

DOCUMENT RESUME

ED 182 695

CS 005 248

AUTHOR Noe, Alden J.: And Others
TITLE The Literacy Requirements of an Account Clerk on the Job and in a Vocational Training Program.
INSTITUTION Purdue Univ., Lafayette, Ind. Dept. of Education.
SPONS AGENCY Indiana State Dept. of Public Instruction, Indianapolis.: Office of Education (DHEW), Washington, D.C.
PUB DATE Nov 79
NOTE 56p.: For related documents see CS 005 141-142 and CS 005 247-254

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Accounting: *Adult Basic Education: *Adult Education Programs: *Adult Vocational Education: Basic Skills: *Bookkeeping: Clerical Workers: Communication Skills: *Job Skills: *Literacy: Reading Skills: Teaching Methods: Vocatulary
IDENTIFIERS *Job Literacy

ABSTRACT

As part of a project that identified the specific literacy skills required in ten occupations, this report provides two levels of instructional information about account clerks. Factual data are presented in Parts I and II for use in decision making by program developers, administrators, teachers, and counselors. These sections note the specific literacy requirements (reading, writing, listening, speaking, and mathematics) that were identified at three job sites and in three vocational training programs. Part III presents instructional methods/materials that adult basic education teachers can use to develop literacy skills while imparting job related knowledge. The lesson format is based on a directed reading activity and includes vocabulary and concept development, sentence and organizational structure, silent reading, and skill development. Appendixes list the technical vocabulary that account clerks need to know, the 100 words that represent 45% of the language sampled for the entire project, and occupational literacy requirements for the ten occupations that were studied. (AEA)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

**THE LITERACY REQUIREMENTS OF AN
ACCOUNT CLERK
ON THE JOB AND IN A VOCATIONAL TRAINING PROGRAM**

ED182695

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT THE OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

**Alden J. Moe
R. Timothy Rush
Rebecca L. Storlie**

**Department of Education
Purdue University**



November 1979

CS015248

This project was completed through grants from the Indiana Department of Public Instruction under Section 309 of the Adult Education Act, P.L. 91-230 and Sections 310 of the Adult Education Act, P.L. 91-230 as amended. The data collection and initial completion of the literacy reports (from which this report was derived) was completed during 1978-79 under Project Number FY-79-8062-P. This report, one of ten, was revised for dissemination during 1979-80 under Project Number FY-80-8075-T.

* * *

The activity which is the subject of this report was supported in part by the U. S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U. S. Office of Education, and no official endorsement by the U. S. Office of Education should be inferred.

Acknowledgements

In order to conduct this project, the cooperation of approximately 100 individuals in the Greater Lafayette, Indiana, area was required. A grateful acknowledgement is extended to those many individual workers, students, instructors, program directors, union officials, personnel directors, foremen, supervisors, and others who allowed us to work with them and to identify the literacy demands discussed in this report.

The guidance and support of Linda Zeiler and Timothy Wells of the Division of Adult and Community Education of the Indiana State Department of Public Instruction is also gratefully acknowledged.

The editorial expertise provided by Robert Hieb is much appreciated. Finally, many thanks to Shelly Richardson and Ricki Freiman for their secretarial assistance.

Alden J. Moe
Project Director
Purdue University
West Lafayette, IN

TABLE OF CONTENTS

PROJECT ABSTRACT	1
INTRODUCTION	2
PART I	REQUIREMENTS ON THE JOB 5
	Job Sites Studied 5
	Reading Requirements 6
	Special Reading Considerations and Problems 7
	Uses of Reading 8
	Writing Requirements 8
	Mathematics Requirements 9
	Oral Language Requirements 10
	Key Non-literacy Requirements 11
PART II	REQUIREMENTS OF THE VOCATIONAL TRAINING PROGRAM 12
	Courses Studied 12
	Reading Requirements 12
	Special Reading Considerations and Problems 14
	Uses of Reading 14
	Writing Requirements 15
	Mathematics Requirements 15
	Oral Language Requirements 16

PART III	INSTRUCTIONAL RECOMMENDATIONS	17
	Project Overview	17
	Organization of ABE Lessons	19
	Notes on Teaching Vocabulary	20
	Notes on Teaching About the Structure and Organization of Text	21
	Directed Reading Activity	23
	Reading to Accomplish Work	25
	Reading to Learn Information	27
	Counseling the ABE Student	27
	Summary	28
BIBLIOGRAPHY		31
APPENDIX A	KEY TECHNICAL VOCABULARY	32
APPENDIX B	HIGHEST FREQUENCY WORD LIST	47
APPENDIX C	SUMMARY OF OCCUPATIONAL REQUIREMENTS	49

PROJECT ABSTRACT

**THE IDENTIFICATION OF LITERACY REQUIREMENTS OF JOBS IN INDUSTRY
AND CORRESPONDING VOCATIONAL TRAINING PROGRAMS**

1. **Need Addressed:** Meeting the educational needs of adults with minimal literacy skills who wish to enter skilled or semi-skilled occupations.
2. **Population Served:** Adults with minimal literacy skills.
3. **Brief Description:** Specific literacy requirements (reading, writing, listening, speaking, and mathematics) of semi-skilled and skilled occupations in business, industry and vocational training programs were determined. The literacy demands of three work contexts and training programs for each of the ten occupations were analyzed and reported.
4. **Major Objectives:** To provide educators, counselors, and administrators with a description of the literacy requirements of semi-skilled and skilled occupations and training programs to which functionally illiterate adults aspire.
5. **Products:** A description of the literacy requirements necessary to hold a job in each of ten occupations and the corresponding requirements necessary to succeed in vocational training programs which prepare individuals for each of those occupations is provided. A booklet for each of the ten jobs was prepared.

INTRODUCTION

This project was undertaken in response to a need, expressed by adult basic educators and counselors, for information about the specific literacy skills necessary for success in several occupations. The occupations studied had been identified as desirable careers during informal interviews with adults who were enrolled in basic education programs in the Lafayette, Indiana area. Employment counselors and officials of the Office of Career Development confirmed that the occupations identified for study were appropriate. Because Greater Lafayette offers a wide range of occupational and training opportunities, the project staff was able to study both job sites and vocational training sites for each of the following occupations: account clerk, automotive mechanic, draftsman, electrician, heating and air conditioning mechanic, industrial maintenance mechanic, licensed practical nurse, machine tool operator, secretary, and welder.

Purpose and Audience

This report provides descriptive and instructional information to adult educators at two levels. Factual data are presented in Parts I and II for use in decision making by program developers, administrators, lead teachers, and counselors. Part III presents instructional methods and materials and is meant for use by adult basic education teachers. Members of both groups may be interested in the entire report, but in preparing it the project staff attempted to address the needs of the two audiences separately.

Procedures

To identify reading, writing, speaking, listening, mathematics, and other characteristics which are necessary for success both on the job and in the training program, three job sites and three vocational college courses were studied.

