A study of multi-sensory instruction on fourth grade students' reading achievement

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A STUDY OF MULTI-SENSORY INSTRUCTION
ON FOURTH GRADE STUDENTS' READING ACHIEVEMENT

by
Kristine Carter

A Thesis

Submitted in partial fulfillment of the requirements of the Master of Science in Teaching Degree in the Graduate Division of Rowan University June 1998

Approved by
Professor

Date Approved
July 1, 1998
ABSTRACT


Research has supported that by accommodating teaching methods to complement student learning styles, academic achievement and attitudes improve. The purpose of this study was to investigate the effect of multi-learning style based instruction, specifically perceptual preferences, on the reading achievement of fourth grade students. Forty-seven students in two intact classrooms from one elementary school participated in the pretest/posttest control group design. A pretest was given to both groups to ensure initial group equivalence. An experimental group then received multi-perceptual instruction for a period of two weeks while a control group was taught by traditional instruction. Following the instruction period, a reading posttest was administered to both groups. Analysis of independent and nonindependent t tests revealed a significant increase in multi-perceptual scores. It was concluded that multi-perceptual instruction was effective in improving the reading achievement of participating fourth grade students.
What is the effect of multi-learning style based instruction, specifically perceptual preferences, on the reading achievement of fourth grade students? This study found a significant increase in the reading scores of the multi-perceptual group when compared to the scores of the control group.
ACKNOWLEDGMENTS

The author wishes to thank the following individuals who have had an invaluable role in her educational career, especially in completing this thesis, and also in her life:

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Dr. and Mrs. Andrew Prieto, my parents, who inspired me to become an educator and gave me the love of learning. Their encouragement, support, and love has been priceless.

Most importantly, James Carter, my husband and best friend, who has guided me through this often difficult time with his unconditional love, patience, and support and a sense of humor that kept me laughing through it all.
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Chapter 1
Scope of Study

Introduction

"Every person has a learning style--it's as individual as a signature" (Dunn, Beaudry, & Klavas, 1989, p. 50). A learning style is a biological and developmental set of personal characteristics that make the same instructional environment effective for some and ineffective for others. Research has supported that by accommodating teaching methods to complement student preferences, academic achievement and attitudes improve (Dunn, Griggs, Olson, Beasley, & Gorman 1995). A concern in education today is the decline in student achievement. Educators, the media, politicians, and parents continue to address what can be done to improve standardized test scores. Rita Dunn, an advocate of learning styles believes that all teachers can learn to implement learning styles into instruction and that students will benefit by capitalizing on their own strengths (1990). A four year investigation, which included observations, interviews, site visits, and the examination of national test data, by the U.S. Office of Education, concluded that instruction based on learning styles had a positive effect on achievement (Dunn et al., 1995).

If incorporating all learning styles into classroom
instruction will positively affect student achievement, it is important for research such as this study to be executed.

Purpose of the Study

As researchers and educators become more aware of students as unique learners, it is necessary to understand how or what changes in instruction can meet the needs of students. If learning styles are not investigated, how can educators be sure that they are teaching to meet the needs of every child and teaching in effective and appropriate techniques? Knowledge of students' learning styles will enable teachers and educators to manage and organize classrooms into an optimal learning environment. In addition to promoting achievement, it will also increase student self-confidence. Studying learning styles focuses on student strengths rather than weaknesses. In education there is always another way of doing something or teaching something. It is the responsibility of the researcher to find those ways, especially to enhance learning, by conducting studies such as this.

Statement of the Problem

What is the effect of multi-learning style based instruction, specifically perceptual preferences, on the reading achievement of fourth grade students?
Statement of the Hypothesis

The following directional hypothesis was tested:
Fourth grade students who received multi-perceptual style instruction during their literacy period will have significantly higher reading content achievement scores than fourth grade students who do not receive multi-perceptual style instruction during their literacy period.

Limitations

There were several limitations that may have affected the validity and reliability of this study.

First, the use of two intact classrooms made the sample one of convenience. This may have limited the generalizations about, or inferred from, the total population. It was also not a stratified sample. Due to the cultural and socioeconomic makeup of the classroom, diversity of the general population may not have been represented.

