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Phonemic awareness: its impact on beginning reading

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Abstract

Phonemic awareness plays a part in the reading acquisition process. Studies have found that language tasks that measure phonemic awareness are significantly related to success in the early stages of reading. This study examined the effects of phonemic awareness in relationship to beginning reading. Guidelines, skill levels, and assessment tools for teachers were presented. Conclusions were drawn from the literature and recommendations were made for future research in this area.

PHONEMIC AWARENESS: ITS IMPACT ON BEGINNING READING

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TABLE OF CONTENTS

CHAPTER 1 INTRODUCTION.....1

Background of the Study.....1

Purpose of the Study.....3

Need for the Study.....4

Limitations.....5

Definitions.....5

CHAPTER 2 REVIEW OF THE LITERATURE.....6

Phonemic Awareness vs. Phonics in Beginning Reading.....8

Benefits of Phonemic Awareness.....9

Problems Associated with Phonemic Awareness.....10

CHAPTER 3 GUIDELINES FOR TEACHING PHONEMIC AWARENESS.....12

Teaching Skills Levels of Phonemic Awareness.....12

Integrating Phonemic Awareness Activities In Literacy Settings.....17

Assessment of Phonemic Awareness.....19

CHAPTER 4 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....23

Summary.....23

Conclusions.....25

Recommendations for Future Study.....26

REFERENCES.....27

CHAPTER 1

INTRODUCTION

Background

Although we live in a high-tech era, the mystery of reading is still alive and well. Learning to read is a complex process that begins long before first grade. The foundation is laid when a child begins to learn language and understand speech (Wells, 1986). Beginning readers must endure a major task in learning how to recognize written words. When we teach children to read, we want them to learn that the text speaks, and we want them to develop an understanding of the connections between oral and written language (Malicky & Norman, 1999).

History reveals that educators of the past varied in their philosophies and practices of reading acquisition. Johann Heinrich Pestalozzi, a 19th century Swiss educator, believed that although children may be able to teach themselves how to read, he felt it necessary for teachers and parents to create conditions in which the reading process grows (Morrow, 2001). Frederick Froebel, a 19th century German educator, saw the teacher as a designer of activities and experiences that would facilitate the reading process (Soderman, Gregory, & O'Neill, 1999). John Dewey (1966) believed that the curriculum should be built around the interests of the child so that learning would take place. The outcome is that reading will evolve and specific skills do not have to be taught (Morrow, 2001).

From these educators of the past, little attention was paid to children's literacy development before they entered school. It was assumed that reading began with formal instruction in first grade (Morrow, 2001), and that the brain had to reach a mental age of 6.5 years before it could understand the reading process. Thus, preschools and kindergartens were used for preparation for reading, or reading readiness (Crawford, 1995). But based on recent research, we now know that the readiness concept is not true for all children. "Children do not reach a magical age upon which adults can open their heads and pour knowledge inside" (Soderman, Gregory, & O'Neill, 1999, p.21).

It is difficult for adults to understand and appreciate the processes they used in learning to read, because they have been doing it for years. Reading today continues to be a difficult process for many children and adults. Reading difficulties have been found to be associated with higher rates of unemployment, poverty and school attrition (Gillet & Temple, 1982). Therefore, it is imperative to understand that the importance of teaching children to read affects both individuals and society at large. Making a successful early start in reading clearly has a long-term sustaining effect, an observation that carries great implications for the cultural, economic, and educational future of any society (Badian, 2000). It also has a prominent influence on a person's dignity and self-respect. If children in a modern society do not learn to read, they cannot succeed in life (Richek, Caldwell, Jennings, & Lerner, 1996).

