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THE EVALUATION OF THE EFFECTIVENESS OF NEW WRITING AND  
PROBLEM-SOLVING CLASSES AND THEIR IMPACT ON FOURTH GRADE NEW  
JERSEY ASSESSMENT OF SKILLS AND KNOWLEDGE TEST SCORES

By  
Susan M. Hubbard

A Thesis

Submitted in partial fulfillment of the requirements of the  
Master of Arts Degree  
Of  
The Graduate School  
At  
Rowan University  
April 22, 2004

Approved by

Professor

Date Approved

April 22, 2004

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## ABSTRACT

Susan M. Hubbard

THE EVALUATION OF THE EFFECTIVENESS OF NEW WRITING AND  
PROBLEM-SOLVING CLASSES AND THEIR IMPACT ON  
FOURTH GRADE NEW JERSEY ASSESSMENT OF SKILLS AND KNOWLEDGE  
TEST SCORES

2003/04

Dr. Ted Johnson

Master of Arts in Educational Leadership

The purpose of this study was to determine whether or not two new programs created for Bellmawr Park School would be effective in raising scores in the New Jersey Assessment of Skills and Knowledge (NJ ASK) test for fourth grade students. This research provided a pre and posttest for 62 fourth grade students in the 2003-04 academic school year. The tests included a brief open-ended Language Arts writing picture prompt and a Math problem-solving open-ended question. Both tests were scored using rubrics created by the New Jersey Department of Education, and the results were compared based on means, medians and modes to obtain individual class scores for each area, as well as all of the fourth grade students. Based on the findings, each individual class improved in both the Language Arts and Math tests, and had their average rubric score raised at least one point. This indicated that progress was made and the writing and problem-solving classes impacted on test performance.

## Acknowledgements

I would like to give thanks to the staff of Bellmawr Park School who has worked along with me for this year of internship. They are a dedicated group of people who continually give their all on a daily basis for the students in our district. I especially give thanks to the fourth grade teachers, Barb, Jen, and Joyce. Without their efforts, the results of this study would be incomplete. They deserve so many thanks. I am forever appreciative of their support!

A special thank you to Jan Ferguson, my principal and mentor, who has given me my “wings” and let me soar through this unbelievable experience. She has been such a wonderful role model, and I will take her advice and wisdom with me through my career. To Dr. Johnson, my University mentor, I couldn’t have done it with out him! It’s “Hallelujah time!”

I could never have gotten through this past year without the love and support of my family. Thank you, to my Mom for continually offering me encouragement I needed. Dad, thanks for opening up to me and being a confidante and sharing in my dream. It is comforting to be walking beside him reaching another goal. To Dave and Jonathan, the loves of my life. You have both been my comfort in days of stress and complete exhaustion. Without you, I would never have gotten to this final stage of my schooling. I

am dedicating this project to our togetherness. Finally, our family can get back to normal!

I love you both, and look forward to our next journey together!

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## Chapter 1

### Introduction

#### Focus of the Study

The focus of this study was the evaluation of two new programs, problem-solving and writing class created for Bellmawr Park School. The researcher focused on conducting this study using three fourth grade classes within the Bellmawr school district. Incorporated within this study was a pre and posttest Language Arts writing sample, as well as an open-ended Math response in order to evaluate said programs.

#### Purpose of the Study

The purpose of this study was to conduct an evaluation and determine the effectiveness of the problem solving and writing classes attended by fourth grade students of the Bellmawr Park School. The fourth grades were chosen based on the need to increase New Jersey Assessment of Skills and Knowledge (NJ ASK) scores within the district. Evaluation was having pre and posttests examined and determined if improvement was made after both the writing and problem-solving classes were completed.



## Definitions

For the purpose of this study, evaluation of the new classes was defined as a pre and posttest given to all fourth grade students within the academic school year.

The pretest was defined as one open-ended math question and one picture prompt question, which required a written story response. Once all fourth grade students received instruction in both the problem-solving and writing classes, the posttest was administered. This posttest was defined as the same test given at the beginning of the school year. The comparison of these scored tests assisted in the evaluation of the effectiveness of the two new programs.

## Limitation of the Study

The boundaries of this study involved the fourth grade students of the Bellmawr Park School in the Bellmawr school district who participated in new problem-solving and writing classes created for the 2003–2004 school year. The findings of this study based on the design and methodology, along with the fact that these programs were site specific, cannot be used for any other group than the one intended. Because the two new classes were created for the Bellmawr school district to assist in raising NJ ASK test scores, this study cannot be replicated as defined by this researcher.

## Setting of the Study

Bellmawr Park Elementary School founded in 1926, is located in Camden County, New Jersey, and is considered to be a blue-collar town.

The Borough of Bellmawr is made up of a Mayor and six Councilman, including Directors for Public Safety, Public Works, Recreation, as well as Buildings and Land. This general information was collected from the 2000 census and represents a model of the town, not an exact picture.

At the time information was collected, the population of Bellmawr was 11, 262 people. Of that number, approximately 90% were Caucasian, 1% African American, 3% Asian, 4% Hispanic, and 1% considered other.

Out of all of the families in Bellmawr, 74% were married families, 8% single male families, and 18% single female families. The average income was found to be \$49, 810, while the median represented \$44, 653.

Of school-aged residents, there were 249 students enrolled in nursery school, 1,187 enrolled in the two elementary schools, one middle school or special education school, 559 students were enrolled in a high school and 426 residents were enrolled in college.

The research study was completed within the Bellmawr Park Elementary School, which has students in pre-school through the fourth grades. At the time this study began, there were approximately 370 students enrolled in the school, of which 62 students were within three fourth grade classes. There were approximately 35 staff members that included grade level teachers, specialists and special education teachers.