Required reading materials from each of the six settings were evaluated using two widely used readability formulas, the Dale-Chall Formula and the Fry Readability Graph. Readability estimates were computer assisted. A minimum 2000 word sample of written language was taken from each site. Special considerations and problems related to reading the technical materials were identified, and the relative use of reading as a work tool and as a learning tool was determined.

To identify speaking and listening requirements, one hour samples of oral language were recorded at each job site and in each vocational college course. Language recorded at each site was rated for its technical and formal qualities, and computer-analyzed to assess vocabulary and syntax. Written and oral language samples were used to develop the Key Technical Vocabulary List found in Appendix A. The combined language samples from all occupations studied were used to develop the Highest Frequency Word List found in Appendix B. A summary of the literacy requirements for all ten occupations studied is found in Appendix C.

Writing samples were obtained at each of the six sites and used to determine the nature of written communication demands on the job and in the vocational training program.

Mathematics demands were determined through surveys of materials from the job sites and classrooms. Instructors and supervisors

responded to a questionnaire about the specific mathematics skills necessary for job and/or training program success.

Important non-literacy characteristics were identified by supervisors who completed a rating scale which asked for their estimate of the importance to job success of such factors as cooperativeness, reliability, and attitude toward work.

The following sections of this report are organized according to the requirements of the job, the requirements of the training program, and instructional recommendations.

PART I

REQUIREMENTS ON THE JOB

Job Sites Studied

At each of three separate job sites, the literacy demands placed on one successful account clerk were studied. Reading, writing, oral language, and mathematics were the specific literacy skill areas examined. Account clerks from two large industrial firms and from the chief accountant's office of a major university cooperated in the study. From each job site, samples of the reading, writing, and mathematics tasks done on the job were obtained. Samples of the oral language requirements of the jobs were obtained by tape recording a randomly chosen one-hour period of verbal interaction. At each job site, the account clerk's immediate supervisor completed a questionnaire which was concerned with the importance of thirteen worker characteristics. Supervisors were also asked to identify the mathematics skills necessary for job success and to estimate the amount of time per week that account clerks spent on mathematics-related work.

Reading Requirements

Strong reading skills are an important aspect of accounting work; however, supervisor estimates of the amount of on-the-job time involving reading indicated that a maximum of 25% of an account clerk's time is devoted solely to reading. This is due to the fact that reading is used mainly to complete math-related tasks.

Job site materials included correspondence, ledgers, price lists, and tabled information. The styles of writing used in the various materials were largely formal, although memoranda were written in both informal and formal styles. Technical language related to products and services was used. Each account clerk was required to read letters and instructions such as the excerpts shown in Example I.

EXAMPLE I

Account Clerk Reading Materials

- A. Please use this letter as authorization to deduct an additional 8% from the following invoices: 627401, 64008L, 62739L, and 61739L. Please let me know if you receive any further invoices on our products that do not carry the extra 8% discount.
- B. Check paid invoice file.
Check completed purchase order.
Go back to original receiving record.
Check current invoice file.

Through computer analysis, it was determined that the difficulty of the examined job site materials was consistently very high. The readability estimate shown below is the result of two readability formulas, the Dale-Chall Formula and the Fry Readability Graph. One

estimate is given to summarize the three job sites.

Readability Estimate for Job Site Reading Materials:

College to College Graduate Level

Frequent task repetition and familiarity with specialized technical vocabulary and writing styles found in the accounting reading materials may offset the apparent difficulty of on-the-job reading requirements. Specialized vocabulary occurring frequently in job-related reading materials included words such as invoice, voucher, payroll, and vendor.

Special Reading-Related Problems and Considerations

An important reading requirement of the jobs studied involved obtaining information from lists, tables, or charts. The table shown in Example II utilized headed columns which separated and organized important information. The sentence structure in such tables tended to be abbreviated, often to one word.

EXAMPLE II

Table Used On The Job Site

DAILY REPORT OF GOODS RECEIVED Reading Chart

CT	Quantity	ARTICLE	CONSIGNEE	PROD. NO.	Shipped by Paper Co. Company	WEIGHT
	3	1/2 CT Drill	Shant's		UPS	7 ⁰⁰
	4	1/24	}		}	}
	7	1/32				
	12	1/4				
	36	1/24 1/2 Top				
	12	1/23 3/4 Drill				
	1	406-03 054-0004 Bottom Guard	K. J. Galen			
	1	51158 Band Plate	}		}	}
	4	32525 Boring				

Use Of Reading On The Job

Each account clerk who participated in the project completed questionnaires concerning the use of reading in three separate job-related tasks. The questionnaire results showed that reading is used predominately as a tool for accomplishing work. That is, in most situations the content of what was read "needed not be" remembered for more than several minutes. When a task requiring reading was done on a daily basis, account clerks frequently reread rather than remembered the key information. In this way precision in accomplishing tasks was maintained because memory-related errors were avoided.

Reading to accomplish work was almost always connected to daily mathematics tasks. In working with numbers, lapses of memory or careless reading could cost the employee or other employees hours of lost time in interpretation. An example might be an error in recording a coding digit. Overall, close attention to reading and to mathematics tasks was necessary for an account clerk to accomplish work efficiently.

Writing Requirements

The ability to communicate through both informal and formal grammatical written language was required at each of the job sites studied. Writing typically involved filling in blanks or check lists or entering key words or numbers on ledger sheets. Occasional formal correspondence was required in the form of business memoranda; however, generally very little emphasis was placed on writing ability.

Mathematics Requirements

Supervisors of the participating account clerks rated the importance of a subset of mathematics skills which included the basic whole number processes of addition, subtraction, multiplication, and division, and processes involving fractions, measurement, word problems, geometry, and algebra. All supervisors stated that accuracy in addition, subtraction, multiplication, and division of whole numbers and decimal fractions was required. The ability to use a calculator or adding machine was required at all of the job sites. Account clerks spent 75 to 100% of their time on mathematics tasks. The mathematics skills required of the account clerks were not all sophisticated, but the required skills were used constantly. Accuracy in these tasks was essential.

Oral Language Requirements

The use of oral language by account clerks ranged from informal conversation with fellow employees to formal technical interactions with co-workers, supervisors and, occasionally, in phone conversations with business contacts. Example III presents excerpts from typical office interactions.

EXAMPLE III

A. Informal Job Site Language

"Again our little numbering machine is skipping. Instead of going from three nine nine nine it went back to three thousand. Today's runs are all misnumbered."

B. Technical Interaction On the Job

"I think the credit is more than the debit would be. We would end up not writing a check because we would get a debt from them for thirty-three eighty-four for two of these. We paid them because they gave us past due notices on them and Johns Manville finally put them through."

The account clerk's interaction with other industries or businesses was essentially very limited and was generally accomplished through official written correspondence.