Secondly, two separate classrooms were involved in the study which may have affected the outcome and results of the research. Although the two teachers were in discussion with each other, teacher variability can not be accounted for. Additionally, the two classrooms comprised a small sample size of 47 students which could also limit the generalizations that can be made about the total population.

Thirdly, because the use of a pretest may have sensitized the subjects to content material, performance and
achievement scores on the posttest may be higher than if a pretest was not given to the students.

A fourth limitation is the implementation of multiple learning style strategies simultaneously with a group. Most students are identified as having at least one learning style. Individual students may only respond to individualized instruction specific to their particular learning style. Although it was assumed that multiple learning style approaches would benefit all students because each preference is taught, the results may not be as significant as if each student were taught using his own learning style preference alone.

Ideally, a longer time period would more accurately assess the effectiveness of using multiple teaching styles, but the researcher was limited to approximately two weeks of teaching using multi-learning style instruction.

Definition of terms

The following terms were used in this study:

Learning style- One of 23 variables that affect how a person may process, absorb, and retain information (Dunn et al., 1995).

Perceptual preferences- The sensory modes through which a person best acquires information (i.e. visual, auditory, tactual, or kinesthetic processing).
  Visual includes seeing and reading
  Auditory includes hearing and speaking
  Tactual includes learning with hands through manipulation of resources.
  Kinesthetic includes whole body involvement.

Multi-perceptual instruction- A multiple teaching style method that combined and included visual, auditory, tactual, and kinesthetic approaches.
Reading content achievement- Achievement was based on the scores of standardized reading comprehension questions. The level of achievement, a score of 70 percent or higher, is determined by the intern placement.
Chapter 2

Review of Related Literature

Introduction

A learning style is the way in which an individual can best process and internalize new information. Every person has their own learning style. Growing interest in this area is prevalent in the educational community because recent research has supported the idea that accommodating instructional methods to complement all students' strengths improves achievement and attitudes among all learners. With the decline in academic scores and the proposed Goals 2000, many educational researchers have begun to focus on these biological and developmental characteristics known as learning styles as the answer to educational problems. An advocate of learning styles, Rita Dunn, has done numerous research with incredible findings that indicate teachers who implement learning styles into classroom environments have higher achievement among students. Being aware of learning styles allows teachers to encourage those who have the ability as well as provide possible intervention for those at risk. Learning styles help all students find their own natural ability in learning. Research is essential so that educators can determine what is best for the students.
Learning Styles

Recent research has examined how student achievement is affected when instructional conditions complement students' learning style preferences. Educators acknowledge that each student has an individual preference or strength that characterizes his optimal mode of learning (O'Neil 1990). A learning style can be defined as one of 23 variables that affect how a person may process, absorb, and retain information (Dunn et al., 1995). These variables may include: (a) instructional environment (sound, light, temperature, design of classroom furniture); (b) emotionality (motivation, structure, responsibility); (c) sociological situations in which one learns best (self, pairs, cooperative groups, or with an adult); (d) physiological characteristics (perceptual strengths, time of day, mobility); and (e) psychological elements (global or analytic, impulsive or reflective, and hemispheric style) (Braio, Beasley, Dunn, Quinn, & Buchanan, 1997).

Traditional Education Reconsidered

The current interest in learning styles may be due to the growing trend in education for a more personalized classroom, and also because of the increase in diversity of student populations (Dunn et al., 1989). Many learning style theorists believe that traditional education has focused on educators being trained to teach by lecturing which would benefit auditory learners only (O'Neil 1990).
In a study by Carbo (1987), her findings supported that most children in primary grades have tactual and kinesthetic preferences and that the ability to visually learn gradually emerges. But the ability to retain approximately three fourths of what is heard (i.e. through auditory preferences) in a 40 minute period does not develop prior to the sixth grade and among low achievers not until high school, if at all (Carbo 1987). Studies such as Carbo's have reflected the need for efforts to be made by teachers to focus on all modalities to accommodate all types of learners. This will enable teachers to break up ineffective teaching patterns and also add variety to teaching all subjects (Burke Guild 1989). In providing alternate teaching methods in a classroom filled with multiple learning styles, a teacher may also reinforce multiple intelligences, a separate but related issue in education currently being researched.