Residents of Bellmawr have not fully acknowledged the importance of new and changing educational programs as a priority within the town. The local government has not contributed ample support or positive publicity to the schools in Bellmawr, which has led to defeated school budgets in recent years.

With relatively little community support, education provided to the students primarily comes from the dedicated teaching staff. The teaching staff reached out to community members and its leaders on a frequent basis, including them as often as possible.

It is the Bellmawr Municipal Alliance, funded through the Camden County Health Department that supported school-wide programs such as DARE, Students Against Drugs Poster Contest, Peer Mediation and the Police Explorer Program. Despite all this group has done, in the past ten years, only one school budget has passed. In that time period, both elementary schools required major renovations that improved the schools and made allowances for increased student population. As time moves on, it will become increasingly difficult to maintain these older buildings unless the community provides additional support.

#### Significance of the Study

The significance of this study was to evaluate two new programs within the Bellmawr Park School and determine if they were effective in raising the NJ ASK 4 test scores. It was significant to discover if these two classes were adequately preparing fourth grade students for this statewide test. This study sought to inform the participants as well as the administration, the school board, staff members and parents. This evaluation played a pivotal role in determining how these classes would be taught in the future.

## Organization of the Study

The remainder of this study was organized in the following way: Chapter 2 Review of the Literature. In this section, several sources were discussed with regards to the No Child Left Behind Act, performance assessment/testing, and alternative solutions to testing. Chapter 3, The Design of the Study. This chapter included the creation of the study and how the researcher displayed information pertinent to data collection. Chapter 4, Presentation of Research Findings. The data was analyzed and discussed presenting information learned from the study. Chapter 5, The Conclusions, Implications and Further Study. This chapter discussed what conclusions were learned from this study and what was needed to make this research more complete.

## Chapter 2

### Review of Literature

#### Introduction

Since the two classes being evaluated were new to Bellmawr Park Elementary School and were created specifically for this school's population, this researcher completed research based on the No Child Left Behind Act signed by President Bush on January 8, 2001. This Act was the driving force behind many changes in state testing. Within the Bellmawr school district the administration and school board approved two new classes in the elementary schools for assistance with preparation for the NJ ASK tests, a Math problem-solving class and a Language Arts writing class. These classes were to be taught for the first time in the 2003-04 academic school year to all students in grades kindergarten through four. The district believed that with these two classes, the students would have adequate test preparation and thus scores would improve for the future testing of the NJ ASK 3 and the NJ ASK4.

#### Major Concepts in Research

##### Performance Assessment/Testing

Part of the research dealt with the question whether or not performance assessment was a necessary component, or appropriate for children in all states.

According to the Association for Supervision and Curriculum Development (ASCD), performance assessment is based on authentic tasks such as activities, exercises, or problems that require students to show what they can do. Some of these tasks have been designed to have students demonstrate their understanding by applying their knowledge to a particular situation. However, these types of tasks typically have more than one acceptable solution. Performance tasks in a testing situation have not been used solely for primary assessment after instruction. States have used these types of assessments for the determination of whether or not learning has occurred. In looking at these types of tests, several questions should be addressed. If standardized tests are judging the children's abilities, do they offer the results we would hope for? Are the tests fair if they change from year to year and differ from state to state? If students move out of one state and into another, which state is held accountable if scores are not considered to be proficient enough (Scherer, 2000)? If too much emphasis was placed on teaching to the test, what happens to student experiences? When will students become excited about learning something new?

Testing itself can be a useful tool at the beginning of the year. Tests can assist a teacher in planning, reviewing and identifying issues that may arise early on. Looking back to previous scores has also helped teachers in assessing the needs of the class. Test results can be used to determine how teaching impacts on student learning. Standardized testing can also be helpful in the three different levels of district, building and classroom (Rudman, 1989). All areas have helped administrators focus on unique aspects of the district curriculum.

As an accountability tool, a national multiple-choice test would lead to “drilling for the least important skills and perpetuate damaging models of instruction and educational excellence”(Davey & Neill, 1991).

#### No Child Left Behind Act

Teachers have relied on reaching today’s students with materials other than books. Keeping attention today has become more and more difficult with so many more outside stimuli and family situations that overwhelm today’s students. Yet, President Bush’s No Child Left Behind Act of 2001 has steered teachers to have all students pass their state testing. This law, presently known as NCLB, passed with strong bipartisan support in Congress and promised a shift in efforts at all levels to improve the quality of education. NCLB will strengthen Title I accountability by requiring states to implement statewide accountability systems covering all public schools and students. NCLB stated that every child should read by the end of the third grade. To accomplish this goal, the new Reading First initiative has increased Federal investment in reading instruction programs for the early grades (Bush, 2001). One critical provision “requires every state education department to develop and implement an annual accountability plan” (Ritter & Lucas, 2003). In a study of U.S. public attitudes about education reform, almost one-half of the respondents supported the notion that these tests might improve education, while one-third expressed concerns about the possible misuse of them (Hart & Teeter, 2001). Important themes that were identified were that testing is important to educational reform, and that these tests need to be used more carefully.

According to Mathis (2003), the No Child Left Behind Act “claims noble aims, and sets unyielding expectations for schools”. The problem that some have with NCLB is the language of the act and its implications. All schools are now held to the same standard, yet this act has made no distinction between a school with well-educated parents who have all the resources they need, and a school that is impoverished. States will likely face “massive costs” in making sure that all students will pass the mandated No Child Left Behind tests (Mathis, 2003).

