations on the GED exam and in her workplace if a disability were documented. The two discussed whether Bea would be interested in knowing if she had a disability. They considered how she would handle the news, whether a learning disability was found or not. Lupe explained that she would be able to help Bea with her goals regardless of whether the testing was done. Finally, they discussed how Bea would be able to pay for testing, since her job benefits would not cover the expenses. Lupe was careful to stress that a learning disability was just a possibility and that she was not indicating that there, in fact, was one. Bea agreed to explore the possibility.

Lupe told Bea that the first step in the assessment process was to do some screening tests. These would include a few short tests she would complete in addition to the placement tests taken by all new enrollees at the ALP. Lupe indicated that these tests would better indicate whether Bea might have a learning disability. The results, Lupe explained, would help determine whether or not to go ahead with a full assessment.

All new enrollees at the ALP are encouraged to go for vision and hearing assessments if they have difficulties in learning. Bea had had a complete check-up within the last two years thanks to her employer’s health plan. No vision or hearing problems were found.

Taking into consideration that Bea reported particular difficulties in reading and math and her comments about her performance in school, Lupe determined that Bea should participate in screening tests to (1) assess specific skills in reading and mathematical competence and (2) indicate her aptitude in the areas of language and memory skills. Further discussion revealed that the job promotion that Bea was hoping for would require her to write weekly reports. Thus, Lupe decided that Bea should also be tested for her ability to write multiple paragraph essays. (This will also be an important skill for Bea in order to pass the GED exam.)

Based on the results of the placement and screening tests, observations made by ALP staff, and discussions with Bea about her learning history, Lupe recommended that Bea make an appointment with a psychologist to have an assessment for learning disabilities. (Fortunately, the ALP found a local psychologist who was willing to donate her services to ALP enrollees.)

Following an interview with Bea and a battery of tests, the psychologist reported that in her opinion Bea did have a learning disability. The disability influenced her abilities to process and comprehend written text and to perform mathematical calculations. Bea agreed to share the psychologist's report with Lupe so that they could plan her education accordingly. (Bea has no legal obligation to allow the information to be shared with anyone.)

Together, Lupe and Bea determined that Bea's first learning goal would be to improve her skill at writing multiple-paragraph essays. They decided to focus on one skill at a time because Bea was not sure how regularly she would be able to attend the ALP, due to the demands of her job and her two children. Lupe stressed to Bea that they must find a way for Bea to attend consistently if any progress was going to be made.

Lupe reviewed an essay Bea had written as part of her placement tests. She asked Bea a few questions about how she had developed the essay. Lupe determined that Bea needed to work on:

- (a) identifying important content consistent with her topic
- (b) organizing content both within and across paragraphs
- (c) expressing her ideas clearly
- (d) writing complete sentences
- (e) spelling words with irregular endings

Lupe chose to help Bea first work on identifying content for her essays. She reasoned that once Bea had that down, they could progress to working on how Bea would express that content.

Plan for success

Some learners with LD have long histories of struggle and failure. If learning is a series of successes instead of a constant struggle, learners are far more likely to believe in themselves and persevere. Also, learners who don't stay in a program very long will be leaving with some skills having been acquired even if an overall goal remains unmet. Make an assessment of how the individual learner may best learn needed skills. Then, having determined incremental skills that can be easily learned, identify materials and teaching activities that will result in quick successes.

Be sure that the learners are aware of the success they are achieving and that they attribute it to themselves and their efforts (many learners with LD attribute failure to themselves but success to fate).

Lupe selected a workbook that included both short exercises on identifying important content in passages and a chart to help Bea hierarchically organize content on topics she identified. Lupe could write feedback notes to Bea in the workbook and each exercise yielded a score Bea could plot on a graph.

Break lessons and tasks into small steps.

Many adults with LD have difficulty processing large amounts and particular kinds of information such as complex concepts, multi-step procedures and so on. Small amounts of information are more readily mastered. A critical role for you is to help the learner make connections between and among small units of information. Also, because success is essential to sustain participation by adults with LD, small steps that are more readily accomplished will assist you in keeping the adult engaged.

Lupe identified small units that Bea could complete during instruction. Bea had planned to attend four mornings a week, but commonly only participated twice a week. Lupe discussed with Bea how the materials would help and what Bea could expect to learn as a result. Lupe checked on Bea regularly to be sure the goals were appropriate.

Carefully define the immediate task, verbally and visually, breaking it into as many steps as necessary to “break it down” into manageable tasks. This is one more way to give the learner numerous opportunities for success.

Link instructional objectives to previous lessons.

To help learners see the relevance of learning a particular skill or set of information, make obvious how the objectives of a current lesson relate to previous lessons. This should help the learner put the pieces together.

Provide a transition to the current lesson. Provide it verbally and visually. Show where this lesson fits into the overall plan for accomplishing learning goals.

Communicate procedures and expectations for each session.

Learners with LD frequently engage in activities in a passive way. That is, they assume following steps is what is expected of them, when in fact, understanding, reasoning, and appreciating why particular steps are performed are critical aspects of successful learning.

Begin each instructional session by constructing a visual organizer with the learner. Reiterate current goals and subgoals, ask questions giving the adult learner an opportunity to put the information in his or her/ own words. Confusion and ambiguity are avoided if the learner knows what is expected and how it is to be accomplished.

Describe and model.

Learners with LD may not have a clear understanding of how they are to perform a skill. They benefit from a description of what they should do as well as a modeling of how it should “look.”

Before asking a learner to perform a skill, explain and demonstrate correct performance for the learner. Expecting a learner to “discover” the correct performance is often unrealistic. Further, learners could easily begin practicing a procedure incorrectly and then have to unlearn what they have taught themselves. As you model a skill for the learner, describe your thinking and your performance. Good learners are conscious of both their thinking about what they are doing as well as their actions as they work through a skill.

Before Bea began practicing with the workbook, Lupe gave a demonstration of how to perform the skills emphasized in the materials. She acted as though she were a learner performing the skills, simultaneously demonstrating what Bea should do and explaining what she was thinking as she worked through some examples.

Provide explicit instruction.

Individuals with learning disabilities often need explicit instruction as new information is introduced. They are better able to perform a skill independently if they are fully informed about the skill and how to perform it. When providing explicit instruction, the teacher clearly identifies lesson goals, explains precisely what the learner will be expected to do, and describes and models the skills

Lupe never just told Bea to “follow the directions in the workbook,” or “practice the skills we worked on last time.” Rather, she took time to discuss with Bea what Bea should work on and how to do the exercises.

the learner will perform. The instructor assumes initial responsibility for guiding a learner’s performance, then gradually turns control over to the learner as the learner grows in proficiency.

Provide intensive instruction.

Because a learning disability is a cognitive processing problem, adults with LD need to “overcome” their processing deficit. (Remember, a learning disability cannot be cured, but its impact can be minimized). Frequent exposure to a new skill or new knowledge is critical for an adult building it into their repertoire. Excessive drilling is rarely the answer, but frequent application often is. The learner has to apply focused, sustained effort on the content or task. For other learners we consider this additional work as “over-learning.” For the person with LD, over-learning, or intense instruction, has to be the norm. Self-paced workbooks or computer modules do not provide this intense instruction.

