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Issues in Special Education Assessments with Limited English Proficiency Students / Strategies to Improve Reading Fluency and Reading Comprehension

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ISSUES IN SPECIAL EDUCATION ASSESSMENTS WITH LIMITED ENGLISH PROFICIENCY STUDENTS

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STRATEGIES TO IMPROVE READING FLUENCY AND READING COMPREHENSION

by

Lynn D. Raustadt

B.S., St. Cloud State University, 1992

Starred Papers

Submitted to the Graduate Faculty

of

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Chapter I

INTRODUCTION

Over the next two decades, American society will become increasingly multiethnic and multilingual (Utley & Obiakor, 1997). Utley and Obiakor indicated the number of children living in poverty will substantially increase, as will the number of homes where children speak a primary language other than English. Students who are poor or of a minority race or language are at a greater risk of needing special education services (Renchler, 1993). There is a booming population growth of limited English proficient students (LEP) in the Minneapolis/St. Paul area. In 1996, Minneapolis Public Schools served 6,613 (LEP) students in grades K-12. That number is up 3,970 from 3 years ago. St. Paul's enrollment rate is at an all time high also. During the 1996 school year, St. Paul Schools had 7,178 LEP students which increased to 11,348 during the 1996 school year (Ouellette-Howitz, 1997).

The implementation of Public Law 94-142 in 1975 (The Education Act for All Handicapped), the Rehabilitation act of 1973, Section 504, and the Civil Rights movement of the 1960s provided the legal support for special education as well as bilingual education (Estrin, 1993). In the past decade, nine states were mandated to provide services to students with disabilities and limited English proficiency. These nine states have initiated bilingual and

special education programs to meet the needs of their growing minority populations.

When there is an increase in student population, there should also be an increase in the number of students with learning disabilities. In 1992, a study was completed on the disproportionate percentages of students with Specific Learning Disabilities (SLD) in African-American, American Indian, and all groups (Minnesota Department of Children, Families and Learning, 1998). The African-American group had 12.3 %, American Indian had 9.8 %, and other groups had 6.9 % of their respective populations labeled as SLD.

Purpose of Topic

This topic was chosen because the researcher serves on the English as a Second Language assessment team for Bloomington Public Schools. The information gained from this research will help the ESL assessment team decide if it is appropriate to proceed with assessments and determine if it is appropriate to give special educational services to ESL/LEP students in Bloomington Public Schools. It is equally important to understand the dynamics of ESL/LEP assessments because many students are being labeled with specific learning disabilities (SLD), mild to moderate impairments (MMI), or emotional behavioral disorders (EBD). This may occur because the referring teachers have insufficient information about the culture, or background, of the students who are referred. The information provided here may help ESL assessment team members with teachers and parents by giving more information about what they can do to support the student/child at home and school. It will also suggest proper interventions that may work

better than current practices and why it may be inappropriate to perform an assessment with a particular ESL/LEP student.

The parameters set for this research were limited to the last 15 years of research. The information most relied upon most often were the resources within the past 5 to 7 years. This research is based upon individuals suspected of having a learning disability and the issues that school professionals should be aware of before, during, and after assessments are completed.

Definition of Terms

Term	Definition
Bilingualism	Passive listening and written competence in native and secondary Language.
Bias	Presence of a characteristic of an item that results in differential performance for individuals of same ability but different religion, sex, race, or culture group.
Prereferral Process	A screening and intervention process that involves identifying problems experienced by students and resolving the problem.
Assessment	Use of various techniques to make an evaluation.
ESL English as a Second Language	A specialized program of instruction to increase the proficiency of English as a Second Language.
LEP Limited English Proficiency	Students whose proficiency is in a language other than English are unable to fully participate in an English-only environment.
Learning Disabilities	A large discrepancy between a person's ability and a significantly lower performance in listening, speaking, reading, writing, or math achievement levels. The person must also have a deficit in the following areas: Storage, Organization, Acquisition, Retrieval, Expression, and Manipulation.

English as a Second Language (ESL): Olson and Goldstein (1997) defined English as a second language (ESL) as a specialized program of instruction in which English is used as the language of instruction to develop a Limited English Proficient (LEP) student's English proficiency level to equal his/her mainstream peers.

Limited English Proficient (LEP): Students whose proficiency in English has not yet developed to the point where they can fully participate in an English-only instructional environment, LEP is the official term found in federal legislation. The Minnesota Department of Children, Families and Learning" (p. 38) defined LEP as:

a. The pupil, as declared by his parent or guardian (1) first learned a language other than English, (2) comes from a home where the language usually spoken is other than English, or (3) usually speaks a language other than English; and
b. The pupil's score is significantly below the average district score for pupils of the same age on a nationally normed English reading or English language arts achievement test. A pupil's score shall be considered significantly below the average district score for pupils of the same age if it is one-third of a standard deviation below that average score.

Language proficiency: Hernandez (1994) referred to language proficiency as the amount of control the student has over language or languages. Additionally, a student may use two languages and have equal comprehension proficiency in both but use only one primarily for verbal communication.

Bilingualism: Hernandez also described bilingualism as the passive listening and writing competence in the native language and the secondary language in terms of their equality while other researchers focus on the equal productive competence as in speaking and writing.

Bias: Hambelton and Rogers (1995) defined bias as the presence of some characteristic of an item that results in differential performance for individuals of the same ability but from different ethnic, sex, cultural, or religious groups. Fairness and stereotyping are other issues that need to be considered when decisions are made based on test scores. Lam (1995) defined assessment bias as "assessment bias is regarded as differential construct validity that is addressed by the question: To what extent is the assessment task measuring the same construct and hence has similar meaning for different populations?" (p. 1). For example, the ability to read and understand written math problems is a biasing factor in measuring math skills for LEP students. The constructs which are irrelevant are related to characteristics such as gender, ethnicity, race, linguistic background, socioeconomic status, or handicapping conditions (Lam, 1995).

Prereferral process: Olson (1991) defined the prereferral process as a screening and intervention process that involves identifying problems experienced by students in the regular classroom, identifying the source, and taking steps to resolve.

Assessment: Assessment is defined by Sedlacek and Kim (1995) as the use of various techniques to make an evaluation.

Learning disabilities: Learning disabilities is defined as a large discrepancy between a persons ability or intellectual quotient (IQ) and significantly lower performance in listening, speaking, reading, writing

reasoning or mathematical achievement levels (Schwarz & Burt, 1995). Root (1994) stated that learning disabilities is the term currently used to describe a handicap that interferes with someone's ability to store, process, or produce information. Generally, the person's ability is average or above average but they have extreme difficulty in one or more academic areas.

How can special education teachers compare ability and achievement scores of students with limited English proficiency? The purpose of this paper is to review the literature and look at the issues that affect assessing ESL/LEP student assessments. From this information, teachers can suggest options for regular education teachers and make better decisions about the best placement for students with ESL and LEP needs.