Tests only tell a part of the story. They have not, and will not improve education all by themselves. Equitable access to educational resources and other necessary prerequisites of student learning should take place prior to national exams. The promised benefit of No Child Left Behind is that 95% of all student groups reach their state test standards by 2014. No one knows for sure if that goal can or will be reached. Only time will tell.

#### Additional Suggestions

It has been found that formative assessment has helped raise everyone’s achievement while also closing the gaps in student performance. An approach like this one, however, requires treating teachers as professionals, improving professional development, and spending more money (Neill, 2003). All educators need to be held accountable because the teaching of all children in the nation must not be left unmonitored. Educators “need to produce valid evidence regarding their effectiveness, standardized achievement tests are the wrong tools for the task” (Popham, 1999).



Statewide assessments will continue to be used in the future, which will direct decisions that impact upon students' futures. Rather than rely solely on a single score from one test, a responsible alternative of multiple assessments should be considered. Teaching itself puts a large emphasis on students' achievement. Multiple assessments build on the "long-standing professional commitment to the desirability of appropriate evidence to make warranted decisions about students' work and progress" (Davis 2003). Assessment has to deal with the gathering of evidence. Davis (2003), continued this thought with the addition that assessment "also includes all manner of possible other procedures of gathering appropriate and relevant evidence. Thus, more assessments do not, nor need not mean more tests and more scores." Instead of national testing, Davey & Neill (1991) suggested getting assistance from the federal government with state and district development of performance assessments, curriculum, and staff development. They also continued to say that states should consider assessment as a part of a comprehensive educational system, not as a separate entity.

Another suggestion that states have begun to incorporate into their assessment can be seen in the Regional P-20 Coalition of Southern New Jersey. The Regional P-20 Coalition of Southern NJ (P-20) has supported the idea that all students from Pre School through age 20 have the capability of learning. P-20's vision was one that will promote action based on specific goals and objectives. According to the P-20 website, "The success in this effort will create a seamless system of education that will provide New Jersey's residents with opportunities to determine the path of least resistance to achieve their occupational goals."

Based on this newly formed coalition, more states such as New Jersey will be able to provide a more uniform and accurate picture of what happens in the state within the field of education.

## Conclusion

Based on No Child Left Behind, the Bellmawr school district has implemented two new programs within the elementary school for students in grades kindergarten through four. A writing class and a problem-solving class were created with the intention that all students in grades kindergarten through four will benefit from information the classes have offered. With these classes, the district believed that state test scores would improve which will result in higher NJ ASK3 and NJ ASK4 scores in 2004. As research states, No Child Left Behind included many aspects that all states need to consider. Now that it comes down to state testing and scores used in their assessments, changes are continually being made within state and district-wide curricula.

If educators are to work seriously to attain the goal of educating all children, educators must embrace accountability. They must all work to ensure that no schools in our country have provided substandard, inadequate educational programs. Students in the United States do not need more testing. More testing has not magically produced educational improvement. Resources should be spent on helping educators teach and students learn. New types of assessment should assist in guiding educational improvement. All of these things should be done not just to be politically expedient, but because it is owed to all children, society, and educators everywhere.

## Chapter 3

### Design of the Study

#### General Description of the Research Design

In order to understand the research design, it was important to understand the programs that this research focused on. A writing class and a problem solving class were created for the 2003-04 school year to assist in raising the NJ ASK test scores in the fourth grades. All students in the elementary schools have received both classes in a rotation type cycle class once a week, for one third of the year. The research of this study was designed to coincide with the schedule of the fourth grade classes because they have completed both the writing and problem solving classes within the first half of the school year.

The actual design of the research was based on information produced from sample Elementary School Proficiency Assessment (ESPA) tests located on the New Jersey Department of Education website. The purpose of the study was to find out if the two newly created classes are helping to improve state test scores. Therefore, a pre and posttest were given to all fourth grade students. These tests were identical, and comprised of two sample questions from past ESPA tests. Because this study is not assessing student performance, but instead the effectiveness of the two classes, only two questions were used to gather information. One question will be an open-ended picture prompt and the other will be an open-ended problem-solving question (See Appendix A).

The questions will then be scored using the Math and Language Arts writing rubrics provided by the New Jersey Department of Education. (See Appendix B)

#### Description of the Development of Research Instruments

As the purpose of the study was to evaluate the effectiveness of two new programs created to help improve state test scores, it was important that information from the New Jersey Department of Education be used in this study. After reading information and comparing samples provided from the state used in previous ESPA tests, the researcher chose an open-ended writing prompt picture and problem-solving question that could work with the pre and posttests given to the fourth grade students. The researcher then met with a committee of six staff members to review the information that was obtained. The committee concluded that they would change the picture for the writing prompt and selected a new picture they all agreed upon. The committee thought the problem-solving question worked well for the intention of this study. The committee felt that by giving these two basic questions, it would be possible to determine the effectiveness that the researcher intended.

#### Description of Sample and Sampling Technique

The sample used in performing this research was 62 fourth grade students who attended the Bellmawr Park Elementary School during the 2003-04 academic school year. All test scores were kept confidential and were not used for the grades of any students. All of these fourth grade students have participated in the new writing class and problem-solving class before the state test was administered.

The sampling technique was not used because the researcher intended to determine the benefit of these two new classes for all of the fourth grade students, not a random sample.

#### Description of the Data Collection Approach

In order to obtain data for this study, the researcher distributed a test question packet for both the writing picture prompt question and the problem-solving question to the three fourth grade teachers in September. On the determined date, the teachers administered the questions to their individual classes following the precise instructions provided on the test from the New Jersey Department of Education. All students were given the open-ended timed questions to answer as though they were in the actual testing situation. Once time expired, the tests were collected and scored by two members of the committee using the New Jersey State testing rubrics for both the Language Arts and Math tests. After they were scored twice, the average score was recorded for the researcher to analyze further.