Recent studies have suggested that developing and understanding the link between sounds of speech and the signs of print are the basic tasks facing the beginning reader (Ball & Blachman, 1998). The relationship between phonemic awareness and beginning reading becomes important when you consider the task of reading an alphabetic writing system. It takes many keys for a child to unlock this complex system. Breaking the system down is very difficult for some children and thus the task of reading becomes incomprehensible. Phonemic awareness is one of these keys to help children unlock this reading code. Being aware of the phonemes, or sounds heard in a word, is especially important for beginning reading success (Yopp, 1992). It is argued by many that phonemic awareness is one of the critical skills which children must develop in order to become proficient readers.

Purpose of the Study

The purpose of this study is to examine the literature concerning the relationship between phonemic awareness and beginning reading and to present guidelines for using phonemic awareness as a tool in the reading process. To accomplish this purpose, this paper will address the following questions:

1. What is phonemic awareness?
2. What are the benefits of teaching phonemic awareness?
3. What are the problems associated with teaching phonemic awareness to children?
4. What are the guidelines for teachers in facilitating children's reading using phonemic awareness?

Need for the Study

There continues to be a struggle for many children to learn our alphabetic code. Children are unable to identify words in print quickly and efficiently (Busink, 1997). Although knowledge of the alphabet is necessary in reading, that knowledge is not sufficient for successful decoding. Therefore, it has been suggested that children should participate in phonological awareness training and that it should not be restricted to just a few students who are having difficulty (Busink, 1997).

Current research indicates the importance of identifying young children with reading problems and providing early reading instruction. Many of the reading problems faced by today's adolescents and adults were not resolved during their early childhood years (Richek et al., 1996). This early instruction should begin with phonemic awareness. Children who begin school with limited skills in phonemic awareness often become poor readers (Catts & Vartiainen, 1993). The challenge, therefore, is to find ways to get children to notice phonemes, to discover their existence. Without direct instructional support in phonemic awareness, children evidence serious difficulty in learning to read and write (Adams, 1990).

Many children lack phonemic awareness. It is critical in learning to read and write and we need to incorporate it in our instructional school settings (Adams, Foorman, Lundberg, & Beeler, 1998).

Limitations

This study was limited to the literature from the past in which studies involved specific skills of phonemic awareness. Many of the longitudinal studies of the past have not been updated.

Definitions

Emergent Literacy: The gradual process children go through as they develop an understanding of written language (Richek et al., 1996).

Onset: The opening unit of a word preceding the rime (Goswami & Bryant, 1990).

Phonemes: The small units of speech that correspond to letters of an alphabetic writing system (Adams et al., 1998).

Phonemic Awareness: The conscious awareness that spoken words comprise individual sounds (Snider, 1997).

Phonics: The relationship between printed letters and the sounds in a language (Richek et al., 1996).

Rime: The end unit of a word. The pattern's vowel and any combination of letters that follow it (Goswami & Bryant, 1990).

Reading: A complex process utilizing a variety of skills and knowledge to make sense of printed material (Adams, 1990).

CHAPTER 2

REVIEW OF THE LITERATURE

Literacy Development

The debate continues over whether phonological awareness is a precursor to reading or a by-product of reading, but there is solid agreement that it is an important element in literacy development (Busink, 1997). Bradley and Bryant (1991) found that, when children acquired phonological awareness before learning to read, it had a powerful influence on their eventual success in learning to read and to spell. Thus, children who had not acquired phonological skills may spend much time playing catch-up, and may even fall further behind.

A classic study by Juel, Griffith, and Gough (1986) followed children from first grade through fourth grade. The researchers found that children who were at the bottom of their class in phonemic awareness in first grade remained at the bottom in reading through fourth grade.

Other studies by Bradley and Bryant (1983) have shown that phonemic awareness training has a positive effect on the development of children's word recognition and spelling abilities. They provided phonemic awareness training to children over a two-year period of time and concluded that phonemic awareness had a positive effect on reading success, and the training was more powerful when combined with explicit instruction in the alphabetic principle.