Listening to and following verbal directions was rated by the supervisors and the account clerks themselves as an important aspect of oral language at the three job sites. These verbal directions frequently pertained to procedures employed in the account clerk's day-to-day jobs. Example IV presents brief examples in which an account clerk is given directions and is questioned by a supervisor.

EXAMPLE IV

Job Site Oral Directions

- A. "File it until you get the purchase order."
- B. "You're not holding the credit for Jones are you? In your file there. Thirteen hundred."

In summation, both the speaking and listening aspects of an account clerk's job require reasonably high levels of competency.

Key Non-Literacy Requirements

Supervisor rating of requirements important to job success brought out the following non-literacy characteristics: cooperation, job knowledge, and attitude. Each of these characteristics was rated as more important than reading abilities and equal in importance to mathematics abilities.

PART II

REQUIREMENTS OF THE VOCATIONAL TRAINING PROGRAM

Courses Studied

The reading, writing, oral language, and mathematics requirements of three courses in a post-secondary vocational accounting training program were studied. The courses Business Math, Business Law, and Accounting Principles, had been determined by their instructors and the school administration to be representative of the training program as a whole. The literacy demands placed on students in other accounting courses were approximately the same as those presented here.

Practical experience was included in each course studied. A majority of class assignments contained hypothetical situations similar to those account clerks would normally encounter on the job. Class exercises such as these can reduce the apparent literacy demands of the training program.

Reading Requirements

Reading materials including textbooks, workbooks, and examinations were studied and rated according to the style in which they were written. The rating scale included informal, formal, literary,

and technical levels. The materials surveyed in the accounting training program were found to be written in formal or technical styles such as those illustrated in Example V.

EXAMPLE V

Formal and Technical Writing Styles

- A. "Payables are, of course, the opposite of receivables; they are debts owed by an enterprise to its creditors. Money claims against a firm may originate in numerous ways, such as purchases of merchandise or services on a credit basis, loans from banks, purchases of equipment, and purchases of marketable securities." (Niswonger and Fess, 1977, p. 163)
- B. "The technique of vertical analysis can also be applied with comparative statements. The percentage that each item is of net sales for the current period is compared with the corresponding percentage for the preceding period." (Giordano and Maxwell, 1977, p. 163)

The level of difficulty of the reading materials required in the courses studied was determined by computer analysis using two widely acceptable readability formulas. The Dale-Chall Formula and the Fry Readability Graph provided estimates of the general level of reading ability required for comprehension of the materials. Because the estimates of the two formulas were not identical, the estimates of readability for the three courses are presented as ranges of difficulty below. Course one used a text outlining the

principles of business law while courses two and three used texts with primarily a mathematics base.

READABILITY ESTIMATES

Course One	12th grade to college level
Course Two	College level to college graduate level
Course Three	11th grade to college graduate level

Readability estimates do not account for factors such as knowledge of a specialized vocabulary or reader motivation. Such factors can affect reader success in mastering difficult material.

Special Considerations and Problems

The written materials used in two of the three courses made extensive use of tables, graphs, and examples of math problems often used in accounting tasks. Example VI illustrates the use of tables and mathematics problems.

EXAMPLE VI

Use of Tables and Sample Mathematics Problems

July	1	Paid accrued interest--3 months.....	\$ (625)
Oct.	1	Received interest payment--6 months.....	1,250
Dec.	31	Recorded accrued interest--3 months.....	625
	31	Recorded amortization of discount--6 months.....	274
		Interest earned--6 months.....	<u>\$1,524</u>

(Niswonger and Fess, 1977, p. 477)

Uses of Reading

In the accounting training program reading was used both as a tool for accomplishing work and as a learning tool. Classroom ex-

ercises resembling job tasks were done on a daily basis. For example, when word problems were used to figure debits or interest, reading to do was used. When studying was required, reading to learn was necessary. Though precision is important in both uses of reading, special preparation and organization play a key role in learning and remembering through reading. Instructional strategies and techniques related to reading as both a work tool and a learning tool are presented in Part III of this report.

Writing Requirements

Many of the tasks required in the accounting training program required the ability to communicate in writing. Questions following textbook chapters required students to respond in complete sentences or to fill in blanks with appropriate vocabulary words. Tasks such as these are relevant to instruction but appear to have little resemblance to job tasks.

Mathematics Requirements

The basic arithmetic processes of addition, subtraction, multiplication, and division were seen as requirements by accounting instructors, as were higher level mathematics skills such as manipulation of fractions, use of the decimal system, and some understanding of algebra. The ability to use a calculator was desirable, although the instructors appeared to place more importance on the ability of students to perform the procedures. Much of the instruction was devoted to finding solutions to word problems typical of on-the-job tasks. It should be stressed that in all levels of mathematics skills

accuracy was considered necessary. Time devoted to mathematics work outside of the classroom was stated to surpass time devoted to reading tasks, although one instructor emphasized the fact that reading skills were necessary to complete most mathematics tasks.

Oral Language Requirements

Within the classroom both formal and informal English were used. All of the cooperating instructors made use of questioning techniques designed to elicit student responses to on-the-job situations. An example of this type of questioning is included in Example VII.

EXAMPLE VII

Classroom Oral Language

Instructor: "You're prepaying your interest. Suppose you paid it off after a month, how much interest would you have?"

Instructors frequently employed a blackboard or overhead projector to clarify concepts with which the students had difficulty. As a result, listening and note taking were important skills for students in the training program.

The use of formal, technical, and informal styles of English in the training program was similar to that found at the job sites studied. The ability to follow oral directions was related directly to on-the-job tasks.

PART III

INSTRUCTIONAL RECOMMENDATIONS

Project Overview

High levels of reading, oral language, and mathematics skills were required for account clerk positions and also in the vocational training program.

The levels of reading skills required on the job were estimated to be in the range of college level to college graduate level. It was noted, however, that knowledge of key technical vocabulary combined with familiarity of material may reduce the perceived difficulty of reading tasks.

On the job and in the training program reading was used as a tool for accomplishing work and also as a tool for learning. Reading to do was predominant on the job where reading was often used to complete common mathematics tasks. Supervisors' estimates of the amount of time account clerks devoted to job-related reading were a maximum of ten hours per week. The supervisors indicated, however, that reading and mathematics tasks were often interdependent.

In the vocational training program, reading was obviously used as a learning tool more frequently than it was on the job. However,

reading-to-do tasks, which were similar to those on the job, also occurred frequently.

Writing requirements for the three account clerks were generally limited to ledger sheet entries, forms containing fill-in blanks, and occasional memoranda. The writing requirements of the training program, however, included more frequent sentence and paragraph construction.

Proficiency in a variety of mathematics skills was required by both the job and training programs examined. Basic arithmetic skills were used most frequently; desirable skills ranged through higher level algebra. Use of calculators and adding machines was required at the job sites. The amount of time spent on mathematics-related tasks both on the job and in the training program was far greater than the amount of time spent on reading tasks.