Once all fourth grade students completed the writing and problem-solving classes, the process started again so that pre and posttest scores would be compared and determined if both classes have been effective.

#### Description of Analysis Plan

Once all fourth grade students completed the writing and problem-solving classes, the testing committee met once again to discuss the procedure to be used during the posttest phase of the study. All students were given the exact same test under the exact same procedures as the pretest given in September.

Once all the tests had been completed, two committee members once again scored the tests using the NJ Department of Education testing rubrics (See Appendix B).

After all the posttests were evaluated, the scores were compared to those from the pretests. Each of the three fourth grades classes was recorded separately in order for the researcher to see which classes improved. Students were given a code number so that all information could be shared anonymously, ensuring the confidentiality of all students. Only the researcher would have access to the code numbers and verification sheets. The scores were evaluated based on the rubrics received and a mean, median and mode were calculated. By assessing the comparison of the scores received, the researcher presented information as to whether or not the two new writing and problem-solving classes were beneficial in raising NJ ASK test scores.

## Chapter 4

### Presentation of Research Findings

The researcher conducted an evaluation of two new classes, a writing class and a problem-solving class. Each was designed to give instruction to all students in grades kindergarten through four to assist in raising all future state testing scores. Incorporated within this study was a pre and posttest Language Arts writing sample as well as an open-ended Math response in order to evaluate said programs.

The study performed by this researcher was done in conjunction with three fourth grade classes that received both a writing class and a problem-solving class prior to the final posttest for this study. In September, all three fourth grade classes were given the same pretest that was designed based on questions given on previous state tests offered as samples by the New Jersey Department of Education. In March, the fourth grade classes were given the same test; scores were then recorded based on those posttest answers. The tables 1 through 6 below show scores individually, first by class with separate Language Arts scores, (writing picture prompt question) Math scores, (problem-solving question) and finally in Table 7, a total representation of how all of the fourth grade students scored.

Table 1

Class #1  
Pre and Posttest Scores for Language Arts (Writing Prompt)

Student ID #	Language Arts Pretest	Language Arts Posttest
MR247	1.0	No score
MR248	3.0	No score
MR249	2.0	5.0
MR250	2.0	3.0
MR251	2.0	3.0
MR252	2.0	3.0
MR253	1.0	No score
MR254	1.0	4.0
MR255	1.0	2.0
MR256	1.0	4.0
MR257	3.0	3.0
MR258	1.0	3.0
MR259	1.0	4.0
MR260	1.0	3.0
MR261	3.0	5.0
MR262	1.0	2.0
MR263	2.0	3.0
MR264	2.0	3.0
MR265	1.0	4.0
MR266	No score	3.0
Total score	31	57
# Of students	19	17
Mean (average)	1.63	3.35 (+1.72)
Median (middle)	1.0	3.0
Mode (frequency)	1.0	3.0

Each student was scored on a rubric of 0-6 based on previous ESPA tests derived from the New Jersey Department of Education (NJDOE). The average scores for the pre and posttest of this class increased by 1.72 rubric points. The class improved their overall scores based on the frequency increasing from a 1.0 to a 3.0.



Table 2

Class #1  
Pre and Posttest Scores in Math (Problem-Solving)

Student ID #	Math Pretest Scores	Math Posttest Scores
MR124	0.0	1.0
MR125	1.0	1.0
MR126	1.0	2.0
MR127	0.0	2.0
MR128	2.0	2.0
MR129	1.0	2.0
MR130	1.0	No score
MR131	0.0	2.0
MR132	0.0	0.0
MR133	1.0	0.0
MR134	1.0	1.0
MR135	0.0	1.0
MR136	2.0	1.0
MR137	0.0	1.0
MR138	0.0	1.0
MR173	No score	2.0
Total score	15	22
# Of students	19	17
Mean (average)	0.789	1.29 (+0.5)
Median (middle)	1.0	1.0
Mode (frequency)	0	1.0

All students scored by NJDOE rubric (0-3) used on previous ESPA testing. The scores for this pre and posttest for Math show an increase of 0.5 rubric points on average. The mode increased from a score of 0 to 1.0. This shows that the majority of the students in this class scored a 1.0 and improved their overall score.

Table 3

Class #2  
Pre and Posttest Scores for Language Arts (Writing Prompt)

Student ID #	Language Arts Pretest	Language Arts Posttest
TS226	2.0	3.5
TS227	2.0	3.0
TS228	3.0	3.0
TS229	5.0	6.0+
TS230	0.0	1.5
TS231	3.0	5.5
TS232	1.0	4.5
TS233	3.0	5.0
TS234	1.0	3.0
TS235	5.0	6.0
TS236	2.0	3.5
TS237	1.0	3.0
TS238	3.0	4.5
TS239	4.0	5.5
TS240	1.0	2.0
TS241	3.0	1.0
TS242	2.0	4.0
TS243	4.0	6.0
TS244	1.0	2.5
TS245	1.5	No score
TS246	1.0	No score
Total score	48.5	73
# Of students	21	19
Mean (average)	2.31	3.8 (+1.5)
Median (middle)	2.0	3.5
Mode (frequency)	1.0	3.0

Each student was scored on a rubric of 0-6 based on previous ESPA tests derived from the New Jersey Department of Education (NJDOE). The average scores for this pre and posttest increased by 1.5 rubric points. The class improved their overall scores based on the frequency increasing from a 1.0 to a 3.0.