Lundberg, Frost, and Peterson (1988) taught preschool children to use phonemic awareness skills prior to their instruction in the alphabetic writing system. The phonemic awareness training had a facilitative effect on acquisition of spelling ability in Grade 1 and word recognition and spelling ability in Grade 2. Thus, a growing number of reading experts are urging classroom teachers to provide their students with more linguistic activities, above and beyond the speaking and listening activities used during pre-school and early years, in order to facilitate the acquisition of phonemic awareness (Yopp, 1992). Griffith, Klesius, and Kromrey (1992) found that the level of phonological awareness that a child possessed upon entering first grade was more important in predicting reading success than the type of instruction.

In one of the most comprehensive analyses of reading research, Stanovich (1986) wrote the following: "Evidence is mounting that the primary specific mechanism that enables early reading success is phonological awareness: Conscious access to the phonemic level of the speech stream and some ability to cognitively manipulate representatives at this level" (p.362). The awareness of sounds is the most potent predictor of who will learn to read successfully and who is at risk for reading failure (Tunmer & Nesdale, 1985). There is too much evidence supporting the importance of phonological awareness to overlook it in beginning reading. Phonological awareness is a crucial ingredient in learning to read and write (Soderman et al., 1999).

Phonemic Awareness vs. Phonics in Beginning Reading

Many people confuse phonics and phonemic awareness and believe they are one and the same, but a distinctive difference does exist. Phonics instruction teaches children to retrieve sounds as they look at letters, while phonemic awareness instruction helps children to focus on the order of the individual sounds they hear in words.

Phonics is the relationship between printed letters and the sounds in a language (Richek et al., 1996). It teaches children to retrieve sounds as they look at letters. Phonemic awareness is the conscious awareness that spoken words comprise individual sounds (Snider, 1997). Instruction that teaches phonemic awareness can be phonics instruction. Sometimes phonics instruction becomes learning the rules of phonics and memorizing these rules as a guide to knowing how to sound out words. These rules apply in most situations, but learning rules does not guarantee that rules will transfer to actual reading practice (Smith, 1992).

Phonemic awareness is an understanding of how the structure of the spoken language works and that speech is made up of a series of sounds. Phonemic awareness is not learning the spelling-to-sound correspondences or sounding out words (Yopp, 1992). An understanding of phonemic awareness is needed before phonics instruction so that reading will make sense (Juel et al., 1986). Also, it should be emphasized that phonics instruction will enhance phonemic awareness, phonemic awareness will enhance phonics learning, and both of these will complement

and be complemented by whole word learning as well (Adams, 1990).

Benefits of Phonemic Awareness

Experimental data reveal that training that focuses on phonemic awareness and phoneme-grapheme correspondences prevents reading problems. By incorporating activities to facilitate phonemic awareness into meaningful literacy programs, teachers can help children develop as successful readers and writers (Ericson & Juliebo, 1998). A child who is aware of phonemes is not confused when the teacher starts talking about the sounds that letters represent in a word, and thus is able to benefit from instruction (Griffith & Olson, 1992). The child can also consciously isolate individual sounds in the context of other sounds in a word. Griffith and Olson (1992) stated that, "While children without phonemic awareness may be able to memorize isolated letter-sound correspondences by rote, they will not understand how to actually coordinate letter sound relationships to read or write novel words" (p.519).

In training studies involving average readers, researchers have found that phonological awareness can be trained and that this training makes a difference in reading achievement (Cunningham, 1990). However, if many children fail to make substantial progress, they need to receive remedial attention.

Adams (1990) found that phonemic awareness can be a more powerful predictor of reading progress than I.Q. This is supported by the fact that kindergarten children's phonemic

awareness can predict their levels of reading and spelling achievement in Grades 1 and 2, and even 11 years later (MacDonald & Cornwall, 1995). For some children, learning phonemic awareness skills may bridge a critical gap between inadequate preparation for literacy learning and success in beginning reading (Griffith & Olson, 1992). For others, it may help reduce the degree of impairment of a reading disability (Ericson & Juliebo, 1998).

