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FREQUENCY WORDS

The Effects of Self Assessment on Kindergarten Students Learning of High
Frequency words

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Abstract

The purpose of this study was to examine the effects self-assessment on kindergarten students learning of high frequency words. The sample consisted of 30 randomly selected kindergarten students. The students were then randomly assigned to a control group or experimental group. The experimental group used self-assessment method to learn high frequency words while the control group used traditional method of assessment to learn high frequency words. The data for this study were collected by using a post-test only equivalent group design. Data were analyzed using independent t-tests at .05 level of significance. The results indicated a significant difference between students who used self-assessment and those who used traditional assessment. The students who used self-assessment scored higher than those who used traditional assessment. No significant difference was found between the genders.

Review of the Literature

Introduction:

The literature review consists of information about the dynamics of kindergarten curriculum and aspects of assessment strategies used in the kindergarten classroom. By reviewing the literature, studies pertaining to self-assessment were examined to determine the value and importance of students using self-assessment in the classroom.

Kindergarten Curriculum

New state curriculums have in recent years mandated higher standards and goals for kindergarten students. According to the *Blueprint for Learning: A Teacher's Guide to the Tennessee Curriculum* (2004), the overall goal in the area of Language Arts for kindergarten students is for students to develop the reading and listening skills necessary for word recognition, comprehension, interpretation, analysis, evaluation, and appreciation of print and nonprint text. The Language Arts section is then divided into subsections: Oral language/decoding, comprehension, writing process and product, and elements of language. Although the new state curriculum standards for kindergarten classify these skills as "introduced" skills, the new standards require that the kindergarten students should be familiar with these concepts; however the skills are not expected to be mastered at a kindergarten student level.

Under the state curriculum standards, specifically the Tennessee curriculum, kindergarten students are introduced to high frequency words, also known as sight words. This collection of words was first created before World War II and was then referred to

as the Dolch list (Wren, 1999). High frequency words are frequently used words such as *the, is, of, can, but, like, and I*. The standard 100 high frequency words taught in kindergarten make up 50 percent of the words found in the English-language text (McGee & Richgels, 2000.) Thus, the emphasis for acquiring these skills is enormous, not only for the kindergarten teacher but for the kindergarten learner.

There is continual controversy over whether or not kindergarten students are ready to read. The question educators have been asking is whether or not schools should be teaching children to read at this grade level. Calhoun, Hrycauk, and Joyce (2003) believe that a nurturing curriculum in kindergarten can aid children in the development of early reading skills. A nurturing curriculum is one that allows the children to be exposed to reading skills through guided readings, shared writings, and exposure to print. The children learn through their natural environment, and if they are not ready for these tasks, they are not pushed upon them. This is designed to facilitate their learning, therefore building upon skills according to their individual development. "The issues of 'developmental readiness' become moot if the knowledge base permits us to design effective and humane curricula in reading" (Calhoun, p. 136.).

Kingsport City Schools use the Scott Foresman Reading Series (2001), which was written primarily for Tennessee teachers. The Scott Foresman Reading Series is based on Tennessee state standards established by the Department of Education. This series covers the areas of reading, writing, and language arts. The reading series focuses on reading comprehension, phonics, phonemic awareness, oral language and listening, and grammar. Each week a new unit is introduced which incorporates new concepts as well as a review

of materials taught throughout previous units. Beginning in the Unit 2, high frequency words are introduced. Two words are introduced each week until all 36 words have been introduced to the students (Foresman, 2001).

Authentic Assessment vs. Standardized Testing

For the past 100 years, standardized testing has been used in the American school system, and has been considered as the most viable measurement of student performance. However controversy has surrounded the use of standardized testing practices versus the practices of authentic assessment. Standardized tests are used to measure students' academic performance, and once the scores are compiled, the scores are used to show the school's level of competency and to exhibit comparisons amongst school districts city, county, state and nation wide. These tests usually include detailed, word for word instructions for both the test administrator and the students. Standardized tests are also timed and include specific directions for scoring and data analysis. Although standardized testing measures the students' achievement in a range of subjects; the tests primarily focus on reading, language, and mathematics (Decker, 2001).