Table 4

Class #2  
Pre & Posttest scores Math (problem solving)

Student ID #	Math Pretest Scores	Math Posttest Scores
TS101	1.0	1.5
TS102	1.0	1.0
TS103	1.0	2.0
TS104	1.0	2.0
TS105	0.0	1.0
TS106	1.0	1.5
TS107	2.0	2.0
TS108	0.0	1.0
TS109	1.0	2.0
TS110	2.0	2.0
TS111	3.0	2.0
TS112	2.0	2.0
TS113	2.0	2.0
TS114	1.0	1.5
TS115	0.0	2.0
TS116	2.0	1.5
TS117	1.0	1.0
TS118	1.0	1.0
TS119	2.0	2.0
TS120	0.0	No score
TS121	0.0	No score
Total score	24	31
# Of students	21	19
Mean (average)	1.14	1.63 (+0.5)
Median (middle)	1.0	2.0
Mode (frequency)	1.0	2.0

All students scored by a NJDOE rubric (0-3) used previously on an ESPA test. The scores for this class pre and posttest for Math show an increase of 0.5 rubric points on average. Both the median and mode increased from a score of a 1 to 2. This shows that the majority of the students scored a 2 and improved their overall score.

Table 5

Class #3  
Pre and Posttest scores for Language Arts (Writing Prompt)

Student ID #	Language Arts Pretest	Language Arts Posttest
WL201	4.0	No score
WL202	2.0	3.0
WL203	2.5	3.5
WL204	2.5	2.0
WL205	3.0	1.5
WL206	1.0	2.5
WL207	2.5	No score
WL208	1.0	No score
WL209	3.0	No score
WL210	4.0	3.0
WL211	1.0	2.0
WL212	4.0	3.5
WL213	1.0	3.5
WL214	3.5	1.5
WL215	2.0	1.5
WL216	2.5	4.0
WL217	2.5	3.0
WL218	2.0	3.5
WL219	3.5	3.5
WL220	2.0	1.0
WL221	2.0	4.0
Total score	51.5	46.5
# Of students	21	17
Mean (average)	2.45	2.74 (+0.3)
Median (middle)	2.5	3.0
Mode (frequency)	2.0 & 2.5	3.5

All students were scored using a NJDOE rubric (0-6) derived from ESPA test. The average scores of the class's pre and posttest increased by 0.3 rubric points. The class improved their overall scores based on the frequency increasing from a 2 or 2.5 to a 3.0.

Table 6

Class #3  
Pre & Posttest Math Scores (Problem-Solving)

Student ID#	Math Pretest Scores	Math Posttest Scores
WL147	0.0	2.5
WL148	0.0	0.5
WL149	0.5	0.5
WL150	0.0	1.0
WL151	0.0	2.5
WL152	0.0	0.5
WL153	1.0	1.0
WL154	0.0	0.0
WL158	3.0	3.0
WL159	0.0	1.0
WL160	2.0	2.0
WL162	2.0	0.5
WL163	0.0	1.5
WL164	0.0	3.0
WL165	0.0	2.0
WL166	0.5	1.0
WL168	0.0	No score
WL169	1.0	No score
WL170	0.0	No score
WL171	3.0	No score
WL172	1.0	No score
Total score	14	22.5
# Of students	21	16
Mean (average)	0.6666	1.4 (+0.73)
Median (middle)	0	1.0
Mode (frequency)	0	0.5 & 1.0

All students scored on a NJDOE rubric (0-3) used previously on an ESPA test. The scores for this pre and posttest for Math show an increase of 0.73 rubric points on average. The mode increased from a score of a 0 to 0.5/1.0. This shows that the majority of the students scored better than their pretest and improved their overall score.

Table 7

Combined Table of All Fourth Grade Scores

	Math Pretest	Math Posttest	Lang. Arts Pretest	Lang. Arts Posttest
Number of Students	61	52	61	53
Total Scores	53	75.5	131	176.5
<b>Recorded Scores</b>				
0.0	24	3	1	0
0.5	2	4	0	0
1.0	18	16	20	2
1.5	0	5	1	4
2.0	10	18	15	5
2.5	0	2	5	2
3.0	3	2	10	16
3.5	N/A	N/A	2	7
4.0			5	7
4.5			0	2
5.0			2	3
5.5			0	2
6.0			0	3
Mean	.87	1.45	2.15	3.32
Median	1	1.5	2	3
Mode	0	2	1	3

Table 7 represents all scores recorded from the time the pretest was given until the time the posttest was recorded. Based on the combined scores seen above, the mean score for the math test improved from a .87 to a 1.45 an increase of 0.58 of a rubric point. In the Language Arts portion of the test, the students on a whole did remarkably better. They went on an average score of 2.15 up to a 3.32, thus increasing 1.17 rubric points. It is important to note that on Tables 1 through 6 several times a “No Score” was reported.

This was due to the fact that students had transferred out, students were absent for the testing, or there was no response given. This data represented the importance of this study and showed factual information that the two new writing and problem-solving classes assisted in the increase of raising student test scores.

## Chapter 5

### Conclusions, Implications and Further Study

#### Conclusions

In conducting this study, the researcher made observations based on student performance, teacher input, and assessments of data recorded from both the pre and posttests. In September's pretest for both the Language Arts writing prompt and the problem-solving test, the students seemed to have little or no basis from which to draw upon their answers. The teachers had not yet begun instruction on their in-depth programs, nor had either the writing or problem-solving classes begun. It was apparent that the students had recalled any information from previous years experience of learning from which they based their responses. The scores demonstrated this information with more than half of the students scoring a 1.0 or less in the math pretest. The language arts scores were similar in that approximately one-third of all fourth graders scored a 1.0 or less on the writing prompt portion of the pretest. Visualizing these scores allowed the fourth grade teachers the opportunity to understand that they had significant amounts of work to do to ensure that the students would pass the New Jersey Assessment of Skills and Knowledge 4 (NJ ASK 4) given in the spring.