Problems Associated with Phonemic Awareness

Most children develop phonemic awareness through normal literacy experiences, but the failure to do so has been interpreted as an indication that something is wrong with the child. The danger in this is that children will be identified or labeled as delayed or disabled and placed in an unnecessarily restrictive placement. This remediation may not include appropriate remediation in the skills of phonemic awareness (Snider, 1997). Until there is more explicit proof that performance on phonemic awareness tasks is the only indicator of reading failure, educators should not make placement decisions based on the lack of these skills alone. Extreme caution should be exercised when looking at phonemic awareness performance because overzealous interpretation can lead to both false negatives and false positives (Snider, 1997).

Another problem to focus on with phonemic awareness is whether training in phonemic awareness prior to beginning reading instruction can actually prevent serious reading

difficulties. It is likely that classroom-level instruction in phonemic awareness alone will not be sufficient to prevent reading disabilities in children who have serious deficiencies in phonological awareness. These children will require more intensive instruction to achieve levels of phonemic awareness required to aid good reading growth. The range of components of phonemic awareness, and the instruments used to measure it, make comparisons across studies of phonemic awareness very difficult. In all studies conducted thus far, a large range of individual differences has been demonstrated in response to the instruction, with the most phonologically impaired children showing the least growth in response to small group instruction (Torgesen, 2000).

Some educators disagree that phonemic awareness is a precursor to phonics and is necessary for children to learn in order to benefit from phonics instruction. They believe that the concurrent instruction of phonemic awareness and phonics is more realistic (Gunning, 2000).

CHAPTER 3

GUIDELINES FOR TEACHING PHONEMIC AWARENESS

Developing Guidelines

The teacher's role in phonemic awareness training involves teaching children the skills in an effective way. Careful attention should be placed on the order in which activities are presented (Snider, 1995). Instruction in phonemic awareness is much more explicit when the teacher models, rather than explains a concept. Instructional time must be divided between new learning and practice activities. A program of phonemic awareness should be flexible and can be used with all students, or just students who need more intensive instruction or additional practice (Gunning, 2000). The following guidelines are vital in this instruction.

1. Teachers should teach the skill levels of phonemic awareness.

Activities for teaching phonemic awareness must progress from easy to hard. Teaching can only be successful if the tasks are presented at an appropriate level of difficulty (Ericson & Juliebo, 1998). Both the least advanced and most advanced students will benefit from the activities at some level.

Teachers must help children break down the units of language in order to acquire phonemic awareness skills. Teachers need to begin by demonstrating the relationships of parts to wholes.

Awareness of clauses develops earlier than awareness of words; awareness of words develops earlier than awareness of syllables, and awareness of syllables develops earlier than awareness of phonemes (Adams, 1990).

Adams (1990) divided phonemic awareness into five levels:

1. Rhyme
2. Sound oddity
3. Blending
4. Phoneme segmentation
5. Phoneme manipulation

The first level and easiest level is rhyme. This level emphasizes recognizing a series of rhyming words or being able to produce words that rhyme. Teachers should choose stories with rhyming words that are easy for children to hear (Wasik, 2000). Children can hear a familiar word such as *man* and spontaneously play with other words, saying *can, tan, lamb.* While children may not be aware of the different names for the different sounds in words or understand why the words rhyme, they are aware that they can create words that sound the same. In the course of playing with rhyming words, the child may invent words to fit a rhyme. For example, the child may begin with the words *cap, map,* and continue with invented words such as *bap, fap.* The child may not understand that some of the rhyming words are not real. At this level it is not important that the child produces real

words (Wasik, 2001). Nursery rhymes are a natural way to expose children to words that rhyme. Research suggests that by learning rhymes, poems, and jingles, children will develop the awareness of sounds in words (Yopp, 1992). However, rhyming does require a level of abstraction. In order to be able to tell whether the words *fan* and *pan* rhyme, children must be able to abstract *an* from both words, compare them, and notice that they are the same (Gunning, 2000). This playful manipulation of words and sounds in words is the first important step.