Chapter II

REVIEW OF LITERATURE

In Chapter II, the process of assessing a student will be reviewed. The steps to an assessment include prereferral, referring students, reducing bias in assessments, providing appropriate services, disproportionate representation, and training for school staff. The assessment information provided here will support a special educator with information that will help the teacher or the assessment team, make the best decisions for the student.

Prereferrals

In this review of prereferrals in school, there are four points to be aware of before referring a student to a special education assessment. The first is that regular educators have difficulty distinguishing between students who are discouraged learners from those who should be referred for comprehensive assessments due to possible learning disabilities (Ortiz & Garcia, 1988). They noted that many inappropriate referrals could be avoided by helping the regular education teacher develop intervention strategies to use in the classroom. This is often done with a group of school staff referred to as Teacher Assistance Teams (TAT) to facilitate prereferral problem solving. These teams help generate several interventions for classroom teachers to use with students who are struggling in the classroom. Follow-up meetings are then conducted after the interventions are implemented for teachers to

report the applied interventions' effectiveness and develop other strategies, if needed. If the teacher reports minimal improvement, the TAT may suggest proceeding with the assessment.

The second point Dodd, Nelson, and Spint (1995) suggested in a prereferral is TATs are effective at producing appropriate and effective procedures for students who are culturally diverse. If this is accomplished, schools benefit from a diverse staff that has knowledge of many different cultures. Teachers are becoming more culturally sensitive and able to come up with appropriate intervention strategies. As this method is improved, the referral process will diminish for ESL/LEP students.

The third important component to consider in a prereferral, according to Maldonado (1994), is teachers must take into consideration the differences between the two levels of language proficiency. The two levels of language proficiency are: Basic Interpersonal Communication Skills (BICS), and Cognitive Academic Language Proficiency (CALP) Maldonado explained that students may be proficient in their communication skills (BICS) but may experience difficulties with their academics (CALP). Boo and Szewczyk (1998) reported it takes 2 to 4 years of consistent exposure to English to develop Basic Interpersonal Communication Skills, such as; simple sentences or concrete, social language. Therefore, a special education assessment for oral language skills would probably be unwarranted for at least the first 2 years after consistent exposure to English. It may take 5 to 7 years if a student is literate in their native language, and 6 to 9 years if they are not literate in their native language, to develop Cognitive Academic Language Proficiency. Consequently, a special education assessment for

academic skills would probably not be warranted for at least five years after consistent exposure to English.

The last point to consider about prereferrals is defining whether or not a student has mastered the native language before considering teaching the student English. Baca and Cervantes (1989) reported that students who switch to a new language before they had acquired cognitive academic proficiency effects their language development in either the new language or the native language. Once students have mastered cognitive academic proficiency, the students are able to transfer the understanding of logic and rules of the native language to the new language. They add that these students that have achieved the cognitive proficiency in their native language before learning the new language, read better and achieve more in school than those who begin learning the new language before cognitive proficiency. This is most important for parents of children with learning disabilities to know (Baca & Cervantes, 1989).

Referring Students

The first step to a clear referral system should include: specific criteria, implementation procedures, and evaluation procedures that are used in the regular education classroom before referring (Burnette, 1995). These components are essential to appropriate referrals. Garcia and Ortiz (1988) explained that documentation of the student's academic deficiencies should be noted across settings, along with evidence supporting the student's academic deficiencies in both languages and has not made progress despite prereferral interventions and competent instruction. The referral should reflect a disability rather than a cultural difference or lack of English language

proficiency or economic disadvantage (Collier & Hoover, 1985). Olson (1991) recommended special education teachers include the results of tests in the student's native language and in English, including all records and reports, and all observations from each teacher in the assessment report. Input from parents or guardians is an invaluable resource and should become an integral part of the assessment process (Burnette, 1998; Olson, 1991). Learning disabilities may be difficult to determine because many students are losing, or have not fully developed, the basic language skills in both languages (Olson, 1991). If it is decided that the academic deficiencies are caused by the two languages, then the assessment procedure would not be appropriate. When a teacher refers a ESL/LEP student to special education, and the teacher has met with the TAT team, the student should be tested by a qualified bilingual/bicultural evaluator familiar with the influence of second language on the assessment process (Cloud, 1988). Furthermore, Olson, (1991) added that when a teacher refers a student, the assessment team should conclude that all other avenues have been explored and the student's needs can not be met by the regular education program.

Reducing Bias in Assessments/
Assessing Students

Dodd et al. (1995) and Ortiz and Ramirez (1988) stated that norm referenced tests and biased instruments are inappropriate and results in large numbers of false positive placements in special education when used with culturally and linguistically different students. Many tests and test items used today for cognitive and academic assessments are commonly based on a perspective that does not include minority beliefs, customs and cultures (Nelson-Barber, 1991; Sedlacek & Kim, 1995). Ascher (1990) reported that

standardized tests in any language remain biased in favor of persons for whom that language is native. Low test scores received by bilinguals are often interpreted as evidence of deficits or even disorders (Ortiz & Ramirez, (1988). As a result, test scores of bilingual students too often underestimate their learning capacity, and decisions based on these scores most often result in placements that limit learning opportunities (Ascher, 1990; Duran, 1989; Hynd, 1979).

Estrin (1993) and Nelson-Barber (1991) suggested that what is needed is a range of assessments administered at different times throughout the school year. Additionally, they noted student performances on different tasks, even within a specific subject area, can vary considerably and change over time. Professionals may want to use tests that are normed on multicultural populations in urban and rural areas (Duran, 1989). Olson (1991), Hynd (1979), and Ysseldyke and Algozzine (1982) suggested that every possible formal and informal assessment procedure should be used to determine the student's level of functioning and possible handicapping condition in order to avoid a bias assessment interpretation or placement. Using formal and informal assessments normed on multicultural populations may help the school professionals gain a better understanding of the student's abilities (Duran, 1989). Ascher (1990) reported that when students are testing, bilingual students process information in English slower than they do in their native language. Estrin and Nelson-Barber (1995) found that timed tests used with minority students penalize them because they are raised with different values. Native American and Asian American students have been raised to reflect on questions asked of them rather than giving quick responses (Estrin & Nelson-Barber, 1995).

Despite the fact that nonstandard English dialects are not inferior forms of English, teachers continue to discriminate against them (Grossman, 1998). The first way special educators and others discriminate is by allowing their judgments about students' work to be influenced by the dialect in which they express themselves (Grossman, 1998). The second way is by evaluating them with instruments written in standard English. Generally, most assessments are found to penalize minorities for not using standard English. The third way that special educators discriminate against minorities is by correcting their nonstandard English speech and asking them to learn standard English (Grossman, 1998).