At the time the posttest was administered in March, all fourth grade students had received large amounts of writing preparation in individual classrooms, as well as assistance in acquiring problem solving skills necessary for the NJ ASK 4 test administered several weeks later. Each of the three classes had completed the writing class during cycle one in the first part of the year, and had two class meetings left in the problem-solving class for the end of cycle two in the middle part of the year. In general, the fourth grades showed improvement in all areas, and showed adequate progress. Class #1, comprised of students that received basic skills instruction, made the most significant increase of the three classes jumping on average up 1.72 rubric points. Their most frequent score went up from a 1.0 to a 3.0, which demonstrated that the students made significant growth in the language arts writing prompt area. Class #1 also showed a 0.5 increase on average on the math portion problem-solving area of the posttest. The data also illustrated that the majority of students in this class went from a 0.0 rubric score up to a 1.0. Class #2, comprised of no special education students, basic skills students, or ESL students, also showed an improvement in math of 0.5 rubric points. In the Language Arts portion of the posttest, the average score went from 2.31 up to a 3.8, showing an increase of 1.5 rubric points. The class improved their overall scores based on the frequency of going from a 1.0 to a 3.0. Class #3, combined of classified students and students who receive basic skills instruction, also raised their scores from pretest to posttest. Math problem-solving scores on average went up 0.73 rubric points while the Language Arts writing prompt test went up 0.3 of a rubric point. The class on a whole did not score as high in either test, but because there was some improvement, their scores aided the fourth grade population to have an increase in its overall success.

Based on the combination of all fourth graders who took the pre and posttests, Table 7 showed the data to support the increase in all areas. In the Math pretest, overall, the students did poorly and scored on average a 0.87. More than a third of the students scored a 0.0. The researcher discovered more progress in the Math posttest as the scores increased to a 1.45 on average. The largest portion of the individual student scores were raised up to a 2.0, which showed greater improvement overall. However, several students' scores went down. This happened perhaps due to the subjective nature of the rubrics, as well as student motivational factors. Many factors contributed to the success of this test.

Where the fourth graders seemed to do as well, if not better was in the Language Arts posttest. On average, the group performed a 2.15 rubric score on the pretest. When the students took the posttest, more than half scored above a 3.0, bringing the average score up to a 3.32. As a general observation looking at the data of Table 7, the researcher concluded that the completion of both the writing and problem-solving classes assisted in the increase of tests scores in both the Math and Language Arts tests.

### Implications

There are several implications that can be addressed from the conclusion that was drawn from the research testing. The test scores improved based on the addition of the new writing and problem-solving classes that were formed in the 2003-2004 school year. Having seen the final results of the research as an improvement in the test scores, it can be implied that the fourth grade students will show an increase or achieve similar scores on the 2004 NJ ASK test that was administered to all fourth grades at the end of March.

Based on this research, it will be important to continue with the instruction of both the writing and problem solving classes, as they were beneficial to the fourth grader's success.

#### Organizational Changes

Another implication of this research ties into the annual building objectives. Because research showed the increase in the fourth grade test scores, by June 2004, fourth grade students including any and all eligible subgroups would achieve adequate yearly progress in Language Arts and Math with passing/proficient percentages. The New Jersey Assessment of Skills and Knowledge 4 (NJ ASK 4) was used as the measurement tool to assess success of the objectives. Once this elementary school meets these objectives, it will assist the district of Bellmawr to continue meeting the standards made known in the No Child Left Behind Act from President Bush. This National Act has put pressure on individual districts to perform proficiently on Statewide Assessments such as the NJ ASK 4. The results of the research implied that this district should do favorably well if the importance of the writing and problem-solving classes was stressed to its staff members and administration. Perhaps in the future preparation of these classes and in creation of new curriculums, these classes will have more emphasis placed upon them.

#### Leadership Development

Throughout the time that this research was being implemented, the researcher was able to gain much insight as to the teacher perceptions of the actual testing situations. The fourth grade teachers play an integral piece to the success of all learners.

They have an enormous concern with having their students become proficient in these areas. Without the massive amount of effort these teachers put forth throughout the year, the students may not have done as well as they portrayed. As time moves on and more teachers are trained in this area of statewide testing, curriculums and materials will be changed based on the needs of individual grade levels in order to continually meet the appropriate standards.

#### Further Study

As the researcher continued implementation of pre and posttests, several things were brought to the researcher's attention. Teachers were concerned that the timing of the writing and problem-solving classes were not appropriate for the importance of such classes. As a cycle class, the students in all grade levels were rotated once a week, on Friday. If school was not in session or teachers were absent, little effort was made to continue the important instruction the students needed to be assisted with future assessments. The district created a way to enhance skills taught within all grade levels by creating these two classes, but now fine tuning needs to occur. Perhaps if these classes are to hold more viable weight and are used to assist in measurement of state testing, a different approach should be taken.

It would also be important to see how these students performed on the actual test once scores have been reported. Computing the fourth grade population score would be a good comparison to see if the research proved to be correct. It would also be beneficial to continue the study next year with the third grade population and then follow them until they have completed the NJ ASK 4 test the following year.

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**Appendix A**  
**Research Instruments**

Student Name \_\_\_\_\_

Teacher Name \_\_\_\_\_

Date \_\_\_\_\_

Score 1 \_\_\_\_\_

Score 2 \_\_\_\_\_

Final Score \_\_\_\_\_

Code # \_\_\_\_\_

\*All students' scores will be coded and kept confidential. Completed scores will only be seen by the researcher. No grade or individual student performance will be affected by participating in this study.