On the other hand, authentic assessment is the alternative to standardized testing. Although not a new term to educators, authentic assessment is being used by more teachers in the measurement of student progress. Authentic assessment allows teachers and students to use alternative tools such as portfolios, running records, checklists, reflective journals, rubrics, self and peer assessments, and observations to measure individual achievement and growth across subject matters (Wadlington & Partridge, 2001).

Thus, the debate continues amongst educators whether or not to use authentic assessment in addition to or instead of standardized tests. Authentic assessment allows teachers and students to look at the "process and the product." By using authentic assessment, teachers can take into consideration social, physical, and behavioral characteristics and needs of the students, which cannot be evaluated by standardized tests. As Wadlington and Partridge state, "Complex learning cannot be adequately measured through traditional paper-and-pencil tests,"(p.160).

Assessment of Young Children

Standardized tests are not usually administered in kindergarten in the state of Tennessee at this point in time, primarily because it would not be developmentally appropriate to administer a formal test to children of this age. According to NAEYC, it is inappropriate to teach to the test and place pressure and emphasis on student achievement on standardized tests. Rather, observations and other forms of authentic assessment such as portfolios and rubrics should be used to measure each individual child's achievements (NAEYC, 1997).

It is important for early childhood educators to evaluate what each child already knows upon entering kindergarten before implementing new materials. Ratcliff (2001) emphasizes the need of assessing this and shares methods for collecting these data. Ratcliff also suggests the use of checklists and portfolios. Additional forms of authentic assessment used for collecting data are video recordings, work samples, and teacher observations with anecdotal notes. Many of these forms of assessment can be used as

communication tools amongst teachers, parents, and students. They may also be an integral part of self-assessment by allowing children to select their own pieces of work for their individual portfolios.

Neisworth and Bagnato (2004) state that young children's development is often measured incorrectly because of standardized tests. Research has shown that evaluators obtain a much more accurate, detailed measurement of development by using authentic assessment. Traditional tests tend to overlook the needs of children at risk or who may have special needs. Bagnato and Neisworth documented that "traditional tests of intelligence and development are inappropriate and fail to accomplish early intervention purposes for eligibility determination and assessment in the actual daily activities (pg. 205.)

Designing appropriate assessment strategies is a complex task. Research conducted by students at the South Eastern Regional Vision for Education-compiled helpful information to guide school system administrators and teachers through the process of developing appropriate assessment practices for young children. One key point addressed by Scott-Little and Niemeyer (2001) is that there must be a balance between the need for information about the children's level of development and achievements and the difficulties that may be encountered throughout the assessment process. In order to create this balance, they established principles for assessing kindergarten children. The instrument should:

- * Be used consistently with the purpose for which it was designed
- * Focus on student age appropriateness

- * Collect information on a range of indicators of a child's development
- * Have a data collection process that is realistic for schools and school systems
- * Accommodate children with special needs
- * Be natural or authentic (p. 7-15)

By following these principles, one can implement authentic assessment and gather appropriate data for each child's growth and development (Niemeyer, 2001).

Research has shown that assessment should be a collaborative process which includes teachers, students, and the parents. These units should work together as a team to assess each student's strengths and weaknesses in order to establish goals. While working together, the teachers, students, and parents are also supporting school improvement (Dietel, Herman & Knuth, 1991).

Self-Assessment

Self-assessment, a popular form of authentic assessment can be linked to the constructivist theory of development. First developed by Jean Piaget in the early 1900's, the constructivist theory can also be supported by theorists such as Vygotsky, Bruner, and Gardner. Constructivists believe that learning is an active process, and individuals continually construct new ideas based on current knowledge. Piaget built this theory around the idea that children interact with their surrounding environment by constructing their own knowledge (Decker, 2001). Vygostky later added the idea of scaffolding to the constructivist theory of development According to Decker (2001), "scaffolding is support by adults and developmentally advanced peers," (p.34), and this aids in constructing

knowledge socially and through the surrounding environment.

Self-assessment is one form of authentic assessment that can be used by any age group and by teachers. Self-assessment asks the question; "How can students use assessment to take responsibility for and improve their own learning?" (Chappuis, & Stiggins, 2002, p. 41). Students who practice self-assessment set goals based on their academic performance and individual level of development. The students communicate their assessment to parents and teachers in order to meet the goals they have established for themselves. The students continue to integrate the assessment into their daily work in order to revisit, revise, and edit the work they have accomplished in order to meet new goals (Chappuis & Stiggins, 2002).

