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ABSTRACT

Designed to assist in the selection of appropriate literacy media for students with visual impairments, this guide outlines the essential elements of learning media assessments. Chapter 1 provides an overview of the learning media assessment (LMA) process. Included is a discussion of Texas law and regulations that govern LMA. Chapter 2 documents the student's use of sensory channels utilizing an objective procedure and recording form. Chapter 3 helps team members translate the student's use of sensory channels into appropriate general learning media by providing guidelines and a checklist. Chapter 4 presents a process for making an initial decision on the literacy medium in which the student will begin a conventional reading and writing instructional program. The following chapter presents a process for continuous assessment of the student's literacy media. The last chapter presents a comprehensive process for selecting functional learning and literacy media for students with additional disabilities. It provides guidelines for determining the student's use of sensory channels and selecting functional media. Appendices include a specific assessment procedure to compare the effectiveness of various print media for students with low vision, assessment forms, and reading strategy lessons. (Contains 10 references.) (CR)

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ED 440 492

Learning Media Assessment

2nd Edition

A Resource Guide for Teachers

by Alan J. Koenig and M. Cay Holbrook

of Students with Visual Impairments

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Learning Media Assessment of Students with Visual Impairments

2nd Edition

A Resource Guide for Teachers

by

Alan J. Koenig, Ed.D.
Texas Tech University, Lubbock, Texas

M. Cay Holbrook, Ph.D.
University of Arkansas at Little Rock, Arkansas

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The gender pronouns he, she, his, and her have been used alternately from chapter to chapter when referring to teachers and students.

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Preface
First Edition

We have long been interested in selecting appropriate literacy media for students with visual impairments. In our early teaching careers, we both worked with students for whom decisions on literacy media were challenging. Since formal procedures were not available at the time, we did what other teachers did—made the best professional judgments we possibly could, often without the assistance of other team members.

When we met each other about eight years ago, we found that our early experiences in selecting literacy media were amazingly similar. We presume that many other teachers shared similar experiences. Until recently, teachers have faced at least three formidable challenges. First, formal procedures were not available for selecting literacy media. Second, teachers often felt compelled to make the decision on literacy media by themselves, generally because other team members felt unqualified to assist with such a complex decision. Also, the teacher of students with visual impairments was supposed to be the expert—in everything! Third, the overriding emphasis on use of vision undoubtedly confused the decision-making process in some instances. We now know there are students who are reading print when braille or a combination of braille and print likely would have been more efficient.

We knew that teachers needed structured guidelines to follow in selecting literacy media. So we started working on a conceptual framework to guide the decision-making process, and our first scholarly article emerged on this topic. Interestingly, as we wrote the article, we felt that there was nothing particularly new about the content other than it was written down for others to consider and use. However, the overriding need for continuing assessment of literacy media had not been addressed to the extent that it was emphasized in our conceptual framework. Feedback from teachers suggested to us that the article was too scholarly (interpretation—too complex to be immediately practical). So we decided to develop two checklists to guide various aspects of the decision-making process. Also, we developed two case studies that illustrated the use of each checklist. When an article was published on this work, teachers told us that this effort was much more practical to them. Obviously we were pleased.

Then the Texas Braille Bill was passed. Part of the regulations implemented by the Texas Education Agency was a "learning media assessment." This assessment determines whether a student is functionally blind and, therefore, eligible to receive the benefits of the Braille Bill. Our previous work was part, but not all, of the learning media assessment process. So we were excited when the Texas School for the Blind and Visually Impaired asked us to write this resource guide. This gave us an opportunity to develop comprehensive, user-friendly procedures that would be of immediate practical value to teachers and other team members.

The first draft of this manual was pilot tested at the Texas School for the Blind and Visually Impaired and the Arkansas School for the Blind during the summer of 1992. Based on the teachers' feedback, we made extensive revisions. Perhaps the most significant revision was to develop appropriate procedures for conducting learning media assessments for students with additional disabilities.

The second field test occurred in the Spring of 1993 throughout Texas and much of the United States. The resource guide was sent to teachers and other professio-nals for their review and critique. Some used the process to conduct learning media assessments with their students, while others provided feedback based on their prior experiences. We received extensive comments—both positive and negative—that assisted greatly in our final revisions and "fine tuning." We were pleased that the overwhelming response supported the value of the learning media assessment process presented in the resource guide. We noted with much concern, however, several comments suggesting that the processes and procedures were too time-consuming. A few individuals asked for an abbreviated or condensed version, with fewer forms.

Not all aspects of this process—and therefore, not all the forms—will apply to each student. If a particular form will yield information needed by the educational team, use it. If the form will not contribute useful information, do not use it.

Learning media assessment is *not* an exercise in filling out forms. If it is approached as a burdensome task that creates more paperwork for the educational team, learning media assessment serves only to waste the teacher's valuable instructional time, and even more tragically, the student's irreplaceable learning time.

In this resource guide we offer a number of checklists and forms that will facilitate the process of learning media assessment if used with sound professional judgment. The focus must remain on the student's needs and on using the process to address those needs.

As you use this resource guide, let common sense and professional judgment guide your professional practice.

The learning media assessment should be guided by specific questions or objectives. These will differ for individual students given factors such as age, type of visual impairment, and presence of additional disabilities. Some common objectives—though not an exhaustive list—are provided inside the front cover.

We understand the tremendous demands placed on teachers of students with visual impairments who are often given caseloads that clearly exceed reasonable numbers. While it is tempting to shorten the assessment process to match the time in one's schedule, we believe that such streamlining will fail to meet students' needs. We hope that teachers will share the best practices presented in this resource guide with their administrators to impress on them the need for additional time to conduct meaningful learning media assessments. One final thought: If teachers consider learning media assessment as a continuing process—one in which each interaction with the student is used for gathering information—then the time demands will not be perceived as so very extensive.

We adhere to the belief that best practices—not minimum compliance—must guide our work with students with visual impairments.

This resource guide contains six chapters that outline the essential elements of learning media assessment. Also, several appendices are included.

Chapter 1 provides an overview of the learning media assessment process. Included is a discussion of the Texas law and the regulations that govern learning media assessment.

Chapter 2 documents the student's use of sensory channels using an objective procedure and recording form.

Chapter 3 helps team members translate the student's use of sensory channels into appropriate general learning media by providing guidelines and a checklist.

Chapter 4 presents a process for making an initial decision on the literacy medium in which the student will begin a conventional reading and writing instructional program.
A checklist is presented, but the focus is on the diagnostic teaching that must occur to make this important decision.

Chapter 5 presents a process for continuous assessment of the student's literacy media. The process assures that the initial decision is still appropriate and it provides a mechanism for adding additional communication tools to meet the changing needs of students.

Chapter 6 presents a comprehensive process for selecting functional learning and literacy media for students with additional disabilities. It provides guidelines for determining the student's use of sensory channels and selecting functional learning media. Then it presents a process for determining if a student with additional disabilities is ready for a functional literacy program and, if so, what medium is most appropriate.

Appendix C presents a specific assessment procedure to compare the effectiveness of various print media for students with low vision. This procedure is used primarily with students for whom there is a concern about the appropriateness of various print reading options.

A screening procedure presents a quick way to identify those students who should receive a thorough assessment.

Many people have given their time and expertise to critique this resource guide and to provide suggestions for revisions. They are recognized with our sincere gratitude in the next section. Of course, any shortcomings are our own.

As more informed decisions on literacy media are made on the students' behalf and with their direct participation, they will be better prepared to enter adulthood with the full power of literacy to meet life's challenges.

We hope we have prepared a resource guide that will help teachers make informed and deliberate decisions about the learning and literacy media for their students. As a result of writing this guide and interacting with many wonderful teachers and students, our understanding of learning media assessment has grown immeasurably.

We hope the resource guide will have a similar impact on others. But more importantly, we hope that students with visual impairments will be the ultimate beneficiaries.

Second Edition

We feel that this "refocusing" is a positive move toward embracing learning media assessment as best educational practice, rather than something that must be done only because of its benefit for children.

Only two short years have passed since the first edition of this resource guide was introduced. We have been overwhelmed by the positive response from educators on the ways in which the guide has been, and continues to be, used. We have listened carefully to all the feedback, as we knew that a second edition would be forthcoming; but we did not expect that it would happen so quickly!

Actually, there are very few substantial changes to the second edition and no major changes to the learning media assessment process itself. The primary change involves a refocusing of Chapter 1 to emphasize best educational practices rather than a delineation of the requirements of the Texas braille bill. The information specific to Texas has been moved to the appendix.

We feel that this "refocusing" is a positive move toward embracing learning media assessment as best educational practice, rather than something that must be done only because of the law. As we have conducted workshops throughout the country, we have been especially impressed by professionals in states that do not have braille bills, but who want to use learning media assessment as an ongoing process *because it is what is best for children and youths with visual impairments!* This is the force that should always guide our professional practices.

Alan J. Koenig *M. Cay Holbrook*

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Chapter 1
Introduction

Learning and Literacy

The goal of schooling is to prepare young people to enter adulthood with the knowledge, experiences, and skills to live independently and productively, consistent with their individual abilities. Certainly most people would agree that the attainment of meaningful literacy skills is a, perhaps *the,* fundamental cornerstone of schooling and, therefore, is a key factor in achieving this goal. All of the decisions made by educational teams during the school years should move students along in progressive steps to living as independently and productively as possible.

All of the decisions made by educational teams during the school years should move students along in progressive steps to living as independently and productively as possible.

Educational programs for children with visual impairments are developed to promote full and meaningful literacy skills, although the issues that surround decisions related to selecting literacy media may be more complex. For this reason, educational teams need to follow structured, systematic processes for making decisions on all learning media—of which literacy media are a part—for children with visual impairments. Learning media assessment, when followed in the spirit of best educational practices, provides such a process for guiding decision-making. When appropriate decisions are made on an ongoing basis, students with visual impairment are continually engaged in the most productive learning possible.

What is Learning Media Assessment?

Learning media assessment is an objective process of systematically selecting learning and literacy media for students with visual impairments. This assessment process guides the educational team in making deliberate and informed decisions on the total range of instructional media needed to facilitate learning for students with visual impairments. Learning media assessment, when used in a meaningful and holistic manner, will provide essential information needed to develop appropriate educational programs for all students, regardless of level of vision or severity of additional disabilities.

Learning media assessment encompasses general learning media and literacy media. *General learning media* include both instructional materials (such as pictures, rulers, worksheets) and instructional methods (such as demonstrations, modeling, prompting). *Literacy media* include the range of tools for reading and writing in print and braille.

Braille Legislation

Braille legislation has been introduced and passed in many state legislatures throughout the country, resulting largely from the concerns of consumer organizations. The primary concern is that students who might benefit from reading and writing in braille may not be receiving appropriate instruction. A number of possible factors have been cited as reasons for the lack of appropriate instruction in braille reading and writing:

- There is a bias against the use of braille.
- Students are receiving inappropriate assessment for the use of braille.
- Teachers have minimal competence in braille.
- Braille is costly.
- Braille is not being taught in some instances because it is an administrative inconvenience.

Typical Requirements

The specific requirements of braille legislation, commonly referred to as "braille bills," vary from state to state. However, there are several key provisions that often are similar.

First, most braille bills provide assurance that students will be provided braille reading and writing instruction if they will benefit from such instruction. There is often an assessment that is required to make the decision on whether a student with a visual impairment will benefit from braille literacy instruction.

Second, many braille bills require that teachers who provide braille reading and writing instruction have specific credentials and qualifications. One common and obviously essential qualification is competence in braille code skills. Various states have developed or are developing braille competency tests for teachers or have endorsed an existing braille competency test developed by a recognized entity. Although not as common as braille competency testing, a few states have included components that require teachers to have competence in methods for teaching braille reading and writing skills.

Third, most braille bills provide assurances that disk copies of school textbooks will be made available to facilitate computer transcription of books into braille. Such a provision has the potential to increase the timely and efficient production of braille textbooks, thereby assuring that braille books are available at the same time that print books are available.

Using this Guide

Professionals using this resource guide should carefully review the braille bill and accompanying regulations for their specific states and consider how the process described in this resource guide might be helpful. For example, the process of learning media assessment described here may provide an assessment that determines whether children with visual impairments should receive reading and writing instruction in braille, print, or both. As mentioned above, this is a typical requirement of some braille bills.

Regardless of specific state requirements, we believe that the process of learning media assessment adheres to best educational practices and, therefore, is appropriate and important for *all* students with visual impairments. Further, we believe that professionals in our field should always strive to exceed minimum requirements and to move our profession to a level in which adherence to best educational practices is the norm not the exception. We will return to a discussion of best practices later in this chapter after providing an overview of the process of learning media assessment.

Overview of the Learning Media Assessment

The learning media assessment gathers three types of information on each student. Specifically, teachers can use the process to objectively examine:

- the efficiency with which the student gathers information from various sensory channels
- the types of general learning media the student uses, or will use, to accomplish learning tasks
- the literacy media the student will use for reading and writing.

Sensory Channels

At the most global level, the learning media assessment documents the **student's efficiency in using sensory channels** (that is vision, touch, and hearing) to accomplish all learning and living tasks. This is the most fundamental information needed to develop an appropriate educational plan for each student regardless of the level of vision or the severity of additional disabilities.

General Learning Media

The learning media assessment also considers the **types of general learning media the student uses** in conjunction with his sensory channels. Learning media can be materials (such as real objects, models, diagrams) or methods (such as imitation, prompting, listening). The learning media assessment determines the student's efficiency in using sensory information. Based on this determination, recommendations are made concerning the visual, tactual, and auditory learning media which will ensure continuous progress in learning.

Literacy Media

Finally, the learning media assessment considers the **student's literacy medium or media.** The literacy medium is a subset of learning media and is based on the sensory channel the student will use for reading and writing. While the student may use a variety of sensory channels to accomplish general learning tasks, he will likely demonstrate greater efficiency in one primary channel for use in reading and writing. The initial decision on the literacy medium is the first step in a longer process. After the initial decision is made, the educational team will provide ongoing assessment to continually review the appropriateness of the initial decision and to determine when additional communication skills are needed.

The process of selecting learning and literacy media differs somewhat for students with additional disabilities. Documenting sensory channels and specifying general learning media apply to all students. Selecting literacy media may not be applicable to all students with additional disabilities. Some students with additional disabilities will enter literacy programs designed to teach them to read for functional purposes such as labeling, identification of environmental signs, and use of alternative communication systems. Part of the learning media assessment process focuses on deciding whether a functional literacy program is appropriate.

Figure 1:
Components of the Learning Media Assessment for Students in Conventional Literacy Programs

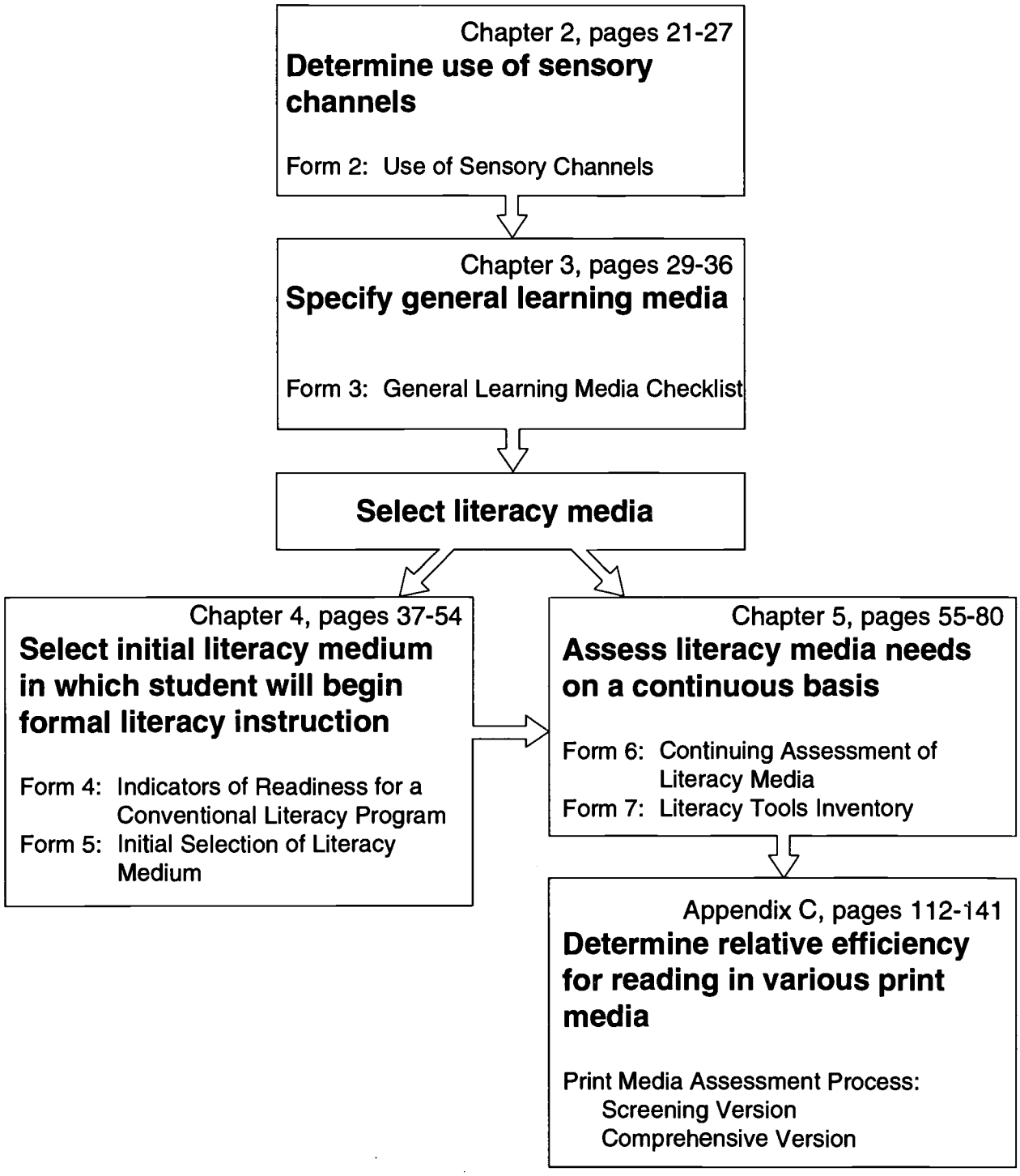
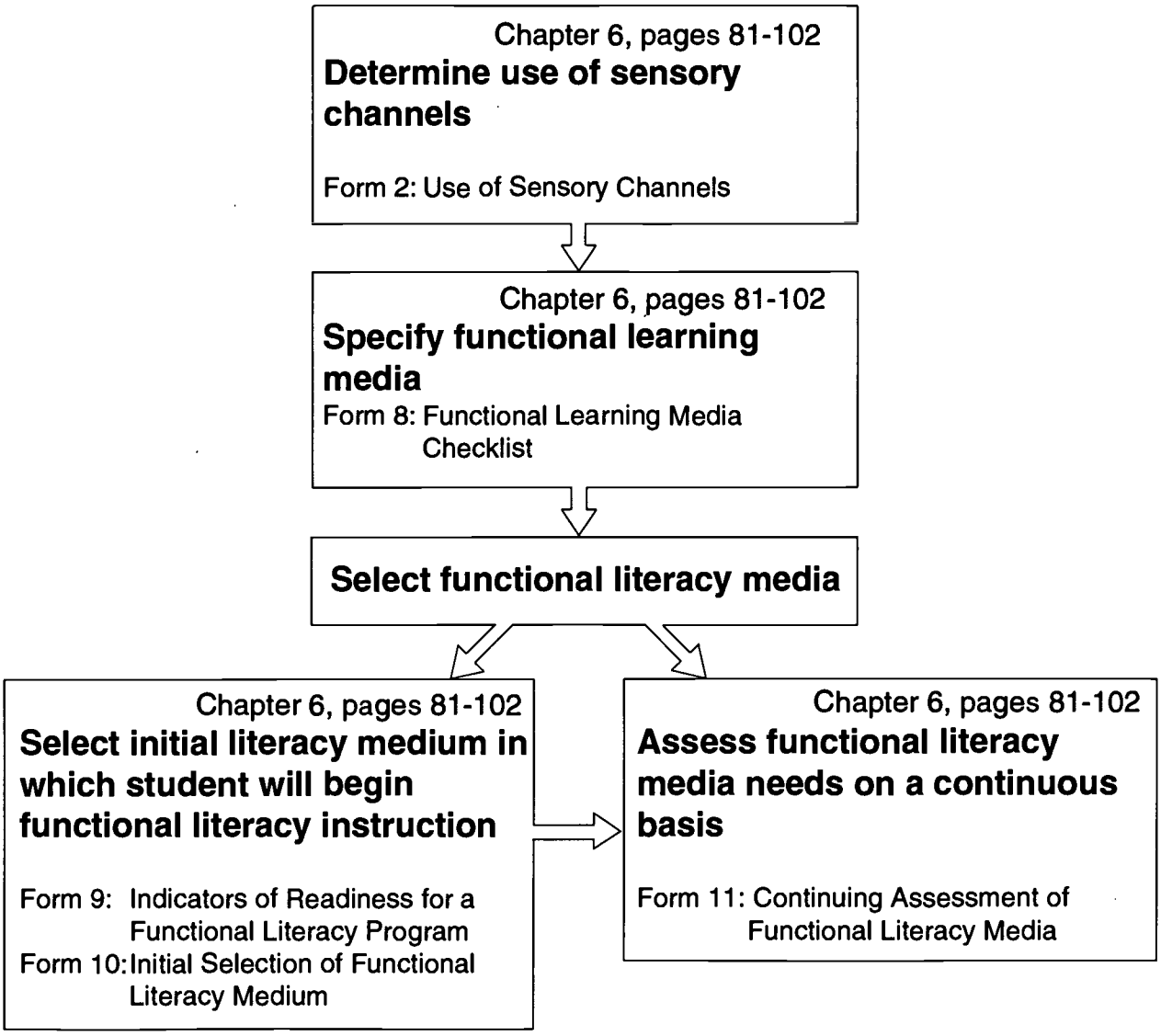


Figure 2:
Components of the Learning Media Assessment for Students in Functional Literacy Programs



Conventional and Functional Literacy Programs

The guidelines in this document provide objective, systematic, and thorough processes for conducting learning media assessment for students who will enter conventional literacy programs, as well as those who will enter functional literacy programs. Specific procedures will be presented in subsequent chapters.

The schematic diagram in Figure 1 shows the relationship between the three components of the learning media assessment for students who will enter, or are currently in, **conventional literacy programs**. Students in such a program demonstrate growth from year to year in academic literacy skills, such as reading stories and literature and writing term papers. Part of a conventional literacy program for students with visual impairments includes using literacy skills to accomplish functional living tasks, such as completing applications, getting information from a newspaper, and maintaining a checking account. We believe that a conventional literacy program is one that uses either print or braille as the primary medium as these media conform to commonly accepted community standards. While aural reading (use of taped books and materials) is a valuable way to gain information, we do not believe that it is a primary literacy medium.

A conventional literacy program is an instructional program of reading and writing in print or braille that generally begins in kindergarten and continues throughout the school years.

The process of learning media assessment for students with additional disabilities who are entering, or are currently in, functional learning and literacy programs is presented in Figure 2. Students who do not enter a conventional literacy program early in the school years may be candidates for a **functional literacy program**. Some functional literacy tasks may include reading street signs to facilitate travel, ordering food from a modified menu, and using labels on household items to assist in daily living tasks. Many students with additional disabilities will not enter functional literacy programs, so the learning media assessment process will focus on the student's use of functional learning media. Examples of functional learning media include materials such as switches, adapted measuring devices, and positioning equipment; methods may include modeling, prompts, and guidance.

A functional literacy program is an instructional program that focuses on survival reading and writing skills needed for increased independence in daily life.

Best Practices

As with any legislation, there are ways to meet the **letter** of the law and ways to meet the **spirit** of the law. For braille bills to have a significant and valuable impact on the education and lives of students with visual impairments, we believe that educators must strive to meet the **spirit** of the law. The spirit of the law is grounded in best practices in which the learning media assessment is considered a continuous process, not a process that occurs upon initial evaluation and then every three years thereafter or at some other arbitrarily established point in time.

Using best practices, the effective teacher of students with visual impairments considers the learning media assessment an ongoing process. As part of this process, the effective teacher continually uses strategies of diagnostic teaching to gather information about the student's learning and literacy media and to use this information immediately to make changes in the learning environment and teaching approaches. This ensures that the student is constantly engaged in the most productive and meaningful learning possible. If decisions are postponed until an arbitrarily scheduled meeting or time, valuable learning will be lost.

The outcome of this assessment will be the determination of the most efficient learning and literacy media for each student with a visual impairment. This systematic and ongoing process will ensure that each student receives instruction in the media most valuable to meet his individual needs. It further assures that reading and writing instruction is delivered through the sensory channel that has been determined as most efficient for acquiring literacy skills.

Decisions are always made on the assessed needs of students, never on extraneous logistical factors such as the availability of a teacher of students with visual impairments, administrative convenience, or fiscal considerations.

A best practices approach is guided by the presumption that both print and braille are equally valuable as media for reading and writing when appropriately matched to the individual learning characteristics of each student.

Diagnostic Teaching

Diagnostic teaching combines assessment and instruction. The process of diagnostic teaching is guided by the following principles:

- Instruction and assessment cannot be separated in effective teaching
- Students learn and develop as individuals, not as a group
- Information gathered from assessment should be used immediately to change instruction to make learning more efficient
- Systematic problem-solving techniques can be employed to explore areas in a child's development that are unknown (Koenig & Holbrook, 1989, p. 297).

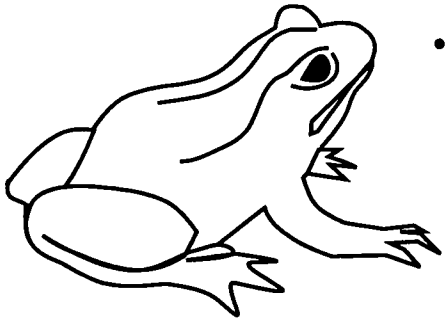
Effective teachers are continually engaged in diagnostic teaching as part of their daily practice. It is not a technique that requires extensive additional competencies or skills. When a gap or weakness is noted in a student's skills, the teacher formulates a set of possible influencing factors. As part of the process of instruction she begins to determine which factor or combination of factors is influential. Diagnostic teaching assures that assessment findings are educationally valid since the strategies used during assessment will be continued in instruction. There is no gap between these two essential processes. Maximum efficiency of the teacher's time is also assured.

Diagnostic teaching simply guides a teacher's instructional practices as though each interaction with a student, whether instructional or not, is an opportunity to engage in integrated assessment.

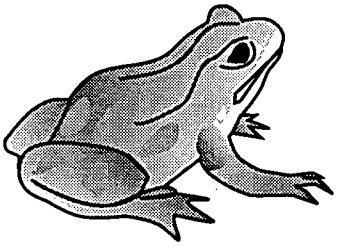
An Illustration

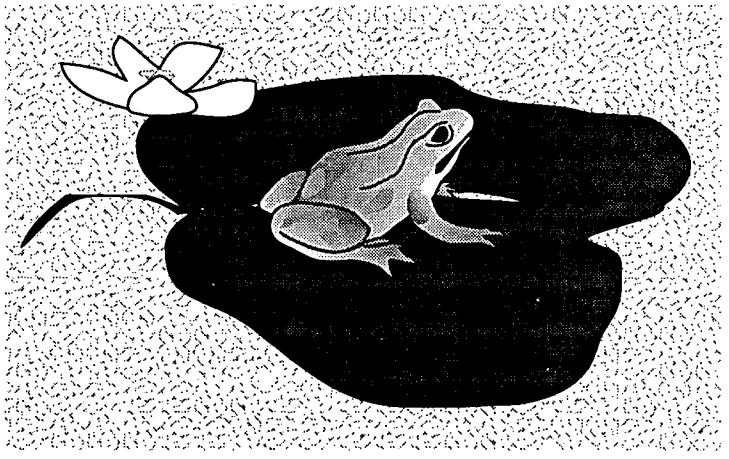
Consider, for example, a teacher who observes that a preschooler with low vision is having difficulty selecting the important elements in a picture from a storybook. Since this had not been a difficulty noted in the past, the teacher begins to systematically explore possible factors, such as book position, lighting, picture complexity, and efficiency of scanning skills. Being skilled in the process of diagnostic teaching, the teacher knows that to isolate the gap or area of difficulty, she can **change only one factor at a time.** The process may unfold over a period of days or weeks as follows:

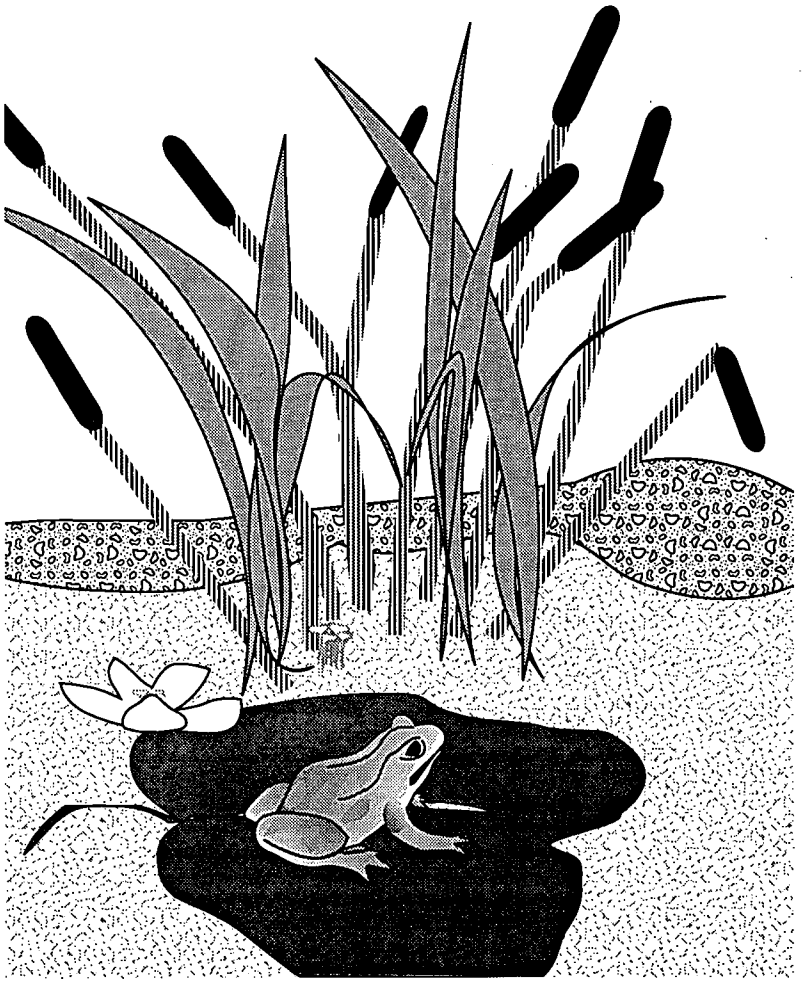
- The teacher systematically presents the storybook at different positions (such as on table, slightly tilted, markedly tilted) and finds the student's behavior is the same in all positions.



- The storybook is presented under different lighting conditions, and again no differences in behavior are noted.







- Since neither position or lighting alone contributed to any differences in behavior, the teacher tries various combinations of book position and lighting conditions. Again, no differences in the student's picture interpretation skills are noted.

- The teacher looks at the complexity of pictures in the storybook. In doing so, she finds that this is the first book the student has read with a fair amount of extraneous background information. When asked to interpret simple pictures without extraneous information, the student has no difficulty. However, difficulty is noted when the student is given more complex pictures. This reveals an area of weakness in picture identification skills.

- Further exploration reveals that the student **has** the scanning skills necessary to find a central element in a **simple** picture, but lacks the systematic scanning skills needed to locate and interpret information in more complex pictures.

- The teacher then continues working with the student over the upcoming weeks and months to learn and practice more sophisticated scanning skills using pictures that are increasingly complex, but developmentally appropriate.

Holistic Assessment

Diagnostic teaching is a holistic process. To be effective the teacher must consider any factor that is under consideration within the **total** context of all other factors that may be influencing behavior. This includes the total educational and social environment in which the student is learning and living.

One of the barriers to selecting the most appropriate literacy medium is using a fragmented approach to assessment and decision making. Such a fragmented approach relies on isolated data from ophthalmological reports, functional vision assessments, or "achievement type" assessments. These provide only a small part of the information that is needed. The teacher must then pull all of the information together to make a professional judgement on initial instruction in print or braille. When this information is considered in isolation without the opportunity to compare it to the student's performance in ongoing situations, a formidable barrier exists to informed decision making.

Initial Decisions

It is important during early years in the education of a student with a visual impairment that he be given rich and exciting multisensory experiences. Parents and teachers who use a diagnostic teaching approach in early literacy instruction should offer a variety of experiences and opportunities for the child to use vision, touch, and other senses to gather information about his world. In this way parents and teachers collect data which will support a more informed decision and provide an objective basis for selecting the most efficient literacy medium for early reading and writing.

Continuous Assessment

Use of diagnostic teaching in the learning media assessment process will not end after the initial decision is made. Diagnostic teaching should be used to continually assess the appropriateness of the initial decision. If, through repeated and sustained interactions with the student, the teacher finds that the student is not making appropriate progress in the initially selected literacy medium, diagnostic teaching will provide the objective information needed to make an informed decision on changing the primary literacy medium. The decisions on adding supplementary literacy tools to efficiently handle the massive demands for reading and writing in school are equally important. The effective teacher who uses diagnostic teaching will continually gather the information needed to base informed decisions on when to teach additional literacy tools.

Assessing When English is a Second Language

There will be students in need of a learning media assessment for whom English is a second language. Literacy programs (and early literacy programs) are equally as important for these students. Do not delay the process of learning media assessment or literacy instruction until a student progresses in English skills. Throughout the assessment process, it will be especially important for teachers to work in effective teams including member(s) with bilingual and multicultural expertise. Although many of the forms included in this assessment are observational, teachers should not assume that data can be collected for these students solely on the basis of observation of the student's actions without consideration of what the student is saying. It may be important to simultaneously observe the student as he is also being videotaped for further consultation with the team members, who are experienced in bilingual and multicultural education.

*Remember, working with a team increases the effectiveness of interactions by using the skills and expertise of **all** team members.*

Remember that diagnostic teaching includes planned, deliberate interactions with the student, requiring him to demonstrate mastery of tasks that may be unfamiliar to him. It may be difficult to have the quality of interactions needed for effective diagnostic teaching if the student and teacher are not fluent in the same language. In this case, assure that the student works with someone with whom he can interact efficiently.

Summary

This chapter provides an overview of braille legislation and some typical requirements that have resulted from this legislation. Also, the basics of the learning media assessment were presented, along with a rationale for using a best practices approach for making important decisions on literacy media.