Grossman (1998) explained there is research proving that highly motivated students can learn to speak standard English if they are given intensive instructions and provide frequent opportunities to interact with other standard English speakers. He added, the strategies used to teach students standard English in school does not necessarily produce an increase in the frequency or with accuracy in the classroom or outside of school. The accuracy and amount of time is due to the teacher's ability to motivate the students and the opportunities that the students' are given.

Yet another issue in reducing bias in assessments is using the correct tools to evaluate students. Public law 94-142 (1975) mandates testing and evaluation procedures be nondiscriminatory. Instruments designed to diagnose learning disabilities are normed on native English speakers most of the time (Schwarz & Burt, 1995). Evaluating school-aged children who are bilingual and suspected of having a disorder requires an accurate picture of their abilities be obtained in both the native and second language (Hernandez, 1994). Finally, no single assessment technique is sufficient to

diagnose a learning disability, while many tests are required to produce a valid assessment (Hynd, 1979; Schwarz & Burt, 1995). Hernandez (1994) explained that tests that measure one academic area and are only measured one way do not allow students to demonstrate what they actually know, and prevents them from contributing to the evaluation process. Many schools are not able to acquire an accurate evaluation of students for two reasons. First, they do not have the necessary funds to purchase assessment tools in the students' native languages. Secondly, there are few assessment tools for many of the large, established minority populations and none exist for students who speak less-established minority languages (Hernandez, 1994).

When interpreters are used to assess students, the language or words they use to interpret do not always have an equivalent word in the student's native language (Schwarz & Burt, 1995). Furthermore, the context of the question many times does not make sense after translation (Schwarz & Burt, 1995). When this happens, the validity of the test becomes questionable (Ysseldyke & Algozzine, 1982). Additionally, Ascher (1990) reported when professionals administer an assessment to a LEP student, the professional is not assessing the subject at hand. Instead, assessment results represent the student's English language proficiency.

Providing Appropriate Services

Special education is a set of services which support the student's progress. The student's individualized education plan (IEP) is an outgrowth from the assessment process which should mirror the student's unique background (Burnette, 1998). The services listed on the IEP must be provided in the least restrictive environment. Students with disabilities may not be

removed from the general education classroom unless it has been determined by the IEP team that the general education setting is not appropriate (Burnette, 1998).

Many LEP students with disabilities are being placed in bilingual education as an alternative to special education (Baca & Cervantes, 1991). Grossman (1998) described a study in which he revealed the individual education plans (IEP's) of only 2% of LEP students with disabilities included some type of bilingual instruction in their native language and none included ESL instruction.

On the other hand, if the school does not provide ESL support, the student's may receive special education services to replace the ESL services. (Maldonado, 1994). Those who are misplaced in special education are denied the kind of education they would profit from in regular education programs (Grossman, 1998).

Problems occur when students do not receive appropriate educational services. Grossman (1998) reported as large groups of non-European immigrants moved into the United States, an increasing number of students were unable to easily adapt to the established educational system. These non-Europeans demanded they should not be required to act and function like students from the dominant European culture. Immigrants were being asked to drop their cultural beliefs and act like Europeans.

Maldonado (1994) reported some of the major issues that occur when students do not receive instruction in both their native language and the secondary language. Bilingual students are often lost between the two languages. Some of the problems students had trying to learn two languages included: language delay in both native language and the second language;

delay in reading skills in both languages; learning problems related to lack of instruction; appropriate transition from the native language to the second language; behavior problems; poor self-esteem; and cultural identity problems.

Bernal (1974) asserted the thought that schools' have not been successful with acculturating students. Generally, ESL students have not had the same education opportunities and schools' have ignored its ethical, legal, moral, and professional responsibilities to accommodate students as they are. He added that schools cannot assume responsibilities of acculturating students because emotional consequences can be devastating. Teachers' need to be aware of the pressure they put on the students to change, and look more favorably toward a culturally pluralistic school and community. Consequently, many students with disabilities have been offered culturally inappropriate educational services.

Disproportionate Representation

Burnette (1998) reported that the U. S. Office of Special Education Programs (OSEP) and the U. S. Office for Civil Rights (OCR) have three concerns about disproportionate representation: The first is students may receive services that do not meet their needs. The second is students may be inappropriately labeled. The last concern is that placement in special education may be a form of discrimination.

The Federal Regional Resource Center (1991) concluded that the current educational system has a mainstream cultural bias which adversely affects the education of students from minority backgrounds. This bias is manifested in preconceived expectations about children from diverse cultures

that are limiting and inaccurate. In addition, lack of awareness, sensitivity and understanding of diverse cultures by school personnel interfere with the education of students and the development of productive relationships with parents. In general, the current instruction curricula, material/methods and service delivery models are inadequate for meeting the educational needs of children from minority background. Existing methods are not adequate to correctly assess/identify students from diverse backgrounds and determine appropriate educational services. Therefore, there is an overrepresentation or underrepresentation of students from minority backgrounds in various educational programs.

Overrepresentation is a complex problem, and reducing it calls for many changes and strategies. In order to reduce overrepresentation, teachers need to create a successful school environment for all students and accurately distinguish disabilities from cultural differences.

African-American students have shown the greatest percentages of students who have been misrepresented in special education services (Grossman, 1998). Although African-American students represent approximately 12 % of the student population, they represent approximately 28 % of the special education population (Grossman, 1998). Burnette (1998) found that African-American students accounted for 16 % of the total school population and accounted for 32 % of the special education population. The African-American students who have been placed in special education services are overrepresented in the areas of mild/moderate impairments and emotional/behavioral disorders.

According to the Minnesota Department of Children, Families and Learning (1998), minority students placed in special education services are

dealing with negative consequences. In focus groups, the Department of Children, Families and Learning found teachers and family members have lower expectations for minority students. A study on meeting the high standards of Minnesota's Profiles of Learning indicated the perspective of most participants in the focus group was that when parents and teachers had high expectations, students reach a higher level of performance. They also found the minority students have restricted access to the general K-12 educational program. The focus groups concluded students had restricted access to higher education and post-high school employment.

Olson (1991) reported data collected by the California State Department of Education (CSDE) pupil count verifies the trend of shifting from over identification of minorities in special education to under identification. In the report, she also found as an overreaction to the identified problems of misdiagnosis, a different problem has surfaced. Limited English proficient youngsters who typically would have been identified as needing special education services have not been receiving those services (Olson, 1991).

Teachers are also under represented. Currently, 14 % of special education teachers are non-European Americans. Grossman (1998) found that teachers who staff our special education programs are not a representative of the students they teach. Teachers from poor or non-European backgrounds are rare and becoming more scarce (Grossman, 1998).

Training for School Staff

Teachers need to be better prepared in colleges and universities for assessing students with limited English proficiency (Grossman, 1998). He found professors do not select textbooks that have a multicultural approach for their courses. The teachers are not prepared to determine whether a student is disabled or discouraged and are not developing an understanding, or appreciation, for cultural differences.