The next level is sound oddity. This skill requires the child to identify words that are the same or different in terms of beginning, middle, or ending sounds. In a series of three pictures (*owl, flag, egg,* for example), the child would answer that *owl* does not end the same as *egg* and *flag*. They would also practice listening for the odd word in a series of three words in which they would listen for the beginning sound and also the middle sound. Making that auditory discrimination is a critical skill in phonemic awareness.

Blending is the next level of phonemic awareness according to Adams (1990). Blending activities build in students' growing awareness gained through rhyming of word parts. In blending activities, students create words by combining word parts. Students combine onsets and rimes. The onset is the consonant or consonant cluster preceding the rime: *f-, pl-, tr.* The rime is

the patterns' vowel and any consonants that follow it: *a, ot, een.* Using the word part *ot,* students could create the words: *cot, dot, plot, trot,* and others (Gunning, 2000). Blending also requires students to synthesize a series of speech sounds in words. Hearing */t/ /e/ /n/,* the child blends it into the word *ten.* Blending words can be good preparation for noting whether two words begin the same. Blending onsets and rimes (*r* + *ed* = *red*) is easier than blending all the sounds in a word, but still provides preparation for detecting initial consonant sounds.

Creating riddles can incorporate both rhyming and blending. Activities in which the teacher says, "I'm thinking of a word that begins with */b/* and rhymes with *look."* This prompts the children to respond with the word *book.* These skills require higher order thinking skills (Searfoss, Readence, & Mallette, 2001).

Segmenting words is a more advanced skill level. Phoneme segmentation requires that children distinguish parts of words before they begin working with individual sounds. They must first hear the parts of a compound word, *sun - set* before they begin to listen for individual sounds. Clapping these parts can draw children's attention to hearing the individual parts. The task of segmentation should then progress to segmenting the beginning sound of *back, /b/,* from the remainder, *-ack.* These

are intermediate level tasks (Griffith & Olson, 1992). The ability to segment words into individual phonemes develops last in this skill area. Phoneme segmentation requires the student to pronounce each separate phoneme in a one-syllable word. The child taps, counts out, or identifies phonemes within words. In the word *cat* the child would say */c/ /a/ /t/*. The child could also use counters to represent the number of phonemes heard in words. This visual representation directs the child's focus to the number of sounds in that word (Gunning, 2000).

Yopp (1998) indicates that phoneme manipulation is the hardest level of phonemic awareness. This skill requires that a child identify the word left when phonemes are added, deleted, or moved within a word. The teacher may ask a child to say *hill* without the */h/*. These tasks require sufficient proficiency with the phonemic structure of words so that students are able to add, delete, or move any designated phoneme and then regenerate a word or nonwords from the result. Yopp (1998) found that both phoneme segmentation and phoneme deletion tasks had more predictive validity for initial reading acquisition than any single task.

2. Teachers should integrate phonemic awareness activities in literacy settings.

Phonological awareness can be enhanced through natural and spontaneous ways through the inclusion of word play in stories, songs, and games (Adams, 1990). Many phonological awareness skills can be practiced incidentally during routine classroom exercises such as attendance and show-and-tell time. Yopp (1992), describing developing appropriate activities, argued that phonemic awareness instruction for young children should be playful and engaging, interactive and social, and should stimulate curiosity and experimentation with language. The more playful, game-like, and amusing the activity, the better. Riddles and guessing games are excellent tasks for drawing children's attention to the smaller aspects of our spoken language. In addition to being child appropriate, phonemic awareness instruction should be intentional, not accidental.