Chapter 2
Use of Sensory Channels

Overview

The procedure described in this section allows an educational team to objectively determine a student's primary and secondary sensory channels for learning. Accurate documentation of the student's use of visual, tactual, and auditory sensory channels is an essential piece of information needed for the selection of appropriate learning and literacy media.

Applicable Populations

All students who are being assessed, or reassessed, for eligibility as a student with a visual handicap regardless of age, level of vision, or severity of additional disabilities

Materials

√ Completed copy of *General Student Information* (Form 1)

√ Multiple copies of *Use of Sensory Channels* (Form 2)

Notes: If the information contained in Form 1 is already available from some other source, it is unnecessary to use this form. Blank copies of all forms can be found in Appendix G on pages 180 to 195.

Procedures

Using Form 2: *Use of Sensory Channels*

1. Make arrangements for at least three or more observations of the student for periods of 15 to 20 minutes in various environments. Carefully select environments that include:
   - structured times and unstructured times
   - familiar settings and unfamiliar settings
   - indoor settings and outdoor settings.

   For example, one observation may take place during recess—an unstructured time in a familiar, outdoor setting. Another observation may involve a field trip to the post office—a structured time in an unfamiliar, indoor setting.

   In general, it is best to observe, record, and rate behaviors as they occur. Valuable information will be lost if observations are made only from video tapes. It may be important to document some of the student's behaviors on video, but this should not be the sole source for your observations.

2. Include parents and other members of the educational team as observers. They will need instruction how to use the observation form. Some joint observations or use of video tapes with appropriate modeling will be helpful for the other observers. Parents will be able to provide important information on the student's use of sensory channels at home.

3. As you observe, record only concrete, observable behaviors on the *Use of Sensory Channels* (Form 2). It is most reliable to record behaviors that result in some motor action or reaction on the part of the student (such as reaching for an object, turning the head, crawling or walking toward a person or object).

   Record and rate all behaviors you observe in the order in which they occur during the observation period. Avoid the temptation to *selectively* record and rate behaviors— picking and choosing which behaviors to include. If behaviors are selectively rated, the resulting profile may not accurately or objectively reflect the student's use of sensory channels. Remember that this procedure samples behavior during specific periods of time, so you must be as deliberate, comprehensive, and objective as possible in your observation technique.

4. Code a continuous behavior (such as running around a track or trailing a wall) only once. Thereafter, code the unique behaviors that occur within the continuous behavior. For example, a student who is jogging around a track may wave at a friend and veer off the track. In this illustration, the following behaviors are coded:
   - jogged around track (continuous behavior)
   - waved at friend (unique behavior)
   - veered off track (unique behavior).

5. For each observed behavior, consider all sensory channels the student used to accomplish the task or activity. Since it is important to differentiate the primary and secondary sensory channels, make a determination as to which channel was primarily used in the task and place a box (□) around the V (visual), T (tactual) or A (auditory) on the observation form. Then if other sensory channels were used, circle (○) the appropriate letter(s).

   If more than one sensory channel was used in the observed behavior and you are not certain which was the primary channel, put a circle around all appropriate letters. Given the importance of differentiating primary and secondary channels, only specify one as primary when you are absolutely certain.

6. In each setting, record and rate 15 or more discrete behaviors. As you increase the number of behaviors and the number of settings, you will increase the reliability of your observations.

7. Following all observations, proceed to the interpretation section. If the student is inconsistent in use of sensory channels or you have been unable to differentiate between the primary and secondary channels, you may need to extend the number of observation periods until a consistent pattern emerges. Or, for a few students, two channels may be used equally to accomplish tasks.

Interpretation of Data

1. Gather all observation forms that have been completed on the student.
2. Look for a consistent pattern across the observation settings that indicates the student's primary sensory channel. The sensory channel that is most often and consistently marked with a box (□) will be the primary sensory channel. Record this channel on the observation form.
3. Look across the observation settings for secondary sensory channels. These will be the channels that are consistently circled (◯). Record the secondary channels on the observation form.
4. If consistent primary and secondary channels have been determined, specify these in your report of the learning media assessment.

   If a consistent pattern has not been identified, it may be helpful to differentiate observed behaviors involving near tasks from those involving distance tasks. If a pattern still does not emerge, collect additional information and/or seek to identify factors that are responsible for the variation in observed use of sensory channels.

   According to the State Board of Education regulations, you may recommend "ongoing assessment" to determine a student's learning medium. However, you must specify a time at which the team will reconvene to make a decision as to the primary and secondary sensory channels.
5. Use information on the student's primary and secondary channels to base recommendations on appropriate learning media. See the next chapter for information on completing this task.
6. If a student seems to exclude one sensory channel, it is important to investigate whether she has had adequate opportunity and encouragement to use that sensory channel. For example, if a child was diagnosed as blind at an early age, she may not have been encouraged to look at objects or use her vision. It is important to provide rich and varied experiences for the student to use the sensory channel in question.

Case Studies

Two case studies are presented to illustrate the procedure for documenting sensory channels and interpreting the findings. Since these students will be used for illustrative purposes, observations in only one setting have been included. For actual use, you would collect data in at least three settings.

Mary

Mary, a student with a diagnosis of optic nerve hypoplasia, is four years and three months old. She has been determined to be visually handicapped through a comprehensive educational evaluation. She is now ready for her three-year reevaluation. Mary is currently enrolled in a preschool program for students with visual impairments with emphasis on academic readiness skills. It is anticipated that next year she will be enrolled in a kindergarten program, but this will be determined at the next educational team meeting.

Learning Media Assessment Form 2

USE OF SENSORY CHANNELS

Student *Mary*
Setting/Activity *School playground — sandbox — school building*
Date *2-3-93* Observer *John Doe*

Observed Behavior	Sensory Channel		
Picked up bowl	V	[T]	A
Picked up strainer	V	[T]	A
Explored strainer	V	[T]	A
Picked up bucket	V	[T]	A
Picked up plate	V	[T]	A
Talked to self	V	T	[A]
Dug in sand	V	[T]	A
Poured sand into bucket	V	[T]	A
Brushed sand from legs & dress	V	[T]	A
Said "Goodbye"	V	T	[A]
Located door and doorknob	(V)?	[T]	A
Trailed wall	V	[T]	A
Explored grill in wall	V	[T]	A
Encountered open door	(V)?	(T)	A
Stomped on door mat	V	[T]	(A)
Located office door	V	[T]	(A)
Talked with people in office	V	T	[A]
Squared off	V	[T]	A
Located wall	V	[T]	A
Found classroom	V	[T]	(A)
Bumped into desk	V	[T]	A
Explored objects on desk	V	[T]	A
Searched for dropped box	V	[T]	A
Located slide	V	[T]	A
Sat at top of slide	V	[T]	A
Put objects in jar	V	[T]	(A)

☐ **Probable Primary Channel:** *Tactual*
◯ **Probable Secondary Channel(s):** *Auditory*

As indicated by Mary's observation form, she uses touch as the primary sense to gather information about her environment, and uses auditory information as a secondary sensory channel. Only in instances in which no tactual information was readily available (such as responding to other's verbal interactions) did she use auditory information as a primary channel. There were some behaviors that indicated a possible use of vision, but further observations are needed to confirm whether vision is a useful secondary sensory channel.

Tom Tom is 19 months old with a diagnosis of retinopathy of prematurity. He is currently enrolled in a home intervention program for students with disabilities. He receives services from a home intervention teacher with training in visual impairment and from an occupational therapist. A learning media assessment is being conducted to determine appropriate learning media for Tom.

As indicated on Tom's observation form, he is making use of his visual, tactual, and auditory senses. However, clearly he uses vision as his primary sensory channel at this point, and he uses tactual and auditory information as secondary channels.

Learning Media Assessment Form 2

USE OF SENSORY CHANNELS

Student *Tom*
Setting/Activity *Early Learning Classroom*
Date *2-3-93* Observer *Jane Doe*

Observed Behavior	Sensory Channel		
Explored toy on floor	[V]	(T)	A
Reached for ball	[V]	T	A
Responded to cymbals	V	T	[A]
Reached for cymbals	[V]	T	A
Banged cymbals	(V)	(T)	(A)
Looked at teacher and closet	[V]	T	A
Crawled to mother	[V]	T	A
Crawled to piano	(V)	T	(A)
Explored piano	[V]	(T)	(A)
Avoided coffee table	[V]	T	A
Reached for bells	(V)	T	(A)
Reached for bells in lap	[V]	T	A
Explored bells	[V]	T	(A)
Turned to spin toy	[V]	T	A
Spun "cube" toy	[V]	(T)	(A)
Explored "cube" toy	[V]	(T)	(A)
Responded to teacher's voice	V	T	[A]
Explored bug toy	[V]	T	A
Looked around room	[V]	T	A
Reached for bubbles	[V]	T	A
Reached for bottle	[V]	T	A
Popped bubble	[V]	(T)	A
Bounced on ball	[V]	T	A
Crawled to "cube" toy	[V]	T	A
Explored "cube" toy	[V]	T	(A)
Put bean bags in bucket	[V]	(T)	(A)

[ ] **Probable Primary Channel:** *Visual*
( ) **Probable Secondary Channel(s):** *Auditory - tactual*

Summary

The procedure described in this section yields essential information on the student's use of sensory channels. More specifically, it provides information on the student's primary and secondary channels. This information will be used next as part of the determination of appropriate learning media that the student will use based on his primary and secondary sensory channels.

Chapter 3
Determining Types of General Learning Media

Overview

Students and teachers use a multitude of learning media in the instructional process:

- Toys motivate students to explore their environment,
- Real coins facilitate learning the use of money,
- Landmarks in the environment provide orientation cues,
- Abaci provide an efficient tool for completing computation problems,
- Hand-over-hand modeling facilitates learning of daily living skills.

These examples are only some of the various types of media used in instruction. However, none of these examples relate specifically to literacy media. General learning media, therefore, encompass both materials (such as pictures, real objects, globes) and processes or methods (such as physical prompting, demonstrations.)

During the process of specifying general learning media for a particular student, information gathered on the student's use of sensory channels is used. For example, if a student is found to use the tactual and auditory senses for learning, media such as environmental sounds and real objects will be useful. Other media, such as pictures, may not be useful.

The *General Learning Media Checklist* (Form 3) will assist the educational team as they determine appropriate near and distance methods and materials for the student. Of course, it will be critical to consider the student's instructional goals for the upcoming year and to indicate the media needed to meet these specified goals. However, it will also be important to indicate on this checklist other types of media which may be useful for the student in the coming year. In this way the student's use of various general learning media can be effectively communicated with all members of the educational team.

Establishing the types of general learning media the student uses will facilitate the later process of selecting the specific literacy medium or media. For example, if the student primarily uses visual media for general learning, initial evidence exists to support (although not to confirm) that the student will read in a visual medium (print). On the other hand, if the student primarily uses tactual and/or auditory information for learning, then you may expect that the student will read in a tactual medium (braille).

Applicable Populations

All students who have been determined to be visually handicapped regardless of age or level of vision.

Materials

√ Completed *Use of Sensory Channels* (Form 2)

√ Copy of *General Learning Media Checklist* (Form 3)

Note: Blank copies of all forms can be found in Appendix G on pages 180 to 195.

Procedures

Using Form 3: *General Learning Media Checklist*

1. Refer to the information collected on the student's use of sensory channels. Based on the student's viable sensory channels, both primary and secondary, make recommendations on the use of general learning media by circling the appropriate V, T, and A's relating to the specific type of media to be used.

2. Based on the student's **primary** sensory channel, select appropriate learning media from the *General Learning Media Checklist* (Form 3). Consider media the student is now using, as well as media the student has the potential to use in the upcoming year with appropriate instruction in use of that media. **The media listed on this checklist are suggestions and should not be considered inclusive.**

3. Based on the student's **secondary** sensory channel or channels, select appropriate learning media from the checklist. Again, consider both media the student is now using and media he has the potential to use with appropriate instruction.

Interpretation of Data

Throughout the school year, members of the educational team will use the recommended learning media for instructional purposes. The teacher of students with visual impairments can use the *General Learning Media Checklist* (Form 3) to communicate with regular classroom teachers the media the student should be using in the classroom. It is also important to indicate the media in which the student will be receiving instruction, so the regular classroom teacher will have appropriate expectations and will do her part in developing skills in the use of such media. For new learning media the student will be taught to use, appropriate goals and objectives should be included in the IEP.

Case Studies

To illustrate the process of selecting appropriate learning media, the two case studies presented in the previous chapter are used.

Mary

In documenting Mary's use of sensory channels, it was determined that she relies primarily on her tactual sense and uses her auditory sense as a secondary channel of sensory input. Therefore, appropriate learning media to complement her tactual sensory channel would include materials such as real objects, and full size and scale tactual models. Appropriate methods may include hand-over-hand prompting and physical guidance. To complement her auditory channel, media may include verbal descriptions, cassette tapes with readiness songs, environmental sounds, verbal descriptions, and verbal guidance.

Learning Media Assessment Form 3

GENERAL LEARNING MEDIA CHECKLIST

Student *Mary*

Date *2-4-93* Evaluator *Jane Doe*

Distance

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	-	-	Pictures	V	-	-	Pointing
V	-	-	Alphabet strips	V	-	-	Gestures
V	-	-	Wall clocks	V	-	-	Facial expressions
V	-	-	Calendar	V	-	-	Demonstration
V	-	-	Felt board	V	-	-	Modeling
V	-	-	Flip chart	-	-	(A)	Oral instructions
-	-	(A)	Environmental sounds	-	-	(A)	Verbal prompts
V	-	-	Timeline	-	-	(A)	Verbal guidance
V	-	-	Number line	-	-	(A)	Verbal descriptions
V	-	-	Posters, wall maps	-	-	(A)	Questioning
V	-	(A)	Videos, movies, TV	-	-	A	Class discussions
V	-	-	Transparencies	-	-	A	Lectures
-	-	(A)	Tapes, records, CDs	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____

Student *Mary* **General Learning Media Checklist p. 2**

Near

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	T	-	Pictures	V	(T)	-	Pointing
V	(T)	(A)	Toys	V	T	-	Gestures
V	(T)	-	Clay	V	-	-	Facial expressions
V	(T)	-	Paint	V	(T)	(A)	Demonstrations
V	(T)	-	Crayons	V	(T)	(A)	Modeling
V	T	-	Stencils	V	(T)	(A)	Prompts, guidance
V	(T)	-	Puzzles	V	T	A	_____
V	T	-	Board games	V	T	A	_____
V	(T)	-	Real objects	V	T	A	_____
V	(T)	-	Models	V	T	A	_____
V	T	-	Flash cards	V	T	A	_____
V	T	-	Worksheets, workbooks				
V	T	A	Personal watch, clock, timer				
V	T	-	Desk calendar				
V	T	-	Desk number line, timeline				
V	T	-	Math manipulatives				
V	(T)	-	Money				
V	T	-	Abacus				
V	T	A	Calculators				
V	T	-	Maps, atlases				
V	T	-	Globe				
V	T	-	Charts, diagrams				
V	T	A	Measuring devices				
V	T	A	Science materials (such as lab equipment)				
V	T	A	Language Master				
-	-	(A)	Tapes, record albums, CDs				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				

Tom Tom was found to use vision as a primary source of sensory input and hearing and touch as secondary channels. At Tom's developmental age, his educational program should emphasize a multisensory approach to learning. He should be encouraged to use all sources of sensory input to increase the quality of information he is receiving. To make use of his visual sense, general learning media such as pictures, toys with multisensory qualities, and modeling will be important. If media have tactual qualities, such as most real objects and toys, using those same materials will accentuate the learning experience. Finally, he will rely on listening and verbal guidance, most probably paired with other sources of sensory input, to facilitate learning.

Learning Media Assessment Form 3

GENERAL LEARNING MEDIA CHECKLIST

Student *Tom*

Date *3-10-93* Evaluator *Jane Doe*

Distance

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
(V)	-	-	Pictures	(V)	-	-	Pointing
V	-	-	Alphabet strips	(V)	-	-	Gestures
V	-	-	Wall clocks	(V)	-	-	Facial expressions
V	-	-	Calendar	(V)	-	-	Demonstration
(V)	-	-	Felt board	(V)	-	-	Modeling
V	-	-	Flip chart	-	-	(A)	Oral instructions
-	-	(A)	Environmental sounds	-	-	(A)	Verbal prompts
V	-	-	Timeline	-	-	(A)	Verbal guidance
V	-	-	Number line	-	-	(A)	Verbal descriptions
V	-	-	Posters, wall maps	-	-	(A)	Questioning
(V)	-	(A)	Videos, movies, TV	-	-	A	Class discussions
V	-	-	Transparencies	-	-	A	Lectures
-	-	(A)	Tapes, records, CDs	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____

Student *Tom* **General Learning Media Checklist p. 2**

Near

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	T	-	Pictures	(V)	(T)	-	Pointing
(V)	(T)	(A)	Toys	(V)	T	-	Gestures
(V)	(T)	-	Clay	(V)	-	-	Facial expressions
(V)	(T)	-	Paint	(V)	(T)	(A)	Demonstrations
(V)	(T)	-	Crayons	(V)	(T)	(A)	Modeling
V	T	-	Stencils	(V)	(T)	(A)	Prompts, guidance
(V)	(T)	-	Puzzles	V	T	A	_____
V	T	-	Board games	V	T	A	_____
(V)	(T)	-	Real objects	V	T	A	_____
(V)	(T)	-	Models	V	T	A	_____
V	T	-	Flash cards	V	T	A	_____
V	T	-	Worksheets, workbooks				
V	T	A	Personal watch, clock, timer				
V	T	-	Desk calendar				
V	T	-	Desk number line, timeline				
V	T	-	Math manipulatives				
V	T	-	Money				
V	T	-	Abacus				
V	T	A	Calculators				
V	T	-	Maps, atlases				
V	T	-	Globe				
V	T	-	Charts, diagrams				
V	T	A	Measuring devices				
V	T	A	Science materials (such as lab equipment)				
V	T	A	Language Master				
-	-	(A)	Tapes, record albums, CDs				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				

Summary

The process of selecting appropriate learning media is based on the student's demonstrated use of his sensory channels. It is important to consider the broad range of materials and methods the student will use given all viable sources of sensory input. It is also important to consider media the student will learn to use with appropriate instruction.

Chapter 4
Selecting Literacy Media: Initial Decision

Overview

The purpose of this phase is to assist members of the educational team in making an initial determination of the literacy medium. This decision is based on data gathered through systematic observations. By use of a diagnostic teaching approach, the student is given experiences with materials requiring the use of all senses. An initial decision regarding the literacy medium is made and then closely reexamined throughout the student's school career to determine the effectiveness of the decision and need for possible changes (see Chapter 5).

The initial decision regarding the literacy medium is influenced by a number of factors. First, this decision requires a systematic examination of the student's sensory preferences by all members of the educational team including teachers, support personnel, and parents. Such a systematic examination requires careful, deliberate, and objective observations. Second, materials used at the preschool level are often visually interesting and visually uncomplicated and may be unrelated to the demands of future visual tasks. A student who can successfully perform tasks visually using preschool materials may not necessarily have success with visual materials in future educational tasks. Third, it is common for most students to have extensive experience using visual materials, while use of tactually interesting materials or those which require the use of other senses is less common. In this case, the student might indicate a preference for visual tasks and materials simply because she is inexperienced and unfamiliar with other types of materials.

Diagnostic teaching is used to assure that the student has received the necessary opportunities to use vision and touch so that decisions truly reflect the student's abilities and preferences. Team members must work closely with the student, providing rich and meaningful experiences with both tactual and visual opportunities and gathering data as the student becomes more experienced with both options. With this clearer view of the student's sensory abilities, the educational team is prepared to consider how the student might perform on future, more visually demanding tasks.

Applicable Populations

Students who are entering a conventional early literacy program

When to Make a Decision

A decision on the initial literacy medium is generally made prior to the time when instruction in formal readiness skills is initiated. Typically such instruction begins in the late preschool years or in kindergarten. The timing of the decision, though, is made on the basis of individual student characteristics and readiness for formal prereading instruction, not on the basis of age or grade level. A decision on the initial literacy medium is also appropriate for a student who has already begun independent acquisition of literacy skills (e.g., a student who knows the alphabet from magnetized letters on the refrigerator door).

Using Form 4: *Indicators of Readiness for a Conventional Literacy Program*

If the educational team is unsure about whether or not the student is prepared to begin a formal literacy program, and thus, whether an initial decision is appropriate, *Indicators of Readiness for a Conventional Literacy Program* (Form 4) may be used. Review the early literacy behaviors on the checklist and indicate whether the student is demonstrating the behavior (check Yes), is not demonstrating the behavior (check No), or has had no opportunity (check No Opportunity). For skills marked No Opportunity, provide appropriate experiences and then reconsider if the behaviors are present or absent.

Interpretation of Data

As the student consistently demonstrates the behaviors, especially those in the second half of the list that directly relate to interactions with print and/or braille, it becomes more imperative to select the initial literacy medium. Refer to the Decision-Making Guide on pages 49 to 53 for further information.

Materials

√ Copies of *Indicators of Readiness for a Conventional Literacy Program* (Form 4)

√ Copies of *Initial Selection of Literacy Medium* (Form 5)

Note: Blank copies of all forms can be found in Appendix G on pages 180 to 195.

Procedures

Using Form 5: *Initial Selection of Literacy Medium*

1. Distribute copies of the checklist to all members of the educational team. Team members should be aware of the need to systematically examine the student's use of sensory channels, as well as the need to include a number of people who will have had a variety of opportunities to observe the student.

2. Observe the student a number of times in a variety of natural settings. Allow enough time between distributing the checklist to members of the educational team and the team conference for each person to have an adequate opportunity to observe the student. The process of observing a student for the purpose of making an initial determination regarding literacy medium will take an extended period of time.

Section I Use of Sensory Information

3. Consider the items in Section I on the *Initial Selection of Literacy Medium* (Form 5). If a team member has not observed the student's behavior relating to any item, he should work with the student to determine the response to that item. For example, if the student has not been observed "scribbling/writing", the team member will want to provide multiple opportunities for the student to scribble with a crayon or pencil and with a braille writer. In this way, the student will have opportunities to accomplish tasks that she may not have tried before, and the educational team can assess the student's sensory efficiency.

4. Use *Initial Selection of Literacy Medium* (Form 5) to carefully observe the student for the behaviors and record responses. If the student is responding visually, circle the V. If the student is responding tactually or with other senses, circle the T/O. Additional comments or observations (such as type of materials, distance from objects, consistency in responses) should be recorded directly on the checklist. Note responses that demonstrate equal efficiency in use of Visual and Tactual/Other Information by circling both V and T/O.

   - Responses for the first six items in this section relate closely to information gathered during the use of sensory channels. Those members of the educational team who are very familiar with the

student's use of sensory channels may use information from earlier assessments to complete these items.

- Responses for the last five items in this section provide feedback regarding how the student gathers information for near tasks. It is important that members of the educational team very carefully consider whether the student has had adequate experience in the use of all senses in gathering information. Certainly a student with very little or no experience with braille cannot be expected to identify names or simple words tactually (even though she may be able to do so visually). A period of continued diagnostic teaching is necessary to provide the student with additional experiences prior to the initial determination of the literacy medium.

Section II Working Distances and Size Preference

This section relates directly to skills that are similar to those needed to accomplish literacy tasks. Members of the team should provide the student with opportunities to demon-strate skills in tasks involving near work.

5. Observe and record the student's natural choice of working distance when visually examining classroom materials, reading or looking at pictures, and writing, drawing, or coloring. Record object size and distance for visual identification of objects and object size for tactual identification. It may be helpful to also record specific information regarding the student's ability in these areas in the Comments/Observations section. Useful information includes the complexity and familiarity of the object, as well as the time it takes the student to identify the object, and if she appears to be guessing.

6. Use the space for Additional Observations at the bottom of the page to record observed behaviors that may not be reflected in the checklist.

Additional Observations

7. At the bottom of *Initial Selection of Literacy Medium* (Form 5), include implications of the student's eye condition and additional handicapping conditions. This information may be found on the *General Student Information* (Form 1) or from the student's cumulative folder; if so, you may refer to the information on eye condition and additional disabilities there. While the specialist in visual impairment will likely have the most information on the visual impairment, other members of the team may also be able to respond to this section, especially regarding fluctuation of vision.

8. Include information relating to additional handicapping conditions. While one team member may have the most information, all members of the team should indicate additional concerns to be considered. If team members have concerns about the influences of additional disabilities, Chapter 6 may provide useful guidance.

Interpretation of Data

Following completion of the checklist, members of the educational team should meet to discuss results and item discrepancies. This discussion should also include the need for additional information before a decision is made. The Decision-Making Guide on pages 49 to 53 may be helpful.

Data from *Initial Selection of Literacy Medium* (Form 5) must be carefully interpreted. This checklist is not designed to give team members a clear-cut decision based on the circled responses. Rather, this checklist is designed to guide the professional decision-making process by providing a systematic approach to behavioral observations. **Professional judgment is still the most critical element in the interpretation of these data.**

- The decision regarding literacy medium should NOT be made on the basis of the number of responses circled under Primarily Visual Response or Primarily Tactual/ Other Response. While these responses can provide helpful information, it is critical to also examine information concerning Comments/Observations, Working Distances and Size Preferences.

- Information on the eye condition and additional disabilities will provide insights in the determination of literacy medium by focusing on skills or abilities that will relate to the student's future need for, or success with, braille or print.

There may be times when the educational team feels that they do not have the information necessary to make critical decisions. Perhaps there will be times when the choice for braille and the choice for print will appear equal. Furthermore, there may be times when the student will continue to show preference for visual information, while the team feels that the better choice is the use of tactual information through braille. At such times, it will be necessary to provide ongoing assessment until sufficient information is available to make an informed decision. This is the most critical time for the diagnostic teaching aspect of this assessment. The student will be receiving instruction in braille readiness skills while continuing to use vision, and therefore strengthening skills both tactually and visually. Then a decision will become clearer.

Making a Decision

To select the initial medium in which a student will begin reading and writing instruction, team members should evaluate all data in a holistic manner. No piece of information should be isolated from the total context of all other pieces of information. It may be helpful to think of characteristics of students who may be likely print readers and those who may be likely braille readers. Then team members can consider the profile that best fits the student with whom they are working. The characteristics listed on the next page may be helpful (Koenig & Holbrook, p. 299, 1989).

Characteristics of a student who might be a likely candidate for a **print** reading program may include:

- Uses vision efficiently to complete tasks at near distances.
- Shows interest in pictures and demonstrates the ability to identify pictures and/or elements within pictures.
- Identifies name in print and/or understands that print has meaning.
- Uses print to accomplish other prerequisite reading skills.
- Has a stable eye condition.
- Has an intact central visual field.
- Shows steady progress in learning to use her vision as necessary to assure efficient print reading.
- Is free of additional disabilities that would interfere with progress in a conventional reading program in print.

Characteristics of a student who might be a likely candidate for a **braille** reading program may include:

- Shows preference for exploring the environment tactually.
- Efficiently uses the tactual sense to identify small objects.
- Identifies her name in braille and/or understands that braille has meaning.
- Uses braille to accomplish other prerequisite reading skills.
- Has an unstable eye condition or poor prognosis for retaining current level of vision in the near future.
- Has a reduced or nonfunctional central field to the extent that print reading is expected to be inefficient.
- Shows steady progress in developing tactual skills necessary for efficient braille reading.
- Is free of additional disabilities that would interfere with progress in a conventional reading program in braille.

Case Studies

Two case studies are presented to demonstrate appropriate decision making in selecting the initial literacy medium. The first is a student for whom it is uncertain whether an initial literacy medium should be selected, and the second is a student for whom selection of an initial literacy medium is warranted.

Tom

The educational team working with Tom is considering whether it is time to select an initial literacy medium. To guide their decision making, they use *Indicators of Readiness for a Conventional Literacy Program* (Form 4). After careful observation, they find that he is only noting likenesses and differences in sounds and spoken words and noting differences in familiar objects. He is not currently demonstrating any "early literacy" behaviors, such as enjoying when someone reads to him or exploring books.

Learning Media Assessment Form 4

INDICATORS OF READINESS FOR A CONVENTIONAL LITERACY PROGRAM

Student *Tom*

Date *3-9-93* Evaluator *Jane Doe*

Yes	*No*	*No Opportunity*	*Behavior*
___	√	___	Listens to and enjoys when others read.
√	___	___	Notes likenesses and differences in sounds or spoken words.
___	√	___	Speaks in connected sentences.
√	___	___	Notes likenesses and differences in familiar objects visually and/or tactually.
___	√	___	Tells a story about a recent personal event or experience.
___	√	___	Demonstrates interest in pictures and/or objects associated with stories or books.
___	√	___	Completes sentences in a book with a repeated pattern (such as "I'll huff, and I'll puff, and ...." in *The Three Little Pigs).*
___	√	___	Relates personal experiences to characters or events in stories.
___	√	___	Acts out or retells stories after listening to them.
___	√	___	Demonstrates interest in drawing or scribbling.
___	√	___	Scribbles (or "writes") and then "reads" back the message.
___	√	___	Associates signs in the home or community with important events (such as the golden arches mean "time to eat").
___	√	___	Says the alphabet with fair accuracy.
___	√	___	Attempts to write his or her name.
___	√	___	Notes likenesses and differences in words when presented in print or braille.
___	√	___	Recognizes name or simple words in print or braille.

The educational team decides that it is not appropriate to select an initial literacy medium for Tom at this time. They also decide that ongoing assessment is the most appropriate course of action. Tom will continue to receive experiences that will form the foundation for literacy.

Kevin Kevin is a five-year-old kindergarten student attending an integrated classroom setting. He has been visually impaired since age three because of a systemic viral infection that caused optic nerve atrophy. He has been exposed to both print and braille readiness materials. Although Kevin appears to work at grade level in readiness activities, both the classroom teacher and a regional consultant for students with visual impairments expressed uncertainty about whether to begin reading instruction through print or through braille. They question Kevin's ability to continue to keep up with the class as the print size becomes smaller and the levels of difficulty increase.

Learning Media Assessment Form 2

USE OF SENSORY CHANNELS

Student *Kevin*
Setting/Activity *Cafeteria/Classroom (both unfamiliar)*
Date *1-25-93* Observer *Jane Doe*

Observed Behavior	Sensory Channel		
Examines salad bar	[V]	T	A
Picks up lettuce	[V]	T	A
Walks down salad bar	V	[T]	A
Pours salad dressing	[V]	T	A
Trails table	V	[T]	A
Picks up cheese	[V]	T	A
Walks to table	(V)	[T]	A
Puts mayonaise on bun	[V]	T	A
Stabs salad with fork	[V]	T	A
Wipes fingers with napkin	V	[T]	A
Examines bulletin board	[V]	T	A
Examines wall clock	[V]	T	A
Steps on chair	V	[T]	A
Examines bunny	[V]	T	A
Picks up pine cone	(V)	[T]	A
Examines sea shells	[V]	(T)	A
Identifies vegetables	[V]	(T)	A
Picks up cucumber	[V]	(T)	A
Compares cucumber and carrot	[V]	(T)	A
Identifies states	[V]	(T)	A
Finds mountains	(V)	[T]	A
Picks up pencil	[V]	T	A
Finds paper	[V]	T	A
Writes name	[V]	T	A
Examines pictures in book	[V]	T	A
Reaches for glasses	(V)	[T]	A

☐ **Probable Primary Channel:** *Visual*
◯ **Probable Secondary Channel(s):** *Tactual*

Section I Use of Sensory Information

Kevin used his vision to complete a variety of tasks that require gathering information. He closely explored objects and pictures at two inches using his vision and accurately identified them. Observations conducted by an orientation and mobility specialist indicated that Kevin used auditory cues to locate friends on the playground. However, when he walked around familiar and unfamiliar environments, he looked carefully at obstacles and successfully maneuvered around them. Kevin chose to rely on vision for gaining most information and appeared to have confidence in his visual abilities.

In addition, Kevin used his tactual sense effectively in a variety of situations. When the observer asked him to identify objects by touch, Kevin readily tried and was successful most of the time. He was also able to discriminate tactually the fine details of objects (such as broken pieces of a toy) with little difficulty. However, he did not choose to use his tactual sense when he was able to use vision to complete these tasks.

Learning Media Assessment Form 5

INITIAL SELECTION OF LITERACY MEDIUM

Student *Kevin*

Date *1-19-93* Evaluator *Jane Doe*

Section I: Use of Sensory Information

Task	Primarily Visual	Primarily Tactual/Other	Comments Observations
• Recognition of others	(V)	T/O	
• Initiation of reaching response	(V)	T/O	
• Exploration of toy or object	(V)	T/O	
• Discrimination of likenesses and differences in objects/toys	(V)	T/O	
• Identification of objects	(V)	(T/O)	
• Confirmation of object identification	(V)	T/O	
• Use of visual motor/fine motor skills	(V)	T/O	*very little exposure to tactual materials*
• Interest in pictures	(V)	T/O	
• Interest in books	(V)	T/O	
• Interest in scribbling/writing	(V)	T/O	
• Identification of names/simple words	(V)	T/O	

Section II: Working Distances and Size Preferences

• *Identification of objects:*

Accurate visual identification of objects: object size *>2-3 inches*

distance *about 2 inches*

Accurate tactual identification of objects: object size *objects identified visually*

• *Normal visual working distances:*

Classroom materials (such as wall clocks, calendars) *no >6 inches*

Reading/looking at pictures *2-3 inches*

Writing/drawing/coloring *2-3 inches*

Additional observations (include implications of visual condition and additional disabilities):

Kevin relies heavily on vision to accomplish near tasks but is accurate in use of tactual skills when requested. He has had little experience with braille or tactually interesting materials. He would tactually explore if requested; accurate identification of objects when tactual exploration occured.

Section II
Working Distances and Size Preferences

Throughout observations, Kevin consistently relied on vision to identify objects in the environment. He accurately identified two- to three-inch objects at about two inches. He held the objects very close to his eye and scanned them. He moved his head and manipulated the objects to get a full view. When presented with classroom objects, such as a wall clock and bulletin boards, and given the opportunity to view from a comfortable distance, Kevin placed himself within six inches of the material. Written classroom materials, including storybooks and readers, were available during these observations. Kevin was very motivated by books and by writing. He identified simple words and letters in a book by holding the book no greater than three inches from his eye. His nose was generally on the paper so that his working distance was the distance to the tip of his nose.

Visual Impairment

A recent ophthalmological report stated that Kevin's distance vision was 20/800 in the right eye after correction and hand movements in the left eye. At near, he could read the 20/100 size characters. His visual acuity has increased since the onset of this visual impairment. However, his visual acuity is not expected to increase further. Kevin has never received instruction in the use of functional vision, so there is some question whether his use of vision might increase with direct instruction. Kevin's visual condition has stabilized and carries little risk of a secondary visual impairment.

Information on Additional Disabilities

Kevin is a bright student and capable of high academic achievement. He is well coordinated in gross and fine motor activities and has had many experiences that have prepared him to enter school on a level with other students. Therefore, he has no additional disabilities that would influence the decision regarding his initial reading medium.