Good instruction provides multiple opportunities for someone to learn a new skill. Explanations, demonstrations, and practice opportunities rarely result in a learner with LD “getting” new information or

Lupe stressed to Bea that it was particularly important for Bea to attend instruction regularly during initial lessons. When Bea did show up, Lupe was careful to see that Bea worked in particular on skills she was just learning. Lupe did not begin instruction in a new area until Bea had begun to master what she was working on previously.

mastering a new skill after just one or two exposures. Multiple opportunities to understand and practice need to be provided. These multiple opportunities should also be frequent. Practicing something new once a week is like learning it over again every time for someone with learning disabilities.

Instructional activities should be varied, both to prevent boredom and provide multiple ways for the learner to practice the skill.

Provide numerous examples for the learner of how to do a task.

In the spirit of modeling, learners with LD benefit from seeing multiple examples of the performance of a skill.

Generally, an appropriate number of examples to provide is three, although a learner's feedback will let you know when the learner has a clear understanding of the principle. Involve the learner in doing examples after the first or second example has been introduced.

Prompt learner response.

To encourage active participation as well as to check on a lesson's value to a learner, ask the learner questions about the lesson. Many adults with LD will not readily advocate for themselves if they are struggling with a lesson, and in some cases, they will not be aware of difficulties they are having.

In asking questions, allow enough "wait time" for the learner to respond, and calibrate learner's hesitations carefully. Avoid questions with yes or no answers when seeking responses. Ask an open-ended question instead. For example, ask "Can you show me which part of this lesson you think you understand the best?/the least?" rather than, "OK, now, did you understand what I just said?"

Guide learners during initial practice attempts.

Following introduction to a new skill, a learner should have opportunities to practice it; this is the time when the learning truly occurs. Good practice is a

Bea worked almost exclusively on her new skills when she was first learning them. To provide variety, Lupe found additional materials Bea could use for practice. Lupe also managed to give particular attention to Bea during early practice episodes. She would repeat models and provide more examples as she considered necessary. She was careful to give Bea useful feedback.

balance between repetitious activities and varied applications that allow the learner to explore the different ways a skill can be applied. Good practice is, of course, intensive, extensive, and combined with feedback.

Just learning about a skill or learning new information without applying it generally results in very short-term learning. Practice provides the learner with opportunities to develop automaticity in skill performance and to think about a new skill or knowledge and its application.

Begin a practice activity with the instructor completing or modeling how to do the task and then gradually shift responsibility to the learner. Verbally walk through steps required to learn the task as the learner works. Gradually shift the responsibility for talking through the task to the learner.

Provide feedback and reteach, in a new way, with further practice, after incorrect responses.

Particularly during the early stages of learning and practice, learners need to understand what they are doing right and what they are doing wrong in performing a skill. Feedback that informs the learner

Lupe was careful to “reinforce” Bea for the skills she was performing correctly. Whenever Bea had difficulties, Lupe first named the inappropriate performance, then explained why it was incorrect, and then described and modeled appropriate performance.

She would sometimes ask Bea to suggest how to improve her own performance. Following that, she selected exercises for Bea to do immediately, so that she could reinforce correct performance. Lupe also encouraged further practice of those aspects of skills Bea was already performing correctly.

as to how the learner is doing and clearly explains what was done right or needs to be done differently helps the learner to better understand skill performance. Adult learners with learning disabilities can be sensitive to feedback that indicates failure. Stress to the learner that feedback is not failure. Move into the lesson again and consider further breaking down of the task or the use of new examples.

Good feedback is like coaching. The learner is informed about their performance as it is happening. Tell the learner what was done well and why, as well as what was done wrong, and why and how to improve it. The learner can be prompted to reflect on the performance and to give “self-feedback” that the teacher can comment on. Good feedback does not have to wait until the learner has completed a task or asked for help. Also, good feedback does not just tell the learner how to perform the skill, but rather it challenges the learner to be reflective about his or her performance.

Prompt skill performance.

Many learners with LD master a skill only to fail to apply it on their own. To help the learner overcome this apparent “learned helplessness,” occasional prompts will be needed to apply what has been learned.

Once Bea developed some proficiency at identifying and organizing her essay content, Lupe began teaching about clear expression of that content. Together with Bea, she decided that they needed to work on paragraph formation, concise expression and sentence construction. During these lessons, Lupe routinely prompted Bea to use the organizing skills she had recently mastered.

When a learner is approaching mastery of a new skill, attention needs to be focused on helping the learner apply the skill. Practice opportunities should be

provided in which the learner can apply the skill in a realistic context. Practice in a skill workbook, etc. gives the learner tools but not an apprenticeship at applying them. Instructors might find the “apprenticeship” concept useful in describing the work to the learner. Gradually lessen the number of teacher prompts to use the skill, encouraging the learner to prompt him or herself.

Evaluate performance and outcomes.

The moment a goal is set, evaluation should begin. At that early stage, evaluation is as simple as regularly checking to be sure that desirable and realistic goals have been set. As instruction progresses to describing and modeling, practice, and prompted skill performance, evaluation should be embedded in all activities. Learners with LD are not always aware of difficulties they are having nor of how to express their concerns. Thus, regular evaluation can help the instructor know if the learner is understanding the task and performance.

When you believe instruction on a particular topic is complete, you should be able to establish that fact through a summative evaluation. That is, at the end of a lesson or unit, require the learner to demonstrate what should have been learned. It is not enough to talk about a new skill, nor to demonstrate performing parts of it.

Principles of Andragogy* **“treat adults like adults”**

Adults:

- ◆ learn according to the social roles and duties they face;
- ◆ tend to move from a state of dependency to self-directed learning;
- ◆ have extensive reservoirs of experience that affect their learning;
- ◆ seek immediate application of things they learn;
- ◆ want some control over how they learn; and
- ◆ can integrate knowledge from a variety of modalities and sources.

*Adapted from M.S. Knowles (1980). *The Modern Practice of Adult Education: From pedagogy to Andragogy*. Englewood Cliffs: Cambridge Adult Education.

Appendix C

Example Course Syllabi

- ◆ ***“Grammar Skills: Finding Your Way to Strong Communication Skills”***
by Kathy Fox
- ◆ ***“Reading Will Take You Anyplace You Want to Go”***
by Mari John
- ◆ ***“Solving Math Word Problems”***
by Nancy Meschke
- ◆ ***“Applied Math, CASAS Competencies”***
by Nancy Meschke

G R A M M A R
S K I L L S

FINDING
YOUR WAY
TO
STRONG
COMMUNICATION
SKILLS

Kathy Fox

February 1, 1996

Materials to be used unless otherwise indicated will be:

Contemporary's Building Basic Skills Book 1 (BBS1) & Book 2 (BBS2)
 South-western Pre-GED Exercises/Writing Skills
 Steck-Vaughn GED Writing Skills

OBJECTIVES: The participant will be able to identify, use correctly, detect & correct errors in use, and sometimes memorize(*)...