Phonemic awareness can be stimulated in many students by providing them with linguistically rich environments. In this type of environment, the activities will be incorporated intentionally into literature sharing experiences, music experiences, movement experiences, and other experiences throughout the day. Teachers must avoid creating an environment in which children are drilled in phonemic awareness, especially if the activities are separate from regular classroom

activities. The storybooks, poems, rhymes, and jingles that are being used to emphasize phonemic awareness should be connected with themes or topics presented in class. Phonemic awareness activities will not be helpful to children unless they are placed in the context of real reading and writing. This will make it meaningful for the learner. Phonemic awareness can be taught using a whole language program or a traditional basal instruction. The activities will be most useful as part of the reading curriculum if they are blended seamlessly with instruction and experiences using letter-sound correspondences to read and spell words (Torgesen & Mathes, 2000). Yopp (1992) made these general recommendations:

1. Keep a sense of playfulness and fun, avoid drill and rote memorization.
2. Use group settings that encourage interaction among children.
3. Encourage children's curiosity about language and their experimentation with it.
4. Allow for and be prepared for individual differences.
5. Make sure the tone of the activity is not evaluative but rather fun and informal.

Activities in phonemic awareness initially require teacher modeling and group practice (Searfoss, Readence, & Mallette, 2001). The amount of time spent on phonemic awareness activities

varies anywhere from 10 minutes to 30 minutes. However, it is the quality of instruction received by the individuals in the classroom that is more important than the amount of time. Developing phonemic awareness does not occur all at once, for it is a continuous process.

3. Teachers need to assess children's phonemic awareness skills.

Assessment of phonemic awareness tasks can identify young children who deserve further monitoring in kindergarten and first grade (Majsterek & Ellenwood, 1995). A pre- and post-test should be implemented to establish phonemic awareness treatment outcome measures. Students need to be assessed early for their phonemic awareness level, and an organized support program should be established for those who score below levels necessary to profit by phonics instruction. Instruments to test for a child's phonemic awareness should be short, easy to administer, reliable, and valid.

Hallie Kay Yopp (1998) developed the Yopp-Singer Test of Phonemic Segmentation. This test was designed for English speaking kindergartners. It may be used to learn more about students and develop suitable experiences for them. It need not be administered to children who are already reading. Independent reading indicates the existence of phonemic awareness. First grade teachers should administer the Yopp-Singer test at the

beginning of first grade in order to determine the phonemic awareness needs of children. This test measures a child's ability to separately articulate the sounds of a spoken word in order. For example, when you pronounce the word *pig*, the child should respond with three separate sounds: */p/ /i/ /g/*. The test has 22 items and takes about 10 minutes to administer. A child's score is the number of items correctly segmented into all constituent phonemes.

Teachers should expect a wide range of performance on this test. Students who obtain high scores may be considered phonemically aware. Students who can segment some of the items are displaying emerging phonemic awareness. Students who only segment a few words correctly lack appropriate levels of phonemic awareness. These students will need intervention because they are the ones most likely to experience difficulty with reading and spelling (Yopp, 1998).

Another valuable instrument teachers may choose to use in assessing phonemic awareness is the *Dynamic Indicators of Basic Early Literacy Skills*, also known as *DIBELS* (Good & Kaminski, 2001). This test consists of a set of standardized, individually administered measurements of literacy development which include phonemic awareness. These components are designed to be one minute fluency measures used to monitor a child's progress on a regular basis in the development of pre-reading and early

reading skills. They measure phonological awareness, alphabetic understanding, and automaticity and fluency with the code. Each measure of the test has proven to be reliable and a valid indicator of early literacy development. It is also a predictor of later reading proficiency, which can aid in the early identification of students who are not progressing in reading skills. The areas assessed on the DIBELS are the following:

1. Initial sounds fluency: This area assesses a child's skill to identify and produce the initial sound of a given word.
2. Phonemic segmentation fluency: This area will assess a child's ability to produce individual sounds within a given word. For example: In the words *vet*, the child would respond with three individual sounds */v/ /e/ /t/*.
3. Nonsense word fluency: This area will assess a child's knowledge of letter-sound correspondences as well as his/her ability to blend letters together to form unfamiliar nonsense words. For example: *vek, saj, tuv.*
4. Oral reading fluency: This area assesses a child's skill of reading connected text in grade-level material.