Additional Information

Kevin attends school in a rural area, and the school district does not employ a teacher of students with visual impairments. Direct services to students with visual impairments are provided by a generic resource room teacher who is not certified to teach children with visual impairments and does not know braille. Although the educational team must consider this information to recommend proper programming for Kevin, this information is not relevant for determining the appropriate initial reading medium for him. The decision to teach reading through print or through braille should be made solely on the basis of Kevin's needs and abilities, not on the basis of the school district's ability or inability to provide such services. If braille reading is the medium of choice, it is the school's responsibility to provide this instruction.

Recommendations

The decision to begin reading instruction in braille or in print is difficult in this situation and, indeed, cannot be made at this time. Kevin will need continued diagnostic teaching in reading to evaluate his use of visual and tactual skills before the most efficient reading medium for him can be determined. He should receive instruction to increase his sensory skills and learn to apply them in both print and braille reading readiness activities. Following diagnostic teaching emphasizing sensory development, a clear pattern may emerge that will indicate Kevin's most efficient reading medium. It is important to allow enough time for a preferred sensory channel to become evident, even if he is older when a determination is made. If a clear pattern of preference has not emerged by the end of the first semester of first grade, the educational team may wish to consider emphasizing reading in print, with the option of providing supplemental instruction in braille reading in the future, if indicated during continuing assessment.

Note: Kevin's case study is largely excerpted from Koenig & Holbrook (1991), pages 64-65.

Decision-Making Guide

Use of Sensory Information

If...	*Then...*
... the student relies primarily on vision to gather information:	... consider whether the student has had equally rich experiences in the use of vision and the use of other senses. *If so,* continue to provide rich, multisensory experiences while increasing the student's exposure to visual symbols including print. *If not,* provide the child with rich, multisensory experiences in all areas of his life (at home and school, during play and work activities). Continue to analyze the student's efficiency with visual and tactual materials to determine if increased tactual experiences and materials make a difference in the student's sensory reliance. Provide both visual and tactual symbols (print and braille).
... the student relies primarily on touch or other senses to gather information:	... since visual information is so readily available and so intrinsically motivating, it is likely that the student with low vision has had adequate visual experiences. Therefore, the student's reliance on touch or other senses to gather information most likely indicates that this is the most efficient sensory channel. While continuing to receive input from all sensory channels, this student should be given rich and varied tactual experiences designed to increase tactual efficiency. Braille should be readily available for both reading and writing. Toys and educational materials should be tactually interesting and motivating.

If...	*Then...*
... the student does not demonstrate a clear pattern of reliance on vision, touch, or other senses to gather information:	... consider the student's experiences with visual and tactual materials. There may have been inadequate multisensory experiences provided, or the student may use all senses equally. This student should be provided with rich, multisensory experiences. Both tactually and visually interesting toys and materials should be presented. At this point both braille and print should be available and each should be presented with equal intensity (such as twin vision books). Use diagnostic teaching to determine the student's sensory strengths.
... the student relies primarily on vision to complete near tasks (for example, interest in pictures, interest in scribbling or writing):	... consider whether the student has had adequate experiences in using all senses and still chooses to use vision. If so, print reading and writing is likely indicated. Carefully consider, however, the child's sensory experiences to make sure that the reliance on vision is not due to a lack of tactual experiences.
... the student demonstrates persistence in near vision tasks but struggles to successfully complete them:	... use diagnostic teaching to determine whether the student's difficulty is a result of the need for proper instruction or lack of vision. If proper instruction is needed, it should be provided prior to reexamination of the student's efficiency in completing near tasks. If the student is having difficulty completing tasks because of vision at the early literacy level, when print and educational materials are often larger and less complex, it is likely that this difficulty will intensify as the visual demands increase. In this case, the student may benefit from a comprehensive instructional program using his tactual sense to gather information through braille reading readiness activities.
... the student has not had rich experiences requiring the use of all senses:	... prior to making a decision on literacy medium, provide the student with a wide variety of multisensory experiences. Work with parents and other teachers to encourage multisensory experiences in all areas and settings. Use on-going diagnostic teaching to document the student's use of sensory information.

Working Distances and Size Preferences

If...	*Then...*
... the student has a comfortable working distance and can visually discriminate small objects and pictures/words or letters on a page effectively:	... consider whether the distance and accuracy of discrimination may continue to be effective given smaller objects, pictures, and texts required in the future. If the team believes that the student will be effective in future visual tasks, then print may be the most appropriate media.
... the student does not have a comfortable working distance and cannot visually discriminate small objects and pictures/words or letters on a page effectively, or ... the student is able to discriminate efficiently at a comfortable distance but the educational team questions the student's ability to do so on future, more visually demanding tasks:	... the educational team may wish to consider braille reading and writing instruction for this student while providing opportunities for the student to use his vision for appropriate tasks and to gain competence in the use of low vision devices to make limited use of vision for literacy tasks more efficient.

Information on Visual Impairment

If...	*Then...*
... the student has a stable eye condition:	... select the initial literacy medium based on the student's documented efficiency in use of sensory information at near point and the student's readiness for reading and writing.
... the student has fluctuating vision:	... discuss with the eye care professional whether there is a medical cause for the fluctuation in vision. If there is a medical reason, use medical information to make an informed decision. If not, collect data to determine possible causes (such as stress, fatigue) in addition to collecting data on the student's use of sensory information. Provide a wide variety of both visual and tactual educational materials, allowing the student to use both vision and tactual senses to gather information depending on current sensory functioning.
... the student has an eye condition with a prognosis that vision will likely deteriorate, or ... the student has an eye condition that is commonly associated with secondary conditions leading to decreased visual ability:	... discuss with the eye care professional the prognosis and progression of the eye condition. Consider both short-term and long-term implications. Examine carefully the student's current sensory functioning and make a decision based on the combination of prognosis and current sensory functioning. If print is the more likely medium at the current time, braille might be taught as a code in the future. Continue to provide the student with experiences in the use of all senses. Work closely with the student's parents to provide positive information concerning all future literacy tools.

Information on Additional Disabilities

If...	*Then...*
... the student has an identified physical disability in addition to her visual impairment:	... consider carefully the impact of both the visual impairment and the physical disability on the student's efficiency in using all sensory channels. The student should be provided a variety of multisensory experiences. The educational team including vision specialist and occupational and physical therapists should work closely to determine not only the student's most efficient sensory channel, but also the implications of the student's physical disability on various reading media. For example, the student with severe cerebral palsy would not be an efficient braille reader and will need print or alternative methods of gathering information. Refer to Chapter 6 for additional guidance.
... the student has a visual impairment and additional developmental disabilities:	... consider the degree of mental retardation as the beginning point in your examination of the initial literacy medium. A determination of the student's efficiency in use of sensory channels will continue to be critical in selecting appropriate educational materials. However, the first question regarding this student will be whether reading instruction is appropriate at all given the level of mental retardation. Refer to the procedures in Chapter 6 on using forms 8-11. This information was designed to assist teams in making informed decisions on literacy media for students with additional disabilities.
... the team suspects that a student has a visual perception problem that interferes with reading and writing:	... further, extensive diagnostic assessment is required. Consult experts in educational diagnostics to become members of the student's educational team. Using diagnostic teaching techniques, continue to provide rich, varied experiences which will allow teachers to gather additional information and provide the child an opportunity to gain readiness skills.

Summary

This chapter focuses on the initial selection of literacy medium. Through behavioral observations and a diagnostic teaching process, members of the educational team gather information about the student's use of sensory information, working distances and size preferences, and additional information influencing this critical decision. By using the data gathered through this process, team members will make informed decisions regarding an initial literacy medium.

Chapter 5
Selecting Literacy Media: Continuing Assessment

Overview

After the initial decision on the literacy medium is made, the educational team will begin a long-term, continuing process in which the appropriateness of the initial decision is reassessed. The team will continually reconsider what additional tools the student needs to accomplish educational and vocational goals. This is truly an ongoing phase that will continue throughout the student's school years. If the student is taught to be a self-advocate, this phase will continue throughout his life.

The purpose of the continuing assessment process is to assure that each student with a visual impairment will leave the school years with the variety of tools necessary to accomplish important and necessary literacy tasks in all appropriate environments. It may be helpful to think of this process as filling each student's toolbox with all the tools necessary to complete required tasks. This process will involve continuing assessment occurring at least annually, if not more often. In many instances, this reassessment will occur as part of the annual IEP conference and every three-year reevaluation. The reassessment may suggest continuation of the student's program as it was originally planned, adding supplemental literacy tools (such as braille, print, computers), or changing the primary literacy medium (such as a change from braille to print or from print to braille).

Applicable Populations

All students for whom a decision was made on the initial literacy medium

Materials

√ Copies of *Continuing Assessment of Literacy Media* (Form 6)
√ Copies of *Literacy Tools Inventory* (Form 7)

Note: Blank copies of all forms can be found in Appendix G on pages 180 to 195.

Procedures

Using Form 6: *Continuing Assessment of Literacy Media*

Distribute copies of the checklist to other members of the educational team. Discuss the need to continually reexamine the student's literacy tools and the importance of their input in this process.

Additional Information on Visual Functioning

1. Critically review all available information concerning the student's visual functioning, especially new information collected since the last review. Include information from functional vision assessments, clinical low vision evaluations, and ophthalmological evaluations.

2. Consider whether there is any information suggesting a change in visual functioning that may influence the student's current literacy medium or media. Note any concerns or need for additional evaluations on the checklist and discuss these in the team meeting. Consult the Decision-Making Guide on pages 74 to 79 if needed.

Reading Efficiency

Gather objective data on the student's reading comprehension level and rate of reading. The interaction of these factors is referred to as **reading efficiency.** A basic procedure for documenting reading rate is provided below. In step 11, procedures for gathering information for content materials are provided.

3. Select a published informal reading inventory that provides reading passages of increasing grade level difficulty and includes at least 5 comprehension questions for each passage. The *Informal Reading Inventory* (Burns & Roe, 1993) is an excellent reading inventory for this purpose. (See Appendix F on pages 176 to 177 for sources of informal reading inventories.)

4. Prepare the reading passages in the student's primary reading medium.

5. Ask the student to read the passages silently. Tell the student to begin reading when you say "start" and to look up at you when he is finished. Use a stopwatch to measure the time between "start" and when the student looks up. Record the time spent in reading

each passage. (If the student is in the early primary grades, you may wish to collect data on oral reading rate alone or as a supplement to silent reading rate. If so, use this procedure with a parallel form of the informal reading inventory.)

6. Ask the comprehension questions for each passage, and score the student's responses according to criteria provided by the publisher. For each passage in which the student demonstrated at least 80% comprehension, count the total number of words.

7. For each passage with at least 80% comprehension, calculate the rate of reading. If you recorded the time in seconds, use the first formula. If you recorded the time in minutes, use the second. (If you choose to record minutes, make sure you record fractions of a minute in decimals. For example, 23 seconds is 23 ÷ 60 = .38 minutes.)

$$\frac{\text{Number of words in passage}}{\text{Number of seconds spent in reading}} \times 60 = \text{words per minute}$$

$$\frac{\text{Number of words in passage}}{\text{Number of minutes spent in reading}} = \text{words per minute}$$

8. Calculate the average words per minute: Add together the individual reading rates and divide this number by the total number of rates included in the calculation. For example, if the student's rates for individual passages are 37.5, 32.0, and 40.1 words per minute, add the numbers together and divide by 3:

   37.5 + 32.0 + 40.1 = 109.6
   109.6 ÷ 3 = 36.5 words per minute

   Plot the average words per minutes on a line chart. Update this chart at least annually and maintain this information in the student's file. Use this information to assure that the student continues to increase reading efficiency from year to year.

9. Using the guidelines in the informal reading inventory, determine the student's independent, instructional, and frustration reading levels. You may also want to calculate reading rates for each of the three levels. This information along with other achievement data can be used to document the student's reading level. Informal reading inventories alone are not sufficiently precise to determine a child's reading level—other sources of assessment data are required. (If you are examining the student's performance in two or more media, compare only the reading rates—not the reading levels. Informal reading inventories are not accurate enough to provide a valid comparison of grade levels across media.)

10. Critically analyze the relationship between reading rate and overall reading level. Use the quantitative data and other sources of information to determine if the student reads with sufficient comprehension at a sufficient rate to maintain academic progress. Use the Decision-Making Guidelines, if necessary, to guide the analytic process.

11. Collect data on reading efficiency in content materials, such as science and social studies. Gather content books in the preferred medium that the student is using in the classroom. Ask the student to read a 5–10 minute passage either aloud or silently, whichever he prefers. Use a stopwatch to record the time spent in reading. When the student has finished, assess comprehension by: (a) asking 5 or more prepared comprehension questions or (b) asking the student to retell the contents of the passage.

    Use one of the formulas in Step 7 above to calculate the rate of reading. To indicate the level of comprehension, calculate a percentage of the comprehension questions answered correctly. Or, if a retelling was used, indicate the general level of comprehension with terms such as *excellent, adequate,* and *inadequate*. Use this information on reading efficiency in content materials to supplement the information collected from the informal reading inventory.

12. It may be helpful to judge the student's reading rate in relation to the reading rate of his peers. To gather such data, select 10 or more students from the regular classroom and repeat the procedure outlined above. To get the average reading rate of the 10 (or more) peers, calculate an average from all the students' data. Or you may prefer to consult the reading rates for students with normal vision listed on page 128 in Appendix C.

    While it is likely that a student with a visual impairment will read at a slower overall reading rate, the data on reading rates of students with normal vision will provide (a) a baseline against which an objective comparison can be made, and (b) an indicator of the additional time that a student with a visual impairment needs to accomplish academic tasks.

13. If the team is concerned about which print option is most efficient for a student with low vision, collect objective data in two or more media and compare their relative effectiveness. A quick procedure for gathering this information is provided in Appendix C (see screening procedure on pages 114 to 116). If more extensive data are needed on the effectiveness of various print media, see the comprehensive procedure in Appendix C.

    Large print should not be recommended for a student with low vision without adequate justification for its need. If large print is found to be most efficient, the team should work toward less restrictive options to gaining the same level of magnification through optical devices or other means.

Academic Achievement

14. Critically review formal and informal information on the student's academic progress. Informal sources of information may include criterion-referenced tests, chapter tests, teacher-made tests, observation, and so forth. Formal sources of information may include results from appropriately modified and administered standardized tests; formal test results should always be considered in light of results from informal tests—never in isolation.

15. Consider the academic progress in relation to the student's grade placement and expectations in the school environment. If the student with a visual impairment is expected to achieve the same academic goals as peers in the same class or program, then he should demonstrate a similar level of academic achievement. If the student is not expected to achieve the same academic goals and is in the class for other purposes (such as social relationships), then consider his progress in light of those expectations.

16. Given the educational goals for the student, consider whether he is completing academic tasks with an acceptable level of success using his current literacy medium or media. Examine the time required to complete the academic tasks to determine whether time requirements are reasonable.

17. If the student is not experiencing success and/or the time requirements are unreasonable, then consider whether the student's reading and writing medium or media are influential factors. Consult the Decision-Making Guidelines on pages 74 to 79 for possible actions.

Handwriting

18. Gather a variety of samples of the student's handwriting. Select samples from school assignments as well as samples of personal communication (such as a list of assignments, class notes).

19. Wait at least a day. Then ask the student to read portions of the selected samples and note his performance in ease, speed, and accuracy. Consider the amount of time that has passed between writing the sample and reading it (such as one day, one week).

20. Examine the student's efficiency in reading his own handwriting. Determine whether handwriting is a viable and effective mode for written communication. Consider the types of reading tasks that can be most effectively accomplished through handwriting and the tasks which might be more effectively completed through other modes (such as use of a computer word processor.)

21. If needed, use the Decision-Making Guide to assist in the process of making decisions in this area.

Literacy Tools

22. Review the student's current options for completing literacy tasks. Some common literacy tools are:
    - recorded media
    - a typewriter
    - sighted reader services
    - low vision devices—optical, nonoptical, and electronic
    - radio reading services
    - print or braille as a supplementary or secondary reading medium
    - slate and stylus
    - accessible technology, such as word processors and other microcomputer applications, speech synthesis devices, large print terminal displays, optical recognition scanners, closed-circuit television systems, Optacon, and telecommunications.

23. Indicate whether the student has the variety of reading and writing skills to meet:
    - current academic learning needs
    - future academic learning need
    - future vocational needs.

Using Form 7: *Literacy Tools Inventory*

24. Use the *Literacy Tools Inventory* (Form 7) to identify tools the student is using independently (code with "I") and those in which additional instruction or practice is needed (code with "X"). Determine the level of instruction that is needed to improve current communication skills and establish new communication skills. Add appropriate objectives to the student's IEP. Always use future practicality and usefulness as guidelines when deciding to improve and expand communication options.

25. Use the guidelines on pages 74 to 79 as needed to facilitate the decision-making process.

Interpretation of Data

The educational team should approach the process of interpreting data through holistic analysis. Best practices indicate that all assessment areas should be considered in totality rather than in isolation. The impact of reading efficiency, for example, can only be appropriately understood as it relates to academic progress. A profile of a student with appropriate literacy skills includes:

- establishing efficient reading and writing skills in an appropriate primary literacy medium that **matches his functioning level**
- acquiring a variety of literacy tools for efficiently completing tasks requiring reading and writing to maintain **current academic progress** and to complete functional tasks
- acquiring skills in additional literacy tools which will be appropriate for meeting **future academic and vocational demands**
- developing and using skills in making appropriate choices among communication options to most effectively accomplish specific tasks and **knowing when and how to acquire additional literacy tools.**

When reviewing the information on *Continuing Assessment of Literacy Media* (Form 6) identify which responses in bold italics have been circled. If the responses are in bold italics they indicate that there has been a change in the student's eye condition, the student's reading efficiency is not sufficient to meet academic demands, the student is not making adequate academic progress, and/or additional literacy tools are needed. Carefully consider the appropriate action(s) to address the identified problem areas, and include appropriate objectives on the student's IEP.

If a problem area is identified as part of the continuing assessment phase, it does not mean that a change in literacy medium is an automatic outcome. A student may read in the appropriate medium, but needs additional instruction and/or practice in specific reading skills, such as comprehension or fluency. Or a student may indeed need a change in the literacy medium. Such decisions should be made deliberately and with sufficient objective data to indicate the need for a change. Also, such decisions should be made in a timely manner, before a student experiences continual frustration with a medium that does not meet his needs. The key is continuing assessment. When a student's needs are addressed on an ongoing basis, the team assures that he is making the best progress possible given individual abilities.

Case Study

The following case study presents the results of a learning media assessment of David, an 11-year-old fourth-grade student with a visual impairment. He was enrolled in an integrated classroom in a local school with assistance of an itinerant teacher of students with visual impairments.

Members of his educational team had numerous questions about appropriate literacy media for David, given the presence of motor difficulties in addition to his visual impairment. Due to these difficulties, the team decided not to emphasize certain literacy tools requiring refined visual-motor skills (such as handwriting, touch typing, braille reading, and reading with a CCTV). Instruction in alternative tools was being provided, such as use of the abacus for computation to minimize the need to use handwriting skills for completing problems.

Learning Media Assessment Form 2

USE OF SENSORY CHANNELS

Student *David*
Setting/Activity *Language Arts class and O&M lesson*
Date *1-25-93* Observer *Jane Doe*

	Observed Behavior	Sensory Channel		
Class	*Located desk*	[V]	T	A
	Reached for recorder	[V]	T	A
	Placed disk in disk drive	[V]	T	A
	Turned on computer (switch in back)	V	[T]	A
	Switched on plug-in strip	[V]	(T)	A
	Gathered papers together	[V]	T	A
	Walked to reading circle	[V]	(T)	(A)
	Glanced around room	[V]	T	A
	Put on glasses	[V]	T	A
	Looked at book	[V]	T	A
	Took off glasses	V	[T]	A
	Listened to story	V	T	[A]
	Stared at overhead light	[V]	T	A
	Clapped hands	(V)	(T)	(A)
O&M	*Identified parts of cane*	[V]	(T)	A
	Located office	[V]	T	A
	Walked in straight line	[V]	T	A
	Waved at friends in hall	[V]	T	A
	Turned corner	[V]	(T)	A
	Looked behind self	[V]	T	A
	Went to office door	[V]	T	A
	Located office number	[V]	T	A
	Shook hands with teacher	[V]	(T)	A
	Examined poster on bulletin board	[V]	T	A
	Located specific room number	[V]	T	A
	Located drinking fountain	[V]	T	A

☐ **Probable Primary Channel:** *Visual*
◯ **Probable Secondary Channel(s):** *Tactual & auditory*

Following is the actual learning media assessment report, with minor revisions to remove identifying information. This report demonstrates the continuing assessment process, and provides an example of a final report of a learning media assessment.

Learning Media Assessment Form 6

CONTINUING ASSESSMENT OF LITERACY MEDIA

Student *David*

Primary Reading Medium *Large Print* Secondary Media *Live Readers*

Date *1-25-93* Evaluator *Jane Doe*

Comments/Observations

Additional Information on Visual Functioning

Is current information available from functional vision evaluations? Summarize.

Use of vision is considered a strength
OD: Microphthalmia & cataract
Distance 10/140
Near: 1M print at 2cm
Field restriction to about 20° of fixation
Normal intraoccular pressure
Color vision normal
OS: Anophthalmia – prosthesis
Wears glasses for near work

Is current information available from ophthalmological examinations? Summarize.

Is current information available from clinical low vision evaluations? Summarize.

Does available information indicate a change in visual functioning? ***Yes*** (No) *Optical devices not helpful at near*
Stable condition at present

Reading Efficiency

Summarize the following information:

Current grade placement *4th*

Results of the *informal reading inventory* (in student's primary reading medium)	Grade	Rate
Independent level (≥90% comprehension)	*1*	*45 wpm - used large print*
Instructional level (≥ 75% comprehension)	*2*	*41-44 wpm - used large print*
Frustration level (<75% comprehension)	*3*	*---* *used large print*

Reading of *content materials* at grade placement	Comp	Rate
Science	*Ave.*	*38 wpm - used large print*
Social Studies	*Ave.*	*48 wpm - book from class*
Other: _____	____	____
_____	____	____

Does the student read with adequate comprehension? Yes (No) *Teachers indicate trouble with higher level comprehension*

Does the student read at a sufficient rate? Yes (No) *Literal recall OK*

Does the student read at a sufficient rate and with adequate comprehension in order to complete academic tasks with success? Yes (No)

Other info: CCTV with 2nd grade passage: 41 wpm and 88% comprehension
Regular print with 2nd grade passage: 49 wpm and average comprehension

Continuing Assessment of Literacy Media p.2

ic
ccess? Yes **No**

mic
without Yes **No**

Information on academic achievement was gathered by a school psychologist and is not available at this time.

Yes (No) *Handwriting was not taught due to motor difficulties.*

mode of written communication? *Not enough info at present--cont. diagn. teaching* Yes **No** *Observations indicate potential to learn handwriting skills.*

Literacy Tools

Does the student have the repertoire of literacy tools (such as sighted readers, slate and stylus) to meet *current* educational needs? Yes (No)

Current options
Reading: Lg. print and live readers
Writing: Keyboarding (hunt & peck) and dictation

Does the student have adequate skills in use of technology to meet *current* educational needs? (Yes) **No**

Does the student have the repertoire of literacy tools necessary to achieve *future* educational and/or vocational goals? Yes (No)

Uses computer with lg. print and Echo output

Does the student have adequate skills in use of technology to achieve *future* educational and vocational goals? Yes (No)

Factors to be considered by the educational team:

Recommendations: 1) Expand repertoire of literacy tools.
2) Teach manuscript writing skills.
3) Teach touch typing/keyboarding.
4) Teach use of CCTV.
5) Consider braille reading as a future option.

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Learning Media Assessment Report

Name:	David Smith	Date of Evaluation:	January 25–26, 1993
Birth Date:	July 5, 1982	Date of Report:	January 30, 1993
Age:	11 years	Grade:	Fourth
Parents:	Tom and Judy Smith	Telephone:	505-332-2345
Address:	150 Oak Street Spring Valley, TX 72233		

Purpose of Assessment

The school district requested an independent learning media assessment to provide more comprehensive information on David's learning and literacy media needs.

Assessment Strategies

- Observations in integrated language arts class and orientation and mobility lesson
- Interviews with parent, regular classroom teachers, resource room teacher, teacher of students with visual impairments, diagnostician, physical therapist, occupational therapy assistant
- Direct assessment of reading efficiency in print, potential for braille reading, and handwriting
- Review of selected previous assessment results and other records

Assessment Results

Use of Sensory Channels

An objective procedure was used to document David's use of sensory channels in natural settings. He was observed on two occasions in language arts class and during an orientation and mobility lesson. Individual behaviors were recorded. For each behavior, the examiner noted if David used visual, tactual, and/or auditory information; both primary and secondary sources of sensory information were noted. (See completed Form 2 on page 64.)

David used vision as the primary source for gathering sensory information and used touch and hearing as secondary sources. It should be noted that this procedure documents the student's existing approach to tasks, not necessarily the most efficient. David uses the sensory channels he has been taught to use and has been reinforced for using.

Visual Functioning

Records indicated that David's left eye is anophthalmic and is fitted with a prosthesis. His right eye is microphthalmic with a cataract. His distance acuity is 10/140 (20/280) with correction, and his near acuity is 1M print at 2 cm. While glaucoma can accompany microphthalmia, there is no evidence of this to date. Available data suggests that his eye condition is stable. A recent low vision clinic report indicated that optical devices will not improve near visual functioning, but that his conventional spectacles should be worn for near work. Information on David's visual functioning indicates that there has not been a change in functioning that would directly affect his learning and literacy media.

Reading Efficiency

Objective data were collected on David's oral reading rate with comprehension, including both typical reading materials from an informal reading inventory (IRI) and content materials used in the classroom. Following is a summary of the findings:

Type of Passage	*Mode*	*Comprehension*	*Rate*
1st Grade from IRI (Form A)	Large Print	75%	45 wpm
2nd Grade from IRI (Form A)	Large Print	75%	41 wpm
2nd Grade from IRI (Form D)	Large Print	75%	44 wpm
2nd Grade from IRI (Form C)	CCTV	88%	41 wpm
2nd Grade from SRA (Brown Level)	Regular Print	Average	49 wpm
4th Grade Science Book	Large Print	Average	38 wpm
4th Grade Social Studies Book	Large Print	Average	48 wpm

The first source of data on reading efficiency was obtained with the Informal Reading Inventory by Burns and Roe. David was asked to read short passages ranging in length from 149 to 235 words and then to answer 8 to 10 comprehension questions. Print size ranged from 18 to 24 point type, so all passages were considered large print. One form of the test was administered late on Monday afternoon, and another form was administered mid-morning on Tuesday.

For the purposes of calculating reading efficiency, only those passages were included in which David read with at least 75% comprehension. Reading efficiency rates were consistently found at around 45 words per minute. His working distance was from 1.5 to 2 inches, regardless of whether he wore his glasses. Results of the IRI indicated that David's instructional reading level was at the 2nd grade, and his frustration level was at the 3rd grade. However, a more accurate reading assessment instrument needs to be administered to pinpoint David's reading level more precisely.

David was given an opportunity to practice reading with the closed-circuit television on Monday afternoon and was given a timed reading on Tuesday morning. On Monday he was shown how to use the various controls and the tracking table. Initial observations indicated that he was able to scan words presented on the screen while moving the table with adequate motor control. He adjusted the letters to about 1 inch in height and read from a distance of 4 inches. David tended to pull the table toward himself to advance the reading material, rather than pushing it away from himself. This is common for students who are inexperienced in reading with the CCTV. On Tuesday David demonstrated excellent recall on use of the controls, and he independently set them according to his preferences. Most notably, he demonstrated much more efficient use of the tracking table by appropriately pushing the table away from himself to advance the reading passage. On a timed reading, David read a 2nd grade passage at 41 wpm with the CCTV with good comprehension. This reading rate is very similar to those obtained in large print. David demonstrated the motor skills necessary to read with the CCTV, and his efficiency will increase with repeated practice and experience.

David was also asked to read short passages (226 and 164 words) from the large print science and social studies textbooks he uses in the classroom. To select a passage from his science book, David independently used the table of contents to locate a familiar passage on birds. He read this passage at 38 words per minute and then answered general comprehension questions prepared impromptu by the examiner. His level of comprehension was determined to be average through the examiner's judgment. In the social studies book, David first answered several questions accurately about Texas geography. For example, he stated that Oklahoma was north of Texas and that the Rio Grande River separated Texas and Mexico. He then read a passage on natural resources in Texas at a rate of 48 wpm with average comprehension.

On two occasions David was asked to read in regular print. He read a passage from the SRA reading series, printed in approximately 12 point type, at a rate of 49 wpm with adequate comprehension. On another occasion he was asked to read a paragraph from the regular print version of the *Weekly Reader*. While no objective rate was taken, it was noted that David read fluently from a passage with poor contrast—black letters on a dark purple background—and responded to the content of the passage.

Several observations relative to reading efficiency are noteworthy. First, David appeared to deliberately select when to wear his glasses when reading. No dramatic difference was noted in reading efficiency when his glasses were on or off. Second, there was no appreciable difference in reading efficiency when David read in different sizes of print or with the CCTV. He used some strategies for independently adapting to different print sizes, such as adjusting his working distance and selecting when to use his glasses. Third, he generally tilted the materials he was reading. When asked if he would like to use a reading stand, David indicated that he would not.

Handwriting

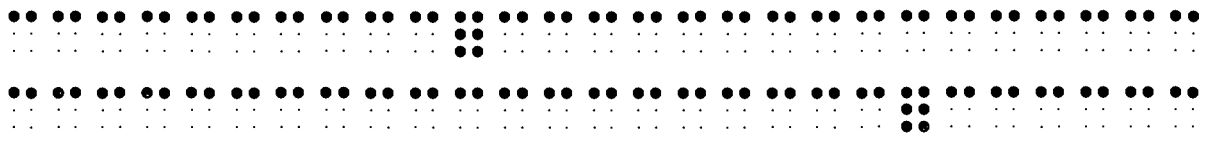
According to information obtained during interviews, David uses keyboarding and dictation as his primary modes of expressive writing. Handwriting was not pursued as a primary mode of writing due to fine motor difficulties. However, he does use handwriting on a limited basis for completing computation problems in math class.

As part of this assessment, David was asked to write the numbers from 1 to 10 and his name. It was observed that several numbers and letters did not conform to the standard formations, but rather were "drawn" to look like them. Given the satisfactory level of fine motor control that was demonstrated, the examiner drew some primary-style lines (solid lines with a dashed line separating them) and then demonstrated a few letter formations for David to imitate. He did so with good accuracy (given no practice) and with direct attention to starting and stopping on the appropriate lines. Such excellent progress in a short instructional session strongly suggests David's potential for developing handwriting skills as an option for expressive communication.

Literacy Tools

At the current time, David primarily uses large print for reading, with regular print used for some tasks (such as *Weekly Reader).* He uses live readers to an extent, but is not in purposeful control of the reading process. That is, he is not yet directing the live reader to read in a strategic manner. For writing, he primarily uses keyboarding with a large-print word processing program and dictation by an adult for recording answers. He is currently receiving instruction in touch typing skills, but uses a hunt and peck method in the classroom. Objective data collected by the resource room teacher indicates that he is roughly comparable in writing rates with the two methods, averaging around 15 to 17 words per minute. Handwriting is used sometimes for solving computation problems in math, but is not used for general expressive writing.

Team members asked the examiner to assess David's potential for reading and writing in braille. On both days of the assessment, basic tracking and discrimination activities were presented. On Monday David demonstrated rough tracking movements across braille lines, but was able to generally move from the top of the page to the bottom of the page with prompting. On Tuesday he demonstrated more efficient tracking movement, so he was presented with two types of discrimination tasks. The first involved tracking lines of actual braille that were interspersed with full cells, as visually illustrated here:



He was directed to track the lines and to indicate when he came to the full cell. David was able to complete this task with good accuracy while demonstrating satisfactory tracking skills. He showed some tendency to want to examine the braille visually, but responded to prompts to only feel the lines. On the second discrimination task, he was presented with a page with sets of braille symbols (such as ⠇ ⠍ ⠇) and was asked to indicate the symbol that was different. While he was able to maintain contact with the braille symbols, David was not successful in completing the task. However, one would not be expected to complete such a task without adequate instruction, so this *does not* indicate in any way a lack of potential for braille reading and writing. The level of success demonstrated in tracking and discrimination skills on the first braille task sufficiently indicates the potential for developing braille reading and writing skills if this is determined by the educational team to be a priority.

Summary of Major Findings

- David uses a combination of the visual, auditory, and tactual sensory channels for learning. Based on objective documentation, he demonstrated use of vision as the primary channel and use of hearing and touch as secondary channels. *David is not functionally blind according to TEA criteria.*

- Oral reading rates with comprehension were approximately 45 words per minute on typical 2nd grade reading materials and 4th grade science and social studies passages.

- At present David has a limited repertoire of literacy tools for accomplishing reading and writing tasks. Primary reading options include large print and use of live readers. Primary writing options include keyboarding and dictation.

- David demonstrated the motor skills necessary to read with the CCTV and to write in manuscript. Furthermore, he demonstrated a rudimentary level of tracking skills and tactual sensitivity that would indicate his potential for learning to read and write braille.

Recommendations

The following recommendations are offered to the educational team for their consideration in planning an appropriate educational program for David. It is imperative that all team members, including the parents and allied professionals, decide on the priorities for David and then provide the intensity of services required to address those prioritized needs. A clear focus and structure for the upcoming school year will assure that all learning time is used to its maximum benefit.

1. *Expand literacy tools.* David needs a variety of options for completing reading and writing tasks. Given a full repertoire of literacy tools, he can then deliberately choose—with instruction and guidance—which option or options will allow the most efficient way to complete a given task. The following literacy tools should be among the options considered by the educational team:

   Reading tools
   - increased use of regular print
   - use of CCTV
   - use of textbooks on tape
   - directed use of a live reader
   - use of Echo and enlarge print on computer

   Writing tools
   - use of manuscript writing
   - extended use of touch typing and word processing with Echo and enlarged print on computer
   - use of live writer (although limited)
   - use of tape recorder for recording answers and notes.

   The focus of instruction should be placed on expanding options for completing literacy tasks—not limiting options. Reading regular print and using books on tape are valuable options for completing certain tasks. David needs to learn that some options are better for certain tasks than others, but he will not be in a position to make such decisions unless he has a range of options from which to select. Some essential literacy tools for David are discussed in more detail on the next pages.

2. *Teach manuscript handwriting skills.* David has the motor ability and the desire to learn handwriting skills. The educational team should consider this as a key priority in expanding David's writing options. He will need primary-style writing paper (upper and lower solid lines with middle dotted line) with sharp contrast and consistent instruction to learn proper letter formations. Since he has been using some writing for math, this may be the best area to focus on initially. He will need to decrease the size of his writing over the upcoming years. For beginning instruction, line widths of about 1 to 1.25 inches will be appropriate.