To successfully generate self-assessment, incorporating several steps is crucial for teachers who would like to accomplish this in their classroom. The steps of self assessment are the following:

1. Pretest before a unit of study and adjust instruction for individuals of the entire group.
2. Analyze which students need more practice.
3. Continually revise instruction on the basis of results.
4. Reflect on the effectiveness of their own teaching practices.
5. Confer with students regarding their strengths and the areas that need improvement.
6. Facilitate peer tutoring, matching students who demonstrate understanding with those who do not. (Chappuis & Stiggins, 2002, p. 42)

Through multiple school visits, researchers found evidence of school improvement displayed throughout the school. The students had taken ownership of their work by assessing and tracking their individual academic growth. The students' work was assessed and evaluated weekly in order to allow time for revision and improvement. The students worked closely with teachers as they set goals based on generated self assessments in math, reading, and other core subject areas (Reeves, 2003).

Research conducted by Abdel Salam EI-KoUmY (2001) documents the use of self assessment by students participating in English as a Foreign Language (EFL) class. The students used self-assessment to measure overall achievement. For this study, two groups, a control and experimental group, of senior English students participated. The experimental group participated in self-assessments while the control group did not. The experimental group participated by assessing their comprehension of material discussed throughout each lecture session. The students responded and reflected upon questions related to lecture material. The purpose of the reflecting being an assessment of what they did or did not comprehend from each session. The control group was taught the same information but did not participate in the reflecting and did not respond to the questions.

Data analysis and conclusions of the study did show slightly higher scores amongst the experimental group in comparison to the scores of the control group. However, the mean score did not provide enough evidence for the researcher to say that self-assessment can improve students' knowledge or academic achievement (E1-Koumy, 2001)

Key concepts discussed by El-Koumy (2001) include the idea of self-assessment promoting a student's self-concept and fostering autonomy, and he also addresses the

importance of self-assessment aiding in developing higher-level thinking skills and supporting active learning.

Conclusion

Authentic assessment is on the rise amongst educators, especially those in the early childhood field. As curriculum for young children rapidly change, educators are adapting and changing methods of assessment in order to meet developmentally appropriate practice guidelines established by NAEYC (1997). Authentic assessment tools, including self-assessment, are developmentally appropriate and accurately measure early childhood learners.

Methodology and Procedures:

The purpose of this research study was to examine the effects of self-assessment on kindergarten students learning high frequency words. In addition, scores amongst male and female students were compared to see which group mastered more high frequency words

The population for this study consisted of the students at a selected elementary school in Upper East Tennessee. The population for the 2004-05 school year was 315 students. The student body consisted of 51 % females and 49% males. An estimated 60% of students qualified for free or reduced meals. The ethnicity of the school consisted of 1 % African American, 2% Hispanic, and 97% white. The school consisted of grades Pre-Kindergarten through 5th grade.

The sample for this study was made up of 30 kindergarten students who were randomly selected and randomly assigned into an experimental group and a control group. The sample consisted of 50% girls and 50% boys. 90% of the students were white, 7% Hispanic, and 3% black. 67% of the students were five years old and the remaining 33% were six years old.

The data collection instruments for this study included several different forms of assessment. The researcher used running records and checklists to assess and document the progress of the students in the control and experimental groups. The students in the experimental group also used a self-assessment tool to collect their own data. The self assessment tool was constructed by the researcher. The tool was made up of a bar graph on a file folder for the children to track and document their personal growth.

The final test was administered to all students in the sample. The test measured how many high frequency words each individual student had mastered at the closure of the experiment.

Procedures:

Prior to beginning this study, permission was sought from the school principal and two kindergarten teachers whose students were participating in the study. The sample for the study came from two kindergarten classes consisting of 45 students. A total of 30 students' were randomly selected and were then randomly assigned into control and experimental groups. Each group consisted of 15 students.