Sedlacek and Kim (1995) stated very few professionals receive adequate training in assessment and multicultural issues. Special educators and ESL educators need cross over training to deliver integrated services which best serve a minority population (Cloud, 1988). Grossman (1998) stated that non-European Americans have insisted school personnel should be sensitized to the importance of educationally relevant ethnic and socioeconomic class cultural differences and the special challenges and problems poor students endure because of their economic situation. Additionally, he stated minority groups wanted educators trained to take such differences into consideration when planning school programs or selecting school materials, classroom management, counseling, and assessment techniques for non European-American and poor students. Professionals are many times left to find their own training opportunities at conferences and workshops to provide the best education/assessments for the changing school populations (Cloud, 1988). In order to provide a non-biased assessment, the teachers who assess ESL/LEP students need to be current with assessment topics, including research on neurolinguistics, cognitive development, bilingualism, and psychological functioning, as well as research on cultural and emotional adjustment (Olson, 1991). Typically

teachers have use the same teaching style they learned best from themselves. Teachers must understand students learn best when taught with different learning techniques (Grossman, 1998). Because of this lack of information of ESL and special education teachers, these services were and are being delivered separately and without a common goal (Maldonado, 1994).

Estrin (1993) developed several suggestions for improving teachers' knowledge base of multicultural opportunities. The first is to address differences in communication, cognitive styles and strategies for promoting inclusion of all students in classroom discourse. The second suggestion was evaluating the language demands of classroom tasks. The third suggestion was to gather a repertoire of ways to group students and work with them. The final suggestion was to improve, or add, ways to work with the community.

Chapter III

CONCLUSION

Special education teachers and classroom teachers are facing increasing levels of knowledge and work loads as the population changes. Both rural and urban school districts are becoming increasingly diverse. With this diversity comes many changes that need to be made in the community, schools and classrooms.

In the communities, community members need to accept and embrace the cultures and provide opportunities to become active within their community. The more people feel a sense of belonging and acceptance in a community, the more the individuals are apt to become involved.

Schools have a need to provide all students with a free and safe educational, learning environment. This happens when the staff and students have a mutual respect for everyone.

In each individual classroom when the students and teachers have respect for each other, teachers can provide more small group and individual learning opportunities. As each classroom becomes more diverse, teachers are expected to provide an appropriate education for individual learners, including students with limited English proficiency and students with specific learning needs.

As classrooms become more diverse, teachers' repertoire of teaching lessons, strategies, and intervention strategies needs to become more diverse to accommodate all of the students in the classrooms. Teachers that do not have a wide range of lessons, strategies, or interventions in which to use with individual students should strongly consider sitting in on a TAT team or visiting the TAT team occasionally to gather ideas and strategies. After gathering these ideas and strategies, the teacher should use the new ideas with students to help LEP and special needs students within the classrooms.

When teachers have tried several strategies and have not seen an improvement, they can proceed on to referring the student. School districts have an enormous responsibility to provide the best assessment tools for each language represented in the school district. The number of languages in major cities is staggering. This is important because special education teachers and school psychologists need to be using the most appropriate assessment tools in order to obtain correct ability and achievement scores for LEP students. If special education teachers and psychologists are forced to use English normed tests on LEP students, then the results will often provide false positive scores. There may be many LEP students throughout the United States that may be receiving inappropriate services because assessment scores from English normed tests have revealed scores that qualify LEP individuals.

A second crucial factor school districts should be providing for schools as a part of the assessment process is an interpreter. In order to give an assessment in the native language, school districts need to hire personnel that can speak, write, and communicate in every one of the languages represented in the school district in order to provide accurate ability and

achievement scores. The personnel hired to administer the assessments should be well trained in every aspect of giving, interpreting and explaining assessments to school staff, administrators and parents.

The third factor that is important to each assessment completed in schools is that the student is assessed in both the native language and in the secondary language. By assessing in both languages, the assessment team will have twice the amount of information to base their decisions on as to whether or not the student has a disability. The benefit from assessing in both languages comes when the team is on the borderline as to whether or not the student should receive special education services. The assessment information from both languages should make the process of decision making much easier than it would be with information from testing in one language.

Colleges and universities also need to train special education teachers and psychologists to be aware of the many issues that are involved in assessments with LEP students. This is increasingly important in areas where populations are increasing in diversity. Teachers need to not only be aware of the techniques and materials they use with the students, but to be aware of what they are communicating to the students verbally and nonverbally.

As each of the issues presented here are handled in schools, this final issue being over and underrepresentation should be nonexistent. The majority of inappropriate decisions that are made for students such as: giving services when it is not warranted or not giving services when the student has a disability and should be receiving special education services. Many of these problems should be avoided when students are assessed in their native language and also in the secondary language. By assessing the student in

both languages should make the decision much more clear as to whether or not the student qualifies for special education services.

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STRATEGIES TO IMPROVE READING FLUENCY AND READING COMPREHENSION

by

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Chapter I

INTRODUCTION

Statement of Problem

Reading fluency and comprehension are the single most important skills a student will learn in the beginning of their school years. CEC Today (Council for Exceptional Children, 1997) and Foorman, Fletcher, and Francis (1999) reported the causes of reading difficulties include: brain dysfunctions, genetics, poor instruction, lack of prior knowledge/experiences, lack of reading readiness, poor study skills, problems maintaining attention, and cultural differences. These areas can be overcome with early intervention and intensive reading instruction (Council for Exceptional Children, 1997, Fitzsimmons, 1996, Foorman et al., 1999; LDA Newsbriefs, 1998; Sturomski, 1997). Since all academic subjects require some type of reading, a student would have a difficult time learning in other academic areas reading fluency and comprehension are not mastered early on in their school career.

The National Institute of Child Health and Human Development [NICHD] (1995) studied the topic "Why Children Succeed or Fail at Reading." They found that students first lose their self-esteem and soon grow ashamed as they compare themselves to classmates who are learning the lessons easily (NICHD, 1995). Grossen (1997) suggested that the best predictor of a future reading disability in kindergarten or first grade is the students

performance on a combination of achievement on: phonemic awareness, rapid naming of letters, numbers and objects, and print awareness. Once children fall behind in the growth of letter/word identification, it may require very intensive interventions to bring them back to a level equal to their peers (Torgessen, 1998). NICHD (1995) suggested the best way to alleviate this problem is to identify the students with learning disabilities before they reach third grade. This does not mean that older students cannot be helped, only that teaching students to read at an appropriate level becomes progressively more difficult as they get older (NICHD, 1995). The best resolution to the problem of reading failure would be to provide resources for early identification and prevention (Torgessen, 1998).