	TO STRENGTHEN (BBS1)	TO STRENGTHEN EVEN MORE (SW PRE-GED)	TO GREATLY STRENGTHEN (SV GED)
prepositions* & prep. phrases			o v e r v i e w 102-107
exercise A			
exercise B			
exercise C			
exercise D			
exercise E			
action verbs			
exercise			
exercise		34-37	
supplement			
linking verbs			
exercise			
exercise			
supplement			
verb phrases			
exercise	101-103		
exercise			
supplement			
verb forms			
exercise	75-77		
exercise	78		
supplement			
verb tense			
exercise	79-80	14-17	114-119
exercise	103-108	18-21	120-127
supplement	109-126		
subjects			
noun exercise	25-28, 48-52		
pronoun exercise			
gerund exercise			
inverted order	28-30		
commands	30-31		

OBJECTIVES: The participant will be able to identify, use correctly, detect & correct errors in use, and sometimes memorize(*)...

	TO STRENGTHEN (BBS1)	TO STRENGTHEN EVEN MORE (SW PRE-GED)	TO GREATLY STRENGTHEN (SV GED)
subject-verb agreement			
exercise	81-88	22-25	108-113
exercise		26-29	
supplement	91-93	30-31	
REVIEW COMPLETE SENTENCES			
exercise	94-95, 127-130	54-56	162-167
exercise	35-36, 38-39		168-174
supplement	20		
CAPITALIZATION			
exercise	55-58	4	34-39
exercise		67-70	
supplement			
END PUNCTUATION			
exercise	15-21	58	40-43
exercise			
supplement			
COMPLEX SENTENCES			
dependent clauses			
exercise			
exercise		49-52	188-193
supplement			
independent clauses			
exercise			
exercise			
supplement			
COMPOUND SENTENCES		44	174-181
joining independent clauses			
w/ conjunctions		47-48	
w/ semicolon		62	60-65
w/ connectors			
changing 1 to depend			
supplement			
parallel structure			182-187
exercise		45-46	
exercise			
supplement		48	
COMMAS		44-59	
in dates			
in names of places			
in letters			
in a series		41	
in direct address			
in renaming or interrupting		32-33	
in quotations		63-66	68-71

OBJECTIVES: The participant will be able to identify, use correctly, detect & correct errors in use, and sometimes memorize(*)...

	TO STRENGTHEN (BBS1)	TO STRENGTHEN EVEN MORE (SW PRE-GED)	TO GREATLY STRENGTHEN (SV GED)
OTHER CHALLENGES			
apostrophes/possessives		4,8, & 5	66-67, 72-79, 87-94
spelling		2 & 71-92	76-86
personal pronouns		9	128-135
pronoun agreement		6 & 10-13	136-141
indefinite pronouns			142-148
misplaced modifiers		52	194-200
adjectives & adverbs		38-42	148-153
shift of focus			200-205
revising sentences			206-211
REVIEW			94-98 154-158

Useful Additional Materials

Scott, Foresman ENGLISH WORKOUT
 Contemporary GRAMMAR WRITE AWAY BKS 1 & 2
 Steck Vaughn GED EXERCISE BOOK

IBM PUNCTUATION LEVELS II, III, & IV
 IBM COMBINING SENTENCES (ALL LEVELS)

ESSAY WRITING

Students are given options in how they would like to approach writing: (1) writing according to what they need in their lives, (2) writing for the fun of writing, or (3) writing essays to prepare for the GED. Most students choose option (3) which is probably the most difficult but also the quickest path to achieving their goals.

Each approach emphasizes writing as a process which involves pre-writing (planning, thinking, brainstorming) and post-writing (editing, reviewing, revising). Each approach evaluates student work based on the CASAS competencies: (1) relevant, sufficient and appropriate content, (2) well-developed, cohesive organization, (3) appropriate and rich word choice, (4) correct grammar and varied sentence structure, and (5) correct capitalization, punctuation and spelling. After the student has received feedback on several of his or her writings, the student should decide which of his or her writings are the best and these can be kept in a separate portfolio and updated with each additional writing.

Students who choose option (1) are encouraged to write for whatever purpose they need based on their personal experiences. They may need to write lists—birthdays, groceries, things to do, bills to be paid; forms—school registration forms, job applications, insurance; notes or letters—to teachers, to social workers, to friends, to clear up some business matter; or personal journals—to sort through thoughts or feelings or events.

Students who choose option (2) work on writing creatively through stories and poetry from their own or suggested topics with the emphasis on having fun. Most students “like” to communicate by talking but “dislike” writing. Discovering writing as an enjoyable form of communicating can be an important step in discovering writing as an effective, informative way to communicate, as in essay writing.

Students who choose option (3) will be introduced to the structure expected when writing essays (an introduction, body, and conclusion) and specific methods to achieve that structure in their writing.

GRAMMAR SKILLS

Students work independently at one of three various skill levels to learn to recognize (1) verbs and subjects, (2) correct capitalization and punctuation, and (3) correct grammar and usage in order to identify complete and correct sentences. Much of the instruction in this area is computer-based.

.....

**Reading will take
you ANYPLACE
you want to GO...**

.....

Mari John
February 1, 1996

DEAR READING STUDENT,

WELCOME TO A GREAT OPPORTUNITY! WITH A LITTLE HARD WORK AND A LOT OF MOTIVATION, YOU CAN BEGIN A JOURNEY INTO THE WORLD OF KNOWLEDGE. THROUGH READING, YOU CAN LEARN MORE ABOUT YOURSELF, YOUR COMMUNITY, AND THE WORLD.

.....

I HAVE DEVELOPED A SERIES OF LESSONS THAT YOU CAN WORK THROUGH AT YOUR OWN SPEED. YOU ARE NOT COMPETING WITH ANYONE ELSE. THE MORE YOU ATTEND, THE FASTER YOU WILL MAKE PROGRESS. IT MAY NOT BE NECESSARY FOR YOU TO COMPLETE ALL OF THE LESSONS. BUT I WILL WORK CLOSELY WITH YOU TO DETERMINE WHICH ONES WILL BE OF HELP TO YOU. AS YOU COMPLETE A LESSON, CHECK IT OFF OR WRITE DOWN A SCORE IF YOU ARE GIVEN ONE.

IN ADDITION TO THE LESSONS, I WILL SOMETIMES BE PRESENTING TOPICS TO THE ENTIRE CLASS. FEEL FREE TO OFFER COMMENTS AT ANY TIME TO IMPROVE THE READING LESSONS.