Pretest / Posttest



### **Directions for the Open-Ended Question**

The following question is an open-ended question. Remember to:

- Read the question carefully and think about the answer.
- Answer all the parts of the question.
- Show your work and explain your answer.

You can answer the questions by using words, tables, diagrams, OR pictures. You may use your calculator or the ruler or shapes.







21. After lunch, fourth-grade students at Washington Elementary School choose an activity. Last week, their choices were basketball, relay races, soccer, or reading. The table below shows the choices that each class made.

**Number of Students Choosing Each Activity**

		<b>Activity</b>			
		Basketball	Relay Races	Soccer	Reading
<b>Class</b>	Mr. Green	10	7	8	9
	Mr. Batista	7	10	9	8
	Mr. Kelly	11	6	4	9
	Ms. Flemming	8	9	3	10

- Use the information from the table above to create a bar graph of the choices made in Ms. Flemming's class. Be sure to label all parts of the graph and give the graph a title.





**Work area for question 21**



**If you have time, you may review your work in this section only.**

**DO NOT GO ON  
UNTIL YOU ARE  
TOLD TO DO SO.**

## Day 1

### Directions to the Student

Today you will take the ESPA Language Arts Literacy test. For this test, you will read some passages, answer questions, and do some writing.

**When you are taking this test, remember these important things:**

1. When you are asked to write your answers or complete a writing task, write neatly and clearly on the lines provided.
2. If you finish a section of the test early, you may check your work in that section only.
3. When you see a STOP sign, do **not** turn the page until you are told to do so.



## Writing Task A

**Use the picture on page 4 to create a story about what might be happening.**

You may make notes, create a web, or do other prewriting work in the space provided on pages 5 and 6. Then, write your story on the lines provided on pages 7 and 8.

Here is a checklist for you to follow to help you do your best writing. Please read it silently as I read it aloud to you.

### Writer's Checklist

Remember to

- Keep the central idea or topic in mind.
- Keep your audience in mind.
- Support your ideas with details, explanations, and examples.
- State your ideas in a clear sequence.
- Include an opening and a closing.
- Use a variety of words and vary your sentence structure.
- State your opinion or conclusion clearly.
- Capitalize, spell, and use punctuation correctly.
- Write neatly.

**After you write your story, read what you have written. Use the checklist to make certain that your writing is the best it can be.**