3. *Teach touch typing skills.* The educational team has made a commitment to teach touch typing and this should continue and intensify. The hunt-and-peck method is not efficient for anyone, and it is even less efficient for a student with low vision. He will need to continue using the hunt-and-peck method for some period of time until he gains sufficient touch typing skills, but a transition should

begin as soon as possible to touch typing alone. He will continue to benefit from auditory feedback provided by the Echo speech synthesizer, as well as the visual information from the enlarged print on the computer screen. The large letters on the keyboard should be faded and eventually eliminated as he increases his proficiency with touch typing.

4. *Teach use of the CCTV.* David has the motor ability now to make use of the CCTV as an option for reading. Actually, very little instruction will be needed as he has demonstrated the basic skills needed to use the CCTV. The focus should be placed on providing access to a CCTV and providing practice in its efficient use. To gain efficiency, David will need extended practice in continuous text reading. He needs to learn that he can gain a more comfortable working distance and posture by increasing the size of the letters and moving back farther from the screen. If appropriate adjustments are made in the size of letters and distance from the screen, the same retinal image will be gained as with the closer working distance. Consultation with the OT/PT will help to determine the best posture for reading.

5. *Consider the possible role of braille reading and writing in David's repertoire of literacy tools.* David has the potential to develop braille reading and writing skills. However, the question is whether it is a priority need at this point, and that question can be answered only by the educational team. If his eye condition remains stable and he develops other efficient options for reading and writing, I feel that braille should be considered as a future option if the need arises. If his eye condition does not remain stable or if consistent and targeted instruction does not yield other efficient literacy tools, then braille reading and writing instruction should be given deliberate consideration. If it is decided to introduce braille reading and writing, an intensive period of time must be set aside daily for instruction (such as 1 to 1.5 hours daily).

6. *Reconsider the need for abacus instruction.* I recommend placing emphasis on handwriting skills as an avenue for computation. While the abacus is an important option to consider for computation, developing efficiency and accuracy in its use is a long-term process. I feel David has other needs, such as those listed above, that take priority over abacus instruction. Also, I believe that computation on paper can become more efficient more quickly than use of the abacus. Computation on paper will, however, require consistent and intensive instruction.

7. *Use an experiential, multisensory approach to learning.* David has the ability to use all his senses for learning, and he should be given repeated exposure to meaningful experiences in real contexts for learning through all his sensory channels. According to his teacher, a multisensory approach was used throughout the previous school year, and this approach should continue. Students with

low vision often miss valuable information because use of vision alone may provide inadequate or inaccurate information. A multisensory approach to learning alleviates much of this potential problem. Multisensory experiences must extend beyond the classroom and into the home and community. Using O&M lessons to provide age-appropriate experiences is a meaningful and practical approach for assuring that David gains a wide variety of quality life experiences.

8. *Provide sufficient time and services to develop needed skills.* After the educational team has delineated and prioritized needed literacy tools and other skills, then an appropriate program should be developed to adequately meet those needs. The team may find that an integrated intermediate school program will not provide sufficient time for intensive instruction. Therefore, a period of time may need to be devoted to specifically teaching compensatory skills in a more specialized environment. The rationale is that then David would have the repertoire of literacy tools and other skills to benefit meaningfully from an integrated school program. Regardless of the instructional arrangement, sufficient instructional time must be devoted to developing the specialized skills that David will need for independent living and employment.

9. *Provide continuing assessment.* Learning media assessment, as well as other assessment processes, are most meaningful when conducted on a continuing basis. David's needs have changed considerably over the past few years, and, therefore, the instructional program and strategies should change as well. As principles of diagnostic teaching are used to continually assess emerging skills and changing needs, David will benefit the most from all learning experiences.

Jane Doe
Teacher of Students with Visual Impairments

Decision-Making Guide

Additional Information on Visual Functioning

If...	*Then...*
... the student has not had a recent functional vision evaluation:	... conduct a functional vision evaluation so that information on use of vision is available to the educational team prior to making a decision regarding learning and literacy media. Assure that all information is considered holistically by making the learning media assessment a part of the more global functional vision evaluation.
... the student has not had a recent ophthalmological/ clinical low vision evaluation:	... assure that evaluations are up-to-date and information is used by the educational team to make informed decisions.
... the student has a stable eye condition and there has been no change in visual functioning, or the student has a stable eye condition with a prognosis that vision will not likely change:	... base decisions on established use of sensory channels and efficiency in current media.
... the student has a stable eye condition and there has been an increase in visual functioning:	... consider how changes in visual functioning have affected the student's use of senses as related to learning and literacy media. Following examination of data by the educational team, consider the possibility of a modification in literacy media based on the increase in visual functioning. The goal is always for the student to use the least restrictive option for reading and writing while allowing efficient completion of literacy tasks. For example, a student may move from reading large print to reading regular print with a properly prescribed low vision device and/or from using a black felt-tip pen to using a regular pencil.

If...	***Then...***
... the student has an unstable eye condition and/or there has been a decrease in observed visual functioning:	... consult with eye care professionals to determine whether there is a medical or clinical explanation for the observed change in visual functioning. *If so,* discuss with the eye care professionals and team members the long-term and short-term effects of the visual condition and make informed decisions accordingly. *If not,* use diagnostic teaching to explore factors that may be causing the decrease in visual functioning. Consider whether there have been changes in the visual demands of the tasks the student is encountering (such as more complexity in visual materials, smaller print). Isolate factors and implement environmental or other modifications to increase visual functioning and/or provide instruction to address gaps in visual skills.

Reading Efficiency

If...	*Then...*
... the student reads at a sufficient rate and with adequate comprehension to complete academic tasks with success:	... consider that the current medium is adequate for current educational demands. Continue to look to the future to assure that reading skills will be sufficient to meet the demands of the increasingly complex school environment. As students progress into junior high school and especially into high school, it is likely that additional literacy tools will be needed to efficiently handle the extensive requirements for gathering information. Therefore, it is important to consider reading rate and comprehension in the context of the student's needs for additional literacy tools.
... the student does not read with adequate comprehension and/or at a sufficient rate to complete academic tasks with success:	... use diagnostic teaching to determine whether weaknesses in comprehension are related to lack of specific reading skills, an inappropriate literacy medium, or a combination of both. When considering reading skills, always view comprehension and rate of reading as interrelated factors. Comprehension may be affected by factors such as slow rate of reading, inadequate experiential background, lack of automatic word recognition, lack of specific comprehension skills (such as finding the main idea), or lack or reliance on contextual information. Slow reading rate may be influenced by factors such as weak visual skills, short perceptual span (that is, the amount of information placed on the retina in one fixation), heavy reliance on graphic information, and lack of practice in reading. If instruction in targeted skills over a period of time fails to increase comprehension and rate of reading in the student's primary reading medium, consider whether a change in medium and/or whether supplementary literacy tools are needed. Aural reading (reading by listening) can be a valuable supplement to reading and writing in print or braille, especially as students enter junior high and high school, because great amounts of information can be given in a short amount of time. **However, aural reading should not be considered as a primary literacy medium because it does not allow a student to both read and write.**

Academic Achievement

If...	*Then...*
... the student is able to successfully accomplish academic tasks on grade level in the current literacy medium, and the student is able to successfully complete academic tasks in a reasonable amount of time (that is, the student completes uncut assignments without undue time hardships):	... consider that the current medium is adequate for current educational demands. Continue to look to the future to determine the student's ability to successfully complete academic assignments. Remember that learning media assessment is an continuing process and demands will change, even within the same school year. Begin instruction in needed communication skills for the future.
... the student is unable to successfully accomplish academic tasks on grade level in the current literacy medium and/or the student is unable to successfully complete academic tasks in a reasonable amount of time:	... carefully consider all possible reasons for the difficulty. Has the student had adequate instruction in reading and writing in the current medium provided by a qualified teacher? Is the student practicing academic tasks in the current medium at home? Is there a possibility that the student has a learning disability in addition to a visual impairment? Try to determine if the reasons for the student's weak academic performance are related to the literacy medium or some other difficulty. If some factor other than the literacy medium is the major contributor, the qualified teacher of students with visual impairments should work closely with other educational specialists to determine the most effective remediation. If it is determined that the student is having academic difficulty because of the literacy medium, consider a change in literacy medium or a supplement for a current medium. This decision, especially for older students, will be closely tied to the student's need for supplemental literacy tools to accomplish future vocational and educational goals.

If...	*Then...*
... the student is able to read his own handwriting efficiently and this is a viable alternative for written communication in the future:	... continue current instruction and use of handwriting. Be sure to carefully consider educational and vocational demands for the future and provide instruction for additional options for written communication (such as word processing, keyboarding skills).
... the student is unable to read his own handwriting efficiently and/or this is not a viable alternative for written communication in the future:	... determine the reason that the student is not able to read his own handwriting. If further instruction in handwriting is needed, provide instruction and then reevaluate. Consider the possibility that the student may benefit from additional tools for handwriting (such as black felt tip pens, word processors with variable font sizes). Consider also the possibility of providing instruction in braille for personal note-taking needs and personal written communication.

If...	*Then...*
... the student has the repertoire of literacy tools, including appropriate use of technology, to meet current and future needs:	... place emphasis on applying existing literacy skills in practical and functional situations as will be required in independent living and projected employment settings. Ideally, provide the student with opportunities to apply literacy skills in on-the-job placements. Teach the student to continually assess the demands for literacy tasks in all settings, identify needed skills, and independently take steps to gain these skills.
... the student does not have the repertoire of literacy tools, including use of technology, to meet present and future needs:	... consider the importance of filling a student's toolbox with all the tools necessary to accomplish the wide range of literacy tasks encountered at home, school, work, and in the community. A primary goal of the educational system is to provide instruction in practical application of these skills and to foster in students the ability to select specific tools that will most efficiently complete specific tasks. Literacy tools are needed not only for sustaining meaningful employment, but also for making steady progress in school. Some common literacy tools are listed on *Literacy Tools Inventory* (Form 7) in Appendix G on page 190. To assure the repertoire of literacy tools is available for use by students, continually engage in the following process: 1. Analyze the literacy tools required in present and future educational and/or vocational settings. 2. Determine the literacy tools needed to most efficiently accomplish the identified tasks. 3. Conduct a discrepancy analysis to determine the skills the student needs to acquire. To do this, compare the literacy tools required of the student with the student's current repertoire of tools. Any discrepancies will identify areas of needed instruction. 4. Provide instruction and practice in needed skills before the student actually needs to apply them. 5. Teach the student to engage in this process himself. When he leaves high school, future independence will be heavily influenced by this type of self-advocacy.

Summary

The continuing assessment phase of the learning media assessment has two primary purposes. First, it allows the educational team to continually reassess the appropriateness of the initial decision on a student's primary literacy medium and to make an informed recommendation. Second, it provides a mechanism for team members to consider on a continuing basis the need for additional literacy tools in the student's repertoire. When tools are required, provisions are made for initiating sequential and meaningful instruction in their use.

Chapter 6
Selecting Learning and Literacy Media for Students with Additional Disabilities

Overview

Students who have visual impairments and additional disabilities also benefit from the learning media assessment process. It may be necessary to refocus away from the emphasis on conventional literacy media toward more functional learning media which can support community-based instruction. While some students will benefit from a functional literacy program, others will not. When conducting a learning media assessment with students who have visual impair-ments and additional disabilities, the following points are important:

- Keep all options open. Avoid immediate assumptions that the student will not have a literacy program. Complete appropriate forms, without any preconceived ideas about the student's ability or disability level.

- Consider each student's individual needs and abilities when making a decision about reading instruction. Identify the unique skills that the student needs to be as independent as possible. For some students this will include functional reading, for others it will not.

- Consider the goals of the reading program. The components of a functional reading program are different from those in a conventional reading program. Conventional reading is basically the same for everyone. While the reading code may be different, the goal is the same: generalized comprehension of a variety of reading materials in many different contexts. Functional reading depends on the individual student's needs. It does not assume generalized comprehension in a variety of contexts, but is more context specific.

One student may learn to read words and symbols on her own communication board, while another student may learn to read street signs or recognize common labels in a grocery store. The decisions about whether to provide functional reading instruction and whether to teach braille or print reading are tied to the needs of the student in specific situations.

This chapter will present the procedures and forms needed when completing a learning media assessment for a student with additional disabilities. There are three major questions to be addressed concerning the issue of literacy for students with additional disabilities:

- Will this student benefit from a literacy program at all, given her additional disabilities?
- Are there additional disabilities (such as motor impairments, cognitive disabilities) which would impede the student's ability to learn to read through conventional techniques?
- If the student is determined to be a likely candidate for a literacy program, to what extent will literacy skills be emphasized?

Diagnostic Teaching

The use of diagnostic teaching is critical when conducting a learning media assessment for a student with additional disabilities. This is especially important for several reasons. Students with additional disabilities may:

- Have more limited experiences.
- Need a longer time to respond to teacher's requests. While diagnostic teaching will not assist in student response time, it will help structure the teacher's observations.
- Have more factors influencing their ability to perform a particular task. Since diagnostic teaching is a technique which systematically examines influencing factors in behavior, teachers are more likely to get a true picture of the student's ability to accomplish a particular task.

In addition, the expectations of adults may be that the student will be unable to perform tasks related to literacy. Using diagnostic teaching techniques will more likely lead to results which will indicate the abilities of the student, not the expectations of the adults.

An Illustration

Consider, for example, that in the process of setting up a Calender Box system for a particular student, a teacher observes that the student is having difficulty associating symbols with an upcoming event. The teacher decides to isolate possible influencing factors and by **changing only one factor at a time** determine if the child will be able to accomplish this task with adaptation(s). The factors which the teacher believes might contribute to the student's difficulty are: complexity of symbols, physical manipulation of the symbols, positioning, and lighting.

The process of examining the factors which might influence the student's performance on associating symbols with important events may take a long time. It is important that the student be provided consistent, deliberate opportunities and instruction to demonstrate mastery of the task. The process may look like this:

- First, the teacher looks at **positioning** by presenting the symbol at different positions (such as at eye level, from the left, from the right) to determine if presentation of the symbol from different positions will make a difference in the student's performance.

- Finding no difference in performance, the teacher will also want to consider the **student's physical positioning** (such as in a wheelchair, with head support, in prone position). *It will be useful to get help from a physical therapist when altering the student's physical positioning.*

- After finding no difference in performance when positioning was altered, the teacher decides to examine the **student's physical manipulation of the symbol.** The physical and/or occupational therapist will be helpful in suggesting alternatives for physical manipulation of the symbol. This will be especially important if the student is using her tactual sense to gather information. If there is still no change in behavior, the teacher must continue to examine and change other factors which might influence this student's behavior.

- At this point, the teacher examines the **lighting** available during this activity. Symbols are presented in various lighting conditions. The teacher sequentially presents fluorescent light, indirect light, strong direct light, and a variety of colored lights. The student does not improve her accuracy or efficiency in using symbols to anticipate important events. However, the teacher notes that the student appears more attentive for longer periods of time when bright, direct lighting is used.

- Since the student's performance on the target behavior was not altered by changes in lighting, the teacher continues to explore other influential factors. However, the teacher has learned something very valuable about the student's preference for light and should use this information throughout future exploration of the student's use of symbols.

- Using the information learned about the student's preference for bright, direct light, the teacher begins to alter the **complexity of the symbols** being used for this activity. Real objects used as symbols are found to be most effective, with a slight change in accuracy of anticipation. But the teacher notes that the student's accuracy dramatically increases when presented with real objects of low complexity with high contrast between the symbol and background. This was found to be most effective when used with bright, direct lighting.

In the above example, the teacher systematically examined each factor, one at a time. The teacher was able to determine the most effective situation for anticipating important events from symbols by determining possible influences and examining each of them. In some cases, the teacher will find that no change in behavior is seen regardless of the change in possible influences. For students who are visually impaired and have additional disabilities, the process of diagnostic teaching is never complete. Additional influences may be discovered and explored and the student must continue to receive rich, varied experiences. Ongoing, repetitive opportunities using diagnostic teaching techniques may yield success in determining the student's skill on a variety of tasks.

Applicable Populations

All students with additional disabilities who will not, or have not, entered a conventional literacy program

Materials

√ *Use of Sensory Channels* (Form 2)

√ *Functional Learning Media Checklist* (Form 8)

√ Anecdotal records

√ *Indicators of Readiness for a Functional Literacy Program* (Form 9)

√ *Initial Selection of Functional Literacy Medium* (Form 10)

√ *Continuing Assessment of Functional Literacy Media* (Form 11)

Note: Blank copies of all forms can be found in Appendix G on pages 180 to 195.

Resources

Additional resources are available to aid in determining appropriate learning media for students with severe impairments and in determining the appropriate learning and literacy media for students with deaf-blindness in *Teaching Students with Visual and Multiple Impairments: A Resource Guide* (Smith & Levack, 1996).

Procedures

Using Form 2: *Use of Sensory Channels*

1. Distribute copies of the form to all members of the educational team.

2. Conduct a minimum of three observations of the student for periods of 15 to 20 minutes each. These observations should include a variety of environments. However, the observations should be arranged with following considerations:

   - Observe the student during an activity that is motivating to her.

   - Consider carefully the effects of medication on the student's performance when scheduling observations.

   - Work in conjunction with a physical or occupational therapist to insure that proper positioning is used and gross and fine motor concerns are addressed.

   - Schedule observations at various times during the day, making sure that the observed activity motivates the student and that the student is alert.

   - At least one observation should be conducted during unstructured free-time. Good times for observations might include eating time, scheduled daily living activities (such as brushing teeth, dressing), calendar time or structured class activities, and community-based activities in an unfamiliar environment.

3. Include parents and other members of the educational team as observers when appropriate.

4. As you observe, record only concrete, observable behaviors on *Use of Sensory Channels* (Form 2). It is most reliable to record behaviors that result in some motor action or reaction on the part of the student.

5. For each observed behavior, consider all of the sensory channels the student used to accomplish the task or activity.

Interpretation of Data

1. Gather all observation forms that have been completed on the student.

2. Look for a consistent pattern across the observation settings that indicates the student's primary sensory channel. The sensory channel that is most often and consistently marked with a box will be the primary sensory channel. Record this channel on the observation form.

3. The secondary channel for a student can be determined through an examination of the circles on *Use of Sensory Channels* (Form 2). The secondary channel may be useful in presentation of multisensory materials.

4. If consistent primary and secondary channels have been determined, specify these in the learning media assessment report.

   If a consistent pattern has not been identified, it may be helpful to differentiate observed behaviors involving near tasks from those involving distance tasks. If a pattern still does not emerge, it will be necessary to collect additional information and/or to seek to identify factors that are responsible for the variation in observed use of sensory channels.

   You may recommend "ongoing assessment" to determine a student's learning medium. However, you should specify a time at which the team will reconvene to make a decision as to the primary and secondary sensory channels.

5. Use information on the student's primary and secondary channels to base recommendations on appropriate learning media and to complete the *Functional Learning Media Checklist* (Form 8).

Using Form 8: *Functional Learning Media Checklist*

1. To complete a *Functional Learning Media Checklist*, the educational team should refer to the information collected on *Use of Sensory Channels* (Form 2), as well as information about the student's cognitive level and additional disabilities. Items that are circled on the *Functional Learning Media Checklist* should relate to goals and objectives listed on the student's IEP.

2. Based on the primary and secondary channels, select appropriate functional learning media (near learning media and teaching methods and distance learning media and teaching methods) from the *Functional Learning Media Checklist*. Consider media that the student is now using, as well as media the student has the potential to use in the upcoming year with appropriate instruction. The media listed in this checklist are suggestions and should not be considered to be inclusive.

   Make recommendations on the use of functional learning media by circling the appropriate V, T, or A relating to the specific type of media to be used.

3. The information above can also be used to indicate the type of adaptive communication systems and materials that will be useful for this student.

Interpretation of Data

Throughout the school year, members of the educational team will use the recommendations on functional learning media for instructional and communication purposes. Teachers and parents may refer to the information when determining additional classroom materials and presentation methods.

Using Form 9: *Indicators of Readiness for a Functional Literacy Program*

1. The form entitled *Indicators of Readiness for a Functional Literacy Program* may be used to help the educational team decide whether a student would benefit from a functional literacy program. This form should be completed by members of the educational team including classroom teacher(s), teacher of students with visual impairments, and parents.

2. Consider each of the items on the checklist and indicate by checking Yes, No, or No Opportunity to indicate whether a student consistently demonstrates the skill.

Interpretation of Data

As a student consistently demonstrates behaviors toward the bottom of the list, the educational team may want to consider the introduction of a functional reading program. If so, the educational team should complete the *Initial Selection of Functional Literacy Medium* (Form 10) to determine if a functional literacy program should be introduced tactually or visually.

Using Form 10: *Initial Selection of Functional Literacy Medium*

1. Consider the three questions under the Need for Functional Literacy Program section. Team members should each answer these questions as they relate to the student and results should be discussed during a team meeting. The answers to the first three questions will help the team decide whether to continue the assessment process and complete this form. If, after answering and discussing the initial questions, the team decides that further assessment is needed, follow the procedures below. If, however, the team decides that a functional literacy program is not a priority at this time, discontinue the assessment at this point and reconsider the need for a functional literacy program on at least a yearly basis.

2. Observe the student a number of times in a variety of settings. Allow enough time between distributing the checklist to members of the educational team and the team conference for each person to have an adequate opportunity to observe the student. The process of observing a student for the purpose of selecting an initial literacy medium may take an extended period of time.

3. Each team member should complete a copy of the *Initial Selection of Functional Literacy Medium*. Team members should be aware of the need for a systematic examination of the student's use of sensory channels. The team should include a number of people who will have had a variety of opportunities to observe the student.

4. Consider the items under the Use of Sensory Information section of this form. If a team member has not observed the student's behavior relating to any item, he should work with the student to determine the response to that item. For example, if the student has not been observed "exploring a toy or object", the team member will want to present the student with several toys or objects and observe the student's exploration.

5. Carefully observe student behaviors and record responses on the *Initial Selection of Functional Literacy Medium* checklist. Options are available to record a student's visual responses (the V should be circled) and tactual or other responses (the T/O should be circled). Additional comments or observations (such as type of materials, distance from object, consistency in responses) should be recorded directly on the checklist. Note responses that demonstrate equal efficiency in Visual and Tactual/ Other information by circling both V and T/O.

6. The section on Working Distances and Size Preferences relates directly to skills that are similar to those needed to accomplish functional literacy tasks. Members of the team should provide the student with opportunities to demonstrate skills in tasks involving near work.

   The team should observe and record the student's natural choice of working distance when completing tasks visually. Record object size and distance for visual identification of objects, including size and distance of visual identification of environmental signs and objects. Also include object size for tactual identification.

   It may be helpful to record specific information regarding the student's ability in these areas under Comments/Observations. Useful information includes the complexity and familiarity of the object, as well as the time it takes the student to identify the object and if she appears to be guessing. Use the space for Additional Observations at the bottom of the page to record observations of behaviors that may not be reflected in the checklist.

Interpretation of Data

Following completion of this checklist, members of the educational team should meet to discuss results and item discrepancies. This discussion should also include the need for additional information before a decision is made.

Interpretation of data from the *Initial Selection of Functional Literacy Medium* (Form 10) must be completed carefully. This checklist is not designed to give team members a clear-cut decision based on the circled responses. Rather, this checklist is designed to guide the professional decision-making process by providing a systematic approach to behavioral observations. **Professional judgment is still the most critical element in the interpretation of these data.**

The educational team must also consider the required tasks and how those tasks may be most efficiently completed. For example, if the educational team feels that the student's most pressing need is to be able to read environmental signs (such as the golden arches, signs on restroom doors) the task dictates that a level of visual skill be used. If, on the other hand, the required task is labeling items in the home, either tactual or visual information may be used.

If a student who has additional disabilities is able to use literacy skills for more than functional purposes, the sections on conventional literacy will apply. Refer to Chapters 4 and 5.

Using Form 11: *Continuing Assessment of Functional Literacy Media*

1. Distribute copies of forms to all members of the educational team. Each team member will complete a form based on observation of the student.

2. Critically review all information concerning the student's visual functioning, especially new information collected since the last review.

3. Note comments on observations concerning Additional Information on Visual Functioning.

4. Consider carefully the questions listed on the form related to Functional Literacy Tasks. Respond by circling Yes or No after each question. Note comments, concerns, or observations under Factors to be considered by the educational team.

Interpretation of Data

Members of the educational team should meet to discuss completed forms. Responses should be compiled and discrepancies should be addressed.

Members of the educational team should examine carefully any bold italicized answer that was circled. While circling an italicized answer to any one question or any number of questions does not in itself justify a change in the student's literacy media, it may indicate the need to closely examine the student's current media and possibilities for changes or additions.

Case Study

A case study is presented in this section to demonstrate appropriate decision making on functional learning and literacy media for students who are visually impaired and have additional disabilities.

Eric

Eric is a 10-year-old male with a severe congenital visual impairment, profound cognitive disabilities, and a seizure disorder. He is enrolled in a self-contained, community-based instructional program for students with severe multiple disabilities in a local public school. Members of Eric's educational team include a classroom teacher, teacher of students with visual impairments, occupational therapist, physical therapist, speech therapist, and a primary caregiver. One of Eric's strengths is his receptive language; he repeats some sounds and will initiate some vocalizations, but has no expressive verbal language. Eric is ambulatory.

Learning Media Assessment Form 2

USE OF SENSORY CHANNELS

Student *Eric*
Setting/Activity *Family Room*
Date *2-15-93* Observer *Jane Doe*

Observed Behavior	Sensory Channel		
Presses trigger on "laser" gun	V	[T]	A
Scratches side	V	[T]	A
Pulls "laser" gun close to ear	V	T	[A]
Releases trigger	V	[T]	A
Presses sound box	V	[T]	(A)
Puts "laser" gun in box	V	[T]	A
Presses buttons on phone	V	[T]	A
Puts phone in box	V	[T]	A
Picks up dump truck	V	[T]	A
Flips dump truck	V	[T]	A
Presses driver (to make noise)	V	[T]	A
Puts truck in box	V	[T]	A
Explores box	V	[T]	A
Picks up phone	V	[T]	A
Presses buttons	V	[T]	A
Picks up monster plastic figure	V	[T]	A
Presses side of monster plastic figure	V	[T]	A
Picks up 4x4 car	V	[T]	A
Flips car	V	[T]	A
Winds music box	V	[T]	A
Searches in storage box	V	[T]	A
Flips "mini boom box"	V	[T]	A
Puts boom box in storage box	V	[T]	A
Initiates sound from caregiver	V	T	[A]
Presses button on box	V	[T]	(A)
Presses sound buttons on book	V	(T)	[A]

☐ **Probable Primary Channel:** *Tactual*
◯ **Probable Secondary Channel(s):** *Auditory*

Use of Sensory Channels

Based on objective observations, Eric was found to use touch as his primary sensory channel. During an observation in the family room, he tactually searched his immediate environment for objects, then explored them primarily through touch. Hearing was determined to be a secondary channel for Eric. While most of the available objects had sound qualities, he clearly was motivated by tactual stimuli rather than auditory stimuli. No observations revealed use of the visual channel.

Functional Learning Media

The educational team was particularly interested in methods and materials that would be most useful for Eric during the upcoming school year. Based on the use of touch as a primary channel and hearing as a secondary channel, determinations were made concerning appropriate functional learning media. A major goal for Eric during the upcoming year is independent choice of activities for leisure time. Based on this goal, the educational team determined that switches, tapes, records, compact disks, and toys were appropriate since they provided both tactual and/or auditory stimuli. Another goal is increased independence in daily living skills. Materials useful for obtaining this goal include real objects (such as shoes, clothes, toothbrush) and adaptive mobility devices (such as a modified hula hoop). Methods may include oral instructions, verbal and physical prompts, and hand-over-hand guidance.

Literacy Media

To determine whether Eric is a candidate for a functional literacy program, the educational team completed *Indicators of Readiness for a Functional Literacy Program.* Because of Eric's strong receptive language, he demon-strated several skills included at the top of the checklist. However, behaviors at the bottom of the list that more strongly indicate readiness for a functional literacy program were not demonstrated by Eric. While he is able to follow simple directions of two or three steps, he is not able to generalize directional concepts, sequencing, and abstract symbolic communication. Based on these results, the educational team determined that Eric was not ready to begin a functional literacy program at this time. The team will continue to evaluate Eric's readiness on at least a yearly basis, at the same time providing him with opportuni-ties to participate in early functional literacy activities.

Learning Media Assessment Form 8

FUNCTIONAL LEARNING MEDIA CHECKLIST

Student *Eric*

Date *2-15-93* Evaluator *Jane Doe*

Distance

Use of vision	Use of touch	Use of hearing	Learning Materials
V	-	-	Pictures
V	-	-	Conventional calendars
-	-	A	Environmental sounds
V	-	A	Community environment
V	-	-	Environmental signs
-	-	(A)	Tapes, records, CDs
V	-	(A)	Videos, movies, TV
V	-	-	Posters
V	-	-	Felt board
V	T	A	_____
V	T	A	_____
V	T	A	_____

Use of vision	Use of touch	Use of hearing	Teaching Methods
V	-	-	Pointing
V	-	-	Gestures
V	-	-	Facial expressions
V	-	-	Demonstration
V	-	A	Modeling
-	-	(A)	Oral instructions
-	-	(A)	Verbal prompts
-	-	(A)	Verbal guidance

Use of vision	Use of touch	Use of hearing	Adaptive Communication S
			Unaided Communicatio
V	T	-	Sign language
V	T	-	Gestures
V	T	A	_____
V	T	A	_____
			Aided Communication S
V	T	A	Communication boards
-	-	(A)	Tape recorders
V	T	-	Picture communication bo
V	T	A	Technology-based commu
V	T	A	Primitive communication c
V	T	A	Other augmentative comm
V	T	A	_____
V	T	A	_____

Student: *Eric* **Functional Learning Media Checklist p.2**

Near

Use of vision	Use of touch	Use of hearing	Learning Materials
V	(T)	(A)	Real objects, materials
V	(T)	-	Full size, scale models
-	T	-	Positioning equipment
-	(T)	-	Adaptive mobility devices
V	(T)	-	Adaptive eating devices
V	T	A	Washers, dryer
V	T	A	Kitchen appliances
V	T	-	Money
V	T	A	Telephone
V	T	A	Calendar boxes
V	(T)	(A)	Switches
V	T	A	Timer
V	-	-	Mirror
V	T	A	Language Master
-	-	(A)	Tapes, records, CDs
V	T	-	Conventional desk calendar
V	T	A	Adaptive vocational devices
V	T	A	Behavior management charts
V	T	A	Adaptive measuring devices
V	-	-	Pictures
V	T	-	Clay, paint, crayons
V	(T)	(A)	Toys
V	T	-	Stencils
V	T	A	Puzzles
V	T	A	Board games
V	-	-	Light Box
V	T	A	Personal watch, clock
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____

Use of vision	Use of touch	Use of hearing	Teaching Methods
V	T	-	Pointing
V	T	-	Gestures
V	-	-	Facial expressions
V	(T)	(A)	Demonstrations
V	(T)	(A)	Modeling
V	(T)	(A)	Prompts
V	(T)	(A)	Guidance
-	(T)	-	Physical manipulation
-	T	-	Restraint
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____

Learning Media Assessment Form 9

INDICATORS OF READINESS FOR A FUNCTIONAL LITERACY PROGRAM

Student *Eric*

Date *2-15-93* Evaluator *Jane Doe*

Yes	*No*	*No Opportunity*	*Behavior*
√			Attends to and responds meaningfully when others read.
√			Anticipates activities and events.
√			Differentiates sounds or spoken words, gestures or signs.
√			Attaches meaning to sound or spoken words, gestures or signs.
	√		Differentiates objects visually and/or tactually.
√			Demonstrates an association of pictures or objects with stories or books.
	√		Identifies objects visually and/or tactually.
	√		Associates signs in the home or community with important events (such as the golden arches mean "time to eat").
	√		Chooses independently to examine books, letters, and/or symbols.
	√		Notes likenesses and differences in words when presented in print or braille.
√			Follows simple directions of 2 or 3 steps.
	√		Generalizes directional concepts (such as top, bottom).
	√		Generalizes the ability to sequence a series of objects, activities, or events.
	√		Generalizes the use of primitive symbolic communications systems such as real objects or miniatures.
	√		Generalizes the use of abstract symbolic communication.
	√		Initiates interactive communication through systems such as sign, gestures, or augmentative communication devices.
	√		Recognizes that words in print or braille have meaning.
	√		Recognizes name in print or braille.

Decision-Making Guide

If...	*Then...*
... the student relies primarily on vision to gather information:	... consider whether the student has had equally rich experiences in the use of other senses. *If so,* continue to provide rich, multisensory experiences while increasing the student's exposure to visual information. *If not,* provide the child with rich, multisensory experiences in all environments (at home and school, during play and work). Take special care to ensure that exploration is as easy as possible given any physical limitations or delays in motor skills. Continue to analyze the student's efficiency with visual and tactual materials to determine if increased tactual experience and materials make a difference in the student's sensory reliance. Also consider whether experiences and materials presented tactually and auditorially to the student are on an equal developmental level with those presented visually. If so, continue to provide cognitively appropriate multisensory experiences and materials. Allow the student to continue to develop information gathering skills through all of her senses while encouraging the student's strong visual skills. If not, provide the student with experiences that encourage tactual and auditory information gathering at an appropriate developmental level allowing the student the opportunity to demonstrate reliance on sensory information not dependent on cognitive level.

If...	*Then...*
... the student relies primarily on touch or hearing to gather information:	... it is likely that the student with low vision has had adequate visual experiences, since visual information is so readily available and so intrinsically motivating. Therefore the student's reliance on touch or other senses to gather information is likely to indicate that it is the most efficient sensory channel. However, careful consideration must be given to determine if adequate and appropriate visual stimulation activities have occurred. This is especially critical with students who are diagnosed as cortically visually impaired.
... the student does not demonstrate a clear pattern of reliance on vision, touch or other senses to gather information:	... consider the student's experiences with visual and tactual materials. There may have been inadequate multisensory experiences provided, experiences may have been provided which were inappropriate or inconsistent developmentally, or the student may use all senses equally. This student should be provided rich, multisensory, developmentally appropriate and consistent experiences—tactually, visually, and auditorially. Interesting toys and materials should be presented making sure that delays in motor development do not prevent multisensory exploration.
... the student has not had rich experiences requiring the use of all senses at a consistent, appropriate cognitive level:	... prior to determining the student's primary sensory channel, provide the student with appropriate multisensory experiences. Be sure to carefully consider the student's visual impairment and additional disabilities when determining the plan for increased multisensory experiences.