**LET'S GET TO
WORK.....**



SYLLABUS — CRITICAL READING SKILLS

OBJECTIVES:

- STUDENT WILL DEFINE “WORD”
- STUDENT WILL PRACTICE READING AND WRITING EXERCISES WITH BOTH AN ACADEMIC AND LIFESKILLS EMPHASIS
- STUDENT WILL DEFINE AND BECOME PROFICIENT IN RECOGNIZING A PREDETERMINED SET OF PREFIXES, SUFFIXES, AND ROOT WORDS
- STUDENT WILL DEFINE, LEARN AND PRACTICE THE CLOZE METHOD
- STUDENT WILL BE INTRODUCED TO, PRACTICE, AND BECOME PROFICIENT IN THE FOLLOWING READING COMPREHENSION SKILLS:
main idea, details, sequence, inference, cause and effect, fact v. opinion, using context clues, author’s viewpoint, author’s purpose, drawing conclusions, making judgments and predictions
- STUDENT WILL BE INTRODUCED TO, PRACTICE AND BECOME PROFICIENT IN THE FOLLOWING LIFESKILLS:
following directions, looking up and obtaining information, filling out forms and applications, understanding financial and legal documents, problem-solving, and decision making
- STUDENT WILL PRACTICE SELECTED READING COMPUTER PROGRAMS

ASSESSMENT OPTIONS:

OFFICIAL PRACTICE TEST
KANSAS COMPETENCY SYSTEM (CASAS—PRE/POST TESTS)
BENCHMARK QUIZZED FOR KCS
ADULT BASIC LEARNING EXAM (ABLE)
TEXTBOOK PRE/POST TESTS

INSTRUCTIONAL PROGRAM

FIRST CLASS

1. ABLE TESTING OF VOCABULARY
2. SCORING OF TEST
3. DISCUSS RESULTS OF TEST WITH STUDENT

ALL REMAINING CLASS PERIODS WILL BE A COMBINATION OF INDEPENDENT/
TEACHER-ASSISTED WORK AND/OR TEACHER PRESENTATION AND CLASS PRACTICE

VOCABULARY

IMPROVING YOUR VOCABULARY

Lessons 1-3 %

APPLE COMPUTER—BLS 300

Vocabulary Disk 1 %

Vocabulary Disk 2 %

IMPROVING YOUR VOCABULARY

Lessons 4-6

APPLE COMPUTER—BLS 300

Structural Analysis Disk 1 %

Structural Analysis Disk 2 %

IMPROVING YOUR VOCABULARY

Lessons 7-11 %

PREFIX PROGRESS TEST %

APPLE COMPUTER—BLS 400

Vocabulary Disk 1 %

Vocabulary Disk 2 %

IMPROVING YOUR VOCABULARY

Lessons 12-18

SUFFIX PROGRESS TEST %

IMPROVING YOUR VOCABULARY

Lessons 19-22

APPLE COMPUTER—BLS 300

Interpretations I Disk 1 %

Interpretations I Disk 2 %

Interpretations I Disk 3 %

IMPROVING YOUR VOCABULARY

Lessons 24-27 %

APPLE COMPUTER—BLS 300

Interpretations II Disk 1 %

Interpretations II Disk 2 %

Interpretations II Disk 3 %

IMPROVING YOUR VOCABULARY

Lessons 28-32 %

APPLE COMPUTER—BLS 400

Interpretations I Disk 1 %

Interpretations I Disk 2 %

Interpretations I Disk 3 %

FINAL PROGRESS TEST %

LIFE SKILL—FOLLOWING DIRECTIONS

REAL LIFE READING SKILLS

Ch. 1 %

Ch. 2 %

Selected Handouts:

%	%
%	%
%	%

APPLE COMPUTER—BLS 300

Following Directions Disk 1 %

Following Directions Disk 2 %

READING FOR A JOB AND PERSONAL USE

Unit 6

APPLE COMPUTER—BLS 400

Following Directions Disk 1 %

Following Directions Disk 2 %

CASAS BENCHMARKS:

1.1	%	1.2	%	1.3	%	1.5	%	1.7	%
1.8	%	1.10	%	1.11	%	1.12	%		

LIFESKILL—LOOKING UP AND OBTAINING INFORMATION

LIFE SKILLS READING

Unit 3

APPLE COMPUTER—BLS 300

Reference Disk 1 %

Reference Disk 2 %

Selected Handouts:

%	%
%	%

APPLE COMPUTER—BLS 400

Reference Disk 1 %

Reference Disk 2 %

READING FOR JOB AND PERSONAL USE

Unit 7, Ch. 9, 11 & 13

REAL LIFE SKILLS

Ch. 4

SKILLS FOR SUCCESS

Lesson 19

Selected Handouts:

% %
% %
% %
% %

CASAS BENCHMARKS: 2.0 % 2.1 % 2.2 % 2.3 %
2.4 % 2.5 % 2.6 % 2.7 % 2.8 % 2.9 %

CLOZE CONNECTIONS

Selected lessons from books G-L

Cloze procedure **QUIZ** %

FINAL PROGRESS TEST %

COMPREHENSION SKILLS

CRITICAL READING FOR PROFICIENCY

Book 1 %

Book 2 %

Book 3 %

IBM READING FOR INFORMATION

II %

III %

IV %

Optional/supplemental:

SPECIFIC SKILL SERIES

Selected comprehension skills

%
%

CRITICAL READING IN THE CONTENT AREAS

%

READING BETWEEN THE LINES

%

GED SKILL—LITERATURE AND THE ARTS

CAMBRIDGE PRE-GED READING

Pretest %
Posttest %

READING FOR INFORMATION

II %
III %
IV %

Optional/supplemental:

SCOTT FORESMAN PRE-GED READING IN LIFE AND LITERATURE

Pretest %
Posttest %

READING BETWEEN THE LINES

%

APPLE INTELLECTUAL SOFTWARE GED LITERATURE DISKS

%
%
%

GED SKILL—SOCIAL STUDIES

CONTEMPORARY PRE-GED SOCIAL STUDIES

Pretest %
Posttest %

APPLE CCP SOCIAL STUDIES DISKS

%
%
%
%
%

Optional:

SCOTT-FORESMAN PRE-GED READING IN SOCIAL STUDIES AND SCIENCE

SOCIAL STUDIES

Pretest %

Posttest %

CONTEMPORARY GED SOCIAL STUDIES

Pretest %

Posttest %

APPLE GED SOCIAL STUDIES DISKS

%

%

%

%

%

LIFESKILL—FILLING OUT FORMS AND APPLICATIONS

REAL LIFE READING SKILLS

Ch. 3 %

REAL LIFE EMPLOYMENT SKILLS

Unit 1 %

Selected handouts:

%

%

CASAS BENCHMARKS:

EMPLOYMENT APPLICATION—MASTERED

I-9 FORM—MASTERED

W-4 FORM—MASTERED

GED SKILL—SCIENCE

CONTEMPORARY'S PRE-GED SCIENCE

Pretest %

Posttest %

CONTEMPORARY'S GED SCIENCE

Pretest %

Posttest %

APPLE INTELLECTUAL SOFTWARE SCIENCE DISKS

%
%
%
%

LIFESKILL—UNDERSTANDING FINANCIAL DOCUMENTS

Selected handout from SURVIVAL READING...CAUTION: FINE PRINT

%
%

CONTEMPORARY’S GED LITERATURE & ARTS

Pretest %
Posttest %

APPLE INTELLECTUAL SOFTWARE GED DISKS

%
%
%

LIFE SKILL-PROBLEM SOLVING

PROBLEM SOLVING AND DECISION MAKING
Unit 2 & 3

FINAL PROGRESS TEST—OFFICIAL PRACTICE TEST

WRITING SOCIAL STUDIES SCIENCE
LITERATURE AND ARTS MATH **TOTAL GED SCORE**

SYLLABUS

SOLVING MATH WORD PROBLEMS

NANCY MESCHKE

February 1, 1996

Revised Copy

Instruction- Appendix C

310

KEY WORDS

ADDITION	SUBTRACTION	MULTIPLICATION	DIVISION
sum	less than	multiplied	divided
plus	more than	times	split
add	decrease	total	each
and	difference	of	cut
increase	lost	per	out of
more	nearer	as much	average
raise	left	twice	every
both	remain	by	ratio
combined	fell	volume	equal pieces
in all	dropped		
altogether	change		
additional			
extra			