Each week the students were introduced to two new high frequency words. The students used the words throughout the week in a variety of activities such as guided reading, writing, and working with words. At the completion of each week, the researcher evaluated each student's knowledge of words through the use of flash cards. The researcher used running records to maintain a count of mastered words for each student.

The students in the experimental group met with the researcher after each weekly evaluation. The student and researcher discussed how many words they had mastered and documented this on the bar graph or self-assessment tool. Then the researcher encouraged the students to set a goal for the following week, such as "I will master 12 words instead of 10." The control group did not participate in the self-assessment step of the study.

After six weeks, a test was administered to each student involved in the study. They were asked to recognize and name the high frequency words that had been studied throughout the school year. Then the scores of the control group and the experimental

group were compared to see whether or not the students who did participate in self assessment scored higher than those who did not participate.

Research Questions and Related Hypotheses:

Two research questions guided the analyses of data. Each research question was followed by a research hypothesis. The data were analyzed at a .05 level of significance.

Research Questions:

- 1: Is there a difference of students' performance of mastering high frequency words when they are taught using self-assessment and when they are not?
2. Is there a difference between male students' and female students' performance of mastering high frequency words when using self-assessment?

Research question #1 was asked to determine whether or not self-assessment was an effective assessment tool for kindergarten students to use while learning high frequency words. In order to answer the research question, mean scores for experimental and control groups for high frequency words were computed. The mean score for the experimental group was 25.07 and the mean score for the control group was 20.47. To determine whether the mean scores were significantly different, a t-test for independent means was conducted. The results indicate a significant difference ($t(28) = 1.937, p < .05$). Therefore the null hypothesis was rejected. Results are displayed in Table 2.

Table 2**T-test for Independent means for Experimental and Control Group on High****.Frequency Words**

Group	M	sd	df	t-value	Sig.
Experimental	25.07	5.994	28	1.937	.031*
Control	20.47	6.978			

Note. *P<.05

To answer the research question #2, mean scores for males and females were computed. The mean score for males was 23.67 and the mean score for females was 21.87. To determine whether the mean scores were significantly different, a t-test for independent means was conducted. The results indicate no significant difference amongst the male and female scores. Therefore the null hypothesis was retained. Results are displayed in Table 3.

Table 3**T-test for Independent means for Males and Females on High Frequency Words**

Group	M	SD	df	t-value	Sig.
Males	23.67	5.64	28	.718	.497
Females	21.87	7.9	25.328		

Note. $p < .05$

Summary of Findings

When research question #1, "Will students who participate in self-assessment while learning high frequency words score higher than those who do not" was examined, the results indicated that there was a significant difference. The mean score of the experimental group was 25.07 and the mean score of the control group was 20.47. The mean difference was 4.60. This indicates that there was a significant difference in the scores of the children who participated in self-assessment and those who did not. The students in the experimental group were actively charting their progress through self-assessment, while the control group did not participate in charting their scores. The experimental group showed excitement and were deeply involved in the assessment

process. The challenge posed by the self-assessment process prompted the experimental group to work hard in order to achieve more high frequency words. The results were congruent with previous studies that showed students who perform self-assessments tend to achieve their goals and tend to maintain higher scores (Ratcliff, 2001; Freeman, 2003).

When research question #2, "Is there a difference between male students and female students' performance of mastering high frequency words using self-assessment" was examined, the results indicated that there was no significant difference amongst the scores. The mean score of males was 23.67 and the mean score of females was 21.87. The boys and girls exhibited the same amount of effort and enthusiasm to learning the words when participating in the assessment process. At this grade level, male and female students appear to have the same work ethics in the classroom when involved in self-assessment process as evidenced in this study. Therefore, the null hypothesis was retained.

Conclusions:

The purpose of this study was to examine the effects of self-assessment by kindergarten students learning high frequency Words. In order to do so, the students in the experimental group tracked their progress for 2 grading periods and were then tested at the conclusion of the study. The students in the control group were also tested at the conclusion of the study. The data did show significant difference in scores amongst the control group and the experimental group. The students who did participate in self assessment mastered a higher amount of high frequency words than the students who did not participate in self-assessment. Based on this information, self-assessment can be

classified as a useful method of alternative assessment for both teachers and students. No gender differences were found when students participated in the self- assessment.

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