If...	*Then...*
... the student demonstrates a majority of the behaviors listed on *Indicators of Readiness for a Functional Literacy Program* (Form 9), especially those listed near the bottom of the checklist:	... consider the possibility that the student is ready to begin a functional literacy program. In making this decision, members of the educational team should carefully examine and discuss the student's **functional** need for reading skills, how these skills can supplement and enhance the student's independence, the student's ability to generalize information, and how important reading is to the accomplishment of the student's overall goals and objectives. Address within the educational team the three questions on the top of the *Initial Selection of Functional Literacy Medium* (Form 10) to determine if the student might benefit from a functional reading program.
... the educational team decides that the student is a likely candidate for a functional reading program.	... complete *Initial Selection of Functional Literacy Medium* (Form 10). Members of the educational team should carefully consider the student's visual ability as well as literacy needs to determine the student's primary functional literacy medium.

Summary

Students with additional disabilities present a unique challenge to teachers in selecting not only literacy media, but also the relevance for literacy skills given the student's other needs. The information and forms contained in this section address the literacy needs of students who are visually impaired and have additional disabilities. The purpose is to determine the student's need for and ability to use functional literacy skills in print or in braille.

Appendices

Appendix A
Texas Braille Bill and Regulations

Texas Braille Legislation

The requirement to conduct learning media assessments was introduced by the Texas Education Agency to implement the requirements of the original Texas "Braille Bill" which was passed in 1991. This legislation was subsequently revised in 1995 as follows:

> In the development of the individualized education program for a functionally blind student, proficiency in braille reading and writing is presumed to be essential for the student's satisfactory educational progress. Each functionally blind student is entitled to braille reading and writing instruction that is sufficient to enable the student to communicate with the same level of proficiency as other students of comparable ability who are at the same grade level. Braille instruction may be used in combination with other special education services appropriate to the student's educational needs. The assessment of each functionally blind student for the purpose of developing the student's individualized education program must include documentation of the student's strengths and weaknesses in braille skills. Each person assisting in the development of a functionally blind student's individualized education program shall receive information describing the benefits of braille instruction. Each functionally blind student's individualized education program must specify the appropriate learning medium based on the assessment report and ensure that instruction in braille will be provided by a teacher certified to teach students with visual impairments. For purposes of this subsection, the Agency shall determine the criteria for a student to be classified as functionally blind. [TEC §30.002(f)]
>
> The publisher of an adopted textbook shall provide the agency with computerized textbook files for the production of braille textbooks or other versions of textbooks to be used by students with disabilities, on request of the State Board of Education. A publisher shall arrange computerized textbook files in one of several optional formats specified by the State Board of Education. [TEC §31.028(b)]

Learning Media Assessment

As indicated in the first provision, the Texas Legislature did not define the term *functionally blind.* Rather, this task was delegated to the Texas Education Agency (TEA) [TEC §30.002(f)]. In conjunction with an advisory committee, TEA defined functionally blind through a revision of the rule on eligibility for students with visual impairments. Determination of functional blindness is a part of the eligibility process. A learning media assessment is required to gather the information needed to make this determination in a systematic and objective manner. The revised rule is on the next page; portions related to learning media assessment are in italics.

Revised Rule

(1) A student who has a visual impairment:

(A) has been determined by a licensed ophthalmologist or optometrist to have no vision or to have a serious vision loss after correction. The visual loss should be stated in exact measures of visual field and corrected visual acuity at distance and near in each eye. The report should also include prognosis whenever possible. If exact measures cannot be obtained, the eye specialist must so state and give best estimates; and

(B) has been determined by the following assessments to have a need for special services:

(i) a functional vision evaluation by a professional certified in the education of students with visual impairments or a certified orientation and mobility instructor. The evaluation must include the performance of tasks in a variety of environments requiring the use of both near and distance vision and recommendations concerning the need for a clinical low vision evaluation and an orientation and mobility evaluation; and

(ii) a learning media assessment by a professional certified in the education of students with visual impairments. The assessment must include recommendations concerning which specific visual, tactual, and/or auditory learning media are appropriate for the student and whether or not there is a need for ongoing assessment in this area.

(2) A student who has a visual impairment is functionally blind if, based on the above assessments, the student will use tactual media (which includes braille) as a primary tool for learning to be able to communicate in both reading and writing at the same level of proficiency as other students of comparable ability. [19 TAC §89.211(d)]

As indicated in the revised rule on eligibility, two functional assessments are needed: a functional visicn evaluation and a learning media assessment. These are used along with other information to determine eligibility as a student with a visual impairment. If a student is determined to be eligible for services as a student with a visual impairment, then it is necessary to determine whether he or she is functionally blind. Students who are functionally blind are granted the assurances specified in the Braille Bill.

When to Assess

Since determination of whether a student is functionally blind is tied to the eligibility decision, the learning media assessment is legally required for each student who is referred for an initial evaluation to determine eligibility as visually impaired. It is also required for each student who is referred for a three-year reevaluation to maintain eligibility. *However, best practices indicate that the learning media assessment is considered a continuing process. It should be continually updated and summarized at least annually or more often if needed.*

Requirements for Assessments

Required for All Students Referred for Evaluation or Reevaluation to Determine Eligibility

- A learning media assessment is conducted by a certified teacher of students with visual impairments.
  [19 TAC §89.211(1)(b)(ii)]
- Recommendations are indicated in the assessment report for use of visual, tactual, and auditory learning media.
  [19 TAC §89.211(1)(b)(ii)]
- A recommendation is made for ongoing assessment when it is needed.
  [19 TAC §89.211(1)(b)(ii)]
- A determination is made on the student's primary learning medium to decide whether the student is functionally blind.
  [19 TAC §89.211(2)]

Required for Students Who are Functionally Blind in Addition to Those Listed Above

- The student's strengths and weaknesses in braille skills are documented in the assessment report.
  [TEC §30.002(f)]
- Each individual on the educational team must receive information on the benefits of braille reading and writing to assist in the development of an appropriate IEP.
  [TEC §30.002(f)]
  A handout on the benefits of braille in English and Spanish is provided in Appendix B on page 110.
- The student's appropriate learning medium is specified in the assessment report.
  [TEC §30.002(f)]
- The IEP documents that instruction in braille reading and writing will be provided by a certified teacher of students with visual impairments.
  [TEC §30.002(f)]

Appendix B
Benefits of Braille

Benefits of Braille Reading and Writing Instruction

- Braille is the most effective and efficient system for reading and writing for those people who use touch as their primary means of gathering information.
- Braille allows students to use the same classroom materials as their classmates (such as workbooks and worksheets).
- Braille gives students a written format for communicating with themselves and others.
- Braille provides accessibility to a variety of reading material for information, pleasure, or both.
- Braille offers independent and portable access to written material which requires no additional equipment.

Los Beneficios de Instrucción en Braille para Leer y Escribir

- Braille es el sistema más efectivo y eficaz para leer y escribir para esas personas que usan el sentido de tacto como su manera principal de recoger información.
- Braille permite que los estudiantes usen los mismos materiales de clase como sus compañeros (por ejemplo, textos, hojas de instrucción, ejercicios).
- Braille provee una forma escrita para que comuniquen consigo mismos y con otros.
- Braille provee acceso a una variedad de material de lectura para información, placer, o los dos.
- Braille ofrece acceso independiente y portátil a materia escrita y no requiere equipo adicional.

Appendix C
Continuing Assessment
Selection of Appropriate Print Media for Students with Low Vision

Alan J. Koenig
Texas Tech University

Overview

A portion of the continuing assessment should center on the effectiveness of reading in various print media for students with low vision. The Print Media Assessment Process (PMAP) described in this chapter provides an objective way to gather data on observable reading behaviors in two or more print media (such as regular print, regular print with a low vision device, large print) and then to determine the medium that is most efficient.

There are two versions of the PMAP: screening and comprehensive. The screening version collects objective data on short-term oral and silent reading passages and yields reading efficiency rates in two or more media. Also, information on working distance is collected. The *Continuing Assessment of Literacy Media* (Form 6) is used to obtain additional information, especially related to concerns that members of the educational team may have about stamina and reading efficiency. The screening takes about 30 to 60 minutes on one day. While the screening procedure is relatively quick, it does not provide any objective data on whether the student experiences fatigue during lengthy periods of continuous reading.

The comprehensive version of the PMAP provides valuable information on two additional aspects of reading. First, the comprehensive version examines oral reading for a lengthy amount of time (at least 20 minutes), so an indication of visual fatigue and overall stamina is obtained. Second, information on oral reading miscues provides qualitative information on the reading process; qualitative differences between media can be compared through the use of various percentages. It is much more time consuming than the screening process—taking about two hours to collect data and an additional two hours to analyze the data—so it is used ideally when more comprehensive data are needed to make informed decisions on the type of print media.

Following is a summary of the reading behaviors that are examined in the screening and comprehensive version of the PMAP:

- oral reading rate—screening and comprehensive versions
- *oral reading stamina/fatigue*—comprehensive version only
- silent reading rate—screening and comprehensive versions
- working distance—screening and comprehensive versions
- *oral reading miscues*—comprehensive version only.

Before large print is recommended for a student with low vision, an objective procedure, such as one or both of those described in this section, should be used to determine the need for such materials.

Applicable Populations

Students with low vision above the second grade level for whom a concern exists about the appropriate print reading medium

Materials

Screening

√ *Print Media Assessment Process: Screening Version*
√ Informal reading inventory with four parallel forms
√ Stopwatch
√ Student's low vision device (if any)
√ Ruler (optional)

Comprehensive

√ *Print Media Assessment Process: Comprehensive Version*
√ Informal reading inventory with two parallel forms
√ Oral reading passages (see later section on "Reading Passages")
√ Photocopy of oral reading passages
√ Stopwatch
√ Cassette tape player
√ Blank cassette tapes with appropriate labels
√ Student's low vision device (if any)
√ Ruler (optional)

Note: Blank PMAP forms are provided at the end of this appendix on pages 136 to 141.

Screening Version

1. Select an informal reading inventory with at least four parallel forms (two for oral reading, two for silent reading) and with at least four comprehension questions at each level. Prepare two forms of the inventory in large print, and use the original test booklet for regular print. (Or prepare passages according to the media you wish to compare. For example, if you wish to compare reading in regular print without an optical device to reading with a CCTV, then you will use only the regular passages provided from the original inventory.)

2. Systematically collect data on the student's reading behaviors. The following sequence is suggested:

   - oral reading in regular print
   - oral reading in large print
   - silent reading in regular print
   - silent reading in large print.

3. For each of the above, follow these steps:

   - Begin at a level in the informal reading inventory that you feel the student will experience success. Generally one or two levels below the predicted reading level is sufficient.
   - Present the passage to the student, and ask him to read the passage aloud/silently. Tell the student that you will ask comprehension questions later and that you will be timing his reading. For silent reading, tell the student that you will say "start" when you want him to start; tell the student to look up at you when he is finished.
   - Record the number of seconds the student takes to read the passage under Column C on *Print Media Assessment Process: Screening Version* (which is found on pages 136 and 137). Note the working distance under Column D.

- Ask the comprehension questions provided by the publisher of the informal reading inventory. Under Column E, circle the number if the answer is correct; slash the number if it is incorrect. Indicate the percent comprehension under Column F.

- Repeat the steps above using the same medium at a higher reading level until a basal level (generally two consecutive passages with at least 80% comprehension) and a ceiling level (generally two consecutive passages with less than 80% comprehension) are obtained. If only four questions are provided, 75% is the criterion for adequate comprehension.

- Repeat the steps above in the remaining media.

4. Analyze the data as follows:

   - For each medium, cross out selections with less than 80% comprehension. This will assure that the reading rate is determined from passages that the student adequately comprehended.

   - Calculate words per minute for each selection that was not crossed out by dividing the number of passage words (Column B) by the number of seconds (Column C) and multiplying the quotient by 60.

   - Average the reading rates in each medium for oral and silent reading. Add the individual rates under Column G and divide by the total number of passages read in that medium.

   - Average the working distances in each medium for oral and silent reading.

   - Transfer the averages to the table on page 2 of the PMAP screening form.

5. Complete *Continuing Assessment of Literacy Media* (Form 6). Gather information from all members of the educational team, especially in areas related to reading efficiency, level of success in academic tasks, time required to complete academic tasks, and repertoire of literacy tools.

6. Use the objective data from the PMAP screening and qualitative information from *Continuing Assessment of Literacy Media* (Form 6) to make a decision on whether to conduct the comprehensive procedure:

   - If regular print is found to be as efficient or more efficient than large print and if there are no concerns on stamina or reading efficiency from team members, consider the use of regular print as the student's primary reading medium. As always, provide continuing assessment.
   - If there are any concerns from the educational team about stamina or reading efficiency, conduct the comprehensive assessment.
   - If large print is found to be more efficient than regular print, regardless of whether there are any concerns from members of the educational team, conduct the comprehensive version of the assessment.

Comprehensive Version

Reading Passages

Reading passages for the oral reading sample should be at the student's instructional reading level and should be long enough to allow at least 20 minutes of reading time. In general, use narrative prose rather than expository or some other form of prose. There are two possible strategies for selecting oral reading materials:

- Use two (or more) stories in the student's basal reading series which have not yet been used for instruction. The stories should be as close as possible to each other in sequence. Select stories that do not have a high number of unusual words (such as a story about a foreign culture) or unusual sentence structure (such as an ancient fable).

- Use a short novel for all reading passages. With this approach, it is essential to allow the student to read some of the book in his primary reading medium prior to collecting data. Use this "preassessment" reading phase to assure that the book is at the student's instructional reading level. If he can respond correctly to 80% or more questions on the story, then it is appropriate for use in the procedure. Reading a portion of the book will provide the student with an opportunity to become familiar with the characters, action, and plot of the story prior to being placed in an assessment situation.

Prepare one passage in large print by using the same method that is typically used in the classroom. For the regular print passage, use the original book from which the story was selected.

Silent Reading

Selections for silent reading are best taken from a published informal reading inventory in which a series of passages is provided at increasing grade levels, accompanied by a series of comprehension questions. Any informal reading inventory with at least two parallel forms at each grade level is sufficient.

Prepare one form in large print (18 point type), and use the original test booklet for regular print. Since you will want the student to read a number of passages in each medium, prepare several passages around the student's expected grade level.

If the screening procedure was administered recently, there is no need to repeat the silent reading portion. Simply transfer the data to Box 1 and Box 2 on page 4 of the *PMAP: Comprehensive Version* form.

Data Collection

Collection of data should occur over a period of at least two days. A recommended sequence is as follows:

Scheduling

Day 1 Silent reading in large print
Oral reading in large print

Day 2 Silent reading in regular print
Oral reading in regular print

Since the oral reading samples will be lengthy, it is not advisable to collect all oral reading data on one day. The suggested sequence will require approximately 30 minutes of reading with a short break between silent and oral reading passages.

If you feel that 30 minutes of reading in one period of time would be too demanding for the student, an alternative sequence may be more appropriate:

Day 1 Silent reading in regular print
Silent reading in large print

Day 2 Oral reading in regular print

Day 3 Oral reading in large print

Whenever possible, it is recommended that two or more reading selections be collected and averaged in each print size as this will minimize the effect of day-to-day variability that exists in reading, as well as all learning situations.

Silent Reading Rates

1. Familiarize yourself with the directions for administering the informal reading inventory you have selected (such as where to begin, how to establish a basal level). In general, informal tests provide great flexibility in administration procedures, but you should not violate any suggested procedure just to follow the directions below.
2. Select a beginning passage at the grade level you feel the student will be successful at answering all of the comprehension questions. Indicate the grade level of this passage on under Section A on the first page of the *PMAP: Comprehensive Version* form under the appropriate print medium.
3. Present the passage to the student and say, *"I want you to read this story silently. I will say 'start now' when I want you to begin. When you have finished reading, look up at me and say 'finished.' Then I will ask you some questions about the story. Are you ready to begin?"* Point to the first word and say, *"Start now."* Begin timing immediately after saying "now."
4. As the student is reading, note the working distance from the page and record this in inches on the protocol form under Section D.
5. When the student looks up and says "finished," stop timing and record the number of seconds on the protocol form under Section C.
6. Ask the comprehension questions. For correct responses, circle the number of the question on the protocol sheet under Section E. For incorrect responses, put a slash mark through the corresponding number.
7. If the student does not answer 80% of the comprehension questions correctly on the initial passage, work backward in grade level difficulty until a basal level is achieved or until the earliest grade level passage is reached, whichever comes first.
8. Continue testing until at least three passages are read with at least 80% accuracy and a ceiling level is established. (For informal reading inventories with only 4 comprehension questions, accept a 75% level of accuracy as sufficient.)
9. Thank the student for his good work!

Oral Reading Rates

1. Label a blank cassette tape with the student's name, testing date, title of the story, and reading medium. Assure that the tape player is functioning properly.

2. Tell the student (using your own words): *"I want you to read a story out loud to me. If you have trouble with a word, just try your best to figure it out and then go on. I will not be able to help you. After you finish reading, I will ask you to tell me the story in your own words. If you need to take a little break, just let me know. I want to record your story, so let's turn on the tape recorder now."* (Turn on tape recorder). *"Are you ready? OK, you may start now."*

3. Start timing when the student reads the first word of the title. If the student skips the title, draw his attention to it, and restart the stopwatch.

4. As the student reads, provide **noncontingent** verbal reinforcement (such as "Nice work!") at unobtrusive times (such as when the student is turning the page).

5. If the student tries unsuccessfully to pronounce a word and does not show signs of continuing, prompt him, to go on. If the student asks for your help, say, *"Try your best on your own, OK?"*

6. At least four times while the student is reading, note the working distance from the page. It may be helpful to record the working distance once during the first five minutes of reading, once during the second five minutes, and so forth. Record the working distance in inches on the second page of the *PMAP: Comprehensive Version* form at the bottom of the page.

7. When the student has read at least 20 minutes, find a natural stopping point (such as at the end of a section of the story) and ask, *"Do you want to finish the story or stop now?"* Continue if the student wishes to do so. (If not, go to step 8 and have the student complete the story at another time.)

8. When the student is finished reading, record the time spent in reading under Section B of the Overall Reading Rate at the top of page 2.

9. Then say, *"Now I would like for you to tell me the story in your own words."* Prompt the student if necessary (such as "What happened first?", "Then...?"). Record the retelling.

10. Turn off the tape recorder, and thank the student for his good work!

Working Distance

There is no separate procedure for collecting data on working distance as this is recorded during the silent and oral reading selections (see step 4 under Silent Reading and step 6 under Oral Reading). It is permissible to estimate the working distance, although you may use a ruler if you choose. If you feel that using a ruler would be obtrusive to the student while reading, rely on your best estimate.

Oral Reading Miscues

Again, there is no separate procedure for collecting data on oral reading miscues. The oral reading selections were tape recorded to allow later analysis of miscues.

Data Analysis

The form for *PMAP: Comprehensive Version* was designed to facilitate efficient analysis of all data. It is advisable to make entries in pencil in the event that you make an inadvertent error.

Silent Reading Rates

1. Calculate the percent of comprehension for each of the selections, and record this information under Section F on the first page of the *PMAP: Comprehensive Version* form.

2. Cross out any selection with less than 80% comprehension. (For informal reading inventories with only four questions, cross out selections with less than 75% comprehension.) Disregard these selections in the remaining steps. This eliminates any fast or slow reading rates that may have been caused by lack of comprehension.

3. Count the number of words in each of the passages, and record this information under Section B on the first page of the *PMAP: Comprehensive Version* form.

4. For each selection with at least 80% comprehension, calculate the reading rate in words per minute. To do this, divide the number of words in the selection by the number of seconds needed to read the selection and multiply this quotient by 60; ([B ÷ C] x 60 = WPM). Record the WPM for each selection under Section G on the form.

5. Calculate the average words per minute by adding the individual rates and dividing by the total number for each print size. (For example, if individual reading rates were found to be 50, 60, and 55 WPM for large print, add these rates together [165] and divide by 3 to get an average WPM of 55.)

6. At the bottom of the first page of the form, record the average rate for large print in Box 1 and the average rate for regular print in Box 2.

Oral Reading Rates

1. Gather together the tape recording of the selection, a photocopy of the story, and a stop watch. Listen to the tape and indicate each minute with a red slash mark on a copy of the story.

2. Count the number of words in the entire selection read by the student, and record this number under Overall—A on page 2 of the form. As you count, it will be helpful for the next step if you record the cumulative number of words at the end of each line or paragraph.

3. Count the number of words in the first 10 minutes of the reading selection (as indicated by the first 10 slash marks), and record this number under First Half—A.

4. Starting from the *end* of the selection, count back 10 *complete* slash marks. (Disregard any fragment of a minute at the very end.) Count the number of words within this section of the story, and record the number of words under Second Half—A.

5. Now calculate the words per minute by dividing the number of words by the number of seconds and multiplying this quotient by 60 ([A ÷ B] x 60). Record the overall rates in Boxes 3 and 4, first half rates in Boxes 5 and 6, and second half rates in Boxes 7 and 8.

Working Distances

1. For silent reading, calculate the average working distance for each medium by adding the numbers under Section D on the first page of the form and dividing by the number of entries. (Again, disregard any selection with less than 75% comprehension.) Record the average distance for large print in Box 9 and the average distance for regular print in Box 10.

2. For oral reading, add the numbers recorded under Section A at the bottom of page 2 of the protocol form and divide by four. Record the average distance for large print in Box 11 and the average distance for regular print in Box 12.

3. If the student used a hand-held or spectacle-mounted low vision device for reading, you may wish to record the focal distance as well to determine whether the student was holding the device at the proper distance.

Oral Reading Miscues

1. Thoroughly familiarize yourself with the procedures for conducting a miscue analysis with the *Qualitative Analysis System* (see Appendix D). Practice this procedure in advance using the exercise provided in Appendix D. If needed, request the assistance of a reading specialist in your school or district.

2. Using the tape recording of the student's oral reading and a photocopy of the reading passage, code all appropriate miscues using the prescribed markings.

3. Transfer miscues to the analysis form (see Appendix D). Be sure to note whether the miscue was self-corrected by placing a check mark in the last column.

4. Using the *Qualitative Analysis System* guidelines, determine whether each miscue has beginning graphic similarity, middle similarity, and ending similarity.

5. Using the *Qualitative Analysis System* guidelines, determine whether each miscue is acceptable in context.

6. Calculate graphic similarity for each print size. Count the number of checks for beginning similarity and place this number on line A. Then count the total number of boxes, excluding those with X's, and place this number on line B. Divide A by B and record the percentage of beginning graphic similarity for large print in Box 13 and for regular print in Box 14.

7. Repeat the procedure in step 6 for middle and ending similarity. Record percentages for middle similarity in Boxes 15 and 16 and for ending similarity in Boxes 17 and 18.

8. To calculate acceptability in context, count the number of checks for "acceptable" miscues and record this number on line A. Then count the total number of miscues that were analyzed and record this number on line B. Divide A by B and record the percentage of acceptability in context for large print in Box 19 and for regular print in Box 20.

9. To calculate the correction strategy, count the number of checks for **unacceptable miscues that were self corrected.** Please note that you *do not* count acceptable miscues that were self corrected. Place the number of unacceptable miscues that were self corrected on line A. Then count the number of unacceptable miscues and place this number on line B. Divide A by B and record the correction strategy for large print in Box 21 and for regular print in Box 22.

Individual Profile

To facilitate interpretation of data, transfer information in the numbered boxes to the corresponding boxes on the Individual Profile. This is located on page 4 of the *PMAP: Comprehensive Version* form.

Interpretation

In interpreting the data in the Individual Profile, be sure to consider each piece of information in the context of the entire profile. Do not make a decision on the effectiveness of one medium over another based solely on one bit of information.

You will need to make decisions on whether differences between reading behaviors are educationally significant. To make this determination, consider whether the difference is likely to have a significant impact on the student's day-to-day functioning in the classroom. For example, if a student is reading 80 wpm in regular print and 75 wpm in large print, such a difference in not likely to be considered significant. However, if a student is reading 80 wpm in regular print and 60 wpm in large print, a significant difference is more readily apparent. In making these kinds of decisions, always consider other information in the profile as well.

Reading Rates

Consider three aspects of reading rate when interpreting data in the individual profile. First, compare the rates of reading in the two media as indicated above. Second, consider the obtained rates in light of typical reading rates of students without visual impairments. This will allow members of educational teams to make reasonable modifications of time limits for completing academic tasks. Some general guidelines on reading rates for **students without visual impairments** are as follows:

Reading Rates for Students with Normal Vision

Grade Level	Minimum Oral Reading Rates[1]	Typical Silent Reading Rates[2]
1	60	<81
2	70	82-108
3	90	109-130
4	120	131-147
5	120	148-161
6	150	162-174
7	150	175-185
8		186-197
9		198-209
10		210-224
11		225-240
12		241-255
College		256-333+

Third, consider whether a significant decrease in oral reading rate occurred from the first 10 minutes of the reading episode to the last 10 minutes. Again, it will be the team's decision as to whether any discrepancy is educationally significant. It may be helpful to compare the rate in the final 10 minutes with the overall rate to help in deciding whether significant fatigue occurred.

[1]Guszak, 1985 (from secondary source)
[2]Carver, 1989

Working Distance

If the student used a low vision device, note that some devices do not allow adjustment of the working distance. For example, spectacle-mounted microscopes must be held at a certain focal distance which becomes the student's working distance. Other devices, such as a hand-held magnifier, have a proper focal distance (the page-to-device distance), but the student is free to adjust the working distance from the device to the eye.

Miscue Analysis

Before interpreting the data, it is important to understand what the percentages mean. **Graphic similarity** scores indicate how much a student is relying on graphic information from the text (the information found in the graphic representation of the letters). If a student has a beginning graphic similarity score of 55%, this indicates that 55% of the miscues made by the student were graphically similar at the beginning of the words.

Acceptability in context scores indicate the student's appropriate use of contextual information to predict words in the story. An acceptability score of 40%, for example, indicates 40% of the miscues made by the students were acceptable in the context of the story. These miscues **did not** disrupt the meaning of the story.

Self-correction strategy scores indicate the student's monitoring of reading by knowing that an unacceptable miscue was made that, if not corrected, would disrupt the meaning of the story. A self-correction strategy score of 25% indicates that the student successfully self-corrected 25% of miscues that would have otherwise disrupted the story's meaning.

A desirable miscue profile is one that is relatively balanced between the use of graphic information (the graphic similarity scores) and use of contextual information (the acceptability in context score). These are referred to as the student's prediction strategies. If a student has dramatically higher scores in one of these areas, it may indicate over-reliance on one source of information and, perhaps, the need to intervene with targeted strategy lessons. In terms of self-correction strategy, students ideally should self-correct a majority of the unacceptable miscues they make (over 50%). There is some evidence to suggest that self-correction strategy

scores decrease in good readers past the sixth grade, perhaps because good readers self-correct miscues silently rather than orally (Christie, 1981).

In comparing the effectiveness of two reading media, look for educationally significant differences in the percentages between media, especially in acceptability in context and self-correction strategy. Consider this information along with the oral reading rate for the corresponding medium.

Making a Decision

After considering all data, including information from the general continuing assessment process, the team should make a recommendation on the most efficient reading medium for the student.

- If regular print is found to be most effective, consider this as the most desirable reading medium.
- If the two media are relatively similar, consider the least restrictive option as the desirable reading medium.
- If reading regular print alone is found to be less efficient than reading large print, consider the need for a clinical low vision evaluation to explore options for providing needed magnification. Do not decide that use of large print will be the most efficient medium indefinitely.
- If reading regular print with a low vision device is found to be less efficient than reading large print, consider the need for additional instruction and practice in use of the device. It may be appropriate to have a clinical reevaluation of the prescribed device to consider other options. Be sure to provide the low vision clinician with the information found as part of this evaluation. After instruction and/or clinical reevaluation, repeat this procedure.

Continuing Assessment

As with all decisions regarding literacy media, assessment of appropriate print reading media must be a continuing process. Since a student's needs and the learning demands will change with time, we must continually reevaluate the appropriateness of earlier decisions and make changes when necessary. Also, it is important to keep in mind that the procedure described in this chapter is only one part of the overall decision-making process.

Case Study
Sara

Sara is a 12-year-old female in the sixth grade. She is above grade level in all subjects except for mathematics in which she is at grade level. She has a history of optic atrophy, nystagmus, and photophobia. Sara's visual condition is considered stable. Distance acuities are 20/200 in the right eye and in the left eye. A screening of near vision revealed an acuity of 1.6M print at 3 inches. As a result of a recent low vision examination, the eye care specialist prescribed a pair of reading glasses with a 5D add and with yellow tint to reduce glare and photophobia.

To determine whether Sara was as efficient in reading with her newly prescribed reading glasses as in reading large print, the comprehensive PMAP was administered. The results were as follows:

Reading Behaviors	Large Print	Regular Print with 5D Tinted Reading Glasses
Reading Rates		
Oral Reading	105 wpm	108 wpm
First Half	104 wpm	108 wpm
Second Half	106 wpm	108 wpm
Silent Reading	144 wpm	152 wpm
Average Working Distances		
Oral Reading	3 inches	3.5 inches
Silent Reading	3 inches	3 inches
Miscue Analysis		
Graphic Similarity		
Beginning	89%	89%
Middle	79%	89%
End	53%	66%
Acceptability in Context	24%	19%
Self-Correction Strategy	13%	28%

Interpretation of Data

- *Oral reading rates.* Sara read at 105 words per minute in large print and 108 words per minute in regular print with her 5D tinted reading glasses. These rates are essentially identical indicating that Sara read aloud equally as efficient in large print and regular print.

- *Fatigue and stamina.* Since Sara was administered the comprehensive PMAP, she read for a 20 minute period in large print from a story in a basal reader and another 20 minute period in regular print from another story in the same basal. Oral reading rates were then calculated for the first half of the story and for the second half in each medium. If objective fatigue occurred, a decrease in reading rate would be expected in the second half of the story in comparison to the first half. In large print, Sara read at 104 words per minute in the first half as compared to 106 in the second half. These rates are essentially identical, so no objective fatigue was noted. In regular print with her 5D tinted reading glasses, she read at 108 words per minute in both the first and second halves, so no fatigue was again noted. Results indicate that Sara experienced no fatigue in either medium and maintained reading stamina for at least 20 minutes of sustained oral reading.

- *Average working distance.* During oral reading, Sara read at an average of three inches in large print and 3.5 inches in regular print. A slight advantage was noted for the use of regular print with her reading glasses, but was not of sufficient magnitude to draw any educationally significant conclusions. When reading silently, Sara used a working distance of three inches in both media. Overall, both media afforded the same working distance.

- *Miscue analysis: Graphic similarity.* Graphic similarity refers to how similar the actual text item and the miscue are in overall shape and configuration. Generally efficient readers tap the most graphic similarity at the beginning, the next most at the end, and the least in the middle. The numbers indicate the percentage of text items and miscue items that were graphically similar in the various positions in the words in both media. A higher percentage in graphic similarity is not necessarily better; however, as it indicates that the reader was relying very heavily on graphic information in the text rather than balancing this with contextual information (as determined through the "acceptability in context" percentage).

  For beginning similarity, 89% of Sara's miscues were similar in both large print and regular print. For middle similarity, 79% were graphically similar in large print and 89% in regular print. For ending similarity, 53% were similar in large print as compared with 66% in regular print. Overall, Sara trapped generally the same amount of graphic information in large print as compared with regular print, with slightly more graphic information tapped in the middle and ends of words in regular print.

- *Miscue analysis: Acceptability in context.* This number indicates the percentage of miscues that were contextually acceptable and did not disrupt the meaning of the passage. To be considered acceptable in context for the miscue analysis procedure used in this case study, the miscue had to be both semantically acceptable (that is, it made sense in the sentence) and syntactically acceptable (that is, it conformed to the grammatical patterns of English).

  In large print, 24% of Sara's miscues were acceptable in context, while in regular print 19% were acceptable. This reveals a slight advantage for large print where 5% more of Sara's miscues were contextually acceptable.

- *Miscue analysis: Self-correcting strategy.* This number indicates the percentage of unacceptable miscues—those that would disrupt the construction of meaning of the passage—that are independently corrected by the reader. The self-correction strategy score reveals the reader's monitoring of her own reading behavior. Ideally, most of the unacceptable miscues should be self-corrected, although with more mature readers there is some evidence to suggest that miscues may be corrected silently, not aloud. Note that self-correction of acceptable miscues are not included in the self-correction strategies; as these corrections are considered to be unnecessary since they do not disrupt the meaning of the story.

  Sara independently corrected 13% of unacceptable miscues in large print and 28% of unacceptable miscues in regular print. Since 15% more unacceptable miscues were self-corrected in regular print, this is considered an advantage for regular print.

Conclusion

When the profile is examined holistically, Sara's profile provides convincing evidence that reading regular print with her 5D tinted reading glasses was as effective and efficient as reading large print with her regular nontinted prescription glasses. Although the school district provides large print books, Sara does not like them and prefers to use her tinted reading glasses. Despite attempts by the teacher of students with visual impairments to phase out large print books, the school district persists in purchasing them each year. It is hoped that the objective data gathered for this case study will change this practice.

Note: Information for this case study was based on research by Koenig, Layton, & Ross (1992).

PRINT MEDIA ASSESSMENT PROCESS: SCREENING VERSION

Student: _____ Date: _____

Comparison: Large Print and Regular Print ____ without a low vision device

____ with _____

Silent Reading Rate

	A. Grade Level	B. Number of Words	C. Number of Seconds	D. Working Distance	E. Comprehension Questions	F. Percent Comp.	G. WPM
Large Print	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
Form ___	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
Regular Print	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
Form ___	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____

Calculations

A. Cross out all selections with less than 80% comprehension.

B. Calculate WPM for each selection not crossed out: WPM = [B ÷ C] x 60

C. Average reading rates. Add individual rates for each medium. Divide the total by the number of selections. Present results for each medium on the next page.