THE FIVE-STEP APPROACH TO SOLVING WORD PROBLEMS

- STEP 1. Find the question - what is being asked for?
- STEP 2. Decide what information you need to answer the question.
- STEP 3. Decide what arithmetic operation to use (addition, subtraction, multiplication, or division).
- STEP 4. Do the arithmetic carefully and check your work.
- STEP 5. Make sure that you answered the question asked and that your answer makes sense.

(p.21 Contemporary's GED Mathematics)

ORDER OF OPERATIONS

Please **E**xcuse **M**y **D**ear **A**unt **S**ally.

1. Parentheses
2. Exponents
3. Multiplication
4. Division
5. Addition
6. Subtraction

PROPERTIES OF NUMBERS

THE COMMUTATIVE PROPERTY

ADDITION $a + b = b + a$

MULTIPLICATION $a \times b = b \times a$ or $ab = ba$

THE ASSOCIATIVE PROPERTY

APPLIES TO BOTH ADDITION AND SUBTRACTION

$a (b + c) = ab + ac$

$a (b - c) = ab - ac$

DECIMALS are parts of a whole that are expressed in tenths or multiples of tenths.

FRACTIONS

3 The *numerator* tells how many parts of the whole you have.

4 The *denominator* tells how many equal parts the whole is divided into.

A *mixed number* is a whole number and a fraction.

A *proper fraction* is a fraction in which the numerator is smaller than the denominator.

An *improper fraction* is a fraction in which the numerator is as large as or larger than the denominator.

PERCENT

Percent always refers to a whole that is divided into 100 equal parts.

Percent is written as the number of hundredths followed by the percent sign %.

SOLVING MATH WORD PROBLEMS SYLLABUS

OBJECTIVES:

Students will be able to:

1. use the five-step approach to solving word problems.
2. recognize key words and decide which computation is required.
3. recall the order of operations and use it to solve problems.
4. recognize and use the properties of numbers (commutative, associative, and distributive).
5. use the four basic operations to solve word problems (add, subtract, multiply, and divide).
6. solve word problems with fractions, decimals, and percents.

PRE-GED students will also be able to:

1. use approximation in problem solving.
2. solve problems using the simple interest formula ($I = PRT$)
3. use data analysis to solve mean, median, and ratio problems.
4. read and interpret table and graphs.
5. determine the probability of an event.

GED students will also be able to:

1. write and solve an equation for algebra word problems.
2. use the formula page to solve geometry word problems.

MATH BOOKS

BASIC SKILLS

1. Contemporary's Building Basic Skills in Mathematics (1988)
2. Contemporary's Number Power 6 (1991)

PRE-GED

1. Contemporary's Mathematics and Problem Solving Skills Book 1 (1987)
2. Contemporary's Mathematics and Problem Solving Skills Book 2 (1987)

GED

1. Contemporary's GED Mathematics (1994)
2. Steck-Vaughn Practical Math Word Problems (1985)

BASIC SKILLS

This page identifies a sequence of curricular topics that would be presented in classes. The topic also includes materials that might be used.

TOPIC

1. INTRODUCE THE FIVE-STEP APPROACH TO SOLVING MATH WORD PROBLEMS
 - GED Math pg. 21-28 Steps 1,2,3
2. GED Math pg. 29-30 Steps 4,5
3. ROUNDING AND ESTIMATING, PROBLEMS OF TWO OR MORE PARTS
 - GED Math pg. 30-39
4. PROPERTIES OF NUMBERS, ORDER OF OPERATIONS
 - GED Math pg. 44-47
5. SET-UP QUESTIONS
 - GED Math pg. 48-51
6. ADDING WHOLE NUMBERS
 - BBS pg. 30-31 #28-35; NP 6 pg. 17
7. SUBTRACTING WHOLE NUMBERS
 - BBS pg. 39-40 #35-43; NP 6 pg. 19-20 #1-10
8. MULTIPLYING WHOLE NUMBERS
 - BBS pg. 49-50 #31-39; NP 6 pg. 57
9. DIVIDING WHOLE NUMBERS
 - BBS pg. 60-61, 63-64 #23-30; NP 6 pg. 59
10. WHOLE NUMBERS REVIEW
 - NP 6 pg. 34-35 #1-14, pg. 64 #1-6
11. ADDITION AND SUBTRACTION OF FRACTIONS
 - BBS pg. 96, 102-103; NP 6 pg. 51
12. MULTIPLICATION AND DIVISION OF FRACTIONS
 - BBS pg. 107-108, 111-112; NP 6 pg. 78
13. ADDITION AND SUBTRACTION OF DECIMALS
 - BBS pg. 137,139; NP 6 pg. 46-47
14. MULTIPLICATION AND DIVISION OF DECIMALS
 - BBS pg. 144, 149-150; NP 6 pg. 71-72
15. PERCENTS
 - BBS pg. 173-176, 182-185

PRE-GED

These pages identify a sequence of curricular topics that would be presented in classes. The topic also includes materials that might be used.

TOPIC

1. INTRODUCE THE FIVE-STEP APPROACH TO SOLVING MATH WORD PROBLEMS
 - GED Math pg. 21-28 Steps 1,2,3
2. GED Math pg. 29-30 Steps 4,5
3. ROUNDING AND ESTIMATING, PROBLEMS OF TWO OR MORE PARTS
 - GED Math pg. 30-39
4. PROPERTIES OF NUMBERS, ORDER OF OPERATIONS
 - GED Math pg. 44-47
5. SET-UP QUESTIONS
 - GED Math pg. 48-51
6. ADDING WHOLE NUMBERS
 - Book 1 PG. 30-31 #2-15, PG. 40-141 #1-14
7. SUBTRACTING WHOLE NUMBERS
 - Book 1 pg. 51-55, 65-69, 71
8. MULTIPLYING WHOLE NUMBERS
 - Book 1 pg. 83, 94-97, 99
9. DIVIDING WHOLE NUMBERS
 - Book 1 pg. 113-115 #1-12, 125-131, 133
10. WHOLE NUMBERS REVIEW
 - Book 1 pg. 136-139 #1-17
11. ADDITION AND SUBTRACTION OF FRACTIONS
 - Book 2 pg. 80-81, 90-91
12. MULTIPLICATION AND DIVISION OF FRACTIONS
 - Book 2 pg. 100-103
13. ADDITION AND SUBTRACTION OF DECIMALS
 - Book 2 PG. 46-47
14. MULTIPLICATION AND DIVISION OF DECIMALS
 - Book 2 pg. 58-59, 60-63
15. PERCENTS
 - Book 2 pg. 131, 133-135, 137-140
16. APPROXIMATIONS - NOT ENOUGH INFORMATION
 - Book 2 pg. 145-148
17. INTEREST
 - Book 2 pg. 153-158

PRE-GED (cont.)