Purpose of Paper

The purpose of this paper is to review the specific terms and identify the best teaching strategies to improve reading fluency and comprehension that are supported by research. Most of the researched strategies referred to in this paper involved students that are in special education and are, therefore, well suited to help teach students with learning disabilities. This topic was of interest because the researcher wants to use the strategies that are research-based and proven effective with learning disabled and mild to moderately mentally impaired students. References used in this research were dated in or before 1985. The University of Kansas, LD Online and Learning Disabilities Association were web sites that generated a list of references that were used. The reading and comprehension strategies needed to be backed by research to be included. Since all students learn differently, the proven strategies researched here will provide a good base of

strategies to use with learning disabled and mild to moderately impaired students.

Definition of Terms

Term	Definition	Characteristics
Reading Fluency	Automaticy in word recognition.	
Reading Comprehension	Constructing meaning from written text.	
Approaches to Reading		
Repeated Readings	Students reread material.	Independent or whole group.
Reciprocal Teaching	Student lead discussion that covers: Questioning, summarizing, clarifying and predicting (RPT)	Groups led by students and teacher as they take turns leading the discussion.
Curriculum Based Instruction	Measurement tools used to make educational decisions for individual students led by teacher.	Whole group or small groups.
Direct Instruction	Teacher led direction with controlled and independent practice with feedback.	Small group and independent work time.
Metacognition	Understanding what one does know. Steps used to regulate and modify the student's activities. modify the student's activities.	Whole group The teacher builds self-regulatory skills in each student.
Effective Teaching	Teacher led process engaging students time on task, clear lessons, feedback, guided practice, checking on students.	Whole group.
Strategies Integration	Strategies used to increase reading comprehension skills and decoding skills for adolescents with learning disabilities.	Individual and small group.

Reading Fluency

Most adults may think of reading fluency as being able to read quickly. There are several important characteristics that better define Reading Fluency. Levy, Abello, and Lysynchuck (1997) explained the ability to name

each word providing an index of automaticity in word recognition skills. A second explanation includes key words such as: phrasing, adherence to the author's sentence structure, and expressiveness to describe fluency (Eldredge, Reutzel, & Hollingsworth, 1996). Nathan and Stanovich (1991) suggested that reading fluency is simply the ability to recognize words rapidly and with accuracy. Historically, in the 1800s reading fluency was the single most important aspect of reading. Progress was measured by reading competence and demonstrations (Eldredge, Reutzel, & Hollingsworth, 1996; Stayter & Allington, 1991). Students were asked to read and reread selected readings until the students who had difficulty reading were able to read with some automaticity (Eldredge et al., 1996; Stayter & Allington, 1991).

Samuels (1979) stated the following:

> Reading fluency can be compared to both music and sports. In sports such as football, soccer, boxing and wrestling, moves must be made rapidly and automatically. Music is somewhat different from sports but has many similarities. The musician is faced with a text of notes much like letters/words. The goal is not the mechanical rendition of sounds indicated by the notes, but rather the rendering of those printed notes with fluency and expression. (p. 376)

Reading Comprehension

On the other hand, historically, comprehension was not thought of as an important skill to teach or to learn (Stayter & Allington, 1991). Teachers who believed that comprehension simply came along with fluency (Stayter & Allington, 1991). Mastropieri and Scruggs (1997) defined comprehension as:

> a process of constructing meaning from written texts, based on a complex coordination of a number of interrelated sources of information. Comprehension can be thought of in terms of chunking words into larger units to grasp ideas or meanings of what is being read. (p. 197)

Reciprocal Teaching

Reciprocal peer tutoring (RPT) is a cooperative learning strategy where students benefit from tutoring one another to improve their understanding of complex text (Dunlap, 1986; Pigott, Fantuzzo, & Clemant, 1986). Fantuzzo, Davis, and Ginsburg (1995) described RPT as same-age dyads of similar ability and uses a reciprocal peer teaching structure. The RPT strategy is designed to enhance learner accountability and peer cooperation (Fantuzzo, King, & Heller, 1992). Marston, Deno, Kim, Dement, and Rogers (1995) defined reciprocal teaching as the cognitive approach to teaching reading to elementary school students. Finally, Palincsar and Klenk (1992) defined reciprocal teaching as:

> An instructional procedure that takes place in a collaborative learning group and features guided practice in the flexible application of four concrete strategies to the task of text comprehension: questioning, summarizing, clarifying, and predicting. The teacher and group of students take turns leading discussions regarding the text they are jointly attempting to understand. (p. 213)

Direct Instruction

Direct instruction is a sequential, highly structured and repetitive instructional approach to reading with 100% error correction (Marston et al., 1995). Din (1998) defined direct instruction as an instructional strategy that includes teacher demonstration, controlled practice with prompts and feedback and independent practice with feedback.

Metacognition

Metacognition is defined as skills that are linked in steps which people take to regulate and modify the progress of their learning activities (Dunlap,

1996). Shepley (1996) defined metacognition as thinking about one's own thinking processes.

Chapter II

REVIEW OF LITERATURE

In Chapter II, nine approaches to teaching reading fluency and comprehension will be reviewed. The nine approaches included repeated readings, comprehension strategies, vocabulary development, reciprocal teaching, direct instruction, curriculum-based measurement, metacognition, effective teaching, and Strategies Integration Model. These reading approaches and strategies are research based and have shown to increase students' skills in reading fluency and improved comprehension.

Repeated Readings

The one technique used and most often noted in research articles related to reading fluency and comprehension is repeated readings (Homan, Klesius, & Hite, 1993; Mastropieri & Scruggs, 1997; Mathes & Fuchs, 1997; Mefferd & Pettegrew, 1997; O'Shea, Sindelar, & O'Shea, 1985; Rasinski, 1990; Reutzel & Hollingsworth, 1993; Samuels, 1997; Stayter & Allington, 1991). Samuels (1979) and Rasinski (1990) noted that repeated readings consists of students reading a short passage anywhere from 50-200 words at the student's reading level. They continue reading until a predetermined level of speed and accuracy is achieved. Students are timed while they read the passage (Mathes & Fuchs, 1993). They also keep track of the number of errors the students make while reading. Most often the students reread the

article three to five times to reach their goals (Mastopieri & Scruggs, 1997). As they read for the third, fourth, or fifth time, their reading rate becomes shorter and the number of errors made decreases (Mastropieri & Scruggs, 1997). At this time, both reading comprehension and reading fluency skills are improving. Shepley (1986) concluded that students who read a passage from three to seven times did show an increase in comprehension, but did not show a statistical increase in reading fluency. Homan, Klesius, and Hite (1993) noted that stories with overlapping words were most effective in improving the speed of students' reading rates.

Comprehension Strategies

When teachers cue students to pay more attention to comprehension, it leads to a small increase in reading fluency as well as an increase in comprehension (Mastropieri & Scruggs, 1997). If a teacher cues students to read for better reading fluency, the students generally read quickly through the material as fast as they can. Very little attention is paid to the meaning of the reading (O'Shea et al., 1985).