D. Average working distances in each medium for oral and silent reading. Present results on the next page.

Oral Reading Rate

	A. Grade Level	B. Number of Words	C. Number of Seconds	D. Working Distance	E. Comprehension Questions	F. Percent Comp.	G. WPM
Large Print	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
Form ___	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
Regular Print	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
Form ___	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____

Screening Results	**Large Print**	**Regular Print**
Oral Reading Rate		
Silent Reading Rate		
Oral Reading Working Distance		
Silent Reading Working Distance		

PRINT MEDIA ASSESSMENT PROCESS: COMPREHENSIVE VERSION

Student: _____ Date: _____

Comparison: Large Print and Regular Print ____ without a low vision device

____ with _____

Silent Reading Rate

	A. Grade Level	B. Number of Words	C. Number of Seconds	D. Working Distance	E. Comprehension Questions	F. Percent Comp.	G. WPM
Large Print	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
Form ___	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
Regular Print	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
Form ___	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____
	____	____	____	____	1 2 3 4 5 6 7 8 9 10	____	____

Calculations

A. Cross out all selections with less than 80% comprehension.

B. Calculate WPM for each selection not crossed out: WPM = [B ÷ C] x 60

C. Average reading rates. Add individual rates for each medium. Divide the total by the number of selections.

	Large Print		***Regular Print***
1		2	

Oral Reading Rate	Large Print	Regular Print
Overall		
A. Count and record words in entire selection.	_____	_____
B. Record seconds spent in reading.	_____	_____
C. Calculate overall oral rate of reading: WPM = [A ÷ B] x 60	3 [ ]	4 [ ]
First Half		
A. Count and record words in first half.	_____	_____
B. Record seconds spent in reading first half.	_____	_____
C. Calculate oral rate of reading for first half: WPM = [A ÷ B] x 60	5 [ ]	6 [ ]
Second Half		
A. Count and record words in second half.	_____	_____
B. Record seconds reading in second half.	_____	_____
C. Calculate oral rate of reading for second half: WPM = [A ÷ B] x 60	7 [ ]	8 [ ]

Working Distance		Large Print	Regular Print
Working Distance for Silent Reading			
For each medium, calculate the average working distance from the page.		9 [ ]	10 [ ]
Working Distance for Oral Reading			
A. During reading, note distance at least every five minutes	0-5 minutes	_____	_____
	5-10 minutes	_____	_____
	10-15 minutes	_____	_____
	15-20 minutes	_____	_____
B. For each medium, calculate the average working distance from the page.		11 [ ]	12 [ ]

Oral Reading Miscues	*Large Print*	*Regular Print*
Graphic Similarity		
Beginning Similarity (BS)		
A. Column total (number √ for BS)	_____	_____
B. Errors analyzed (total boxes without Xs)	_____	_____
C. Calculate percentage of miscues with Beginning Similarity (A ÷ B)	13 ☐	14 ☐
Middle Similarity (MS)		
A. Column total (number √ for MS)	_____	_____
B. Errors analyzed (total boxes without Xs)	_____	_____
C. Calculate percentage of miscues with Middle Similarity (A ÷ B)	15 ☐	16 ☐
Ending Similarity (ES)		
A. Column total (number √ for ES)	_____	_____
B. Errors analyzed (total boxes without Xs)	_____	_____
C. Calculate percentage of miscues with Ending Similarity (A ÷ B)	17 ☐	18 ☐
Acceptability in Context (AC)		
A. Column total (number √ for AC)	_____	_____
B. Errors analyzed (total number)	_____	_____
C. Calculate percentage of miscues acceptable in context (A ÷ B)	19 ☐	20 ☐
Correction Strategy		
A. Column total (number √ for unacceptable miscues self-corrected)	_____	_____
B. Errors analyzed (total *unacceptable* errors)	_____	_____
C. Calculate percentage of unacceptable miscues self-corrected (A ÷ B)	21 ☐	22 ☐

***Now transfer data in numbered boxes to corresponding lines on the* Individual Profile.**

INDIVIDUAL PROFILE for _____

Reading Behaviors		Large Print			Regular Print	
Reading Rates						
Silent Reading	1		wpm	2		wpm
Oral Reading Overall	3		wpm	4		wpm
First Half	5		wpm	6		wpm
Second Half	7		wpm	8		wpm
Working Distances						
Silent Reading	9		inches	10		inches
Oral Reading	11		inches	12		inches
Miscue Analysis						
Graphic Similarity						
Beginning Similarity	13		%	14		%
Middle Similarity	15		%	16		%
Ending Similarity	17		%	18		%
Acceptability in Context	19		%	20		%
Self-Correction Strategy	21		%	22		%

Appendix D
Qualitative Analysis System
Guidelines for Use

James F. Christie
Arizona State University

Note: Permission was obtained from the author to reprint these guidelines.

I. Selection of errors for analysis

A. Record the following types of errors on the Analysis Sheet:

1. Substitutions
2. Omissions
3. Insertions
4. Word order reversals

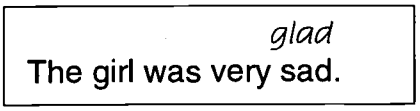
B. Do **not** record the following:

1. Repetitions
2. Hesitations
3. Prompts
4. Disregard for punctuation
5. Omissions of entire lines of text
6. Variations in pronunciations involving dialect

II. Recording errors on the analysis sheet

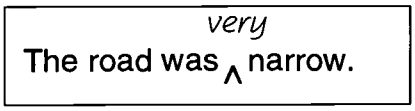
A. Record each type of error as follows:

1. Substitutions

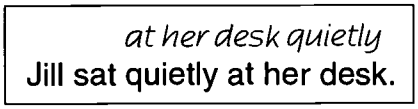


2. Omissions

3. Insertions



4. Word order reversals

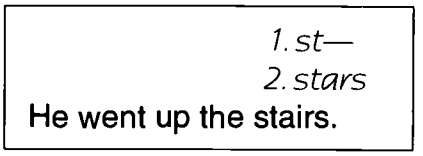


ERROR	TEXT
glad	*sad*
—	*the*
very	—
at her desk quietly	*quietly at her desk*

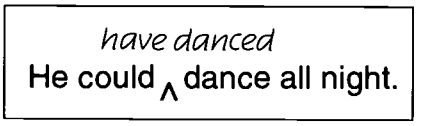
B. Special rules

1. Only record identical substitutions once.

2. If the reader makes several attempts at a word, record the first complete word or nonword substitution.

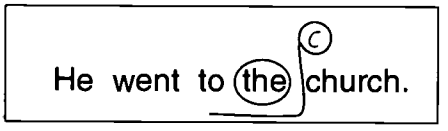


3. If an error causes the reader to immediately make another error, record as one error.



ERROR	TEXT
stars	stairs
have danced	dance

Note: Although Christie does not recommend making self-corrections on a copy of the story, it is typical to note these as follows:



This means that the student initially omitted "the," then independently self-corrected the miscue. Such coding will facilitate the later analysis.

III. Analyzing errors

A. Graphic similarity

1. Which errors to analyze

a. Only substitutions of a single word or non-word for a single text item should be analyzed for graphic similarity.

		GRAPHIC SIMILARITY			CONTEXT		
ERROR	TEXT	Beginning	Middle	End	Acceptable	Unacceptable	Self-Correction
went	*walked*	√					
—	*the*	x	x	x			

b. Do **not** analyze omissions, insertions, reversals, or substitutions that involve more than one word. In these cases, draw large **X**'s through the three boxes under GRAPHIC SIMILARITY.

went
He walked to (the) school.

2. Judging graphic similarity

a. Compare the sequence and shape of the letters in the Error column with those in the Text column. Place a check in the appropriate box if the beginning, middle, and/or end of the error is graphically similar to the corresponding part of the text item.

b. Guidelines
- Divide the error and text items into corresponding thirds.
- Use the following criteria for judging the different thirds as being graphically similar:
- **Beginning** third: The first letter of the error and the first letter of the text item must be identical.
- **Middle** and **End**: The letters in the error and text item need only be similar in sequence and configuration.

3. Special cases

   a. Two-letter text items: Place an **X** in the **Middle** box and judge only for beginning and ending similarity.

   b. One letter text items: Place an **X** in the **Middle** and **End** boxes and judge only for beginning similarity.

		GRAPHIC SIMILARITY			CONTEXT		
ERROR	TEXT	Beginning	Middle	End	Acceptable	Unacceptable	Self-Correction
men	man	√	√	√			
here	said						
his	this		√	√			
walk	walked	√	√				
cub	carry	√					
meal	material	√		√			
be	by	√	x				
if	it	√	x	√			
the	a		x	x			

B. Acceptability in context

1. Judge all errors recorded on the Analysis Sheet for acceptability in context.

2. When judging the acceptability of an error, take the following two factors into consideration:

   a. **Syntax**: Is the error grammatically acceptable in the context of the entire sentence?

   b. **Semantics**: Does the error make sense in the context of the sentence and the preceding portion of the paragraph?

3. Marking the Analysis Sheet

   a. If the error meets both criteria, check the box in the **Acceptable** column.

   b. If either criterion is not met, check the box in the **Unacceptable** column.

C. Self-correction

If the error is successfully self-corrected by the reader, place a check in the **Self-Correction** column.

	CONTEXT		
	Acceptable	Unacceptable	Self-Correction
Acceptable in context; self-correction	√		√
Acceptable in context; no self-correction	√		
Unacceptable in context; self-correction		√	√
Unacceptable in context; no self-correction		√	

IV. Determining totals and percentages

A. Graphic similarity

1. Count the number of checks in each column (beginning, middle, and end) and place the totals in the boxes marked **Column Total**.

2. For each column, count the number of boxes that do not have X's in them. Place each total in the box marked **Number of Errors Analyzed**.

3. Determine the **Percentage** for each column by dividing each **Column Total** by the **Number of Errors Analyzed**.

B. Acceptability in context

1. Count the number of checks in the **Acceptable** column and the number of checks in the **Unacceptable** column and enter each total in the appropriate **Column Total** box.

2. **Acceptable** column **only**

a. Enter the total number of errors analyzed for acceptability in context in the box marked **Number of Errors Analyzed**. (This should equal the total number of errors recorded on the Analysis Sheet.)

b. Determine the **Percentage** of errors acceptable in context by dividing the **Column Total** by the **Number of Errors Analyzed**.

C. Percentage of unacceptable errors that were self-corrected

1. Count the number of errors in the **Unacceptable** column that were self-corrected. (Be sure to count only self-corrections made on unacceptable errors.)

2. Divide this number by the total number of errors that were unacceptable in context.

V. Profile Sheet

A. Transfer the percentage from the Analysis Sheet to the blanks below the appropriate bar graphs.

B. Darken in the bar graphs.

Note: As an alternative, the form on page 153 can be used to facilitate calculations. All directions needed are contained on this form.

Qualitative Analysis System Analysis Sheet

James F. Christie

	ERROR	TEXT	GRAPHIC SIMILARITY			CONTEXT		Self-Correction
			Beginning	Middle	End	Acceptable	Unacceptable	
		Column Total						
		Number of Errors Analyzed						
		Percentage						

Determining totals and percentages for Qualitative Analysis System

A. Graphic similarity
   a. Beginning similarity
      1. Column total (number of checks for beginning similarity) _____
      2. Number of errors analyzed (total boxes without X's) _____
      3. Percentage of miscues with beginning similarity (1÷2) _____ %
   b. Middle similarity
      1. Column total (number of checks for middle similarity) _____
      2. Number of errors analyzed (total boxes without X's) _____
      3. Percentage of miscues with middle similarity (1÷2) _____ %
   c. Ending similarity
      1. Column total (number of checks for ending similarity) _____
      2. Number of errors analyzed (total boxes without X's) _____
      3. Percentage of miscues with ending similarity (1÷2) _____ %

B. Acceptability in context
   a. Column total (number of checks for acceptable context) _____
   b. Number of errors analyzed (total number of errors analyzed) _____
   c. Percentage of miscues acceptable in context (a÷b) _____ %

C. Correction strategy
   a. Column total (number of unacceptable miscues self-corrected _____
   b. Number of errors analyzed (total unacceptable miscues) _____
   c. Percentage of unacceptable miscues self-corrected (a÷b) _____ %

Profile

PREDICTION STRATEGY

Graphic Similarity

	B	M	E
100%			
90%			
80%			
70%			
60%			
50%			
40%			
30%			
20%			
10%			

Errors Acceptable in Context

100%	
90%	
80%	
70%	
60%	
50%	
40%	
30%	
20%	
10%	

CORRECTION STRATEGY

Unacceptable Errors Self-Corrected

100%	
90%	
80%	
70%	
60%	
50%	
40%	
30%	
20%	
10%	

Practice Exercise in Analyzing Miscues with the Qualitative Analysis System

Developed by Alan J. Koenig, Texas Tech University

Directions: Below are 25 coded miscues, taken largely from an oral reading sample of a student with low vision. Analyze these miscues using the Qualitative Analysis System. The first 10 miscues have been transferred to the analysis form on the next page; you will transfer the remaining 15. Also, some miscues have already been analyzed for illustrative purposes; you will analyze the remaining ones. Then calculate percentages in each category, and complete the analysis profile on the third page. To finalize this activity, write a short paragraph which discusses the student's use of language information in reading.

Everything grew dark. She entered the forest, and there (then, C) it was completely black; she (could not) couldn't see her hands in front of her face.

Suddenly, far off, a light gleamed (glowed) from between (behind, C) the trees — like a star caught in the (bushes) branches. The girl went in the direction of the light. She quickened (quickening) her stride and soon she (emered, heat) emerged into a clearing. There she came to a startled halt.

The clearing was bright, bright like sunlight. In the middle of it a big bonfire (like bright, bofire) was burning, and its flames leaped (lifted) upward nearly to the sky. Around the bonfire men were (sitted, far) seated, some close to the fire and some farther back. They were sitting there and (convesing) conversing quietly. They were (not) ^ all beautifully dressed — some in silver, some in gold, some in green velvet (velt, C).

The girl began to count them, and there were twelve. Three were old, three were (of, and) middle age, ^ three were young. (And) the three remaining were mere boys.

All of a sudden one (old) man (C) — the tallest, with a beard (belt, C) and with bushy eyebrows — (around, loudly asked) turned about and looked at the girl. The old man asked loudly, "Where are you from? What do you want here?"

The girl showed him her empty basket and said, "I have to fill (find, C) this basket with (shared) snowdrops.

Practice Exercise

Qualitative Analysis System Analysis Sheet

	ERROR	TEXT	GRAPHIC SIMILARITY			CONTEXT		Self-Correction
			Beginning	Middle	End	Acceptable	Unacceptable	
	then	*there*	√	√	√	√		√
	could not	*couldn't*	x	x	x	√		
	glowed	*gleamed*	√	√	√	√		
	behind	*between*						
	bushes	*branches*						
	quickening	*quickened*	√	√			√	
	emered	*emerged*						
	heat	*halt*						
	like bright	*bright like*	x	x	x	√		
	bofire	*bonfire*						
	not	—	x	x	x		√	
	—	*of*	x	x	x	√		
		Column Total						
		Number of Errors Analyzed						
		Percentage						

Determining totals and percentages for Qualitative Analysis System

A. Graphic similarity
   a. Beginning similarity
      1. Column total (number of checks for beginning similarity) _____
      2. Number of errors analyzed (total boxes without X's) _____
      3. Percentage of miscues with beginning similarity (1÷2) _____ %
   b. Middle similarity
      1. Column total (number of checks for middle similarity) _____
      2. Number of errors analyzed (total boxes without X's) _____
      3. Percentage of miscues with middle similarity (1÷2) _____ %
   c. Ending similarity
      1. Column total (number of checks for ending similarity) _____
      2. Number of errors analyzed (total boxes without X's) _____
      3. Percentage of miscues with ending similarity (1÷2) _____ %

B. Acceptability in context
   a. Column total (number of checks for acceptable context) _____
   b. Number of errors analyzed (total number of errors analyzed) _____
   c. Percentage of miscues acceptable in context (a÷b) _____ %

C. Correction strategy
   a. Column total (number of unacceptable miscues self-corrected _____
   b. Number of errors analyzed (total unacceptable miscues) _____
   c. Percentage of unacceptable miscues self-corrected (a÷b) _____ %

Profile

PREDICTION STRATEGY

Graphic Similarity

	B	M	E
100%			
90%			
80%			
70%			
60%			
50%			
40%			
30%			
20%			
10%			

Errors Acceptable in Context

100%	
90%	
80%	
70%	
60%	
50%	
40%	
30%	
20%	
10%	

CORRECTION STRATEGY

Unacceptable Errors Self-Corrected

100%	
90%	
80%	
70%	
60%	
50%	
40%	
30%	
20%	
10%	

Answer Key for Practice Exercise

Qualitative Analysis System Analysis Sheet

	ERROR	TEXT	GRAPHIC SIMILARITY: Beginning	GRAPHIC SIMILARITY: Middle	GRAPHIC SIMILARITY: End	CONTEXT: Acceptable	CONTEXT: Unacceptable	Self-Correction
	then	*there*	√	√	√	√		√
	could not	*couldn't*	x	x	x	√		
	glowed	*gleamed*	√	√	√	√		
	behind	*between*	√	√		√		√
	bushes	*branches*	√		√	√		
	quickening	*quickened*	√	√			√	
	emered	*emerged*	√		√		√	
	heat	*halt*	√		√		√	
	like bright	*bright like*	x	x	x	√		
	bofire	*bonfire*	√	√	√		√	
	lifted	*leaped*	√		√	√		
	sitted	*seated*	√		√		√	
	far	*farther*	√			√		
	convesing	*conversing*	√	√	√		√	
	not	—	x	x	x		√	
	velt	*velvet*	√		√		√	√
	—	*of*	x	x	x	√		
	and	—	x	x	x	√		
	—	*and*	x	x	x	√		
	—	*old*	x	x	x	√		
	belt	*beard*	√				√	√
	around	*about*		√	√	√		
	loudly asked	*asked loudly*	x	x	x	√		
	shared	*showed*	√	√	√		√	
	find	*fill*	√				√	√
		Column Total	16	8	12	14	11	
		Number of Errors Analyzed	17	17	17	25		
		Percentage	94%	47%	71%	56%		

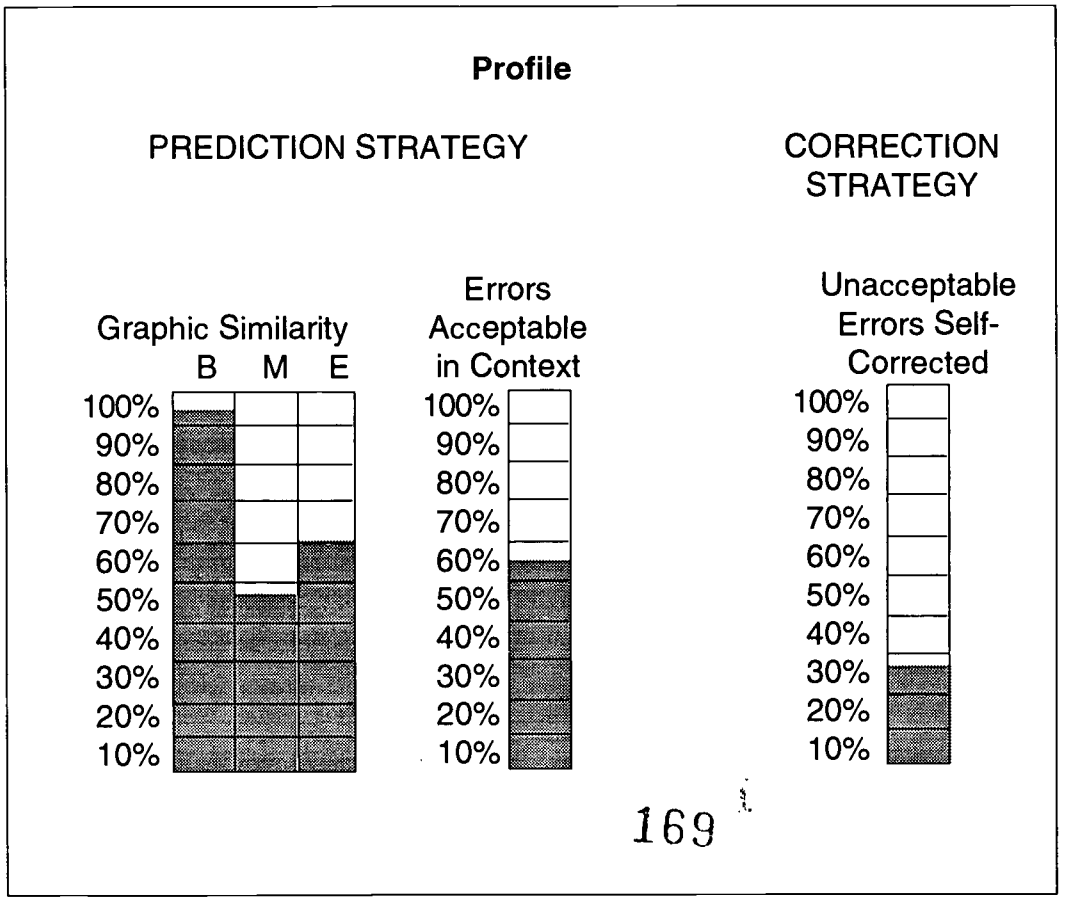
Determining totals and percentages for Qualitative Analysis System

A. Graphic similarity
   a. Beginning similarity
      1. Column total (number of checks for beginning similarity) 16
      2. Number of errors analyzed (total boxes without X's) 17
      3. Percentage of miscues with beginning similarity (1÷2) 94 %
   b. Middle similarity
      1. Column total (number of checks for middle similarity) 8
      2. Number of errors analyzed (total boxes without X's) 17
      3. Percentage of miscues with middle similarity (1÷2) 47 %
   c. Ending similarity
      1. Column total (number of checks for ending similarity) 12
      2. Number of errors analyzed (total boxes without X's) 17
      3. Percentage of miscues with ending similarity (1÷2) 71 %

B. Acceptability in context
   a. Column total (number of checks for acceptable context) 14
   b. Number of errors analyzed (total number of errors analyzed) 25
   c. Percentage of miscues acceptable in context (a÷b) 56 %

C. Correction strategy
   a. Column total (number of unacceptable miscues self-corrected 3
   b. Number of errors analyzed (total unacceptable miscues) 11
   c. Percentage of unacceptable miscues self-corrected (a÷b) 27 %

Profile



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Appendix E
Reading Strategy Lessons
Some Ideas for Translating Miscue Analysis Findings Into Targeted Reading Instruction

Compiled by
Alan J. Koenig & Carol A. Layton
Texas Tech University

ERIC

Introduction

Many instructional strategies are available for teaching specific reading skills to students. While very few have been validated for special use by students with low vision, the instructional strategies likely will yield the same benefits as for students with normal vision. However, the value of any instructional strategy is never presumed. The teacher assures that an instructional strategy is beneficial for the student by engaging in continuous diagnostic teaching. For example, if a strategy seeks to increase reading fluency, the teacher should calculate the student's reading fluency rate on a regular basis, ideally daily.

The following reading strategies are separated into three categories: (a) use of contextual cues, (b) use of graphophonemic information, and (c) fluency. Given results from the *Qualitative Analysis System,* instructional strategies should be selected by the teacher to target needed skills for individual students. The introduction to each section presents information on the type of profile from the *Qualitative Analysis System* that indicates a certain weakness in reading skills.

Instructional materials for each instructional strategy should be developed by the teacher to match the individual needs of each student. For students with low vision, the print medium option that is commonly used in the classroom generally should be used for the strategy lesson. For students who are blind, all materials in the strategy lessons can be placed in appropriate braille formats. Special attention should be given to how students will record answers since they generally will not write on the exercise itself. For example, in cloze exercises the blanks can be numbered so students can write the answers on a separate sheet of paper.

Strategies to Increase Use of Contextual Cues

A student who demonstrates a low percentage of acceptable miscues in context will likely need instruction in the use of context cues as a prediction strategy. On the Qualitative Analysis System profile, such students will demonstrate an unbalanced prediction strategy—generally a high level of graphic similarity and a low level of acceptability in context. A beneficial strategy for increasing the use of contextual cues is the cloze procedure, along with a number of variations.

The Basic Cloze Procedure

In the cloze procedure, students are presented a passage that contains sentences with words omitted and replaced with blanks. The student must read the passage and put words in the blanks that make sense. Since there is no graphic information available to the student, she must rely exclusively on contextual information to make choices on the words to put in the blanks. Steps in the basic cloze procedure are as follows:

1. Select a passage from a story at the student's instructional reading level. This should contain several sentences that express a complete thought. A passage that can be read in 3 to 5 minutes is a good general rule of thumb.

2. Retype the passage, and replace every 5th word (or xth word) with blanks of standard length. For example:

   > Tom ran to the _____ to buy some candy. _____ saw his best friend, _____ he stopped to play _____ game of basketball.

   To increase the amount of contextual information available to the student, delete every 10th word. This is more appropriate for younger students. Also, some cloze procedures leave the first and last sentences intact.

3. Present the passage to the student, and tell him to read through the passage silently at first. Then reread the passage aloud and put a word in the blank that makes sense. The student may write the words or just tell you the words.

4. For each word (or after completing the entire passage), review the words and discuss whether they make sense in the story. If a word does not, have the student think of a word that does make sense.

5. As a follow-up activity, ask the student to think of other words that make sense in each of the blanks. Also, think of words that do not make sense, and have the student explain why. You may also want to compare the words in the original passage with the words the student used and discuss whether the student's words changed the meaning of the passage.

Variations of the Basic Cloze Procedure

Deleting Specific Types of Words

For readers in grades 2 and 3, Aulls (1982) suggests deleting every 10th structure word. After counting 10 words, you delete the next available structure word and replace it with a blank. Aulls also recommends not deleting words from the first or last sentences.

For students in grades 3 (and above), deleting every 5th content word will increase the difficulty of this strategy by targeting nouns and verbs and doubling the number of deletions (Aulls, 1982). Depending on the student's identified needs, you may choose to delete other specific types of words, such as adverbs, adjectives, and prepositions.

Another variation of the cloze procedure is to delete a word at the beginning or end of a sentence (Leu & Kinzer, 1991). When a word is omitted at the end, the student can use all preceding information to predict the word. When a word is omitted from the beginning of the sentence, the student must use contextual information that follows an unknown word.

When reading aloud to your students, an oral cloze procedure can be used to reinforce the meaningful completion of sentences. As you read, occasionally omit the last word in a sentence and have your students fill in with a word that makes sense. This is especially good for younger readers when predictable books are used (such as *The House That Jack Built)* (Leu & Kinzer, 1991).

Content Word Maze

This procedure provides young readers with an introduction to predicting content words (Aulls, 1982). This is easier for young readers than the traditional cloze procedure. A content word maze is constructed as follows:

1. Select a short passage that contains enough semantic information to allow students to predict deleted words.

2. Delete every 10th content word and replace it with a blank of standard length. If the 10th word is not a content word (that is, a noun or verb), continue until a content word is reached and delete it.

3. For each deletion, provide the student with three choices to fill the blank. The choices should be selected as follows: (a) the word that is the correct choice, (b) a word that is syntactically correct but semantically incorrect, and (c) a word that is both syntactically and semantically incorrect. For example:

> *house*
> *cat*
> *same*
>
> The girl on the hill lived in a yellow _____ .

4. Have the student read the complete passage silently. Then reread each sentence, selecting the word that makes sense in the blank. Discuss the reason why this word is appropriate and the others are not.

Synonym Cloze Procedure

This is another variation of the cloze procedure that is especially valuable for younger readers (Aulls, 1982). This procedure (as well as the content maze) is suggested as a prerequisite activity to the traditional cloze procedure. The directions for the synonym cloze procedure are as follows:

1. Select a meaningful passage at the student's instructional reading level.

2. Delete selected content words and replace them with parentheses. Below the parentheses provide a synonym for each deleted word. For example:

> The girl petted her fluffy [ ] before going [ ]
> *kitty* *outdoors*
> to play in the park. It was white with blue eyes.

3. Have the student read through the passage using a marker (such as a 3 x 5 note card) to cover the synonyms. After the student has predicted a word that would fit in the blank, the student then uses the synonym to check her predictions.

Strategies to Increase Use of Graphophonemic Cues

Efficient reading is characterized by using a balance of contextual information and graphic information to construct the author's message. Some students may need targeted reading instruction to increase the amount of grapho-phonemic information for predicting words, but this is ideally paired with use of contextual information. The following activities are variations of the cloze procedure presented on previous pages, but these provide some level of graphic and/or phonemic information to assist in the prediction process.

Successive Cloze Method

This method provides different levels of graphophonemic information to the student as she tries to predict and decode an unknown word (Aulls, 1982).

1. The target words are nouns, adjectives, and verbs. These types of words are most readily used with phonetic analysis.

2. Construct sentences that omit specific words (perhaps elected from phonics lessons or spelling lists). In the first sentence, provide information only on the length of the word with blanks for each letter. Then in successive repetitions of the sentence, provide differing levels of graphic information, such as:

   a. The horse ate _ _ _ _ _.
   b. The horse ate gr _ _ _.
   c. The horse ate _ _ _ _ n.
   d. The horse ate _ _ ai _.
   e. The horse ate gr _ _ n.
   f. The horse ate grai _.
   g. The horse ate _ _ ain.
   h. The horse ate grain.

3. Have the student read the first sentence and predict a word that fits in the blank given the length of the word. Then have her continue down the list until an accurate prediction is made. Generally, a student will know the word before she reads the final sentence with the word in place.

Preferred Cloze Method

1. This is similar to the successive cloze method, but two sentences are used to provide additional context and preferred cues (Aulls, 1982). The cues are called *preferred* because you select them purposefully based on a preceding lesson. For example, if a previous phonics lesson targeted the *cl* blend, the following exercise might be given:

> The house was cl _ _ _ . Every week it was cleaned by dusting the furniture, sweeping the carpet, and burning the trash.

2. Have the student first read the entire two sentences. Then based on the contextual information and the graphophonemic cues provided, predict a word that fits in the sentence.

Variation of the Preferred Cloze Method

With the *Qualitative Analysis System,* information is provided on the student's use of graphic information in the initial, medial, and final positions in words. If a student is consistently missing valuable information from a specific position within words resulting in unacceptable miscues, then it may be helpful to use the preferred cloze method to highlight the graphic information in that position.

For example, if the student is consistently missing the endings of words which cause syntactically unacceptable miscues, exercises such as the following may be helpful:

> The rabbit was _ _ _ _ ing into the garden. It was time for dinner!

Please note that a low graphic similarity score in one or more positions is not always a sign of difficulty. Generally, readers tap the most graphic information at the beginnings of words, somewhat less in the final position, and generally the least in the middle of words. So target a particular position in a word only if it is consistently resulting in *unacceptable* miscues and always pair that with appropriate instruction in use of contextual cues. Remember that we are looking for a balance between the use of graphic cues and contextual cues as prediction strategies.

Passage Length Progressive Cloze

This procedure provides the reader with some graphic information, but emphasizes contextual cues by only targeting one-fourth of the sentences for deletion. According to Aulls (1982), "The idea is to provide ample opportunity for the reader to use progressively more of a passage's semantic cue information to identify words as he or she gets further into the passage" (p. 327).

1. Select a short passage at the student's instructional reading level. Leave the first one-fourth and the third one-fourth of the sentences intact.

2. Using the preferred deletion procedure, make targeted deletions in the second one-fourth and the final one-fourth of the sentences. Provide some graphic information as appropriate and use a dash to stand for the remainder of the deleted letters. For example:

> Bob had a frog. His name was Hop.
> Hop liked to sit on a log.
> Bob fed fl _ _ _ to Hop.
> Hop _ iked to e_ _ flies.
> But Hop was sad from time to time. He wanted a frog friend.
> Bob c_ _ ght one m _ re frog.
> Bob n _ _ ed it Hop Along.

3. Have the student first read the story silently, then proceed through the story. Insert meaningful words based on the information provided.

Strategies for Increasing Self-Monitoring and Self-Correction in Reading

A student with a low self-correction score on the *Qualitative Analysis System* profile is not monitoring her own reading. Therefore, the student is unaware when unacceptable miscues are made that will disrupt the meaning of the story. Such a student will generally also have a low score for acceptability in context. A student that fits this profile will benefit from activities designed to increase use of contextual information, but some specific lessons targeting one's monitoring of reading may also be helpful. Some general suggestions are provided below.

There is some evidence to suggest that self-corrections decrease in good readers above the sixth grade level (Christie, 1981). It is thought that good readers are making corrections silently, rather than aloud. So activities to increase self-corrections may best be used with students in the primary grades.

Sense or Nonsense

1. Provide the student with a list of sentences or a short passage at her instructional reading level. Have the student indicate whether the sentence makes sense or whether it is nonsense. For example:

> The snake hopped into the garden.
>
> The bear lived in a cave in the woods.
>
> The lion swam in the ocean.

2. For each nonsense sentence, have the student tell what is wrong and how it could be corrected.

Providing Feedback on Miscues and Modeling Self-Corrections

- As a student reads aloud, record unacceptable miscues on a copy of the story. Afterwards, share these miscues with the student and have her give a word that makes sense in the sentence (although not necessarily the actual word).
- You may want to share all the miscues with the student and let her help decide which make sense and which do not. Then encourage the student to only correct the ones that do not make sense.
- As a student reads aloud, only prompt her to go back and correct *unacceptable* miscues. Be sure to let the student finish the sentence so contextual information is present to assist in attacking the unknown words. In general, do not emphasize correction of acceptable miscues. If the miscues do not interfere with the meaning of the story, allow the student to continue reading.
- As *you* read aloud to students, use opportunities to model appropriate self-corrections as you make unacceptable miscues (either planned or unplanned). Say, "Oh, that doesn't make sense. Let me go back." In this way, your students will know that good readers need to go back sometimes to make sure that what is being read makes sense.

Strategies for Increasing Oral Reading Fluency

While reading fluency per se is not addressed by the *Qualitative Analysis System,* there are students with visual impairments who need to increase the fluency with which they read. Reading fluency is typically referred to as the combination of reading rate and word recognition. The following strategies will assist in increasing oral reading fluency.

Repeated Readings

Repeated readings is a simple technique to increase reading fluency by providing the student with many opportunities to repetitively read a familiar passage until reading sounds like language (Aulls, 1982). In this way, the student is able to practice her reading skills. This method requires the teacher to prepare short passages with approximately the same complexity.

1. Determine the student's average reading rate. Select several short, interesting passages that the student will be able to read in about three to five minutes. Have her read one passage on two or three days. With the use of a stopwatch, record how many seconds the reading required. Determine the student's reading rate by dividing the number of words in the passage by the number of seconds needed to read each selection and multiplying the quotient by 60. Average the rates for the two or three passages.

2. Select a criterion goal rate for the student that will be easy to obtain after three or four readings. Inform the student of the criterion rate and explain that she will continue to reread the same passage until the criterion rate is achieved.

3. Present the passage to the student and allow her to reread the passage until the criterion rate is met. Be sure to inform the student of her rate after each rereading, and provide positive reinforcement when the criterion rate is achieved.

4. Begin each session with a new passage.

5. After the student is consistently meeting the criterion rate, increase the criterion to another manageable goal.

Radio Reading

Radio reading is a very comfortable way for children to participate in a reading activity that will enhance reading fluency (Tierney, Readence, & Dishner, 1990). In radio reading, the reader acts as a radio announcer with a script. The listeners function as an audience. The reader must communicate accurately the information through oral reading. The audience listens and discusses what the reader has read and whether the message of the script was received by the audience. The selection to be read needs to be of a grade and interest level appropriate to the group. Short stories from a basal reading series often fit this criterion. It is the teacher's responsibility to guide the selection of the reader. The selection should be short to maintain the attention of the audience. Steps in radio reading include:

1. The teacher explains to the students the rules of radio reading:
   - The reader reads and the audience listens.
   - It is the responsibility of the reader to accurately communicate her message.
   - Only the reader has a copy of the script.
   - The audience must listen to the announcer to determine her message.

2. Since the goal of the reader is to accurately convey the message, the reader may choose to change words, omit or insert new words. The reader's job is to relate a clear message. The reader presents the material to the class, and the class must listen for her message.