TOPIC

18. DATA ANALYSIS - MEAN, MEDIAN, RATIO
 - Book 2 pg. 159-161
19. TABLES AND GRAPHS
 - Book 2 pg. 162-171
20. PROBABILITY
 - Book 2 pg. 172-177

GED

These pages identify a sequence of curricular topics that would be presented in classes. The topic also includes materials that might be used.

TOPIC

1. INTRODUCE THE FIVE-STEP APPROACH TO SOLVING MATH WORD PROBLEMS
 - GED Math pg. 21-28 Steps 1,2,3
2. GED Math pg. 29-30 Steps 4,5
3. ROUNDING AND ESTIMATING, PROBLEMS OF TWO OR MORE PARTS
 - GED Math pg. 30-39
4. PROPERTIES OF NUMBERS, ORDER OF OPERATIONS
 - GED Math pg. 44-47
5. SET-UP QUESTIONS
 - GED Math pg. 48-51
6. ADDING WHOLE NUMBERS
 - PMWP pg. 7-8 #1-13
7. SUBTRACTING WHOLE NUMBERS
 - PMWP pg. 11-12 #1-17
8. MULTIPLYING WHOLE NUMBERS
 - PMWP pg. 17-18 #1-17
9. DIVIDING WHOLE NUMBERS
 - PWMP pg. 21
10. WHOLE NUMBERS REVIEW
 - PWMP pg. 15-16, GED Math pg. 19
11. ADDITION AND SUBTRACTION OF FRACTIONS
 - GED Math pg. 98-99, PMWP pg. 39
12. MULTIPLICATION AND DIVISION OF FRACTIONS
 - GED Math pg. 109-110, PMWP pg. 44-45

GED (cont.)

TOPIC

13. ADDITION AND SUBTRACTION OF DECIMALS
 - GED Math pg. 62-63, PMWP pg. 15-16
14. MULTIPLICATION AND DIVISION OF DECIMALS
 - GED MATH PG. 69-75, PMWP pg. 29-30
15. PERCENTS
 - GED Math pg. 143-155
16. APPROXIMATION - NOT ENOUGH INFORMATION
 - GED Math pg. 159-163
17. INTEREST
 - GED Math pg. 155-158
18. DATA ANALYSIS - MEAN, MEDIAN, RATIO
 - GED Math pg. 39-43, 121-129
19. TABLES AND GRAPHS
 - GED Math pg. 177-193
20. PROBABILITY
 - GED Math pg. 177-120

GED MATH ALGEBRA AND GEOMETRY

21. ALGEBRA BASICS
 - pg. 195-198
22. ONE-STEP EQUATIONS
 - pg. 199-203
23. SOLVING LONGER EQUATIONS
 - pg. 204-209
24. USING ALGEBRA TO SOLVE WORD PROBLEMS
 - pg. 210-215, PMWP pg. 69-78
25. FORMULAS
 - pg. 215-221
26. PERIMETERS AND CIRCUMFERENCE
 - pg. 223-232
27. POWERS AND ROOTS
 - pg. 233-237
28. AREA AND VOLUME
 - pg. 238-251
29. ANGLES AND TRIANGLES
 - pg. 252-271
30. FORMULA PAGE
 - pg. 272-277, PMWP pg. 56-68

GED MATH (cont.)

TOPIC

31. NUMBER LINE AND SIGNED NUMBERS
 - pg. 279-289
32. INEQUALITIES AND FACTORING
 - pg. 290-297
33. USING ALGEBRA TO SOLVE GEOMETRY WORD PROBLEMS
 - pg. 297-299
34. RECTANGULAR COORDINATES
 - pg. 300-309
35. QUADRATIC EQUATIONS AND SCIENTIFIC NOTATION
 - pg. 309-313
36. MATHEMATICS POSTTEST
 - pg. 315-322
37. REVIEW PROBLEM AREAS
38. MATH OPT OR GED

AVAILABLE COMPUTER DISKS

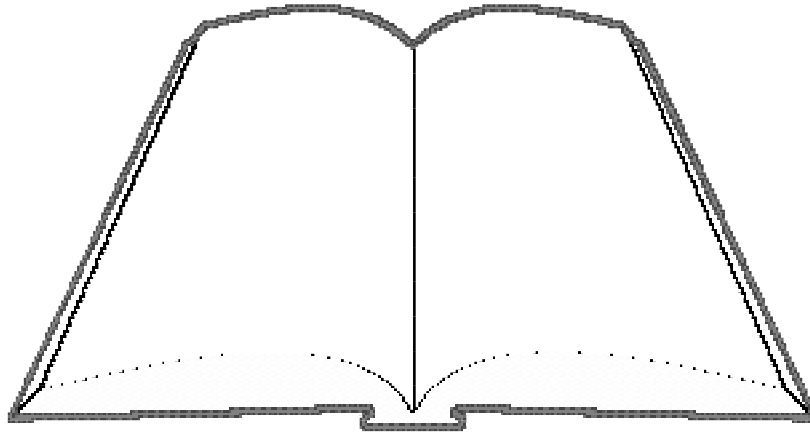
1. Amedon Publications, Story Problems - Mixed Operations (multi-step)
2. CCP Solving Word Problems I, Apple-132 (one-step)
3. CCP Solving Word Problems II, Apple-133 (multi-step)
4. Educational Activities, Read and Solve Math Problems Lessons 1-5 (one-step) for grades 4-5, remedially grades 7-12
5. EA, Read and Solve Math Problems Lessons 6-10
6. EA, Read and Solve Math Problems #2, Lessons 104 (two-step)
7. EA, Read and Solve Math Problems #2, Lessons 5-8
8. Queue Mathematics Test 5, Disks 5-8

VIDEOS

KENTUCKY EDUCATIONAL TELEVISION SERIES, GED MATH VIDEOS 1-15 and
WORKBOOK

SUPPLEMENTAL BOOKS

1. **Contemporary's Critical Thinking With Math, Reasoning and Problem Solving** (1989)
2. **Contemporary's The GED Math Problem Solver** (1992)
3. **Educational Design, Strategies for Solving Math Word Problems** (1988)