**Learning Style Inventory**

A consideration in accounting for different learning styles in the classroom is that teachers may be unable to identify more than a minimal number of elements of their students' styles by observation (Dunn 1988). Elements are most identifiable through interviews or the administration of a learning style inventory (Dunn et al., 1995). A learning style inventory was developed by researchers Dunn, Dunn, and Price through content and factor analysis (Braio et al., 1997). It was designed as a self-report tool by
which students could identify their own learning style preferences (Dunn et al., 1995). The inventory is made up of 100 items for use in grades 3 through 12. A primary version is also available for students in kindergarten through grade two. Many items on the inventory are similar in nature to allow a researcher to examine consistency within the report (Braio et al., 1997). Critics of learning styles often question the ability of students to accurately identify their own styles of learning and also the degree to which preferences reflect strengths (Dunn et al., 1995). Proponents report that in testing more than one million students, most are able to identify how they learn best. Research studies have not only supported the idea of matching learning styles identified by individuals, but have remained consistent in that a student's preference is in fact, his strength (Dunn 1988). Experimental studies and a meta-analysis have demonstrated the reliability and validity of the Learning Style Inventory (Dunn et al., 1997).

Perceptual Strengths

One variable that may be identified in the Learning Style Inventory is perceptual strengths or how a person best acquires and retains information. These perceptual strengths, or preferences, affect more than seventy percent of students. Teachers who have transformed their classrooms into a hands-on, discovery environment with an abundance of manipulatives, learning centers, and listening centers for
all subject areas report increased achievement and interest among students (Dunn et al., 1989). Carefully planned variety in instruction and the environment will give many students opportunities for success because the variety tends to include many learning style techniques. Many teachers focus on the time and finances it would take to implement a curriculum that encourages learning styles and use that as an excuse to avoid changing. But changing patterns, routines, and varying assignments will address perceptual strengths in the classroom. Barbara Stark, an educator in Silverdale, Washington, created four alternative perceptual activities for students to complete a book report. Each student had to use ideas from all four activities, but could select one area to concentrate on allowing the student the opportunity to focus on his perceptual strength. Through a book report, these students were using their perceptual preferences and Stark was addressing learning styles in her classroom (Burke Guild 1989). Rita Dunn (1990) also emphasizes that perceptual strengths can be accounted for by varying teaching activities in lesson plans or during a unit. Diversity maintains interest and provides a learning environment more suitable to all students than the traditional lecture does (Dunn 1990).

Reading Styles

Perceptual strengths are one of the most significant elements in reading styles, another component of learning
styles, of elementary students. Research has demonstrated a strong link between perception and reading achievement when students are taught by their perceptual strengths (Carbo 1987). Marie Carbo found that primary grade students need to read by methods that incorporate tactual and kinesthetic activities while older students (beyond third grade) are not necessarily motivated by these same preferences (1987). But in her study, Carbo questioned whether this lack of preference was really not a strength or if it was due to the misconception that older students are auditory and visual learners and would not benefit from a combined approach that included tactual and kinesthetic activities (1987). Little research has been conducted involving intermediate students (grades fourth through eighth) and the effect of a multisensory approach in reading. Considering that most students enter school with an enthusiasm for reading that diminishes over time, it is vital that educators continue to research a variety of approaches to teaching reading that will enhance the environment so all learning styles, regardless of age, may benefit (Dunn 1988).

Many teachers may teach in the way that they learn best which is not beneficial to all students. Others may find that using multiple teaching styles is impractical and students should learn to adapt to the environment the teacher provides. But the consideration of the student should be most important and providing an environment that
would suit all learners a priority. The education system is in a state where it is necessary to examine how achievement can improve among the nation's students, now more than ever with a growing, diverse population (Dunn et al., 1989). Further research on learning styles is necessary.
Chapter 3

Procedure

Introduction

Learning Styles are like fingerprints, every student has his own unique style in which he learns best (Dunn et al., 1989). Research has shown that accommodating to the learning styles of students and teaching to meet these strengths increases achievement and attitudes (Dunn et al., 1995). In order for teachers to effectively establish a classroom environment and teaching style that is conducive to all types of learners, further research must be executed to understand exactly how educators can do this effectively and what they can do. This study investigated perceptual preferences and reading achievement. The following chapter includes a description of the procedure of the study and the instruments used.