The teacher should determine which assessment is appropriate for a particular classroom of children. Since research has indicated that there is a strong relationship between phonemic awareness performance and reading acquisition,

it is important for children to be identified early in order to give them the appropriate instructional support they need to be successful readers. Systematic training and evaluation in phonemic awareness should be part of every child's education before formal reading instruction begins (Tunmer & Nesdale, 1995).

CHAPTER 4

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

In our society, the ability to read is essential. It is evident throughout this paper that, for some children, experience with phonemic awareness may make the difference between frustration and confident literacy. The intent of this paper was to explore the effects of phonemic awareness on children's emergent reading skills and to present guidelines for using phonemic awareness in a classroom setting. The paper addressed five questions to accomplish this purpose:

1. What is phonemic awareness?

Phonemic awareness is the conscious awareness that spoken words comprise individual sounds (Snider, 1997). It is the ability to perceive spoken words as a sequence of sounds. It is needed before phonics instruction so that reading will make sense (Juel, Griffith, & Grough, 1986).

2. What are the benefits of teaching phonemic awareness skills?

There is no question that phonemic awareness has a strong relationship to reading as a predictor of possible reading failure. Adams (1990) found that phonemic awareness can be a more powerful predictor of reading progress than IQ. For some

children, learning phonemic awareness skills may bridge a critical gap between inadequate preparation for literacy learning and success in beginning reading (Griffith & Olson, 1992).

3. What are the problems associated with teaching phonemic awareness?

Most children can develop phonemic awareness through normal literacy experiences, but for children who fail to acquire phonemic awareness skills, educators should not make placement decisions based on the lack of these skills alone. Educators should be cautious when looking at phonemic awareness performance and interpret the performance as a way to plan remediation activities for students who need it.

4. What are the guidelines and skill levels for teaching phonemic awareness?

Careful attention should be placed on the order in which the phonemic awareness activities are presented. The activities must progress from easy to hard. These activities can be enhanced through inclusion of word play in stories, songs, and games (Adams, 1990). Teachers must avoid creating an environment in which children are drilled in phonemic awareness.

5. What assessment procedures are successful in predicting children's phonemic awareness levels?

A pre- and post-test should be implemented to establish phonemic awareness outcome measures. These tests should be short, easy to administer, reliable, and valid. The Yopp-Singer Test of Phonemic Segmentation (Yopp, 1998) and the *Dynamic Indicators of Basic Early Literacy Skills* (Good & Kaminski, 2001), were two tests referenced in this study.

Conclusions

The following conclusions were drawn from this research study:

1. Phonemic awareness is a critical component of reading and writing.
2. Explicit instruction in phonemic awareness, as part of an intervention, may help reduce the number of referrals for learning disabilities in the primary grades.
3. It is important to have guidelines when teaching phonemic awareness skills.
4. Phonemic awareness has consistently been found to be a good predictor of later reading ability.
5. Systematic phonemic awareness training in kindergarten and first grade positively affects initial reading and spelling.

6. Assessment of phonemic awareness skills helps identify children who may need extra instructional help.

Recommendations for Future Study

In reviewing the recent literature, these recommendations are suggested for the future:

1. There should be an investigation in the relationship between phonemic awareness and reading comprehension.
2. A study should be conducted to examine the relationship between phonemic awareness skills and beginning writing.
3. Additional research should be conducted to investigate which type of phonemic awareness training is most beneficial to children with low phonemic awareness skills.
4. Alternate data collection other than formalized testing should be investigated.
5. Recommendations should be made to parents as to how they can engage in phonemic awareness activities involving literacy at home.

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