APPLIED MATH

CASAS COMPETENCIES

Nancy Meschke
February 1, 1996

APPLIED MATH

6.0 SKILL DOMAIN: COMPUTATIONS

6.1 Adding Whole Numbers

NP 1 p.15-17; Inventory p.4-5; 18-19
worksheets
Math Stories

6.2 Subtracting Whole Numbers

NP 1 p.37-40; Inventory p.20-21, 41-42
worksheets
Math Stories

6.3 Multiplying Whole Numbers

NP 1 p.60-65; inventory p.43-44, 66-67
worksheets
Math Stories

6.4 Dividing Whole Numbers

NP 1 p.91-98; Inventory p.68-70, 99-101
worksheets
Math Stories

6.1-6.4

NP 1 Review Test p.102-104

6.5 Add Common Fractions

NP 2 p.20
Math Stories FDP

6.6 Subtract Common Fractions

NP 2 p.27
Math Stories FDP

6.5-6.6

Math for the Real World Book 2 p.91

6.7 Multiply Common Fractions

NP 2 .33
Math Stories FDP

6.7-6.8

Math for the Real World Book 2 p.111

6.5-6.8

NP 2 Final Fraction Skills Inventory p.43-45

6.9 Add Decimals

NP 2 p.56
Math Stories FDP

6.10 Subtract Decimals

NP 2 p.58
Math Stories FDP

6.19-6.10

Math for the Real World Book 2 p.21-22

6.11 Multiply Decimals

NP 2 p.63
Math Stories FDP

6.12 Divide Decimals

NP 2 p.69
Math Stories FDP

6.11-6.12

Math for the Real World Book 2 p.43-44

7.0 SKILL DOMAIN: ESTIMATES

7.1 Averages

NP 1 p.1250127
Math Master 1 p.106-107

7.2 Make Approximations by Rounding Numbers

NP 2 p.115-117
Math Master 1 p.25-26, 148-149, 168-169
worksheets

7.3 Find Ratios

worksheets

8.0 SKILL DOMAIN: CONCEPTS

8.1 Convert Fractions to Decimals and Decimals to Fractions

NP 2 p.126-127
worksheets

8.2 Convert Percents to Decimals and Decimals to Percents

NP 1 p.134-135
NP 2 p.118-123
Math for the Real World Book 2 p.118-119

8.4 Plotting and Interpreting Graphs

Line Graphs

Math Skills by Objectives Book 2 p.5-8

Working with Numbers - Consumer Math p.71

Math for the Real World Book 1 p.108-109

Bar Graphs

Math Skills by Objectives Book 2 p.8-12

Working with Numbers - Consumer Math p.70

Math Master 1 p.34-36, 56-57, 86-87, 139-140

Math for the Real World Book 1 p.57-59

Math for Daily Decisions p.16-17

Circle Graphs

Math Skills by Objectives Book 2 p.12-17

Working with Numbers - Consumer Math p.72

Math Master 2 p.83-84, 136-137, 178-179

Math for the Real World Book 2 p.88-89

Picture Graphs and Tables

Math Skills by Objectives Book 2 p.18-28

9.0 SKILLS DOMAIN: MEASUREMENTS

9.1 DEMONSTRATE KNOWLEDGE OF THE METRIC SYSTEM

Essential Mathematics for Life (Measurement) p.104-105
worksheets

9.2 Change Units of Measure

Essential Mathematics for Life (Measurement) p.106-11, 119

9.3 Using Measuring Instruments - Thermometers

Math Skills That Work 2 p.48-49,153

Essential Mathematics for Life (Measurement) p.118

9.4 Recognize Simple Plane Geometric Figures

worksheet - circles, squares, rectangles, triangles

9.5 Recognize Common Solid Geometric Figures

worksheet - cubes, cones, cylinders, pyramids, spheres

9.6 Find Perimeters

Essential Mathematics for Life (geometry) p.74-76

NP 1 p.133

9.7 Find Area

Essential Mathematics for Life (geometry) p.78-80
NP 1 p.114-116

10.0 MATH COMPUTATIONS FOR EMPLOYMENT

10.1-10.3 Time

NP 1 p.136-137
Working with Numbers-Consumer Math p.113
worksheets

10.5 Balancing Bank Statements

Continental Press-Basic Life Skills-Business
Section IV, Folders 16-20
worksheets

10.6 Verifying the Accuracy of Paycheck Stubs

NP 1 p.128-129
Math Skills that Work Book 2 p.55
Essential Mathematics for Life (Whole Numbers) p.89
worksheets

10.8 Allocating Money

Working with Numbers-Consumer Math p.76-77
Math Matters for Adults DP p.97-98
Essential Mathematics for Life (Whole Numbers) p.123, 146
worksheets

10.10 Making Change

NP 1 p.119, 122-123
Math Solutions-Whole Numbers and Money T.G. p.59, 71
Essential Mathematics for Life (Whole Numbers) p.31, 34
Math Skills that Work Book 1 p.82-85
worksheets

10.11 Calculating Mileage

Working with Numbers-Consumer Math p.104-105
Essential Mathematics for Life (Whole Numbers) p.56
Math Skills that Work Book 1 p.159
worksheets

10.13 Determining Weight and Measure

Essential Mathematics for Life PGM p.117
worksheets

10.14 Reading and Interpreting Tables and Charts

Math Skills that Work Book 2 p.169, 171, 173, 175-177

Appendix D

Adult Education Learning Strategy Modifications

This first step is important because teaching staff will need to know for which strategies they should seek training.

2. Become trained in the strategy.

Before modifying a specific learning strategy or the SIM strategy teaching process, you should first be familiar with the strategy and its procedures as they were developed. Unlike many teaching interventions, the SIM strategies have all been developed and validated through research. Thus, considerable evidence exists that they actually work. Modifications change the strategy and teaching process from what has been found to be effective. Staff who are trained in SIM procedures have a better understanding of what modifications may or may not be appropriate.

3. Critically evaluate the content of the strategy.

Some modifications to individual strategies may be based on the learning goals of adults in general and the context of individual adult education programs. Other modifications are appropriate for the individual learners to whom you intend to teach the strategy.

Consider the routine of your adult education center and whether or not the Strategies Instruction Model (SIM) is an appropriate match. (Be prepared for the possibility that you may discover it is the routine of the adult education center that needs modification.) Factors to consider include:

- whether multiple learners can learn the strategy together at the same time;
- if scheduling allows for daily instruction;
- if the setting is conducive to learners practicing the strategy;
- who is able to provide instructional support in terms of preparing lessons and providing immediate and individual feedback; and
- whether your center has the necessary equipment for effective instruction (e.g., tape recorders, overhead projector, photocopier, individual work stations).

Personal factors about some of your learners may influence the modifications that need to be made. For example, many of the SIM strategies are recommended for learners functioning at specific minimum academic levels (e.g., at least a fourth grade level of skills); in some instances, trained strategy teachers can determine how to modify a strategy for learners functioning below that level. Some learners' routines and study habits, and educational disabilities, may dictate changes in the strategy or teaching, as well. Factors to consider include whether the learner:

- has an interest in learning the strategy,
- functions at the minimum suggested skill level for learning the strategy,
- will attend strategy lessons on a consistent basis,
- learns well alone or in the company of others, and
- can comprehend the vocabulary and procedures involved in learning the strategy (they may have to be broken down).

4. Critically evaluate the strategy teaching process.

While staff may arrive at some general modifications to the SIM teaching process (we did), such modifications are best developed with a specific strategy in mind.