Subjects

The sample for this study consisted of 47 students from two intact fourth grade classrooms at an elementary school located in southern New Jersey. The subjects did not represent a stratified sample due to the cultural and socioeconomic makeup of the classrooms. The population from which the sample came from is a low socioeconomical
community. Although the town itself is economically diverse, the majority of students at this school are from low socioeconomical backgrounds. Racial statistics of the community also reflect diversity, but the Caucasian population is in the majority by about sixty percent. This is not represented in the school. Most of the students are African-American. In the treatment group there was ten African-American students, three Latin-American students, and eleven Caucasian students. Gender is approximately fifty percent of each sex in the community. The treatment group had fourteen boys and ten girls. Information regarding the population from which the sample came from is from the 1990 U.S. Census Data (see appendix A).

Instruments

A modified questionnaire from the Learning Styles Inventory (see appendix B) was used to assess the perceptual preferences of all fourth grade students in the study. Twenty items were selected from the inventory to avoid overburdening the students with the entire inventory and to also focus on perceptual variables. This learning styles questionnaire was used for the instructional purpose of the researcher only to ensure all learning preferences were effectively established in the classroom environment.

The researcher developed a pretest of twelve questions (see appendix C) to be given prior to the treatment to determine the initial group equivalence. The researcher
established face validity by having elementary teachers extensively review the test. This test was the same test with the same number of questions and level of difficulty as the posttest which was given after the treatment. Twelve standardized reading comprehension questions were used as the measuring instrument to ensure validity.

Experimental Design

The proposed design of the study was a nonequivalent control group design (quasi-experimental). Although this design may add sources of invalidity such as history, it was used because subjects were not randomly assigned to a group. A potential advantage was that subjects were not aware that they were participants of a study due to the use of intact classrooms.

A t test for independent samples was performed to determine whether the two means (between multi-perceptual instruction and traditional instruction) were significantly different at a probability level of .05. A t test for nonindependent samples was also performed to determine the difference between the pretest and posttest scores of the group who received multi-perceptual instruction.

Procedure

Initially, a modified learning style questionnaire of 20 perceptual preference questions was given to both fourth grade classrooms. This questionnaire was answered during
the class time of the students prior to the study. This questionnaire was for instructional purposes only so that the researcher was aware of what learning preferences existed in both classrooms.

The researcher administered a pretest of 12 questions on reading content upon completion of traditional literacy instruction. This traditional instruction (see appendix D for lesson plans) included similar lessons that are used for teaching all literacy stories in the fourth grade classrooms. The researcher introduced the story, *Sarah Plain and Tall*, defined new vocabulary words, and read the story out loud to the class. Grammar lessons involved teaching skills such as homophones, helping verbs, and comparing and contrasting. All of the traditional instruction was taught by lecture and standardized worksheets only. Traditional instruction ended with the students reading the story to themselves. The pretest was then administered to both classes. The control group did not receive instruction beyond the pretest. The pretest was evaluated by other teachers to ensure its validity regarding the subject material.

Following the pretest the experimental group of 23 students (one intact classroom) received reading instruction with multiple perceptual teaching styles (see appendix E for lesson plans) while studying the same literacy story, *Sarah Plain and Tall* for an additional week. This included, but was not limited to, visual approaches (reading the material
again with a partner and using the chalkboard for instruction), auditory approaches (discussing the material aloud and listening to an audio tape of the material), tactual approaches (writing a letter as a character, drawing a picture, and taking notes), and kinesthetic approaches (pantomimes and dramatizations of material). The control group did not receive multisensory instruction during reading. Throughout the study, both classes (the experimental and control groups) covered the same subject matter and content in literacy.

After the treatment period ended, a posttest was administered to the experimental group to assess reading achievement. This test was identical to the pretest to again ensure the validity of the measuring instrument. A t test for independent samples was performed to determine if the two means (of reading achievement scores on the tests) were significantly different at a .05 level. A t test for nonindependent samples was performed to determine if there was a significant difference between the pretest and posttest scores of the experimental group.
Chapter 4
Analysis of Findings

Introduction

Every student has a learning style in which he learns best. Teaching is most effective when different learning styles are incorporated in the classroom and instruction. This study examined perceptual preferences and reading achievement among fourth grade students. A control group was taught by traditional instruction during the literacy period while an experimental group was taught by multi-perceptual style instruction during the literacy period. By accommodating several learning styles in the classroom, student achievement and success was expected to be higher for the experimental group scores on a standardized reading test.