3. The audience determines if the student's oral reading has accurately communicated the message. A quick discussion about the message is conducted by the teacher or another student. The reader earns the right to continue reading if she has communicated well, or every reader in the group can be given the opportunity to become the radio announcer.

4. If an unclear message has been conveyed by the reader, it is the student's job to reread the page and clear up any confusion.

Paired Reading

Paired reading is often used to help the classroom teacher individualize instruction (Tierney, et al., 1990). It also is a safe way for children to participate and practice in oral reading in a comfortable instructional environment. Paired reading groups two children with differing reading rates. The student with a greater level of fluency is a peer model for the student with a lesser degree of fluency.

1. Have the students sit beside each other so that one student may follow along in the text with the other student. Each student should read from material that is appropriate for her reading ability.

2. It is suggested that the less confident student begin reading. The student should question herself about whether the story makes sense. No prompting should occur during the reading unless the student asks her partner for help with a specific word. At the end of the oral reading the reader should retell the story.

3. Midway through the process the more confident student reads. As she is reading, the less confident student listens and follows along in the text. The more fluent reader is acting as a model of oral reading. The reader also continually questions whether the story makes sense, and the reader should retell the story after finishing the reading.

Echo Reading

Echo reading, developed by Heckelman, enables the student to use visual, aural, oral, and tactile abilities to assist in the process of learning to read (Tierney, et al., 1990). It is based on the "neurological impress method." In this strategy readers are exposed to an accurate, fluid pattern of reading fluency. An individual instructional situation is required. This procedure is outlined below:

1. Select a fifteen minute session to use each day. Thirty to fifty sessions may be required to see a significant change in fluency of the reader.

2. Select material that is familiar to the student and is at a slightly lower reading level than the reader is accustomed to handling. Material should be varied and of high interest to the student.

3. Give simple instructions to the student. The student is to disregard all meaning from the text. The student is told to slide her eyes smoothly across the print without hesitation. The teacher's finger should move along the line of print in a continuous movement that should coincide with oral reading to encourage the coordination of aural and oral sensory modes with visual and tactile modes.

4. Seat the student slightly in front and side of the teacher. Both the teacher and the student hold the reading material and read in unison. It is helpful if in the beginning sessions the teacher reads slightly louder than the student. In later sessions, the teacher may choose to read in a softer voice than the student. The teacher reinforces the student by increasing in loudness and speed if the student stumbles or falters.

5. Once a pattern is established, the teacher and student may move on to more difficult material. If improvement is not noted by the fourth hour of instruction, this procedure should be discontinued.

Appendix F
Selected Informal Reading Inventories

Inventory, Author, and Publisher	Description
Basic Reading Inventory Jerry L. Johns (1991) Kendall/Hunt Publishing Company PO Box 539 Dubuque, IA 52004-0539	• Appropriate for K – 8 • Contains 3 parallel forms for either oral or silent reading • Contains 1 long narrative passage and 1 long expository passage (250 words in each) • Uses *Qualitative Analysis System*
Brigance Diagnostic Comprehensive Inventory of Basic Skills Albert H. Brigance (1985) Curriculum Associates, Inc. North Billerica, MA 01862-2589	• Appropriate for grades K – 9 • 2 forms for oral reading • 2 forms for silent reading • Contains other inventories for word recognition, vocabulary, listening, writing, and so forth
Classroom Reading Inventory, 6th Ed. N. J. Silvaroli (1990) Wm. C. Brown Publishers 2460 Kerper Boulevard Dubuque, IA 52001	• Appropriate for K – Junior High • 2 forms for elementary students • 2 forms for junior high and older • Includes word lists and spelling inventory

Inventory, Author, and Publisher	Description
Informal Reading Inventory (4th Edition) Paul C. Burns & Betty D. Roe (1993) Houghton Mifflin Company One Beacon Street Boston, MA 02108	• Appropriate for K – 12 • Contains 4 parallel passages for either oral or silent reading • One of the most comprehensive informal reading inventories
Inventatio Informal de Lectura Barrera, et al. (1993) Houghton Mifflin Company One Beacon Street Boston, MA 02108	• Informal reading inventory in Spanish • Teacher's guide is in both Spanish and English • Appropriate for Grades 1 - 5 • Contains word lists and 2 parallel passages for either oral or silent reading
Qualitative Reading Inventory Lauren Leslie & Joanne Caldwell (1990) Harper Collins Publishers, Inc. 1900 East Lake Avenue Glenview, IL 60025	• Appropriate for K – Junior High • K – 2 includes 3 narrative passages and 1 expository passage • Grade 3 – Junior High includes 3 narrative passages and 3 expository passages
Secondary & College Reading Inventory Jerry L. Johns (1990) Kendall/Hunt Publishing Company PO Box 539 Dubuque, IA 52004-0539	• Appropriate for high school and beginning college students • Contains 2 parallel forms of passages ranging from grade 7 to college

Appendix G
Blank Assessment Forms

GENERAL STUDENT INFORMATION

Identifying Information

Student _____ Birth Date _____ Age _____

Grade/Placement _____ School _____

Components of Learning Media Assessments Conducted

___ Use of Sensory Channels

___ Selection of General Learning Media

___ Selection of Literacy Media

- ___ Initial Decision on Literacy Medium
- ___ Continuing Assessment—General
- ___ Continuing Assessment—Selection of Print Media

___ LMA for Student with Additional Disabilities

Date(s) of Learning Media Assessment _____

Evaluator(s) _____

Presence of Additional Disabilities

___ Motor Impairment: _____

___ Cognitive Disability: _____

___ Other Sensory Disability: _____

___ Other Disabilities: _____

For Students with Established Literacy Skills

Primary Literacy Medium _____

Secondary Literacy Media _____

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Information on Eye Condition

Date of Most Recent: Ophthalmological Examination _____

Clinical Low Vision Evaluation _____

Functional Vision Evaluation _____

Cause of Visual Impairment _____

Age at Onset _____ Visual Fields _____

Near Acuity	Right Eye	Left Eye	Both Eyes
Without Correction	_____	_____	_____
With Correction	_____	_____	_____
With Low Vision Device	_____	_____	_____
Near Device(s) Used	_____		

Distance Acuity	Right Eye	Left Eye	Both Eyes
Without Correction	_____	_____	_____
With Correction	_____	_____	_____
With Low Vision Device	_____	_____	_____
Distance Device(s) Used	_____		

Stability of Visual Condition: Stable Deteriorating

Visual Functioning: Stable Fluctuating

Possibility of Secondary Visual Impairment(s) _____

_____

Additional General Information

_____

_____

_____

_____

Summary

Findings of Learning Media Assessment

Sensory Channels: Primary _____

Secondary _____

General Learning Media: Visual _____

Tactual _____

Auditory _____

Literacy Media: Primary Medium _____

Secondary Media _____

Instructional Implications

Type of Literacy Program:

____ Conventional literacy program (for academic student)

___ Prereading or readiness program

___ Formal literacy program

____ Functional literacy program (for student with additional disabilities)

____ Other communication program (for student with additional disabilities who is functioning at a level such that a conventional or functional literacy program is not now appropriate)

Implications of: Prognosis _____

_____

Additional Disabilities _____

_____

Literacy Objectives: 1. _____

2. _____

3. _____

USE OF SENSORY CHANNELS

Student ______________________________

Setting/Activity ______________________________

Date ______________ Observer ______________________________

Observed Behavior	Sensory Channel
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A
	V T A

☐ **Probable Primary Channel:** ______________________________

◯ **Probable Secondary Channel(s):** ______________________________

ERIC

GENERAL LEARNING MEDIA CHECKLIST

Student _____

Date _____ Evaluator _____

Distance

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	-	-	Pictures	V	-	-	Pointing
V	-	-	Alphabet strips	V	-	-	Gestures
V	-	-	Wall clocks	V	-	-	Facial expressions
V	-	-	Calendar	V	-	-	Demonstration
V	-	-	Felt board	V	-	-	Modeling
V	-	-	Flip chart	-	-	A	Oral instructions
-	-	A	Environmental sounds	-	-	A	Verbal prompts
V	-	-	Timeline	-	-	A	Verbal guidance
V	-	-	Number line	-	-	A	Verbal descriptions
V	-	-	Posters, wall maps	-	-	A	Questioning
V	-	A	Videos, movies, TV	-	-	A	Class discussions
V	-	-	Transparencies	-	-	A	Lectures
-	-	A	Tapes, records, CDs	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____

Notes:

Near

Use of vision	Use of touch	Use of hearing	Learning Materials
V	T	-	Pictures
V	T	A	Toys
V	T	-	Clay
V	T	-	Paint
V	T	-	Crayons
V	T	-	Stencils
V	T	-	Puzzles
V	T	-	Board games
V	T	-	Real objects
V	T	-	Models
V	T	-	Flash cards
V	T	-	Worksheets, workbooks
V	T	A	Personal watch, clock, timer
V	T	-	Desk calendar
V	T	-	Desk number line, timeline
V	T	-	Math manipulatives
V	T	-	Money
V	T	-	Abacus
V	T	A	Calculators
V	T	-	Maps, atlases
V	T	-	Globe
V	T	-	Charts, diagrams
V	T	A	Measuring devices
V	T	A	Science materials (such as lab equipment)
V	T	A	Language Master
-	-	A	Tapes, record albums, CDs
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____

Use of vision	Use of touch	Use of hearing	Teaching Methods
V	T	-	Pointing
V	T	-	Gestures
V	-	-	Facial expressions
V	T	A	Demonstrations
V	T	A	Modeling
V	T	A	Prompts, guidance
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____
V	T	A	_____

INDICATORS OF READINESS FOR A CONVENTIONAL LITERACY PROGRAM

Student _____

Date _____ Evaluator _____

Yes	*No*	*No Opportunity*	*Behavior*
_____	_____	_____	Listens to and enjoys when others read.
_____	_____	_____	Notes likenesses and differences in sounds or spoken words.
_____	_____	_____	Speaks in connected sentences.
_____	_____	_____	Notes likenesses and differences in familiar objects visually and/or tactually.
_____	_____	_____	Tells a story about a recent personal event or experience.
_____	_____	_____	Demonstrates interest in pictures and/or objects associated with stories or books.
_____	_____	_____	Completes sentences in a book with a repeated pattern (such as "I'll huff, and I'll puff, and ...." in *The Three Little Pigs).*
_____	_____	_____	Relates personal experiences to characters or events in stories.
_____	_____	_____	Acts out or retells stories after listening to them.
_____	_____	_____	Demonstrates interest in drawing or scribbling.
_____	_____	_____	Scribbles (or "writes") and then "reads" back the message.
_____	_____	_____	Associates signs in the home or community with important events (such as the golden arches mean "time to eat").
_____	_____	_____	Says the alphabet with fair accuracy.
_____	_____	_____	Attempts to write his or her name.
_____	_____	_____	Notes likenesses and differences in words when presented in print or braille.
_____	_____	_____	Recognizes name or simple words in print or braille.

INITIAL SELECTION OF LITERACY MEDIUM

Student _____

Date _____ Evaluator _____

Section I: Use of Sensory Information

Task	Primarily Visual	Primarily Tactual/Other	Comments Observations
• Recognition of others	V	T/O	
• Initiation of reaching response	V	T/O	
• Exploration of toy or object	V	T/O	
• Discrimination of likenesses and differences in objects/toys	V	T/O	
• Identification of objects	V	T/O	
• Confirmation of object identification	V	T/O	
• Use of visual motor/fine motor skills	V	T/O	
• Interest in pictures	V	T/O	
• Interest in books	V	T/O	
• Interest in scribbling/writing	V	T/O	
• Identification of names/simple words	V	T/O	

Section II: Working Distances and Size Preferences

- *Identification of objects:*

  Accurate visual identification of objects: object size _____

  distance _____

  Accurate tactual identification of objects: object size _____

- *Normal visual working distances:*

  Classroom materials (such as wall clocks, calendars) _____

  Reading/looking at pictures _____

  Writing/drawing/coloring _____

Additional observations (include implications of visual condition and additional disabilities):

_____

_____

CONTINUING ASSESSMENT OF LITERACY MEDIA

Student _____

Primary Reading Medium _____ Secondary Media _____

Date _____ Evaluator _____

Comments/Observations

Additional Information on Visual Functioning

Is current information available from functional vision evaluations? Summarize.

Is current information available from ophthalmological examinations? Summarize.

Is current information available from clinical low vision evaluations? Summarize.

Does available information indicate a change in visual functioning? ***Yes*** No

Reading Efficiency

Summarize the following information:

Current grade placement ____

Results of the *informal reading inventory*

(in student's primary reading medium)	**Grade**	**Rate**
Independent level (≥90% comprehension)	____	____
Instructional level (≥ 75% comprehension)	____	____
Frustration level (<75% comprehension)	____	____

Reading of *content materials* at grade placement	**Comp**	**Rate**
Science	____	____
Social Studies	____	____
Other: _____	____	____
_____	____	____

Does the student read with adequate comprehension? Yes ***No***

Does the student read at a sufficient rate? Yes ***No***

Does the student read at a sufficient rate and with adequate comprehension in order to complete academic tasks with success? Yes ***No***

Academic Achievement

Is the student able to accomplish academic tasks in the current medium/media with success?	Yes	***No***
Are time requirements to complete academic tasks reasonable in comparison to peers without visual impairments?	Yes	***No***

Handwriting

Is the student able to read his/her own handwriting effectively?	Yes	***No***
Is handwriting a viable and effective mode of written communication?	Yes	***No***

Literacy Tools

Does the student have the repertoire of literacy tools (such as sighted readers, slate and stylus) to meet *current* educational needs?	Yes	***No***
Does the student have adequate skills in use of technology to meet *current* educational needs?	Yes	***No***
Does the student have the repertoire of literacy tools necessary to achieve *future* educational and/or vocational goals?	Yes	***No***
Does the student have adequate skills in use of technology to achieve *future* educational and vocational goals?	Yes	***No***

Factors to be considered by the educational team:

_____

_____

_____

_____

_____

_____

LITERACY TOOLS INVENTORY

Student _____

Date _____ Evaluator _____

	Visual	Tactual	Auditory
Traditional	_____Regular print materials _____Large print materials _____Low vision devices _____nonoptical–near _____nonoptical–distant _____optical–near _____optical–distant _____Regular paper _____Bold lined paper _____Signature guide _____Other writing guides _____Print as supplement to braille _____Typewriter _____ _____ _____	_____Braille materials _____Braillewriter _____Slate and stylus _____Typewriter _____Signature guide _____Check writing guide _____Paper line guide _____Braille as supplement to print _____ _____ _____	_____ Aural reading (from recording) _____ Cassette books _____ Leisure reading _____ Textbooks _____ Dictionary _____ Encyclopedia _____ Other _____ Live reader _____Radio reading service _____Cassette recorder (for notes) _____ _____ _____
Technology	_____Regular computer monitor _____Large computer monitor _____Enlarged print on screen _____Inkprint printer _____Keyboarding skills _____ _____ _____	_____Electronic braille notetaker _____Cassette braille device _____Braille remote terminal device _____Braille embosser _____Keyboarding skills _____Optacon _____ _____ _____	_____ Synthesized speech _____ _____ _____
Computer Applications	_____Wordprocessing _____Spread sheets _____Data bases _____Telecommunications _____ _____ _____	_____Wordprocessing _____Spread sheets _____Data bases _____Telecommunications _____ _____ _____	_____ Wordprocessing _____ Spread sheets _____ Data bases _____ Telecommunications _____ _____ _____

Key: **I** = Uses tool independently
X = Needs instruction and practice in use of tool

FUNCTIONAL LEARNING MEDIA CHECKLIST

Student _____

Date _____ Evaluator _____

Distance

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	-	-	Pictures	V	-	-	Pointing
V	-	-	Conventional calendars	V	-	-	Gestures
-	-	A	Environmental sounds	V	-	-	Facial expressions
V	-	A	Community environment	V	-	-	Demonstration
V	-	-	Environmental signs	V	-	A	Modeling
-	-	A	Tapes, records, CDs	-	-	A	Oral instructions
V	-	A	Videos, movies, TV	-	-	A	Verbal prompts
V	-	-	Posters	-	-	A	Verbal guidance
V	-	-	Felt board	-	-	A	Verbal descriptions
V	T	A	_____	-	-	A	Questioning
V	T	A	_____	-	-	A	Class discussions
V	T	A	_____	V	T	A	_____

Use of vision	Use of touch	Use of hearing	Adaptive Communication Systems and Materials
			Unaided Communication Systems
V	T	-	Sign language
V	T	-	Gestures
V	T	A	_____
V	T	A	_____
			Aided Communication Systems
V	T	A	Communication boards
-	-	A	Tape recorders
V	T	-	Picture communication books
V	T	A	Technology-based communication systems (such as speech synthesizers)
V	T	A	Primitive communication devices (such as real objects, miniatures)
V	T	A	Other augmentative communication devices
V	T	A	_____
V	T	A	_____

Near

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	T	A	Real objects, materials	V	T	-	Pointing
V	T	-	Full size, scale models	V	T	-	Gestures
-	T	-	Positioning equipment	V	-	-	Facial expressions
-	T	-	Adaptive mobility devices	V	T	A	Demonstrations
V	T	-	Adaptive eating devices	V	T	A	Modeling
V	T	A	Washers, dryer	V	T	A	Prompts
V	T	A	Kitchen appliances	V	T	A	Guidance
V	T	-	Money	-	T	-	Physical manipulation
V	T	A	Telephone	-	T	-	Restraint
V	T	A	Calendar boxes	V	T	A	_____
V	T	A	Switches	V	T	A	_____
V	T	A	Timer	V	T	A	_____
V	-	-	Mirror	V	T	A	_____
V	T	A	Language Master	V	T	A	_____
-	-	A	Tapes, records, CDs	V	T	A	_____
V	T	-	Conventional desk calendar				
V	T	A	Adaptive vocational devices				
V	T	A	Behavior management charts				
V	T	A	Adaptive measuring devices				
V	-	-	Pictures				
V	T	-	Clay, paint, crayons				
V	T	A	Toys				
V	T	-	Stencils				
V	T	A	Puzzles				
V	T	A	Board games				
V	-	-	Light Box				
V	T	A	Personal watch, clock				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				

INDICATORS OF READINESS FOR A FUNCTIONAL LITERACY PROGRAM

Student _____

Date_____ Evaluator _____

Yes	*No*	*No Opportunity*	*Behavior*
_____	_____	_____	Attends to and responds meaningfully when others read.
_____	_____	_____	Anticipates activities and events.
_____	_____	_____	Differentiates sounds or spoken words, gestures, or signs.
_____	_____	_____	Attaches meaning to sound or spoken words, gestures, or signs.
_____	_____	_____	Differentiates objects visually and/or tactually.
_____	_____	_____	Demonstrates an association of pictures or objects with stories or books.
_____	_____	_____	Identifies objects visually and/or tactually.
_____	_____	_____	Associates signs in the home or community with important events (such as the golden arches mean "time to eat").
_____	_____	_____	Chooses independently to examine books, letters, and/or symbols.
_____	_____	_____	Notes likenesses and differences in words when presented in print or braille.
_____	_____	_____	Follows simple directions of 2 or 3 steps.
_____	_____	_____	Generalizes directional concepts (such as top, bottom).
_____	_____	_____	Generalizes the ability to sequence a series of objects, activities, or events.
_____	_____	_____	Generalizes the use of primitive symbolic communications systems such as real objects or miniatures.
_____	_____	_____	Generalizes the use of abstract symbolic communication.
_____	_____	_____	Initiates interactive communication through systems such as sign, gestures, or augmentative communication devices.
_____	_____	_____	Recognizes that words in print or braille have meaning.
_____	_____	_____	Recognizes name in print or braille.

INITIAL SELECTION OF FUNCTIONAL LITERACY MEDIUM

Student _____

Date _____ Evaluator _____

Need for Functional Literacy Program

Yes No Would functional literacy skills facilitate independent living and work skills?

Yes No Would the student benefit from instruction in literacy skills for functional purposes?

Yes No Would the value of teaching functional literacy skills be justified given other areas of need?

Use of Sensory Information Task	Primarily Visual	Primarily Tactual/Other	Comments Observations
• Recognition of others	V	T/O	
• Initiation of reaching response	V	T/O	
• Exploration of toy or object	V	T/O	
• Discrimination of likenesses and differences in objects, toys	V	T/O	
• Identification of objects	V	T/O	
• Confirmation of object identification	V	T/O	
• Use of visual motor, fine motor skills	V	T/O	
• Interest in pictures	V	T/O	
• Interest in books	V	T/O	
• Interest in scribbling, writing	V	T/O	
• Identification of names, simple words	V	T/O	

Working Distances and Size Preferences

- Identification of objects:

  Accurate visual identification of objects: object size _____

  distance _____

  Accurate tactual identification of objects: object size _____

- Normal visual working distances:

  Examining pictures, books _____

  Scribbling, drawing, coloring _____

  Completing daily living tasks (such as toothpaste on brush) _____

Additional Observations: _____

CONTINUING ASSESSMENT OF FUNCTIONAL LITERACY MEDIA

Student _____

Date _____ Evaluator _____

Comments/Observations

Additional Information on Visual Functioning

Is current information available from functional vision evaluations? Summarize.

Is current information available from ophthalmological examinations? Summarize.

Is current information available from clinical low vision evaluations? Summarize.

Does available information indicate a change in visual functioning? ***Yes*** No

Functional Literacy Tasks

Is the student able to complete functional literacy tasks in the current medium with success? Yes ***No***

Would additional literacy tools increase the student's independence? ***Yes*** No

Are there additional or new functional literacy requirements in the student's literacy program? ***Yes*** No

Are new functional literacy skills required for increasing independent living tasks? ***Yes*** No

Are new functional literacy skills required for increasing immediate or future vocational tasks? ***Yes*** No

Is the student able to generalize functional words and symbols to new situations? Yes ***No***

Would the student benefit from instruction in a conventional literacy program? ***Yes*** No

Factors to be considered by the educational team: _____

Appendix H
Quick Reference Guide

- The *Quick Reference Guide* is intended to supplement, not replace, the resource guide, *Learning Media Assessment of Students with Visual Impairments.*

- We assume that you have read *Learning Media Assessment of Students with Visual Impairments* and are now using this truly as a "quick" reference.

- Refer to *Learning Media Assessment of Students with Visual Impairments* when you need additional information. Page numbers are referenced throughout the *Quick Reference Guide.*

- Remember to use only those parts of *Learning Media Assessment of Students with Visual Impairments* that will provide the information you need for individual students. Refer to "How to Use this Guide" on the inside of the front cover to guide the process. **Not all forms or checklists will be used for each student.**

Form 1
General Student Information

Use with all students

Purpose

- To summarize important background information on the student that influences the learning media assessment process
- To summarize results of the learning media assessment and to record instructional decisions

Please Note

- Use this form only when other similar forms are not already in use

Learning Media Assessment Form 1

GENERAL STUDENT INFORMATION

Identifying Information

Student _____ Birth Date _____ Age _____

Grade/Placement _____ School _____

Components of Learning Media Assessments Conducted

___ Use of Sensory Channels

___ Selection of General Learning Media

___ Selection of Literacy Media

___ Initial Decision on Literacy Medium

___ Continuing Assessment—General

___ Continuing Assessment—Selection of Print Media

___ LMA for Student with Additional Disabilities

Date(s) of Learning Media Assessment _____

Evaluator(s) _____

Presence of Additional Disabilities

___ Motor Impairment: _____

___ Cognitive Disability: _____

___ Other Sensory Disability: _____

___ Other Disabilities: _____

For Students with Established Literacy Skills

Primary Literacy Medium _____

Secondary Literacy Media _____

Student _____ General Student Information p. 2

Information on Eye Condition

Date of Most Recent: Ophthalmological Examination _____

Clinical Low Vision Evaluation _____

Functional Vision Evaluation _____

Cause of Visual Impairment _____

Age at Onset _____ Visual Fields _____

Near Acuity	Right Eye	Left Eye	Both Eyes
Without Correction			
With Correction			
With Low Vision Device			
Near Device(s) Used			

Distance Acuity	Right Eye	Left Eye	Both Eyes
Without Correction			
With Correction			
With Low Vision Device			
Distance Device(s) Used			

Stability of Visual Condition: Stable Deteriorating

Visual Functioning: Stable Fluctuating

Possibility of Secondary Visual Impairment(s) _____

_____

Additional General Information

_____

_____

_____

_____

_____ General

Summary

Findings of Learning Media Assessment

Sensory Channel: Primary _____

Secondary _____

General Learning Media: Visual _____

Tactual _____

Auditory _____

Literacy Media: Primary Medium _____

Secondary Media _____

Instructional Implications

Type of Literacy Program:

___ Conventional literacy program (for academic student)
___ Prereading or readiness program
___ Formal literacy program

___ Functional literacy program (for student with additional disabilities)

___ Other communication program (for student with additional disabilities who is functioning at a level such that a conventional or functional literacy program is not now appropriate)

Implications of: Prognosis _____

_____

Additional Disabilities _____

_____

Literacy Objectives: 1. _____

2. _____

3. _____

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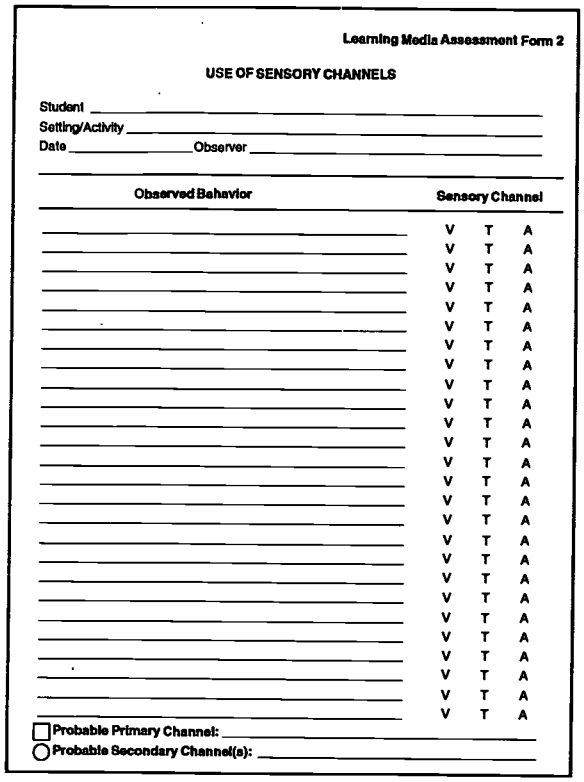
Form 2
Use of Sensory Channels



Learning Media Assessment Form 2

USE OF SENSORY CHANNELS

Student _____

Setting/Activity _____

Date _____ Observer _____

Observed Behavior	Sensory Channel
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A
_____	V T A

☐ Probable Primary Channel: _____

○ Probable Secondary Channel(s): _____

Key

V = Visual

T = Tactual

A = Auditory

☐ = Primary Channel

○ = Secondary Channel

Use for

- students being assessed/reassessed for eligibility, including infants and preschoolers
- students with suspected change in sensory functioning

Purpose

- To determine a student's primary and secondary sensory channels

Procedures (pp. 22-23)

- **Arrange** three or more **observations** of 15 to 20 minutes each in structured and unstructured environments, familiar and unfamiliar settings, and indoors and outdoors.
- For students with additional disabilities pay attention to the following: (pp. 87-88)
  - √ Motivation of activity for student
  - √ Effects of medication
  - √ Time of day
  - √ Schedule one observation during unstructured free time.
- Include parents and other team members as appropriate.
- **Record** 15 or more behaviors in each environment.
- **Box** the **V** (visual), **T** (tactual) or **A** (auditory) to indicate the **primary** sensory channel used in each behavior.
- **Circle** the **V**, **T**, and/or **A** for **secondary** channels.

Interpretation (p. 24)

- Identify the **primary sensory channel** by looking across all observations for the **V**, **T**, or **A** consistently marked with a **box**.
- Identify **secondary channel(s)** that are **circled**.
- See page 24, item 4, if a consistent pattern is not clearly identifiable.

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Form 3
General Learning Media Checklist

Use with

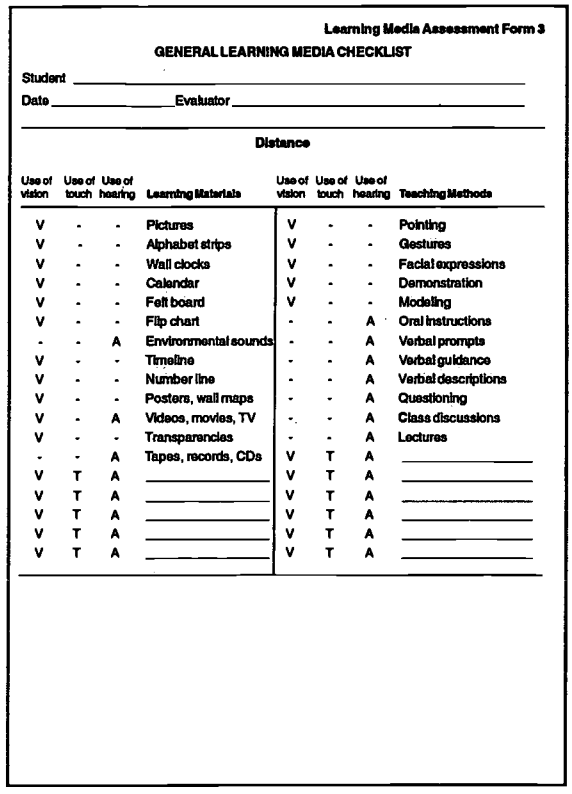
- **infants and preschoolers**
- **students in academic programs**

Purpose

- To select appropriate visual, tactual, and auditory learning media

Procedures (p. 31)

- **Review** the student's primary and secondary sensory channels.
- **Select** appropriate learning media for existing and future needs. Consider media needed to achieve IEP objectives.
- **Circle** the **V**, **T**, and/or **A** to indicate the specific type of media to be used.
- Include recommended media on the student's IEP.



Learning Media Assessment Form 3

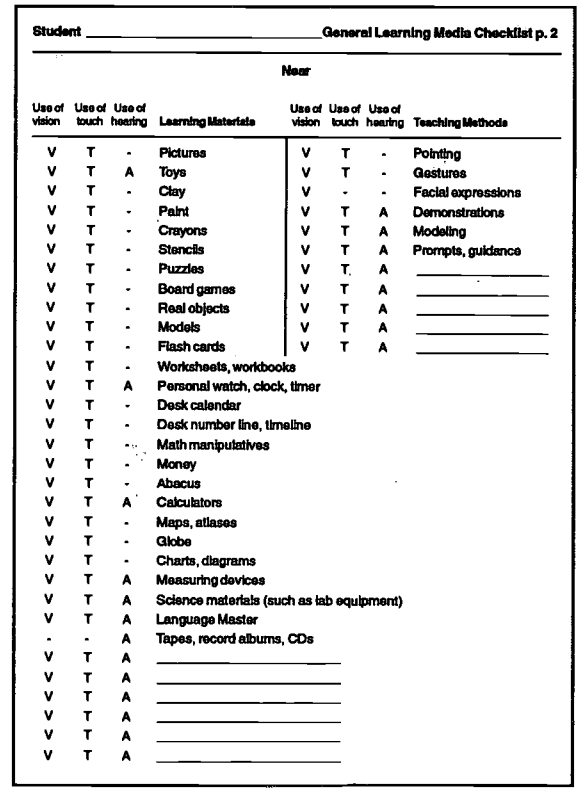
GENERAL LEARNING MEDIA CHECKLIST

Student _____

Date _____ Evaluator _____

Distance

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	-	-	Pictures	V	-	-	Pointing
V	-	-	Alphabet strips	V	-	-	Gestures
V	-	-	Wall clocks	V	-	-	Facial expressions
V	-	-	Calendar	V	-	-	Demonstration
V	-	-	Felt board	V	-	-	Modeling
V	-	-	Flip chart	-	-	A	Oral instructions
-	-	A	Environmental sounds	-	-	A	Verbal prompts
V	-	-	Timeline	-	-	A	Verbal guidance
V	-	-	Number line	-	-	A	Verbal descriptions
V	-	-	Posters, wall maps	-	-	A	Questioning
V	-	A	Videos, movies, TV	-	-	A	Class discussions
V	-	-	Transparencies	-	-	A	Lectures
-	-	A	Tapes, records, CDs	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____
V	T	A	_____	V	T	A	_____



Student _____ General Learning Media Checklist p. 2

Near

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	T	-	Pictures	V	T	-	Pointing
V	T	A	Toys	V	T	-	Gestures
V	T	-	Clay	V	-	-	Facial expressions
V	T	-	Paint	V	T	A	Demonstrations
V	T	-	Crayons	V	T	A	Modeling
V	T	-	Stencils	V	T	A	Prompts, guidance
V	T	-	Puzzles	V	T	A	_____
V	T	-	Board games	V	T	A	_____
V	T	-	Real objects	V	T	A	_____
V	T	-	Models	V	T	A	_____
V	T	-	Flash cards	V	T	A	_____
V	T	-	Worksheets, workbooks				
V	T	A	Personal watch, clock, timer				
V	T	-	Desk calendar				
V	T	-	Desk number line, timeline				
V	T	-	Math manipulatives				
V	T	-	Money				
V	T	-	Abacus				
V	T	A	Calculators				
V	T	-	Maps, atlases				
V	T	-	Globe				
V	T	-	Charts, diagrams				
V	T	A	Measuring devices				
V	T	A	Science materials (such as lab equipment)				
V	T	A	Language Master				
-	-	A	Tapes, record albums, CDs				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				

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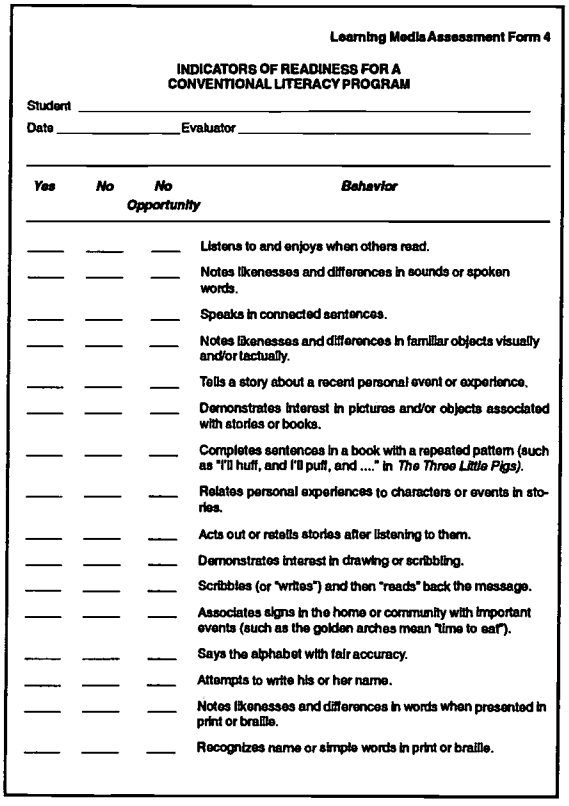
Form 4

Indicators of Readiness for a Conventional Literacy Program



Learning Media Assessment Form 4

INDICATORS OF READINESS FOR A CONVENTIONAL LITERACY PROGRAM

Student _____

Date _____ Evaluator _____

Yes	No	No Opportunity	Behavior
___	___	___	Listens to and enjoys when others read.
___	___	___	Notes likenesses and differences in sounds or spoken words.
___	___	___	Speaks in connected sentences.
___	___	___	Notes likenesses and differences in familiar objects visually and/or tactually.
___	___	___	Tells a story about a recent personal event or experience.
___	___	___	Demonstrates interest in pictures and/or objects associated with stories or books.
___	___	___	Completes sentences in a book with a repeated pattern (such as "I'll huff, and I'll puff, and ...." in *The Three Little Pigs*).
___	___	___	Relates personal experiences to characters or events in stories.
___	___	___	Acts out or retells stories after listening to them.
___	___	___	Demonstrates interest in drawing or scribbling.
___	___	___	Scribbles (or "writes") and then "reads" back the message.
___	___	___	Associates signs in the home or community with important events (such as the golden arches mean "time to eat").
___	___	___	Says the alphabet with fair accuracy.
___	___	___	Attempts to write his or her name.
___	___	___	Notes likenesses and differences in words when presented in print or braille.
___	___	___	Recognizes name or simple words in print or braille.