A conflicting study was presented with second graders' reading fluency using the oral recitation lesson as compared to a round robin approach. This approach to reading suggests that students who used the oral recitation lesson for fluency did in fact increase their reading comprehension as well as their fluency (Reutzel & Hollingsworth, 1993). Poor readers who listened to fluent readers several times achieved a better understanding of the material because they were able to hear it many times (Stayter & Allington, 1991). Samuels (1979) suggested asking the students to find an answer to a different question each time they are asked to reread.

Klingner and Vaughn (1998) described Collaborative Strategic Reading (CSR) as an excellent technique to use in mainstreamed classrooms to teach reading comprehension. CSR is a group activity, made up of five students of mixed achievement levels, that encourages student involvement and use of comprehension strategies (Klingner & Vaughn, 1998). This strategy was designed to be used with expository text, and can be used with narrative text in many types of reading programs including literature-based instruction, basal readers, and other balanced series. Klingner and Vaughn explained the four main steps to CSR as: preview, click and clunk, get the gist, and wrap up. The click and clunk step encourages students to talk about the parts that did make sense (clicks) and the parts of the reading that did not make sense (clunks) (Klingner & Vaughn, 1998).

Vocabulary Development

What happens when word recognition is not fluid or smooth (Nathan & Stanovich, 1991)? The reader's cognitive processes are working on decoding the words, while the comprehension processes and reading enjoyment is less efficient (Nathan & Stanovich, 1991). Therefore, if the student is not able to enjoy the reading, the student may not want to read in their free time or for enjoyment at home.

Samuels (1979) stated:

> Word recognition may be grouped into three stages; nonaccurate stage, accuracy stage and automatic stage. The first stage, nonaccurate stage, the student has great difficulty in recognizing words. The second stage, accuracy stage, the student is able to read accurately but their attention is required. Finally, the third stage, automatic stage, the student is able to read the words without attention. (p. 377)

Mastropieri and Scuggs (1997) noted that when direct instruction is used for vocabulary instruction, reading fluency is improved. Din (1998) studied several reading strategies and found that direct word instruction not only promoted increased vocabulary development, but could raise comprehension skills.

The Collaborative Strategic Reading technique as described previously in the comprehension section also relates to vocabulary development (Klingner & Vaughn, 1998). While the students are reading and discussing "clicks and clunks," students reread sentences to look for context clues for unfamiliar words. The second step is to look for prefixes or suffixes in the word. The final step of the "click and clunk" stage is to break the word apart and look for smaller words to help define the word in question. The students continue the "click and clunk" stage until all the paragraphs or sections in the assigned text are completed.

Reciprocal Teaching

The purpose of reciprocal teaching is to develop cognitive and metacognitive skills needed to understand the reading materials used (Palinscar, 1986). The teachers and students had discussions as they read sections of the text (Marston et al., 1995). They reported that the discussions were structured around four categories: predicting, question generating, clarifying and summarizing. Brown and Palincsar (1989) explained reciprocal teaching as being a teacher-led, cooperative learning methodology used to support students' understanding of perplexing text. Marston et al. (1995) used reciprocal teaching quite differently where students took turns playing the role of the teacher and lead the discussions.

The reciprocal teaching process begins with the class reading a section from a book (Dunlap, 1996). After reading a section, the teacher demonstrates the reading comprehension skills by modeling the questions that need to be asked about the text in order to clarify understanding, summarizing the book, making predictions and discussing the parts that were hard to understand (Dunlap, 1996). During this phase, Dunlap explained that students listen to the teacher knowing that they will need to demonstrate the same skills back to the teacher on the next part of the text.

Taylor and Frye (1992) completed a study using a less demanding series of strategies for a shorter period of time in a social studies fifth-grade class. They did not find a significant difference in the reading comprehension scores as compared to a control group. The study did mention that the scores would be more reliable if they had continued this study for a full year. The study did not mention that the scores could have been slighted because of the less demanding strategies used. A similar study was completed by Payne and Manning (1992) over a 1-year period and the group did produce an increase in reading comprehension scores.

Partridge (1995) promoted the idea of reciprocal teaching in the various school subjects and literacy in the hope of achieving better teaching, more student involvement, interest, and enjoyment. According to Partridge, y merging school subjects and literacy learning, teachers can also involve more students, increase knowledge, strengthen curriculum ties, and link schools with the outside world. The goal of the author is to teach scientific concepts through literacy-based activities by utilizing trade books of diverse genres and on varying levels and through cooperative and individual writing strategies, as well as by using science texts, resources, and manipulatives (Casteel &

Bess, 1994). The Appendix contains lists of the questioning skills as related to science and literature, and specific activities to promote the reciprocal techniques in given subject areas (Partridge, 1995).

Similar to reciprocal teaching is reciprocal peer tutoring using the same techniques as reciprocal teaching only the teacher is not directly involved (Griffin & Griffin, 1995). Griffin and Griffin found peer tutoring to be beneficial for the tutor and tutee. Both the tutor and tutee displayed gains in achievement from participating in the study. However, the tutor did show greater achievement because of the preparation from the tutoring process (Fantuzzo et al, 1990).

Direct Instruction

Englert (1984) suggested that direct instruction and providing an opportunity for practice are the lesson strategies that successful teachers use to support all students. These lesson strategies include: communicating the rules and expectations of the lesson, stating the objectives and linking them to previous lessons, providing specific examples, eliciting student responses, and giving drill and practice immediately following incorrect responses (Englert, 1984). The more students are actively engaged in the instructional process, the more student behavior will improve along with improved achievement scores (Sindelar, Espin, Smith, & Harriman, 1990). The most effective teachers provide opportunities for higher levels of understanding through teacher questioning techniques, limited seat work, and they allowing students time to interact with their peers socially (Sindelar et al., 1990).

Marston et al. (1995) studied two versions of direct instruction, the first was direct instruction with Science Research Associates Curriculum (SRA).

The components of direct instruction contain teacher signaling, choral responses, guided and independent practice, corrective feedback, and reinforcement. Marston et al. also suggested that this approach promotes high rates of academic work time and increases on-task behavior. There were ten significant differences that favored the SRA series over the other five techniques studied. The SRA series had similar results to reciprocal teaching and effective teaching by Marston et al.

The second approach studied by Marston et al. (1995) was direct instruction using the Holt materials. The purpose of this strategy was to contrast an accommodation of direct instruction principles to a common reading series. The same direct instruction strategies were used with the Holt series as were used with the Science Research Associate Curriculum. The study concluded that direct instruction using the Holt materials was the most effective. There were 13 significant differences that favored the Holt materials over the other five strategies studied by Marston et al. (1995).