Tabulation of Raw Scores

A pretest of twelve questions was given to both groups to check initial group equivalence. In order to examine the data, scores for the pretest and posttest of the experimental group were tabulated. Seventeen students had scores that increased from pretest to posttest, three students demonstrated no change from pretest to posttest, and three students decreased in scores from pretest to
posttest (see table 1). The control group scores showed no change from pretest to posttest and were not tabulated.

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Pretest</th>
<th>Posttest</th>
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<tbody>
<tr>
<td>1</td>
<td>85</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>3</td>
<td>75</td>
<td>80</td>
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<td>4</td>
<td>90</td>
<td>95</td>
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<td>5</td>
<td>60</td>
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<td>6</td>
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<td>7</td>
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<td>85</td>
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<tr>
<td>23</td>
<td>70</td>
<td>70</td>
</tr>
</tbody>
</table>

The mean for the pretest was 75.43. The mean for the posttest was 83.70. The highest score attainable on either test was 100.00. The lowest score possible was a zero.

Tabulation of the $t$ Test

For this study both a $t$ test for nonindependent samples and a $t$ test for independent samples were calculated. The
t test for nonindependent samples was calculated to determine the significance between the pretest scores and the posttest scores of the experimental group who received multi-perceptual instruction at a probability level of .05. Analysis of the data revealed findings presented in table 2.

### Table 2

<table>
<thead>
<tr>
<th>Sum of Differences</th>
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<tbody>
<tr>
<td>Mean of Differences</td>
<td>8.26</td>
</tr>
<tr>
<td>t value</td>
<td>3.66</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>22</td>
</tr>
</tbody>
</table>

At a probability level of .05, the t value of 3.66 was significant. This data indicated there was a difference between the pretest scores before the treatment of multi-perceptual instruction and the posttest scores after the treatment.

A t test for independent samples was performed to examine the differences between posttest scores of the control group taught by traditional instruction and posttest scores of the experimental group taught by multi-perceptual instruction. Examination of the means and the t value at a probability level of .05 of both sets of scores indicated a significant difference between groups. The findings are
presented in table 3.

<table>
<thead>
<tr>
<th></th>
<th>Multi-perceptual</th>
<th>Traditional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>83.70</td>
<td>75.63</td>
</tr>
<tr>
<td>SD</td>
<td>9.32</td>
<td>13.21</td>
</tr>
<tr>
<td>t value = 2.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>df = 45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As table 3 indicates, at a probability level of .05 the scores of the multi-perceptual group were significantly different from the scores of the traditional group. The mean scores for the multi-perceptual group were eight points higher than the traditional group. These findings indicate that there was a significant difference in reading achievement when a group was taught by using multi-perceptual style instruction.

Analysis Related to Particular Purpose of Hypothesis

The purpose of this study was to test the following hypothesis: fourth grade students who received multi-perceptual style instruction during their literacy period will have significantly higher reading content achievement scores than fourth grade students who do not receive multi-
perceptual style instruction during their literacy period. A t test for nonindependent samples was calculated to determine the difference in scores prior to the treatment and after the treatment in the experimental group. The significance level was set at a probability level of .05. The critical value at this level was 2.074. The t value was determined to be 3.66. This statistic showed a significant difference between scores and supported the hypothesis.

A t test for independent samples was calculated to determine the difference in posttest scores of the experimental and control groups. As table 3 indicated, the t value was 2.41. This was significant when compared to the critical region of 2.021 at the .05 probability level. Therefore, the hypothesis was supported by the results of this study. The experimental group who received multi-perceptual instruction had higher reading achievement scores than the control group who were taught by traditional instruction.