**WRITING TASK A - PREWRITING SPACE**

**Use the space below and on page 6 to plan your writing.**



**WRITING TASK A - PREWRITING SPACE (continued)**









**Appendix B**  
**Scoring Rubrics**

## NEW JERSEY REGISTERED HOLISTIC SCORING RUBRIC

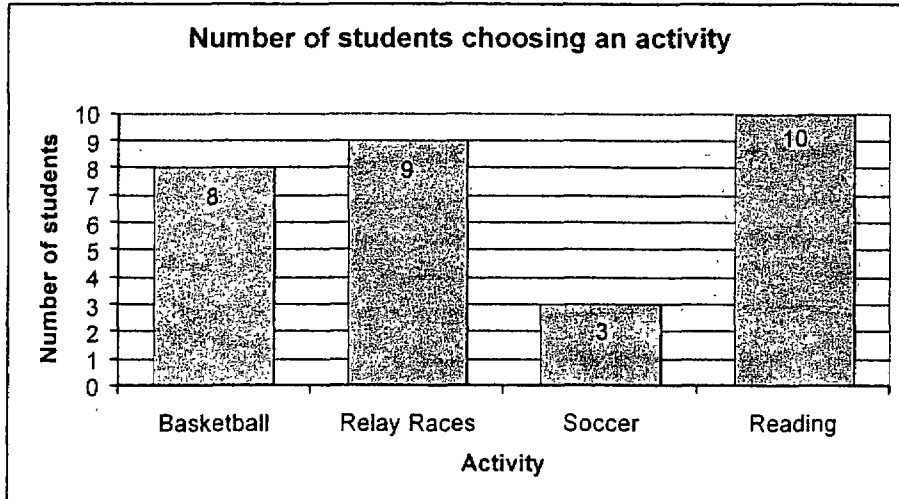
In scoring, consider the grid of written language	Inadequate Command	Limited Command	Partial Command	Adequate Command	Strong Command	Superior Command
Score	1	2	3	4	5	6
<b>Content and Organization</b>	<ul style="list-style-type: none"> <li>May lack opening and/or closing</li> </ul>	<ul style="list-style-type: none"> <li>May lack opening and/or closing</li> </ul>	<ul style="list-style-type: none"> <li>May lack opening and/or closing</li> </ul>	<ul style="list-style-type: none"> <li>May lack opening and/or closing</li> </ul>	<ul style="list-style-type: none"> <li>Generally has opening and closing</li> </ul>	<ul style="list-style-type: none"> <li>Has opening and closing</li> </ul>
	<ul style="list-style-type: none"> <li>Minimal response to topic; uncertain focus</li> </ul>	<ul style="list-style-type: none"> <li>Attempts to focus</li> <li>May drift or shift focus</li> </ul>	<ul style="list-style-type: none"> <li>Usually has single focus</li> </ul>	<ul style="list-style-type: none"> <li>Single focus</li> </ul>	<ul style="list-style-type: none"> <li>Single focus</li> <li>Sense of unity and coherence</li> <li>Key ideas developed</li> </ul>	<ul style="list-style-type: none"> <li>Single, distinct focus</li> <li>Unified and coherent</li> <li>Well-developed</li> </ul>
	<ul style="list-style-type: none"> <li>No planning evident; disorganized</li> </ul>	<ul style="list-style-type: none"> <li>Attempts organization</li> <li>Few, if any, transitions between ideas</li> </ul>	<ul style="list-style-type: none"> <li>Some lapses or flaws in organization</li> <li>May lack some transitions between ideas</li> </ul>	<ul style="list-style-type: none"> <li>Ideas loosely connected</li> <li>Transitions evident</li> </ul>	<ul style="list-style-type: none"> <li>Logical progression of ideas</li> <li>Moderately fluent</li> <li>Attempts compositional risks</li> </ul>	<ul style="list-style-type: none"> <li>Logical progression of ideas</li> <li>Fluent, cohesive</li> <li>Compositional risks successful</li> </ul>
	<ul style="list-style-type: none"> <li>Details random, inappropriate, or barely apparent</li> </ul>	<ul style="list-style-type: none"> <li>Details lack elaboration, i.e., highlight paper</li> </ul>	<ul style="list-style-type: none"> <li>Repetitious details</li> <li>Several unelaborated details</li> </ul>	<ul style="list-style-type: none"> <li>Uneven development of details</li> </ul>	<ul style="list-style-type: none"> <li>Details appropriate and varied</li> </ul>	<ul style="list-style-type: none"> <li>Details effective, vivid, explicit, and/or pertinent</li> </ul>
<b>Usage</b>	<ul style="list-style-type: none"> <li>No apparent control</li> <li>Severe/numerous errors</li> </ul>	<ul style="list-style-type: none"> <li>Numerous errors</li> </ul>	<ul style="list-style-type: none"> <li>Errors/patterns of errors may be evident</li> </ul>	<ul style="list-style-type: none"> <li>Some errors that do not interfere with meaning</li> </ul>	<ul style="list-style-type: none"> <li>Few errors</li> </ul>	<ul style="list-style-type: none"> <li>Very few, if any, errors</li> </ul>
<b>Sentence Construction</b>	<ul style="list-style-type: none"> <li>Assortment of incomplete and/or incorrect sentences</li> </ul>	<ul style="list-style-type: none"> <li>Excessive monotony/same structure</li> <li>Numerous errors</li> </ul>	<ul style="list-style-type: none"> <li>Little variety in syntax</li> <li>Some errors</li> </ul>	<ul style="list-style-type: none"> <li>Some errors that do not interfere with meaning</li> </ul>	<ul style="list-style-type: none"> <li>Few errors</li> </ul>	<ul style="list-style-type: none"> <li>Very few, if any, errors</li> </ul>
<b>Mechanics</b>	<ul style="list-style-type: none"> <li>Errors so severe they detract from meaning</li> </ul>	<ul style="list-style-type: none"> <li>Numerous serious errors</li> </ul>	<ul style="list-style-type: none"> <li>Patterns of errors evident</li> </ul>	<ul style="list-style-type: none"> <li>No consistent pattern of errors</li> <li>Some errors that do not interfere with meaning</li> </ul>	<ul style="list-style-type: none"> <li>Few errors</li> </ul>	<ul style="list-style-type: none"> <li>Very few, if any, errors</li> </ul>

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<b>NON-SCORABLE RESPONSES*</b>	(FR) Fragment	Student wrote too little to allow a reliable judgment of his/her writing
	(OT) Off Topic/ Off Task	Student did not write on the assigned topic/task, or the student attempted to copy the prompt.
	(NE) Not English	Student wrote in a language other than English.
	(NR) No Response	Student refused to write on the topic, or the writing task folder was blank.

Content/Organization	Usage	Sentence Construction	Mechanics
<ul style="list-style-type: none"> <li>Communicates intended message to intended audience</li> <li>Relates to topic</li> <li>Opening and closing</li> <li>Focused</li> <li>Logical progression of ideas</li> <li>Transitions</li> <li>Appropriate details and information</li> </ul>	<ul style="list-style-type: none"> <li>Tense formation</li> <li>Subject-verb agreement</li> <li>Pronouns usage/agreement</li> <li>Word choice/meaning</li> <li>Proper Modifiers</li> </ul>	<ul style="list-style-type: none"> <li>Variety of formations</li> <li>Correct construction</li> </ul>	<ul style="list-style-type: none"> <li>Skills intact in:                             <ul style="list-style-type: none"> <li>Spelling</li> <li>Capitalization</li> <li>Punctuation</li> </ul> </li> </ul>

**2000 ESPA Sample Test  
Mathematics  
Item 21 Scoring Rubric**



- 3 points** – The student creates an accurate bar graph similar to above. The graph includes all appropriate labels and a title.
- 2 points** – The student creates a bar graph similar to above, but chooses a different class or omits axis labels and/or a title.
- OR The student creates a bar graph similar to above with appropriate labels and title, but the student makes an error in the size of one of the bars on the graph.
- 1 point** - The student attempts to create a bar graph and shows some understanding of the problem, but the graph shows major errors.
- OR The student creates a correct graph that is not a bar graph.
- 0 points** - The response shows limited to no understanding of the problem's mathematical concepts.

## Biographical Data

Name	Susan M. Hubbard
High School	Cinnaminson High School Cinnaminson, NJ
Undergraduate	Bachelor of Science Teacher of the Handicapped Trenton State College Ewing, NJ
Graduate	Master of Arts Educational Leadership School Administration Rowan University Glassboro, NJ
Present Occupation	Special Education Teacher Resource Center/In-Class Support Bellmawr Park Elementary School Bellmawr, NJ