Use with preschoolers who will enter an academic program

Purpose

- To determine when it is necessary to select an initial literacy medium
- *Use this checklist only if needed—it is not necessary for all students*

Procedures (p. 38)

- Review the behaviors listed in the checklist.
- Check **Yes** if the student is demonstrating the behavior and **No** if the student is not.
- Check **No Opportunity** if the student has had *no opportunity* to learn a skill. If so, provide appropriate experiences and reassess later.

Interpretation

- Select the initial literacy medium when the student consistently demonstrates behaviors in the second half of this checklist.

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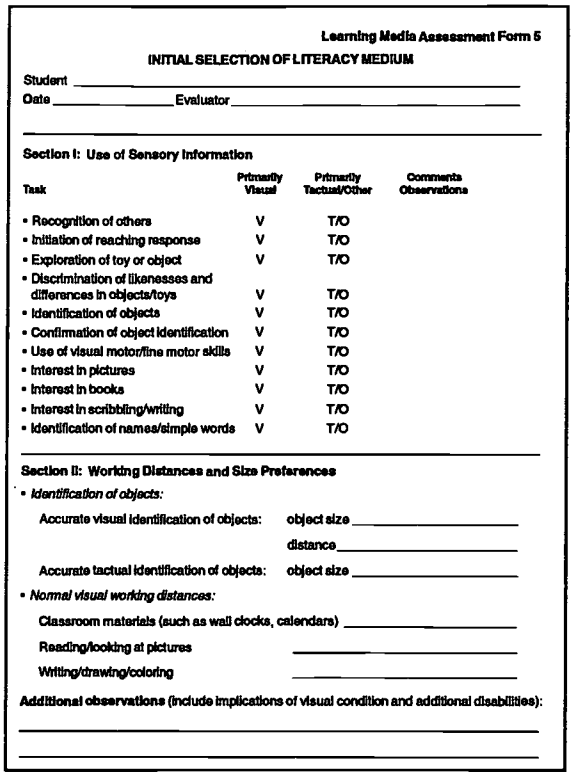
Form 5
Initial Selection of Literacy Medium



Learning Media Assessment Form 5

INITIAL SELECTION OF LITERACY MEDIUM

Student _____

Date _____ Evaluator _____

Section I: Use of Sensory Information

Task	Primarily Visual	Primarily Tactual/Other	Comments Observations
• Recognition of others	V	T/O	
• Initiation of reaching response	V	T/O	
• Exploration of toy or object	V	T/O	
• Discrimination of likenesses and differences in objects/toys	V	T/O	
• Identification of objects	V	T/O	
• Confirmation of object identification	V	T/O	
• Use of visual motor/fine motor skills	V	T/O	
• Interest in pictures	V	T/O	
• Interest in books	V	T/O	
• Interest in scribbling/writing	V	T/O	
• Identification of names/simple words	V	T/O	

Section II: Working Distances and Size Preferences

• *Identification of objects:*

Accurate visual identification of objects: object size _____

distance _____

Accurate tactual identification of objects: object size _____

• *Normal visual working distances:*

Classroom materials (such as wall clocks, calendars) _____

Reading/looking at pictures _____

Writing/drawing/coloring _____

Additional observations (include implications of visual condition and additional disabilities):

_____

_____

- Use for academic students who are entering an early conventional literacy program
- If unsure, use Form 4 *Indicators of Readiness for a Conventional Literacy Program*

Purpose

- To select the literacy medium in which the student will begin initial literacy instruction

Procedures (pp. 39-41)

- In Section I, **consider the student's reliance** on visual or tactual/other information to complete the listed tasks. **Circle V** for visual and **T/O** for tactual or other (such as auditory) information. If equally efficient, circle both.
- In Section II, **note** preferred **working distances** for completing visual tasks and the **smallest size of objects** that are accurately identified.
- **Include implications** of the visual condition (especially prognosis and stability) and additional disabilities.

Interpretation (pp. 41-43)

- Consider all information holistically in making a decision. Look for overall patterns that indicate visual efficiency/potential for print reading or tactual efficiency/potential for braille reading.
- Refer to characteristics of likely print and braille readers on page 43.
- Refer to the *Decision-Making Guide* if needed (Chapter 4, pages 49 to 53).

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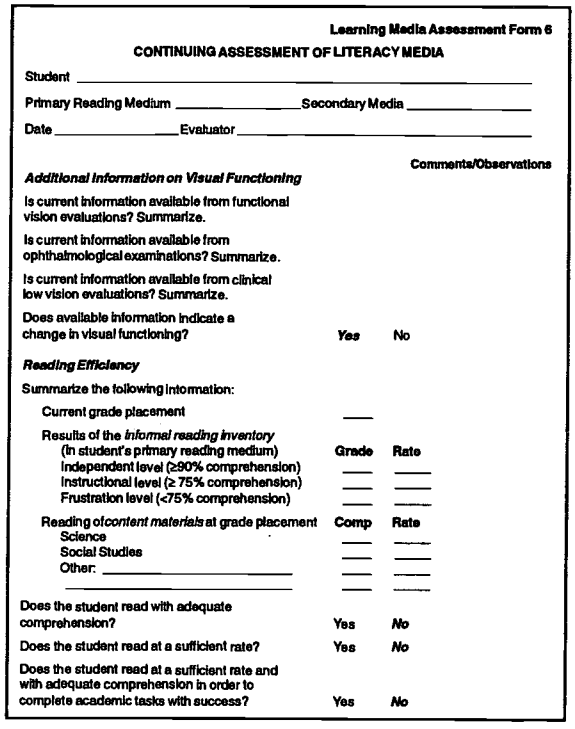
Form 6, page 1
Continuing Assessment of Literacy Media



Learning Media Assessment Form 6

CONTINUING ASSESSMENT OF LITERACY MEDIA

Student _____

Primary Reading Medium _____ Secondary Media _____

Date _____ Evaluator _____

		Comments/Observations
Additional Information on Visual Functioning		
Is current information available from functional vision evaluations? Summarize.		
Is current information available from ophthalmological examinations? Summarize.		
Is current information available from clinical low vision evaluations? Summarize.		
Does available information indicate a change in visual functioning?	*Yes* No	
Reading Efficiency		
Summarize the following information:		
Current grade placement	___	
Results of the *informal reading inventory* (in student's primary reading medium)	**Grade**	**Rate**
Independent level (≥90% comprehension)	___	___
Instructional level (≥ 75% comprehension)	___	___
Frustration level (<75% comprehension)	___	___
Reading of *content materials* at grade placement	**Comp**	**Rate**
Science	___	___
Social Studies	___	___
Other: _____	___	___
_____	___	___
Does the student read with adequate comprehension?	Yes *No*	
Does the student read at a sufficient rate?	Yes *No*	
Does the student read at a sufficient rate and with adequate comprehension in order to complete academic tasks with success?	Yes *No*	

Use for academic students with an existing primary literacy medium

Purpose

- To determine if a change should be made in the primary literacy medium
- To determine when additional literacy tools should be added to the student's repertoire

Procedures

- *Visual functioning* (p. 56). **Review available information** on visual functioning (summarized on Form 1 *General Student Information*) and consider if there is a change that may influence the student's current literacy medium or media.
- *Reading efficiency* (pp. 56-59). **Collect** objective **data** on reading rate with comprehension in the student's reading medium/media. Refer to the procedure on pages 56 to 58 to collect this information using an informal reading inventory.

  Also collect information on the student's reading rate and general level of comprehension on content materials. Have the student read passages of 100 to 300 words from the science and social studies books used in the classroom. After reading the passage, ask the student 5–10 comprehension questions. Indicate the level of comprehension (under Comp) as the percentage of questions answered correctly. Calculate the rate of reading. Collect similar data on other content materials the student is using in the classroom.

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Form 6, page 2
Continuing Assessment of Literacy Media

Student _____ Continuing Assessment of Literacy Media p.2

Academic Achievement

Is the student able to accomplish academic tasks in the current medium/media with success?	Yes	*No*
Are time requirements to complete academic tasks reasonable in comparison to peers without visual impairments ?	Yes	*No*

Handwriting

Is the student able to read his/her own handwriting effectively?	Yes	*No*
Is handwriting a viable and effective mode of written communication?	Yes	*No*

Literacy Tools

Does the student have the repertoire of literacy tools (such as sighted readers, slate and stylus) to meet *current* educational needs?	Yes	*No*
Does the student have adequate skills in use of technology to meet *current* educational needs?	Yes	*No*
Does the student have the repertoire of literacy tools necessary to achieve *future* educational and/or vocational goals?	Yes	*No*
Does the student have adequate skills in use of technology to achieve *future* educational and vocational goals?	Yes	*No*

Factors to be considered by the educational team:

_____

_____

_____

_____

_____

_____

Procedures

- *Academic achievement* (pp. 59-60). **Review** available information on **academic progress** and consider this progress relative to the student's grade placement and expectations. Consider time requirements needed to complete academic tasks.
- *Handwriting* (p. 60). **Gather samples of** the student's **handwriting**. After a day, check if the student can efficiently read it. Consider whether others can read the handwriting efficiently.
- *Literacy tools* (p. 61). Consider literacy task demands and the student's existing repertoire of skills to meet those demands. Use Form 7, *Literacy Tools Inventory,* to **consider** the variety of **tools** that may be appropriate to fill a need in completing existing or future literacy tasks.

Interpretation (pp. 62-63)

- If a bold italicized response is circled, consider whether a change in the primary literacy medium is warranted and/or whether literacy tools should be added to the student's repertoire.
- Refer to the *Decision-Making Guide* if needed (Chapter 5, pages 74 to 79).

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Form 7
Literacy Tools Inventory

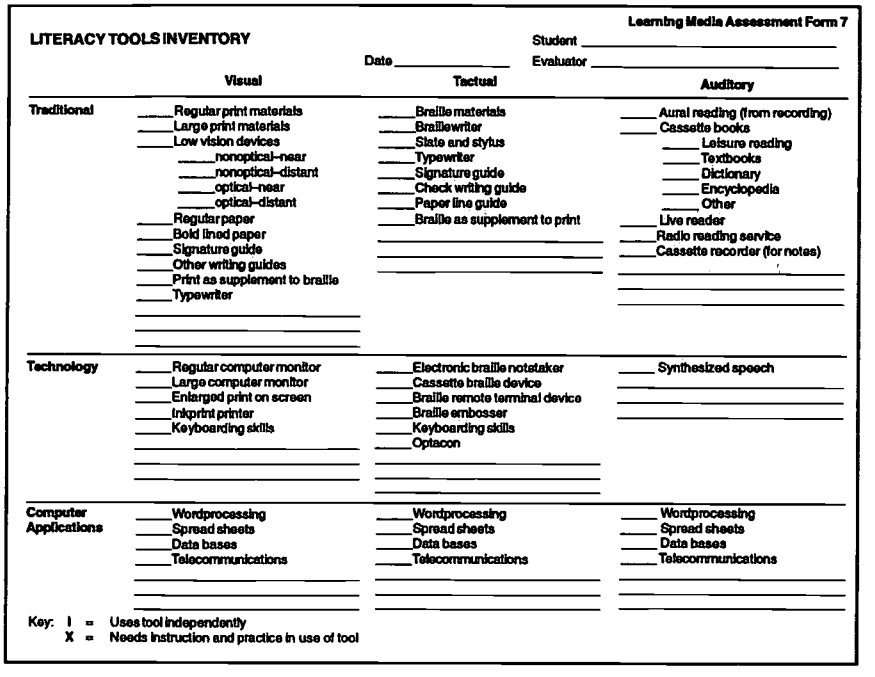
Use for students in academic programs for continuing assessment

Purpose

- To determine what additional literacy tools need to be added to a student's repertoire of communication skills.

Procedures (p. 61)

- **Review** the student's existing repertoire of literacy tools. Code tools that the student uses independenlty with an "I".
- **Determine** immediate and future literacy demands.
- **Select** literacy tools that will most efficiently meet the demands.
- **Code** tools in which instruction and/or practice will be provided with an "X". Provide instruction in functional use of selected literacy tools.



Learning Media Assessment Form 7

LITERACY TOOLS INVENTORY

Student _____

Date _____ Evaluator _____

	Visual	Tactual	Auditory
Traditional	____Regular print materials ____Large print materials ____Low vision devices _____nonoptical–near _____nonoptical–distant _____optical–near _____optical–distant ____Regular paper ____Bold lined paper ____Signature guide ____Other writing guides ____Print as supplement to braille ____Typewriter	____Braille materials ____Braillewriter ____Slate and stylus ____Typewriter ____Signature guide ____Check writing guide ____Paper line guide ____Braille as supplement to print	____Aural reading (from recording) ____Cassette books _____Leisure reading _____Textbooks _____Dictionary _____Encyclopedia _____Other ____Live reader ____Radio reading service ____Cassette recorder (for notes)
Technology	____Regular computer monitor ____Large computer monitor ____Enlarged print on screen ____Inkprint printer ____Keyboarding skills	____Electronic braille notetaker ____Cassette braille device ____Braille remote terminal device ____Braille embosser ____Keyboarding skills ____Optacon	____Synthesized speech
Computer Applications	____Wordprocessing ____Spread sheets ____Data bases ____Telecommunications	____Wordprocessing ____Spread sheets ____Data bases ____Telecommunications	____Wordprocessing ____Spread sheets ____Data bases ____Telecommunications

Key: I = Uses tool independently
X = Needs instruction and practice in use of tool

Key

I = Uses tool independently

X = Needs instruction and practice in use of tool

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Form 8
Functional Learning Media Checklist

Learning Media Assessment Form 8

FUNCTIONAL LEARNING MEDIA CHECKLIST

Student _____

Date _____ Evaluator _____

Distance

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	-	-	Pictures	V	-	-	Pointing
V	-	-	Conventional calendars	V	-	-	Gestures
-	-	A	Environmental sounds	V	-	-	Facial expressions
V	-	A	Community environment	V	-	-	Demonstration
V	-	-	Environmental signs	V	-	A	Modeling
-	-	A	Tapes, records, CDs	-	-	A	Oral instructions
V	-	A	Videos, movies, TV	-	-	A	Verbal prompts
V	-	-	Posters	-	-	A	Verbal guidance
V	-	-	Felt board	-	-	A	Verbal descriptions
V	T	A	_____	-	-	A	Questioning
V	T	A	_____	-	-	A	Class discussions
V	T	A	_____	V	T	A	_____

Use of vision	Use of touch	Use of hearing	Adaptive Communication Systems and Materials
			Unaided Communication Systems
V	T	-	Sign language
V	T	-	Gestures
V	T	A	_____
V	T	A	_____
			Aided Communication Systems
V	T	A	Communication boards
-	-	A	Tape recorders
V	T	-	Picture communication books
V	T	A	Technology-based communication systems (such as speech synthesizers)
V	T	A	Primitive communication devices (such as real objects, miniatures)
V	T	A	Other augmentative communication devices
V	T	A	_____
V	T	A	_____

Use with students with additional disabilities

Purpose

- To select appropriate visual, tactual, and/or auditory learning media

Procedures (p. 89)

- **Review** the student's primary and secondary sensory channels.
- **Select** appropriate learning media for existing and future needs. Consider media needed to achieve IEP objectives.
- **Circle** the **V**, **T**, and/or **A** to indicate the specific type of media to be used.
- **Include** recommended media **on** the student's **IEP**.

Student: _____ **Functional Learning Media Checklist p.2**

Near

Use of vision	Use of touch	Use of hearing	Learning Materials	Use of vision	Use of touch	Use of hearing	Teaching Methods
V	T	A	Real objects, materials	V	T	-	Pointing
V	T	-	Full size, scale models	V	T	-	Gestures
-	T	-	Positioning equipment	V	-	-	Facial expressions
-	T	-	Adaptive mobility devices	V	T	A	Demonstrations
V	T	-	Adaptive eating devices	V	T	A	Modeling
V	T	A	Washers, dryer	V	T	A	Prompts
V	T	A	Kitchen appliances	V	T	A	Guidance
V	T	-	Money	-	T	-	Physical manipulation
V	T	A	Telephone	-	T	-	Restraint
V	T	A	Calendar boxes	V	T	A	_____
V	T	A	Switches	V	T	A	_____
V	T	A	Timer	V	T	A	_____
V	-	-	Mirror	V	T	A	_____
V	T	A	Language Master	V	T	A	_____
-	-	A	Tapes, records, CDs	V	T	A	_____
V	T	-	Conventional desk calendar				
V	T	A	Adaptive vocational devices				
V	T	A	Behavior management charts				
V	T	A	Adaptive measuring devices				
V	-	-	Pictures				
V	T	-	Clay, paint, crayons				
V	T	A	Toys				
V	T	-	Stencils				
V	T	A	Puzzles				
V	T	A	Board games				
V	-	-	Light Box				
V	T	A	Personal watch, clock				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				
V	T	A	_____				

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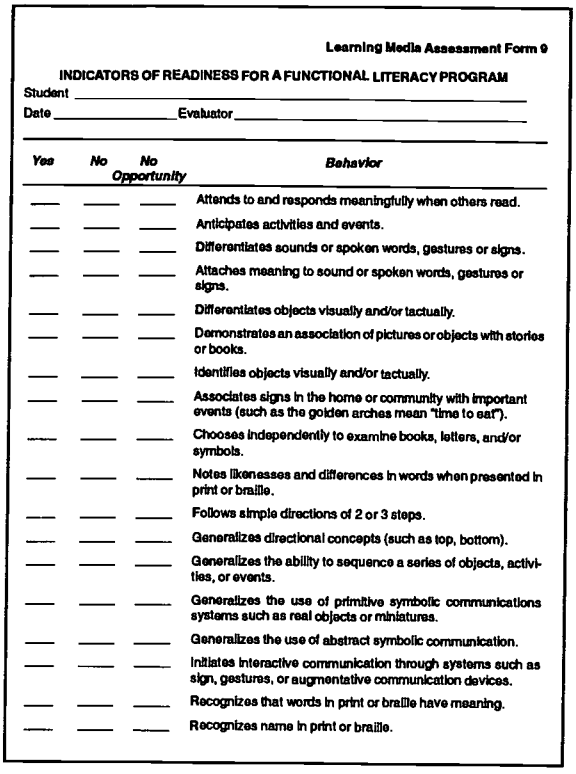
Form 9
Indicators of Readiness for a Functional Literacy Program



Learning Media Assessment Form 9

INDICATORS OF READINESS FOR A FUNCTIONAL LITERACY PROGRAM

Student _____

Date _____ Evaluator _____

Yes	No	No Opportunity	Behavior
___	___	___	Attends to and responds meaningfully when others read.
___	___	___	Anticipates activities and events.
___	___	___	Differentiates sounds or spoken words, gestures or signs.
___	___	___	Attaches meaning to sound or spoken words, gestures or signs.
___	___	___	Differentiates objects visually and/or tactually.
___	___	___	Demonstrates an association of pictures or objects with stories or books.
___	___	___	Identifies objects visually and/or tactually.
___	___	___	Associates signs in the home or community with important events (such as the golden arches mean "time to eat").
___	___	___	Chooses independently to examine books, letters, and/or symbols.
___	___	___	Notes likenesses and differences in words when presented in print or braille.
___	___	___	Follows simple directions of 2 or 3 steps.
___	___	___	Generalizes directional concepts (such as top, bottom).
___	___	___	Generalizes the ability to sequence a series of objects, activities, or events.
___	___	___	Generalizes the use of primitive symbolic communications systems such as real objects or miniatures.
___	___	___	Generalizes the use of abstract symbolic communication.
___	___	___	Initiates interactive communication through systems such as sign, gestures, or augmentative communication devices.
___	___	___	Recognizes that words in print or braille have meaning.
___	___	___	Recognizes name in print or braille.

Use with students with additional disabilities

Purpose

- To determine if a student is ready for a functional literacy program.
- *Use this checklist only if* there is a question about a student's readiness for a functional literacy program. It is not necessary to complete this checklist for students with disabilities so severe that it is clear that the student will not benefit from a functional literacy program.

Procedures (p. 90)

- **Review** the behaviors listed in the checklist.
- Check **Yes** if the student is demonstrating the behavior and **No** if the student is not.
- Check **No Opportunity** if the student has had *no opportunity* to learn a skill. If so, provide appropriate experiences and reassess later.

Interpretation (p. 90)

- Determine the student's readiness for a functional literacy program by examining the student's ability to consistently demonstrate behaviors in the second half of the checklist.
- Consider carefully the appropriateness of a functional literacy program when the student is consistently demonstrating readiness behaviors. The educational team should examine all of the student's needs to determine if functional literacy is an instructional priority.
- Use the three questions at the top of Form 10, *Initial Selection of Functional Literacy Medium,* to assist with making a decision on the appropriateness of a functional literacy program for students who are demonstrating readiness for functional literacy.

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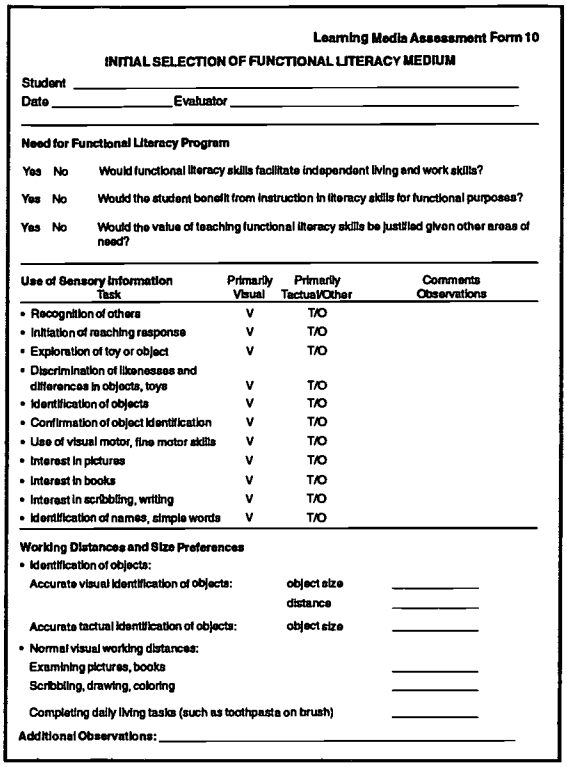
Form 10
Initial Selection of Functional Literacy Medium

- Use for students with additional disabilities
- If unsure of a student's readiness for a functional literacy program, use Form 9, *Indicators of Readiness for a Functional Literacy Program*



Learning Media Assessment Form 10

INITIAL SELECTION OF FUNCTIONAL LITERACY MEDIUM

Student _____

Date _____ Evaluator _____

Need for Functional Literacy Program

Yes No Would functional literacy skills facilitate independent living and work skills?

Yes No Would the student benefit from instruction in literacy skills for functional purposes?

Yes No Would the value of teaching functional literacy skills be justified given other areas of need?

Use of Sensory Information Task	Primarily Visual	Primarily Tactual/Other	Comments Observations
• Recognition of others	V	T/O	
• Initiation of reaching response	V	T/O	
• Exploration of toy or object	V	T/O	
• Discrimination of likenesses and differences in objects, toys	V	T/O	
• Identification of objects	V	T/O	
• Confirmation of object identification	V	T/O	
• Use of visual motor, fine motor skills	V	T/O	
• Interest in pictures	V	T/O	
• Interest in books	V	T/O	
• Interest in scribbling, writing	V	T/O	
• Identification of names, simple words	V	T/O	

Working Distances and Size Preferences

- Identification of objects:
  - Accurate visual identification of objects: object size _____ distance _____
  - Accurate tactual identification of objects: object size _____
- Normal visual working distances:
  - Examining pictures, books _____
  - Scribbling, drawing, coloring _____
  - Completing daily living tasks (such as toothpaste on brush) _____

Additional Observations: _____

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Purpose

- To select the literacy medium in which the student will begin initial functional literacy instruction

Procedures (pp. 91-92)

- If **Yes** is answered for each of the questions at the top of the form, continue with the assessment.
- In the section on Use of Sensory Information, consider the student's reliance on visual or tactual/other information to complete the listed tasks. **Circle V** for visual and **T/O** for tactual or other (such as auditory) information. If equally efficient, circle both.
- In the section on Working Distances and Size Preferences, **note** preferred **working distances** for completing visual tasks and the **smallest size of objects** that are accurately identified.
- **Include implications** of the visual condition (especially prognosis and stability) and additional disabilities under Additional Observations.

Interpretation (p. 93)

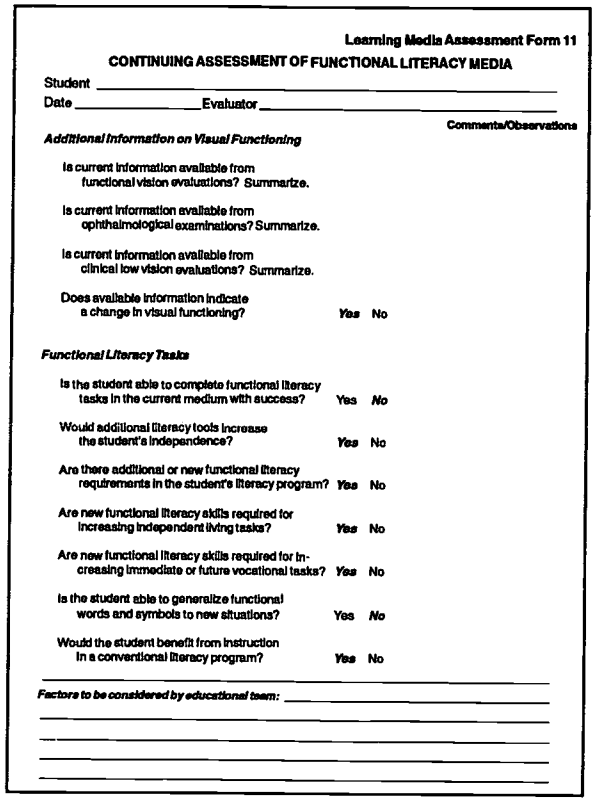
- Consider all information holistically in making a decision. Look for overall patterns that indicate visual efficiency/potential for print reading or tactual efficiency/potential for braille reading.
- Consider the functional literacy tasks that the student will need to accomplish including print or symbol size and availability of tactual information.
- Refer to the *Decision-Making Guide* in Chapter 6 on pages 99 to 101 if needed.

Form 11
Continuing Assessment of Functional Literacy Media

Use for students with additional disabilities who have an existing primary functional literacy medium

Purpose

- To determine if a change should be made in the primary literacy medium
- To determine if additional literacy tools should be added to the student's repertoire



Learning Media Assessment Form 11

CONTINUING ASSESSMENT OF FUNCTIONAL LITERACY MEDIA

Student _____

Date _____ Evaluator _____

Comments/Observations

Additional Information on Visual Functioning

Is current information available from functional vision evaluations? Summarize.

Is current information available from ophthalmological examinations? Summarize.

Is current information available from clinical low vision evaluations? Summarize.

Does available information indicate a change in visual functioning? *Yes* No

Functional Literacy Tasks

Is the student able to complete functional literacy tasks in the current medium with success? Yes *No*

Would additional literacy tools increase the student's independence? *Yes* No

Are there additional or new functional literacy requirements in the student's literacy program? *Yes* No

Are new functional literacy skills required for increasing independent living tasks? *Yes* No

Are new functional literacy skills required for increasing immediate or future vocational tasks? *Yes* No

Is the student able to generalize functional words and symbols to new situations? Yes *No*

Would the student benefit from instruction in a conventional literacy program? *Yes* No

Factors to be considered by educational team: _____

Procedures (p. 94)

- *Visual functioning.* **Review** available information on visual functioning (summarized on Form 1, *General Student Information)* and **consider** if there is a **change** that may influence the student's current literacy medium or media.
- *Functional literacy task completion.* Consider the student's completion of functional literacy tasks and respond by **circling Yes** or **No** to questions in this section.

Interpretation (p. 94)

- If a bold italicized response is circled, consider whether a change in the primary literacy medium is warranted and/or whether literacy tools should be added to the student's repertoire.

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Glossary

Additional disabilities	Other disabilities accompanying a visual impairment that influence learning, such as a cognitive disability, learning disability, and/or physical disability.
Best practices	Instructional practices that provide the highest quality of educational services, generally exceeding the minimum requirements established by legislation and regulations.
Braille Bill	State legislation that seeks to improve the provision assessment and instruction of braille reading and writing for students with visual impairments.
Clinical low vision evaluation	An assessment of visual functioning that is conducted by an optometrist or ophthalmologist who specializes in low vision.
Continuing assessment	An ongoing evaluation process that assesses the appropriateness of the initial decision on the literacy medium and considers the need for additional literacy tools.
Continuous behavior	An observed action that does not have a readily definable beginning and end or an action whose beginning and end are separated by a lengthy period of time.
Conventional literacy program	A formal instructional program of reading and writing in print or braille that generally begins in kindergarten and continues throughout the school years. Students in such programs demonstrate continuous growth in literacy skills from year to year.
Diagnostic teaching	An educational process that meaningfully integrates teaching and assessment, whereby the teacher uses each instructional session as an opportunity to provide holistic assessment and to change instruction immediately to yield maximum benefits for the student.

Discrete behavior	An observed action that has a readily definable beginning and end within a brief period of time.
Distance learning media	Instructional material and methods used at far working distances, generally beyond 24 inches of the eyes for students with low vision, and beyond arm's reach for students who are functionally blind.
Educational team	A team of persons responsible for the educational program of a student, including teachers, parents, related services personnel, and administrators.
Functionally blind	A level of sensory functioning such that use of touch is the primary channel for completing learning and literacy tasks.
Functional literacy program	An instructional program that focuses on survival reading and writing skills needed for increased independence in daily life.
Functional learning media	Real, authentic objects and equipment used to facilitate instruction in, and practical application of, skills taught in school.
Functional vision evaluation	An objective assessment process for determining how a students uses visual information for learning. A subcomponent of the functional vision evaluation is the learning media assessment.
Initial selection	The first decision made on whether a student will begin formal reading and writing instruction in print and/or braille. (Also referred to as initial decision.)
Informal reading inventory	A series of short reading passages with comprehension questions used to determine a student's general level of reading, but such a inventory does not provide normative data on reading skills.
Learning materials	Instructional media used in teaching, such as pictures, real objects, and rulers. Such materials are a subcomponent of learning media.

Learning media	The broad range of general instructional materials and teaching methods used to teach students with visual impairments in academic programs, but not specifically related to literacy media. (Also referred to as general learning media.)
Learning media assessment	An objective process of systematically selecting learning and literacy media for students with visual impairments.
Literacy media	Materials and tools used to complete reading and writing tasks in print and braille for students with visual impairments.
Literacy tools	Specific methods for gaining access to literacy media and accomplishing literacy tasks, such as print, braille, low vision devices, live readers, braille notetakers, word processing, and recorded media.
Low vision	A level of visual functioning such that use of vision is the primary channel for completing learning and literacy tasks.
Minimum compliance	Carrying out only the stated requirements of legislation and regulations, regardless of whether such practices represent *best* practices.
Miscue analysis	A qualitative analysis of errors in an oral reading sample that is used to determine the reader's use of language cues.
Near learning media	Instructional material and methods used at close working distances, generally within 16 to 24 inches from the eyes for students with low vision, and within arm's reach for students who are functionally blind.
Oral reading miscues	Errors made by an individual while reading aloud.
Primary sensory channel	The sensory channel — visual, tactual, or auditory — that is used to the greatest extent in performing a given behavior.
Reading efficiency	The interaction between reading rate and reading comprehension, often measured in the number of words read per minute with comprehension.

Reading rate	The speed at which an individual reads continuous text passages, often measured in words per minute.
Reading readiness	A point at which a student will benefit from formal instruction in reading and writing. (Some authorities challenge the notion of "readiness," suggesting that students are always ready to learn if the demands of the learning task and the methods used to promote learning are appropriate.)
Secondary sensory channel	A sensory channel — visual, tactual, or auditory — that is used to support the primary sensory channel in performing a given behavior.
Sensory channels	Senses used to complete learning and literacy tasks, especially vision, touch, and hearing.
Size preference	The size of objects that a student can readily and efficiently identify.
Teaching methods	Processes used by teachers to instruct students, such as hand-over-hand modeling, demonstration, lecture, and verbal feedback.
Working distance	The distance from the student's eyes to the object of regard.
Visual fatigue	An observed decrease in efficiency of visual performance noted after using vision for a period of time.
Visual impairment	The broadest range of visual functioning that includes both low vision and functional blindness. (Also referred to as visual handicap.)
Visual stamina	A period of time during which efficient use of vision is maintained.

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About the Authors

Alan Koenig has taught in itinerant, resource room, and residential school programs for students with visual impairments in Illinois and Iowa. While in Iowa, he served as the state vision consultant in coordinating state-wide services for students with visual impairments. He received his doctorate in special education at Peabody College of Vanderbilt University. Alan is now an associate professor in the College of Education at Texas Tech University in Lubbock where he coordinates the programs in special education and visual impairment. Over the past six years, he has conducted research on various aspects of selecting appropriate learning and literacy media for students with visual impairments.

Cay Holbrook is currently an assistant professor in the College of Education at The University of Arkansas at Little Rock. She received her doctorate in special education from Florida State University. Prior to graduate school, Cay taught students with visual impairments as an itinerant teacher in rural South Carolina, a resource room teacher in DeKalb County, Georgia (Atlanta), and a part-time itinerant/consultant to schools in north Florida. Over the past six years she has focused on the process of selecting literacy media for students with visual impairments and the teaching of reading to these students.

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