The oral language used on the job and in the training program required the ability to make use of real instructions given by supervisors and instructors. The ability to relate verbal information to mathematics tasks was necessary.

Job site supervisors rated the following as very important to job success: cooperation, job knowledge, attitude, and ability to follow spoken directions. All of these qualities were rated as more important than reading skills and equal in importance to mathematics abilities.

A brief summary of how the literacy requirements of the account clerk compare to those of the other nine occupations studied is provided in Appendix C.

Organization of ABE Lessons

The recommendations which follow are meant to aid teachers and tutors in designing streamlined lessons which develop literacy skills while imparting job-related knowledge. The majority of the literacy information studied in connection with accounting occupations and training programs was related to reading. Reading demands were found to be high; when mathematics skills were used by workers and students, they were often used in conjunction with reading. This section,

therefore, presents background information and a method of organizing ABE lessons which emphasizes reading. Background information provided deals with the teaching of vocabulary and teaching about text structure and organization. The lesson format is based on a directed reading activity (DRA) and includes vocabulary and concept development, sentence and organizational structure, silent reading, and skill development.

The guiding principle of a DRA method of lesson organization is that words, concepts, and skills must be introduced and practiced in situations and materials that are true to life. Words, sentences, tables, and illustrations should be similar to those used on the job or in the training program. It may be possible to teach an interested ABE student the words on the Key Technical Vocabulary List in isolation, but it is a far better practice to introduce and practice such words in contexts similar to those found in occupational reading materials.

The value of a DRA approach is that it allows the use of any appropriate reading material in a job-related reading development program.

Notes on Teaching Vocabulary

The specialized vocabularies of account clerks are largely similar but can be determined by the specific position the clerk holds within a corporation. There are, however, many key words and concepts which are common to the account clerk occupation in general.

The specialized technical words of the Key Technical Vocabulary List should be taught to ABE students interested in the occupations of account clerk so that both the words and their meanings are recognized. Care should be taken that the words are taught in a meaningful context.

It is important for ABE students to be introduced to common high-frequency words and specialized vocabulary words via contexts which are similar to those found on the job and in the training program. As noted previously, this practice develops both basic job-related knowledge and reading ability.

The following are suggestions for teaching vocabulary.

1. Pair the word to be taught with the concept or object that it refers to whenever possible.
2. Introduce the word using an approach which focuses student attention on the word.
3. Be sure that the new word is read in context very soon after it has been taught.
4. If in doubt, use the general rule that four to six new words per lesson be introduced. Learning and recall are typically most efficient when the number of words taught is within this range.
5. Review vocabulary words often.

Sources of job-related vocabulary words and concepts are included in the books cited in the bibliography of this report. The style and level of writing in the listed materials is often highly technical, thus, if possible, teacher time could be devoted to preparing less difficult materials which parallel high-level passages.

Notes on Teaching About the Structure and Organization of Text

The above suggestions on teaching vocabulary words emphasize meaning; words have little use outside of a meaningful context. In accounting even solitary words on a table or list have a meaningful context to a trained individual.

In reading it is important to be aware of special patterns of organization used by writers. Formal technical reading materials are organized differently from the short stories and novels often used in teaching reading to Americans. The expository style of writing used in textbooks and other specialized or technical materials is different from the narrative style of stories and novels at several levels of comparison.

At the sentence level, ABE students should learn that expository style often relates cause and effect. Sometimes this relationship is clearly stated, as in the sentence in Example IX-A. Often, however, the relationship is not stated, as in Example IX-B. In such cases, readers who are not expecting cause and effect connections may miss them.

EXAMPLE IX

Stated and Unstated Cause and Effect Relationship

- A. The bank failed because of poor management.
- B. The bank was poorly managed. It failed.

At the paragraph level, writers of expository material often use a format which states the main idea in the first sentence. The last sentence summarizes the paragraph and may connect it to a paragraph that follows. Comprehension and learning can be improved when readers are aware of this organizational technique.

At the chapter level, expository material may contain many valuable aids to efficient reading. Key words are used as headings which introduce important sections. Pictures, diagrams, tables, and figures are used to illustrate important ideas. Introductions and chapter summaries are also available as aids to readers who know how to use them.

ABE students should learn about style factors such as these and use them to improve comprehension. Efficient readers use their knowledge of expository style to organize their reading. Awareness of the use of cause and effect makes them sensitive to such relationships. Knowledge of paragraph and chapter organization is used to develop a 'mind set' which is helpful in organizing and remembering important information. Reader-composed questions based on paragraph lead-sentences, headings, pictures, and other graphic aids help readers organize, comprehend, and remember what is read.

A directed reading activity, described in the next section, is a system which enables the ABE student to become efficient in using organizational factors as aids to comprehension and memory.

Directed Reading Activity

This system of preparing for efficient reading may be used with individual students or with groups. In groups, it requires very little class time to prepare students for reading assignments. For both individual and group use, it has been demonstrated to increase reading efficiency and comprehension.

After a review of previously taught, related concepts and assignments, the below procedures should be followed:

I. Develop Readiness for Reading the Assignment.

Purpose: Motivate
Set purposes for reading
Develop vocabulary

Teacher role: Ask Questions -

How familiar is the subject matter and vocabulary to your student?

Teach New Vocabulary -

Be concrete: write out the words as you introduce them. Use examples, such as objects or pictures, point out word relationships (i.e., cardiograph and cardiovascular relate to cardiac - heart). Have students write the words as they are taught.

Ask Questions to Stimulate Interest -

Focus on titles, pictures, graphs. Relate an anecdote from your own experience or one your students might have had.

II. Direct the Silent Reading of the Assignment.

Develop questions from sub-headings, graphs, pictures, and tables. Try to focus on relationships in the assignment. (In textbooks, useful questions are often provided by the authors).

Have pupils read silently from 5 to 20 minutes to find the answers keeping questions in mind as they read.

Encourage students to ask for help when they are confused. Writing questions down in abbreviated form is a good practice when reading is done outside of class.

III. Discuss Student Answers to Questions

Do not restate the questions unless necessary. Students need to remember the questions or they lose the purpose for reading.

Ask higher level questions to develop comprehension. Have student(s) interpret, draw conclusions, and make inferences as well as recall facts.

IV. Reread as Necessary

When answers demonstrate confusion, have the student reread the appropriate small section to determine the reason for the confusion.

V. Follow-up and Skill Development

Confusion or lack of comprehension may signal a need for extra work on vocabulary, concept building, or word recognition skill.

In this phase of the lesson important mathematics skills and other job-related skills can be related concretely to the reading assignment.

REMEMBER:

The DRA is a system, a routine, that you want your student(s) to learn to use independently. Remind your students of this - tell them why you use a DRA system. It will help them now and in their future study.