Din (1998) developed a study much like the Marston et al.(1995) study with the Holt materials. This study used a one-on-one approach, one teacher to one student. Each student received treatments (mainly instructions) in the problem areas which the student needed help with, such as, decoding, vocabulary or comprehension. Din reported that the teachers directed activities on review, clarification, summarization, repeated instruction, concentrated practice and drill, continuous observation of student's progress, and adapting the teaching methods and instructional content.

Frost and Emery (1995) found that without direct instruction in phonemic awareness and sound-symbol correspondences, the students with learning disabilities will fail to achieve reading levels for daily living. Frost and

Emery (1995) and Foorman, Fletcher, and Francis (1999) stated that teachers should provide direct instruction in language analysis and the alphabetic code, give explicit instructions, and teach children to gradually process larger segments of words.. Finally, teachers should provide explicit and corrective feedback (Frost & Emery, 1995). Frost and Emery concluded with the thought that students should be reinforced for attempts with reading as well as the successes they make with the reading goals.

Curriculum-Based Measurement

Curriculum-Based Measurement (CBM) has been defined as a systematic set of measurement tools that combines data designed to help make educational decisions for individual students (Burns, MacQuarrie, & Campbell, 1997). CBM uses direct observations and records a student's performance as measured from the local curriculum. The information from the student's performance was compiled by the teachers to help develop interventions related to instruction and classroom management.

Burns et al. (1997) gathered data on 57 students in grades two through four. The students were instructed in a whole-language reading curriculum and examined oral reading fluency using CBM using authentic and literature-based curricula. They found oral reading fluency for basal and authentic curriculum materials to be a strong predictor of reading comprehension, therefore supporting the validity of CBM for assessing reading ability across curricula. CBM can also provide measures of reading ability using reading materials from whole language programs (Burns et al., 1997).

Fuchs, Deno, and Mirkin (1984) completed a curriculum-based measurement study to look at the outcomes of data-based program

modification. In the study, they had 39 teachers volunteer for the two groups, experimental and control. Each teacher selected three or four students to work with. Teachers then wrote up curriculum-based IEP goals and objectives. From there they developed curriculum-based measurement systems to match goals. The teachers measured students' oral reading performances once or twice a week from a randomly selected passage. The teachers' introduced a program change when a student's improvement across 7 to 10 measurement points appeared to be inadequate for goal attainment (Fuchs et al., 1984). The results from the study indicated that teachers who used the data-based program modification showed better achievement scores than the students who used the conventional methods.

Metacognition

Metacognition is understanding what one knows and does not know, predicting outcomes, planning ahead, efficiently apportioning time and cognitive resources, and monitoring one's efforts to solve a problem or learn (Glasser, 1984). Dunlap (1996) broke down the skills of metacognition as: active, conscious learning, successful planning, recording the progress, amending errors, synthesizing the effectiveness of the process, and changing behaviors and strategies when necessary. These metacognitive or self-regulatory skills build skills to problem solve and students gain the ability to transfer knowledge across other academic areas if developed during instruction (Bereiter & Scardamalia, 1985; Bransford, Sherwood, Vye, & Rieser, 1986). When this skill is not mastered, students do not understand when they have failed to complete tasks and meet their goals (Bransford et al., 1986).

After a 1-year study of using metacognition, Payne and Manning (1992) found that the students had better test scores than those in a control group. Their study suggested strategies to improve a basal reading program to produce better comprehension scores on tests. The specific strategies Payne and Manning used included prereading (prior knowledge, predictions, purpose for reading, and questioning), guided reading (summarization, evaluation, relating information, and questioning), and post reading (complete summarization, evaluation of predictions, and goal analysis). When children express their knowledge, they acquire ownership of their learning (Spiegel, 1992). Overall, Payne and Manning (1992), Bereiter and Scardamalia (1985), Brasford et al. (1986) and Dunlap (1996) concluded that metacognitive strategies lead to generalized thinking skills and improved reading comprehension.

Frost and Emery (1995) promoted teaching students metacognitive strategies and applying the skills. Teachers should be making the students aware of the purposes and specific goals of each lesson (Frost & Emery, 1995). They suggested that students should be taught similarities and differences between speech sounds and visual patterns across words.

Effective Teaching

Marston et al. (1995) explained effective teaching engages time on task, clearly presented lessons and corrective feedback, guided practice, and checking on student progress. Teachers wrote lesson plans based on these elements which were reviewed by the entire group. Marston et al. added that a systematic approach to teaching improves student achievement. Students are generally more motivated when the strategy instruction is related to their

own needs (Sturomski, 1997). Using a systematic approach can further enhance educational opportunities for all students, especially learning disabled students. The specific strategies that make up effective teaching include: communicating the rules and expectations of the lesson, communicating the objectives and linking them to previous lessons, providing many examples, urging student responses, and giving drill and practice opportunities when the student is incorrect (Sturomski, 1997). Sturomski concluded that the more a student is actively engaged in the lesson, the more achievement will increase and student behavior will improve.

Rosenshine and Stevens (1986) had a similar but different view on effective teaching. They identified common teaching strategies of good teachers as: teaching in small steps, practicing after each step, guiding students through the first practice, and providing all students with opportunities for success. Spiegel (1992) disagreed with the opinion that teaching in small steps or mini-lessons is an effective teaching strategy. Spiegel explained that the danger with teaching in small steps or mini-lessons is that the teacher may not cover the whole topic. Therefore, the student may not be able to do the task at hand or transfer it to other areas.

Strategies Integration Model

Deschler, Schumaker, Alley, Clark, and Warner (1981) have worked with the University of Kansas which has researched reading methods for 20 years. Together they developed the Strategies Integration Model (SIM). These instructional strategies have demonstrated a significant increase in the reading comprehension and decoding skills of adolescents with learning disabilities. Studies have shown that children with learning disabilities and

low-achieving readers can conqueror the learning strategies that improve reading comprehension skills (Deschler et al., 1986).

The first step to the SIM is: Pretesting the student and gaining their interest in the strategy. Sturomski (1997) stated it is "important to know how much the students already know about using the strategy and to secure their commitment to learning the strategy from top to bottom" (p. 9). The students are motivated by letting them know that gains in learning occur when the strategy is used effectively (Sturomski, 1997). Shunk and Rice (1989) completed a study where three groups of students were taught the strategy of finding the main idea of a reading passage. Each group had a different goal. One group was told that the learning strategy would help them answer the questions. The second group's goal was to answer several questions about the passage and the last group was simply told to "do their best." The group that was asked to use the learning strategy to answer the questions had the best outcomes when posttested. Shunk and Rice reported the students felt that they had control over their learning outcomes and they were excited to use the strategy.

The second step to the SIM is: Describe the Strategy (Sturomski, 1997). Day and Elksnin (1994) explained the stage as present the strategy, give examples, and have students talk about the different ways the strategy can be used. Sturomski (1997) stated that a clear definition needs to be given and letting the students know the benefits from using the strategy.