In addition to how you critically evaluate the content of the strategy, evaluate how you teach. Ask yourself if you understand and agree with the teaching practices required to teach the strategy. If you disagree, identify what you would prefer to do and ask an objective colleague to help you evaluate if your preferences are consistent with the rest of the SIM approach. Also consider your daily teaching routine. Think about whether or not your routine will allow you to follow the procedures recommended for effective strategy teaching. If you cannot fit the strategy teaching routine into your teaching, then you may need to consider alternative interventions, because SIM strategies have not been tested and found effective when steps of the teaching process are omitted. (Note: the SIM teaching process can be effectively consolidated and steps modified, but to leave out a step altogether is not recommended.)

5. Write out modifications to be tried.

As both a good self-check and teaching preparation, modifications to procedures should be written out. A good idea is to write them directly into the teaching manual that you will receive as part of the strategies training process. Also, if you intend to modify teaching materials such as overheads, it is a good idea to make all modifications before you teach the first strategy lesson.

6. Try out the modifications (and be prepared to modify them).

When you teach using modifications in strategies instruction, go slowly. Begin with as few modifications as you can. In this way, you can incrementally determine just how much of the strategy and teaching process to change. The fewer changes you make, the more likely it is that the strategy will be as effective as research has shown it to be.

As you make modifications, keep a record of what changes you make and what effects they have. Be a teacher-researcher. Ask yourself if the modifications are working as planned, are they helpful modifications, are they necessary, and do they seem to be making the desired difference. In some instances, you won't immediately know if your modifications are appropriate; you will often be able to tell if they are detrimental.

Be flexible and recognize that just because you came up with a good idea does not always mean that it will work as desired. Give modifications a chance to work, but also be willing to go back to the drawing board or accept that the strategy as originally designed is more appropriate.

Modifications to the Strategies

Modifications to the Strategies

We made some modifications to the SIM teaching process in general and other modifications specific to the procedures and teaching processes of individual strategies.

1. **General changes to the SIM process.**

Collapse strategy steps. We found that many of our learners had difficulty attending the Center regularly enough to learn and practice all but the shortest of the strategies (on average, strategies require 4-6 weeks of daily lessons).

To collapse strategy steps, we often combined the Describe and the Model lesson activities, taking care that we completed the major activities of each.

We moved on from the Verbal Practice lesson when learners “approached” mastery, if it was taking a long time for them to memorize the mnemonic device. These learners were able to further practice naming the steps during Controlled Practice lessons. (Mastery of naming the steps by the end of the Controlled Practice lessons is critical.)

Some learners who did quite well at the Controlled Practice level nonetheless had difficulty consistently demonstrating mastery. We allowed these learners to progress to Advanced Practice if we were confident they were successful at controlled practice. (Note: for some learners, we raised the difficulty level of materials they used for practice as they worked their way into Advanced Practice, so that the move to the new level was not a defeating experience.)

Peer-assisted practice. SIM practice procedures allow for a lot of flexibility in how learners practice a strategy. We encouraged learners to guide one another in their strategy performance. Many of the learners enjoyed working with others (it helped many of the less-social learners to make friends). Also, working together was a good experience for learners as they took on multiple learning roles and gave and received feedback.

2. Changes to specific strategies.

Paraphrasing Strategy. To give learners more explicit guidance in identifying main ideas and details, we modified Cue Card no. 2. We made the language of the cue card more explicit by using the words “topic” and “main idea” in the model prompt questions.

We also developed a second Cue Card, no. 2a. Modeled after Cue Card no. 2, this one is used by the learner to identify important details associated with each main idea.

Paragraph Writing Strategy. The authors of the Paragraph Writing Strategy recommend against teaching the strategy without first teaching the Sentence Writing Strategy. Based on an evaluation of our learners’ needs, we identified the sentence writing skills they would learn with the strategy as less essential than other skills we needed to teach them. Thus, recognizing that without the Sentence Writing Strategy learners might have difficulty mastering the Paragraph Writing Strategy, we tried to teach paragraph writing on its own. We found that the quality and variety of sentence types were indeed poor for most learners’ paragraphs and short essays, but nonetheless adequate to allow them to write successful passages.

As a consequence of not using the Sentence Writing Strategy, all references to the PENS steps have been deleted. References to sentence types have also been deleted, except those concerning *topic*, *detail*, and *clincher sentences*.

Steps of the strategy were modified as well. These modifications are best described and discussed in the training session when the instructor is taught the strategy. The gist of the modifications was to collapse some of the activities into fewer instructional sessions. Learners practicing with controlled materials is critical to learning Paragraph Writing.

Specific cue cards were also changed. Cue Card no. 6 was modified to indicate that topic sentences don’t just indicate the main idea but actually present it. In the same spirit, the modified Cue Card also indicates that the topic sentence may name the specific details to be covered. The example Topic Sentences Cue Card was altered to include examples more interesting to adults and to be consistent with the sentence types we feature in our version of the strategy. *Instruction- Appendix D*

To simplify the strategy, we did not teach about the different types of sentences (i.e., general, cueing, and specific), but rather indicated a generic sentence type for topic and clincher sentences. Accordingly, cue cards for these varying sentence types were consolidated. Also, the cards providing examples sentences for each type of clincher sentence were consolidated onto a single card. In this process, certain cue cards were deleted from the repertoire.

The Idea Diagram was also altered to include a space for learners to jot down their ideas generated during brainstorming activities. Also, the terminology for parts of an essay/paragraph was made consistent with what we taught. We also developed a modified Paragraph Checklist to be consistent with changes made to strategy steps and procedures.

Test-Taking Strategy

We made several changes to steps of the strategy, to make it consistent with procedures for taking the GED exam. As a result, a number of the Cue Cards and the Verbal Rehearsal Checklist had to be modified to reflect the changes.

The Prepare to Succeed step was changed because learners cannot make any stray marks on GED test forms. Thus, learners learn to write “PIRATES” on the top of scrap paper. We also simplified the second part of this step by having learners simply “assign time.” (Note: we also developed a time chart for the exam, so that learners don’t have to calculate how many items to complete within an allotted time segment.) Also, the RUN substrategy has been simplified on Cue Card no. 3 because learners taking the GED always have to answer on the official answer sheet.

In the R step of PIRATES, *remembering* has been changed to *reviewing*, because the information the learner needs to answer a test item can be found in the test item, or the formula section of the math exam booklet.

To clarify the Answer or Abandon step, we have learners “answer all questions” and make “note” of any they are not sure how to answer.

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Hughes, C. A., Schumaker, J. B., Deshler, D. D., & Mercer, C. D. (1993). *The Test-Taking Strategy*. Lawrence, KS: Edge.

Schumaker, J. B., & Lysterla, K. D. (1991). *The Paragraph Writing Strategy*. Lawrence, KS: University of Kansas.

Schumaker, J. B., Denton, P., & Deshler, D. D. (1984). *The Paraphrasing Strategy*. Lawrence, KS: University of Kansas.

Van Reusen, A. K., Bos, C. S., Schumaker, J. B., & Deshler, D. D. (1994). *The Self-Advocacy Strategy*. Lawrence, KS: Edge.