Reading to Accomplish Work

The term, reading to do, has been used in research and development projects done for the U.S. armed forces (Sticht, et. al., 1977). Reading to do refers to the use of reading for the purpose of getting work done. It involves following written directions and reading to find information which will be used immediately. Such information need not be learned or remembered. Looking up telephone numbers; finding information in a policy manual; or finding important data in a table, chart, or figure are examples of reading to do. Preparation of ABE students for reading-to-do tasks can be incorporated in a directed reading activity lesson.

When lesson materials contain occupationally relevant concepts, ABE students are given important background information which will make higher level training easier. Therefore, lessons should employ materials which are similar in structure and content to those found on the job or in the vocational training program. Paragraphs, tables, charts, and figures might be used verbatim from on-the-job or instructional materials. Alternatively, such materials might be paraphrased and reduced in difficulty to match student abilities if teacher time permits.

Given appropriate materials and a period of orientation to them,

the structural and organizational features of the table, chart, figure, paragraph, or chapter, should be pointed out to the student (see Notes on Teaching About Structure and Organization of Text).

This is essentially the first step of the DRA described above. When the materials have been introduced, the student should be directed to find a particular fact in the material. In subsequent lessons, the difficulty of information-finding tasks should be discussed.

Skill in following written directions can be developed using a DRA system and materials similar to Example X. Initial activities should contain only one or two steps to follow.

EXAMPLE X

Written Directions

1. Listen to the directions on the Presentation Tape and execute those directions in Book I.
2. Do the Supplementary exercises for that lesson in Book II.
3. Complete the Self-Check for that lesson.
4. Take the information from the Dictation Tape for that lesson, reading back portions of it from your notes.

In information-finding lessons, the emphasis should be on understanding and careful identification of the required fact. Likewise, in lessons on following directions, understanding and careful execution of the required steps must be emphasized.

Reading to Learn Information

Skill in learning printed information for future use is very important in vocational training programs. The reading skills necessary for reading to learn (Sticht, et. al., 1977) are taught and systematically practiced in directed reading activity lessons. That is, the use of previewing, attention to graphic and contextual information, and the organizational factors discussed in Notes on Teaching About the Structure and Organization of Text, above, should be practiced and learned during each DRA lesson. Questioning and rereading, also aspects of the DRA, reinforce important learning skills.

Sources of materials for use in reading-to-learn lessons, as those employed in reading-to-do lessons, should be occupationally oriented (See Bibliography).

Counseling the ABE Student

ABE students should be made aware of the importance of cooperation, job knowledge, attitude toward work, and ability to follow spoken directions, all of them mentioned in previous sections of this report. It appears that supervisors feel that such characteristics contribute as much, or more, to the job of account clerk than do mathematics or reading skills.

The literacy demands of the account clerk jobs and training program courses in accounting were high. It is, therefore, important that teachers, counselors, and tutors consider both the facts presented earlier in this report and also the individual students'

levels of motivation and literacy skill development before beginning to prepare the student to enter an accounting job or vocational training program. Frequency and intensity of lessons, choice of instructional materials, and duration of the instructional program will vary according to the students' skill levels in mathematics and reading. This does not mean that students with low level literacy skills should always be discouraged from preparing for a career in an area of accounting. It does suggest, however, that an early and realistic estimate be made of the time and effort involved to reach an occupational goal.

Summary

The literacy demands of account clerk jobs and training program courses were found to be stringent. It is probable that individual experience and familiarity with specialized information reduces the perceived demands of job and training program tasks. The extent of such a reduction, however, is unknown.

It was observed that the account clerk vocational training program provided students with experiences that were very similar to on-the-job tasks. Reading materials from the training program presented important basic occupational concepts through texts which were less difficult or of the same difficulty as materials found at the job site. Reading tasks were usually directly related to mathematics tasks.

Strong mathematics skills were essential for completing both on-the-job and training program tasks. Basic arithmetic skills were implemented frequently, but knowledge of higher level mathe-

matics skills was desirable for both the jobs and the training program courses. Accuracy in mathematics-related tasks was critical.

Instructional recommendations emphasized the development of reading skills. The recommended approach to ABE reading instruction was a directed reading activity (DRA) because it is systematic, provides for essential skill development and practice, and permits the use of any appropriate reading material. Suggestions were presented for teaching vocabulary and on the use of important structural and organizational factors which are related to reading comprehension and memory.

Two uses of reading, reading to do and reading to learn, were discussed separately because the skills they require are distinct. Reading to do requires the ability to find information for immediate use; long-term memory is not necessary. Reading to learn requires awareness of organizational factors which aid in learning and remembering.

Non-literacy factors were emphasized in the section, Counseling the ABE Student, because on-the-job supervisors rated several factors as equal in importance to mathematics ability and as more important than reading ability despite the high literacy demands for the position of account clerk.

Finally, it was suggested that in implementing the information and recommendations presented in the report, ABE personnel should acquaint themselves with the occupational interest and motivation of their students, as well as their literacy skills. The literacy demands of account clerk positions and training programs are such

that students whose skills are well below those required may be unable to achieve sufficient skills within a reasonable period of time.

BIBLIOGRAPHY

Occupationally-Related Materials

- Corley, R. N. and W. J. Robert. Fundamentals of Business Law, 2nd ed. Englewood Cliffs, New Jersey: Prentice-Hall, 1978.
- Corley, R. N. and W. J. Robert. Fundamentals of Business Law, Study Guide, 2nd ed. Englewood Cliffs, New Jersey: Prentice-Hall, 1978.
- Giordano, A. and G. W. Maxwell. College Business Mathematics. Englewood Cliffs, New Jersey: Prentice-Hall, 1977.
- Niswonger, C. R. and P. E. Fess. Accounting Principles. 12th ed. Cincinnati, Ohio: South Western Publishing Company, 1977.

ABE Teacher References

- Bowren, F. R. and M. V. Zintz. Teaching Reading in Adult Basic Education. Dubuque, Iowa: Wm. C. Brown Publishers, 1977.
- Duffy, T. M. "Literary Research in the Navy". In Sticht, T. G. and D. W. Zaph (Eds.), Reading and Readability Research in the Armed Services. (HumRRO FR-WD-CA-76-4). Alexandria, Virginia: Human Relations Research Organization, 1976.
- Harris, A. J. and E. R. Sipay. How to Teach Reading. New York: Longman Inc., 1979.
- Kucera, Henry and W. Nelson Francis. Computation Analysis of Present Day American English. Providence, Rhode Island: Brown University Press, 1967.
- Ransom, G. A. Preparing to Teach Reading. Boston: Little, Brown and Company, 1978.
- Rauch, Sidney J. (ed.). Handbook for the Volunteer Tutor. Newark, Delaware: International Reading Association, 1969.
- Sticht, T. G. (ed.) Reading for Working: A Functional Literacy Anthology, Alexandria, Va., Human Relations Research Organization, 1975.
- Sticht, T. G.; Fox, L. C.; Hauke, R. N.; and D. W. Zaph, The Role of Reading in the Navy, Alexandria, Va., Human Relations Research Organization, 1977.