The third step is: Modeling the Strategy (Sturomski, 1997). In this step, the self-talk that the teacher models is very important as it provides a powerful guide for students as the responsibility for using the strategy is transferred to

them (Sturomski, 1997). Sturomski added that, as students hear the self-talk, they are able to see what the teacher is doing while using the strategy.

The next step is: Practicing the Strategy (Sturomski, 1997). Here practicing and repetition are important. The more the students practice the strategy, the more the students begin to internalize the strategy. The initial practice is teacher directed and gradually working toward independent student practice. Independent practice should begin with materials or a topic below a student's comfort level and gradually work up to an instructional level (Sturomski, 1997).

The fifth level is: Providing Feedback (Sturomski, 1997). The feedback teachers provide students is particularly important because the students need to know how to use the strategy effectively and need to know when the strategy is not working. Sturomski (1997) added teachers also need to provide opportunities for students to reflect on their own work.

The final strategy is: Promoting Generalization (Sturomski, 1997). Sturomski stated it is important for students to use the strategy in different situations with different tasks. Students will have a difficult time transferring this information to new topics and subjects, especially students with learning disabilities (Borkowski, Estrada, Milstead, & Hale, 1989). Sturomski concluded teachers need to teach students what generalizing is and lead discussions how the strategy will be generalized to other areas in school. These specific conversations will help students generate ideas on how to use the strategy in other classes.

Chapter III

CONCLUSION

Why would one want to study the strategies to improve reading fluency and comprehension? Reading is linked to every subject in school. Studies continue because students continue to change, new areas of disabilities are developed, and so too should reading strategy approaches continue to be developed. Teachers should have two main goals for themselves and their students. The first goal should be instilling the love of reading with every student. The second is to strive to improve strategies to help their students reach their full potential. Every student is different, and therefore have the right to be taught with different and the most appropriate strategies for each individual.

The reading strategies explained in this research are the most recent or the most widely researched areas of reading fluency and comprehension. These strategies are also conducive to a regular education classroom. Students with learning disabilities should be placed in the least restrictive environment (LRE). Therefore, most students with learning disabilities should be receiving the bulk of their special education services within the regular education classrooms. The strategies suggested in this research can be used to help the mainstreamed students as well as the other classmates.

The best area of prevention a school or a district can provide is not a specific reading strategy or reading approach. School districts, schools, and teaching professionals can help students most by providing intensive, early intervention services. When teachers are able to catch young learners before they fall behind their peers academically, they are able to eliminate possible disabilities and are able to save students' self-esteems. Schools should be placing much more emphasis on early intervention with kindergarten through second-grade students to prevent as many future academic problems as possible.

One of the studies mentioned here was specifically designed for learning disabled adolescent students. The Simulated Integration Model was developed for adolescent students so that they may generalize the strategy and use it independently in other academic and nonacademic situations. This is one of many strategies that may help students become independent lifelong learners.

As teachers use these strategies consistently with students, the students become familiar with the strategy vocabulary and daily routines. Students learn best by learning small chunks at a time. Each of the strategies or reading approaches mentioned here are generally taught in smaller chunks in each lesson. The more students learn the daily routines and experience success, the more the students are apt to buy into the learning process and apply themselves more. Furthermore, as students gain confidence in reading and succeeding with these smaller chunks, such as, predicting, clarifying, and summarizing, students will gain higher self-esteems. This research on reading fluency and reading comprehension has proved that the more teachers are able to keep students actively involved in

the lessons, the more the students are applying knowledge to previously learned areas. This fosters higher levels of thinking skills and learning. By using these strategies consistently, teachers are building students' reading fluency, comprehension, and self-esteem.

Many of the strategies mentioned in this paper are very much intertwined. A vast majority of the articles promoted a specific strategy but, at the same time, also included other strategies, or ideas from other strategies, such as: direct instruction and metacognition or vocabulary development and direct instruction. These strategies referred to in this research study had many of the same or similar ideas such as: predicting, teacher modeling, repeated readings, guided and independent practice, corrective feedback and reinforcement. This may be due to the fact that these steps have all been proven effective in research and therefore have been included in many strategies that work best for the students that were used in each individual study. If teachers use the strategies discussed here, or use ideas from these strategies, students will become more efficient and effective learners. As students reach high school, responsibility for strategy use needs to move from teacher responsibility to student responsibility, so students can be independent learners with the cognitive flexibility necessary to apply the many challenges they will come across in their lives.

All students learn differently. It is the teacher's job to determine the best strategies that work for each young learner and that each individual is receiving the best education possible. Generally, children learn best from several different teaching strategies. Most researchers in the area of education would agree that reading is the most important skill that students need to master in order to be successful lifelong learners.

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APPENDIX

Comparison of Science and Literacy Process Skills Using Reciprocal Teaching

A COMPARISON OF SCIENCE AND LITERACY PROCESS SKILLS USING RECIPROCAL TEACHING

Science Process Skills	Literacy Process Skills
Questioning	Purpose setting
Hypothesizing	Predicting
Gathering/Organizing Data	Organizing Ideas
Drawing Conclusions	Constructing/composing
Analyzing Results	Evaluating/Revising
Reporting	Comprehending/Communicating

Science Based Activities

Questioning
Ask questions about conditions leading to different types of weather. Example: What is weather? What conditions contribute to changes in weather?

Hypothesizing
Form hypotheses about what will happen when Air temperatures and pressure change. Example: Conditions of the air contribute to changes in Weather. Temperature contributes to rain, sleet, Snow, and hail conditions.

Gathering/Organizing Data
Record and categorize daily pressure/ temperature changes and weather conditions. Also, record results of temperature such as making a hygrometer to measure moisture. Participate in computer simulations of weather experiments. Research methods for collecting weather data such as the use of weather balloons.

Analyzing Results
Analyze all collected data and identify factors that affect results. Use charts, tables, and diagrams to illustrate analysis.

Drawing Conclusions
Meet in cooperative groups to review data and draw conclusions relative to the hypotheses.

Reporting
Prepare a written report summarizing information learned. Make oral presentations to another class.

Literacy Based Activities

Purpose Setting
Set purposes for reading a trade book about weather by having students write information they hope to find in response Journals. Read to find out what conditions contribute to weather changes.

Predicting
Predict how weather conditions might influence plot and affect characters, setting, and mood in various stories.

Organizing Ideas
Create cognitive maps to organize information learned from reading trade books about weather. Also, complete word webs or semantic feature analyses relating to technical vocabulary words.

Constructing/Composing
Discuss personal experiences relating to different types of weather conditions and participate in language/experience activities to write comparisons between weather conditions and effects on human behavior.

Evaluating/Revising
Make judgments about and edit written compositions about weather. Example: Evaluate accuracy of facts, clarity of ideas, and use of mechanics in writing.

Comprehending/Communicating
Publish a classroom book about weather. Share individual entries through the use of the author's chair.