APPENDIX A
TECHNICAL VOCABULARY LIST

This list is based on the total oral and written samples of the language of account clerks both on the job and in the training program. Words included in the most frequent 1000 words of the Kucera-Francis list (based on adult language) have been deleted. The list was also edited to remove numerals; labels; names of people, places, products, and companies; contractions and possessives; and colloquialisms resulting from the oral language samples.

Some words included in the list are relatively uncommon words that occurred in the total language sample and are not necessarily technical terms. Thus, the list should be treated as a source rather than a criterion. The 92 most common words have been marked with an asterisk.

Total Sample Words = 20,055

Different Words = 2,981

ability	acquired	affecting	amendments	arise
abrogate	acquisition	affiliated	amortized	arising
absence	acted	affirmative	amounts	arithmetic
academic	actions	afford	ample	arrangement
accept	actors	afraid	analyze	arrive
acceptance	acts	agencies	analyzing	arriving
accepted	actual*	agency	animal	article
accepting	ad	agent	annual*	articles
accepts	add*	agree	annually	artificial
accident	addends	agreements	annuity	asking
accidents	adding	agrees	answers	assembly
accommodate	adds	aids	anyway	assessed
accommodating	adequate	airport	apart	asset
accompanies	adjust	aliens	apparent	assets*
accomplish	adjusted	allegation	appearing	assigned
accord	administer	allocate	appliances	assignment
accordance	admission	allocation	applicable	assigns
accountant*	adopted	allow	application*	assistance
accounting*	adult	allowable	applies	assistant
accounts*	advance	allowance	apply	assisting
accrual	advances	allowed	appointment	assists
accrued	advantage	allows	appreciable	associate
accumulate	advantageous	alternative	appropriate*	associated
accurately	advantages	aluminum	approval	assume
achieve	advertising	alumni	approved	assumes
achievement	advisable	amended	arbitrary	assuming
acknowledge	affect	amendment	arguments	athletic

attach	bank*	binding	broad	camp
attached	banks	bit	broken	camps
attachment	bargaining	biweekly	browning	campus
attempted	bargains	bolts	bubble	campuses
attorneys	base	bonds	bucks	canceled
attracting	basically	books	budget	cancellation
attractive	battery	border	budgeted	cancelled
attributable	beat	borrow	bunch	capabilities
audit	beats	borrowed	bursar	capacities
auditing	becomes	borrower	bursars	capacity
auditor	beg	borrowing	busiest	capital*
audits	begin	boss	businesses*	card
authority	behalf	bottle	businessman	cards
authorized	beneficiary	bottles	buy	carefully
automobile	benefit	bought	buyer	carload
auxiliary	benefited	bound	buying	carry
avoid	benefitting	boundaries	bylaws	carrying
avoids	benefits	bowl	cabin	cartons
aware	benzine	box	cable	cash*
background	beverages	braces	calculate	catalogue
backing	bias	brackets	calculated	catch
bailed	biggest	breach	calculating	caught
bailee	bilateral	break	calculation	caused
bailment	billed	breakdown	calculator	cemetery
bailor	billing	briefly	calendar	cemetery
balance*	billings	bringing	calling	centralize
balances	binary	brings	calls	cents

certificate	claim	collected	comply	consent
challenge	claimed	collection	compounded	considerable
changed	claims	cologne	comprehension	considerate
changing	clarification	column	comptroller	considering
chapter	classification	columns	computation	considers
chapters	classified	combination	compute	consist
characteristic	clause	combined	computed	consistent
chargeable	clean	combining	computer	consists
charged	cleaning	commerce	computers	consolidate
charges	cleared	commercial	computes*	constantly
charitable	clearing	commission	computing	constitution
charter	clears	commodities	combination	constructor
check*	clerk	commonly	concentrate	construed
checking	clinic	communicate	concept	consumed
checks*	closely	companies	concepts	consumer
chest	closing	comparable	concern	contact
chew	clubs	comparative	concerning	contacts
chuck	code	compared	conclusion	contained
churches	coded	comparison	conclusive	contains
circular	codes	compelled	condition	contemplate
circulars	coding	compensation	conduct	continuing
circumstance	coffee	competent	conducted	continues
cited	coin	complement	confidential	continuity
citizen	coins	completed	confined	continuous
citizens	cola	compliance	conflict	contract*
civic	collect	complicate	conform	contractor
civil	collectable	complies	confuse	contracts

contractual	courts	damage	defective	deprive
contribute	cover	damages	defects	derived
contribution	covers		defined	describes
controlled	coworkers	date*	definite	description
controlling	create	dates	definition	designated
controls	created	daughter	delay	desired
convention	creates	dear	delayed	desk
convents	creating	debit	delays	desperate
conversation	creation	debited	delegation	detail
convert	credit*	debt	delinquent	details
converts	credited	debtor	deliver	deter
conveyed	crediting	debts*	delivery	determination
convicted	creditor	December	demand	determines
copies	creditors	decimal	demanded	determining
copy	criteria	decisions	denomination	devoted
cord	criticism	decrease	denominator	diamond
corporate*	crop	decreased	deny	dictate
corporation*	crucial	decreases	depend	died
correction	crude	deduct	dependent	dies
corrects	cummulative	deducted	depending	differential
correspond	currency	deductible	depends	difficulty
council	curtains	deducting	deposit	digits
counsel	custom	deduction	deposited	diligence
count	customary	deductions	depositor	dinner
counters	customer	deemed	deposits	dire
counts	customers	deer	depreciating*	directed
courses		defect	depreciation*	directors

disabilities	div. dends	educational	enforceable	essentially
disability	dividing	effecting	engage	establish
disagreement	divisor	efficiently	engaged	establishing
disastrous	doctrine	eight*	engaging	establishment
disbursement	document	eighteen	enhanced	estate
disclaim	documents	eighty	enjoyed	estimated
discount	dollar	elect	enriched	estimates
discovered	dollars*	election	enrolled	etc.
discriminate	donor	electronic	enter	evenly
discuss	donors	eleven	entered	event
discussed	double	eligible	entering	events
discussing	dozen	eliminate	enterprise	everybody
discussion	draft	emerge	enters	evidenced
diseases	drawers	empaneled	entertain	evident
disposal	drawings	employed	entirely	exam
disposing	drawn	employee	entities	examination
dissolution	draws	employees*	entitle	examine
dissolved	dues	employers	entitled	examples
dissolves	duplicate	employs	entity	exceed
dissolving	duration	enable	entries	exceeded
distinct	duties	enact	entry	exceeds
distinguish	duty	encumbered	equal	exception
distribute	earn	encumbrance	equally	exceptions
distributing	earning	ended	equals	excess
divest	earnings	ending	equity	exchange
divide	ease	ends	errors	excluding
divided	easiest	enforce	essential	exclusively

excusable	extends	fifteen	forbearance	functions
excuse	extension	fifty*	forced	fund*
executed	extra	figuring	forcefully	funds*
execution	facilitate	file*	forever	funny
executives	facilities	filed	forget	furnish
executory	factions	files	forgot	furnishing
exemplified	factor	filing	formal	furniture
exempt*	factory	filled	formation	fusion
exemption*	facts	finance	formed	fuss
exemptions	fails	financial	formerly	gain
exercise	failure	finding	forming	gained
exhibit	fair	finds	formula	gambling
exist	falling	finish	formulation	garbage
existing	falls	firms	forth	gasoline
exists	false	fit	forty	gentleman
expanded	familiar	fix	forwarded	gifts
expecting	families	fixed	foundation	giving
expects	fault	flexibility	fourteen	glue
expenditure	favorable	flight	fractions	goes
expense*	feature	flow	fraternal	golf
expenses*	features	flying	freely	goodbye
explain	fee	fog	freight	goodness
explained	feelings	foggy	frequency	goods
explored	fees*	follow	frequently	gotten
express	fell	follows	Friday	governing
expressed	fellow	foodmart	friendly	grain
extended	fiberglass	foolish	fully	granted

grants	holds	improper	inns	inventories
groceries	holiday	incapacity	inquiring	inventory*
grocery	hoping	incidence	insolvency	invert
gross*	hospitals	included	inspect	invest
grosses	hotels	includes	inspection	invested
grounds	hourly	incomes	instalment	investigate
grown	housecleaning	incorporate	instance	investment*
guarantee	housing	increases	instances	invisible
guarantees	hundreds	incurred	institution	invitation
guard	hundredths	incurring	instruction	invite
guess	hurry	indicate	instructor	invited
guilty	hurt	indicates	instrument	invitees
handle	identical	indirectly	insufficient	invoice
handshake	idiots	indispensable	insurance	invoices
hang	illegal	inefficient	insured	involve
happens	illness	inevitably	intangible	involves
hay	illustrate	infant	intended	involving
headache	illustrating	infants	intent	irrevocable
hearing	immediately	influenced	intercede	issued
heirs	immunities	inherent	interesting	issues
helpful	impartial	inherit	internal	issuing
helps	implied	initial	interpret	item*
hence	implies	initiative	interstate	items
highest	importantly	injuries	intramural	January
hint	imposed	injury	intrastate	jobs
holder	impossible	inn	introduce	join
holding	impression	inner	introduced	joint*

journal	lawyer	liable*	lose	marketing
judgement	laying	license	loss	markup
July	layovers	licensed	losses	markups
June	leads	lifetime	lowest	match
juries	leagues	lights	lucky	matches
juror	lean	liking	lumber	matching
jurors	learns	limit	lunch	materials
jury	leased	linseed	machine	meant
keeping	leases	liquid	magic	meetings
kerosene	leather	liquidation	mail	membership
key	leaves	listed	maintain	memo
keypunched	leaving	listen	maintained	memorial
kids	ledger	listening	maintaining	mental
kinds	legal*	listing	maintains*	mentality
knock	legally	lists	majority	mentioned
knowing	legibly	literally	managed	merchandise
knows	legislation	literary	management	merchants
label	legislative	litigation	managerial	mere
lag	legitimate	loan	managers	mergers
laid	lender	loaned	manifests	mess
landlord	lending	loaning	manual	nessed
lately	lessee	lobby	manually	minds
latent	lesson	located	manufacture	mine
laundry	lessons	location	mark	minimum
lawful	levied	lodging	markdown	minimums
laws	liabilities	log	markdowns	minute
lawsuit	liability*	logically	marked	misconduct

misleading	necessitate	notifies	oil	outstanding
misnumbered	necessity	notify	omission	overdraw
misrepresent	needless	null	omits	overhead
missed	negative	numbering	operate	overtime
missing	negligence	numerator	operated	owe
mixed	neighborhood	numerators	operates	owed
modification	net*	nursery	operating	owned
modified	newspaper	object	operational	owner
monasteries	nice	objection	operations	owners*
monthly*	nickel	objective	operators	ownership
mood	nine*	objectives	opposing	owning
motel	nineteen	obligated	opposite	owns
motels	ninety	obligation	option	o'clock
motive	ninth	observance	oral	pack
mounting	noise	obtain	orders	package
multiple	non	obvious	ordinarily	packaging
multiplication	nonexempt	occasional	ordinary	packing
multiplied	nonexistence	occupation	ordicates	page
multiplies	nonprofit	offer*	organize	paint
multiply	noon	offered	organized	papers
multiplying	normally	offeree	organization*	paraffin
murder	notation	offeror	original	paragraph
mutual	notations	officer	ostensible	pardon
named	noted	officers	otherwise	parent
names	notes	offices	ounce	parking
napntha	notice	official	outcome	parochial
necessarily	notices	officials	outlined	partial

partially*	performing	plays	prepared	processed
participant	performs	please	prepares*	processing
participate	peril	pledging	preparing	produce
parties	periodic	plenty	prepayed	produced
partner*	periodical	plus	prepaying	product
partners*	periods	pockets	prerequisite	proficiency
partnership*	permanence	pointed	presence	profit*
pass	permanent	policies	presentation	profitable
passbook	permission	porter	presented	profitably
pat	permits	portion	preserved	profits
patrons	permitted	positive	presumed	project
payable	perpetual	possibility	prevailing	projected
paying	personally	post	prevent	projecting
payment*	pertains	posted	previous	projection
payments*	petition	posts	previously	projects
payor	petty	potential	prices	promise
payroll*	philanthropist	pound	pricing	promises
payrolls	phrase	practice	primarily	promising
pays	physically	preceding	primary	promissory
pending	pick	predominate	principal*	promoter
pension	picked	preferred	principals	promoters
pensions	pieces	prejudice	principles	promotes
percent*	pink	premises	prior	promotional
percentage*	places	premium	privileges	proof
perform	placing	prepaid	procedure	proper
performed	planes	preparation	procedures	properly
performer	planned	prepare	proceeds	properties

proposed	quantity	receiving	registration	remitting
proprietor*	quarter	recognize	regular	remodeled
prospect	quarterly*	recognized	regularly	remunerating
prospectus	quarters	recommend	regulate	render
protected	questionable	recommended	regulated	rental
protection	quick	reconciles	regulating	renting
protest	quiz	recorded	regulation	rents
proverbial	quizzes	recorder	reimbursed	reorganization
provides	radios	recording	reimbursement	replied
provision	raffles	records	reinstate	reply
provisions	raise	recover	rejection	reporting
prudent	random	recovery	related*	reports*
psychological	rapidly	recreation	relating	represent
punch	rates	rectify	relation	representative
purchase*	ratification	reduce	relationship	reputed
purchased*	ratified	reduced	relative	request*
purchaser	ratify	reducing	relatively	requested
purchases	ratio	refer	relay	requests*
pruchasing	raw	referred	relevant	require
purely	readily	refers	relief	requirement
purports	reasonable*	refund	remain	requires
purposes*	reasonably	regard	remaining	requiring
pursuant	receipt	regarding	remains	requisition
pursued	receipts*	regardless	remedy	resale
putting	receivable	regional	remits	rescinded
qualification	receive	register	remittance	resell
qualify	receives*	registered	remitted	reserve

residence	reversed	satisfy	separate*	signed
resident	reversing	Saturday	separately	significant
resolving	review	save	September	signing
resources	reviewed	saved	seriously	silly
respective	reviews	saver	serves	similarly
responsible	revolving	saving	settlement	simplest
restrict	rid	savings	seventy	singer
restricted	rights	schedule	share	sit
restriction	ring	scientific	shared	situations
restricts	risk	scope	shareholder	sixteen
resulting	risks	scrapped	shares*	sixty
retail	role	secondary	sharing	skill!
retailer	roles	secret	sheet*	skillfully
retailers	rolls	securities	sheets	skills
retailing	rooms	security	shelves	skipping
retails	rose	sees	shift	sky
retained	round	seized	shipments	slow
retains	rule	seldom	shipped	smart
retention	rules	select	shipping	snow
retired	rulings	selected	shop	snowing
retiring	runs	sell*	shops	snows
returns	rush	seller	showing	sold*
revealing	safe	selling*	shows	sole
revenue*	salaried	sells	sick	solution
revenues*	salaries	semimonthly	sign	solve
reversals	salary	send	signals	somebody
reverse	sale*	sends	signature	somehow

someone	stereo	subtracting	swimming	tended
sometime	stick	subtraction	switch	tens
sorry	stipulate	success	tabs	tentative
sought	stipulated	successful	takes	term
sounds	stipulation	sue	talent	termed
sources	stockholder*	sued	talents	terminate
speaking	stocks	suffered	talked	terminated
specialize	store	sufficient	talking	terminates
specials	stores	suitable	tangible	thank
specifically	strictly	sum	tape	thanks
specified	strip	summoned	tasks	thereafter
speed	stronger	sums	taxability	thereof
spell	structure	Sunday	taxable*	thereon
spells	structrues	sundries	taxation	thinks
spent	stub	supermarket	taxed	thirteen
stable	stuff	supervision	taxes*	thirtieth
stack	style	supervisor	taxpayer	thirty*
statement	subcaption	supplier	teach	thorough
standards	subchapter	supply	technically	thousand
stands	subjects	supplying	technique	thousands
stare	submits	supported	telephone	threw
starts	subscription	suppose	teller	throw
stated	subsidiary	supposed	tells	Thursday
statements*	substantial	supreme	temporary	tie
stating	subtotal	surfaced	tenancy	timing
status	subtract	survey	tenant	tires
statutes	subtracted	sweater	tend	tomorrow

tonight	trusts	unknowingly	violating	whichever
tons	tryout	unknown	violation	wholly
tool	Tuesday	unless	virtually	widely
totally	tuition	unlike	void	willful
touch	turning	unnecessary	voluntarily	willing
tourist	twelve	unpaid	voting	win
traded	twenty*	unrelated	voucher	withdrawal
tradein	typically	untrue	vouchers	withdrawn
trailer	unaffected	unused	wages*	withheld
transact	unanimous	update	wait	withholding
transaction	unanticipate	useful	waived	won
transfer	unattracting	uses	waking	wondering
transferred	unchanged	utilities	walk	workers
transferring	unclean	utilizes	wanton	worksheet
transfers	unconstitutional	valid	wants	worksheets
transit	underlying	valuable	warranty	worth
transmittant	understand	valuation	watch	worthwhile
transported	undertake	valued	wealth	writer
transposing	undesirable	variation	wear	writes
travel	unemployment	varies	Wednesday	wrongdoer
tribes	unenforceable	variety	weekdays	yearly
trick	unfilled	vary	weekly	yesterday
truck	uniform	verbal	weight	yours
truly	unilateral	verdicts	weird	yourself
trust	unions	vertical	whenever	zero
trustee	unique	vested	whereas	
trustees	units	vinyl	wherever	

APPENDIX B
HIGHEST FREQUENCY WORD LIST

The 100 words on the following page represented 45% of the words used in all the language sampled. This list is based on the combined oral and written language samples from all occupations studied. It shows the words used most frequently by adults in the ten jobs studied and in the vocational training programs corresponding to those jobs.

Total Words	=	180,000
Total Different Words	=	9,000

the
of
to
and
a
is
in
it
for
that
you
be
or
on
are
I
this
with
as
by
if
have
all
at
from

will
one
not
an
there
can
when
out
we
which
what
do
up
pressure
two
so
they
here
other
ok
right
no
used
may
should

your
was
get
has
must
any
he
got
know
then
don't
each
air
check
that's
but
system
through
valve
going
well
use
than
it's
go

see
more
these
into
just
them
down
time
about
been
some
business
how
its
back
over
work
would
temperature
same
also
where
now
only
like

APPENDIX C

SUMMARY OF OCCUPATIONAL LITERACY REQUIREMENTS

This appendix presents a brief summary of the literacy requirements for all ten occupations studied.

SUMMARY OF OCCUPATIONAL LITERACY REQUIREMENTS

	<u>On The Job</u>		<u>Training Program</u>	
	<u>Reading</u>	<u>Mathematics</u>	<u>Reading</u>	<u>Mathematics</u>
Account Clerk	College to college graduate level	addition, subtraction, multiplication, division, decimals, fractions, business machines	11th grade to college graduate	addition, subtraction, multiplication, division, fractions, decimals, algebra
Automotive Mechanic	9th to college graduate level	basic processes, decimals, fractions, measurement	9th to college graduate level	basic processes, decimals, fractions, measurement
Draftsman	10th grade to college graduate	basic processes, through geometry, algebra, trigonometry	9th grade to college level	basic processes, through geometry, algebra, trigonometry
Electrician	college to college graduate level	basic processes, through geometry, algebra, trigonometry	10th grade to college graduate level	basic processes, through geometry, algebra, trigonometry
Heating and Air conditioning Mechanic	10th grade to college graduate level	basic processes, decimals, fractions, measurement, algebra	11th grade to college graduate level	basic processes, fractions, decimals, measurement
Industrial Maintenance Mechanic	10th grade to college graduate level	basic processes through trigonometry	10th grade to college graduate level	basic processes, decimals, fractions, measurement
Licensed Practical Nurse	10th grade to college level	addition, and subtraction--more necessary to dispense medication	12th grade to college graduate level	addition and subtraction
Machine Tool Operator	9th to college graduate	basic processes, decimals, measurement	9th grade to college level	basic processes, decimals, measurement
Secretary	College to college graduate level	basic processes, decimals, fractions, business machines	10th grade to college level	basic processes, decimals, business machines
Welder	few materials--reading of single word information required	basic processes, fractions, decimals, measurement	8th grade to college graduate level	basic processes, fractions, decimals, measurement, algebra