Consideration should be given to the limitations addressed in Chapter One. These factors may have contributed to the increase in scores between groups.
Chapter 5
Summary, Conclusions, and Recommendations

Introduction

A learning style is a biological and developmental set of personal characteristics that make the same instructional environment effective for some and ineffective for others. Teaching to accommodate different learning styles in the classroom should improve academic achievement and attitudes of students. This study investigated perceptual preferences and reading achievement of fourth grade students. A control group was taught by traditional instruction during the literacy period while an experimental group was taught by multi-perceptual style instruction during the literacy period. The results of the study indicated that reading achievement was significantly higher for the experimental group than the control group on a standardized reading test.

Summary of the Problem

What is the effect of multi-learning style based instruction, specifically perceptual preferences, on the reading achievement of fourth grade students?

Summary of the Hypothesis

The following hypothesis was tested and supported:
Fourth grade students who received multi-perceptual style instruction during their literacy period will have significantly higher reading content achievement scores than fourth grade students who do not receive multi-perceptual style instruction during their literacy period.

Summary of Procedure

Forty-seven fourth grade students in two intact classrooms participated in this study to determine the effect of multi-perceptual style instruction on reading achievement. A pretest was administered to ensure initial group equivalence. Following the pretest, the experimental group received the treatment of multi-perceptual instruction while the control group received only traditional instruction. A posttest was then administered to both groups to assess reading achievement. This posttest was identical to the pretest. A t test was calculated to determine if the test scores were significantly different between the groups as well as within the experimental group.

Summary of Findings

Results of the study indicated that the experimental group had significantly higher posttest scores when compared to the posttest scores of the control group. There was also a significant difference within the scores of the experimental group. The posttest scores were higher than the pretest scores prior to the treatment. These results
support the hypothesis of the researcher. The reading achievement of fourth grade students improved when taught with multi-perceptual style instruction rather than traditional instruction alone.

Conclusions

The results of this study supported the original hypothesis: fourth grade students who received multi-perceptual style instruction during their literacy period will have significantly higher reading achievement scores than fourth grade students who do not receive multi-perceptual style instruction during their literacy period. The experimental group who received multi-perceptual style instruction had posttest scores that were eight points higher than the posttest scores of the control group. The posttest scores of the experimental group were also higher than their own pretest scores. The researcher also observed in the study that the experimental group was more eager to learn and eager to complete the assigned tasks of multi-perceptual instruction. This informal observation further supports the idea that teaching to meet several learning styles improves attitudes as well as achievement.

Implications and Recommendations

The results of this study were consistent with the current research regarding learning styles. Studies have shown that teaching to meet student learning styles improves
achievement in the classroom. Multi-sensory style instruction appears to be a valuable asset to the educational field for both teachers and students. Educators should take the opportunity to investigate how it may benefit their own environment. However, the results of this study cannot be generalized to all classrooms. The limitations in Chapter One should be addressed in a separate study. Larger samples need to be tested as well as testing individual learning styles. If similar findings continue, the development of multi-sensory style teaching should be examined, especially to avoid misuse and abuse.

The theory of learning styles is just beginning in education and further research can only benefit students if new findings remain consistent with current findings.
Bibliography


APPENDIX A
Woodbury city: FIPS.STATE=34, FIPS.PLACE90=82120

PERSONS
Universe: Persons
Total................................................................. 10904

FAMILIES
Universe: Families
Total............................................................... 2736

HOUSEHOLDS
Universe: Households
Total............................................................. 4155

URBAN AND RURAL
Universe: Persons
Urban:
   Inside urbanized area........................................... 0
   Outside urbanized area...................................... 0
Rural..................................................................... 0
Not defined for this file........................................ 10904

SEX
Universe: Persons
Male.............................................................. 5038
Female.......................................................... 5866

RACE
Universe: Persons
White............................................................... 8542
Black.................................................................. 2195
American Indian, Eskimo, or Aleut.......................... 21
Asian or Pacific Islander........................................ 74
Other race...................................................... 72

DETAILED RACE
Universe: Persons
White (800-869, 971).............................................. 8542
Black (870-934, 972)............................................. 2195
American Indian, Eskimo, or Aleut (000-599, 935-970, 973-975):
   American Indian (000-599, 973)........................... 21
   Eskimo (935-940, 974)....................................... 0
   Aleut (941-970, 975)........................................ 0
Asian or Pacific Islander (600-699, 976-985):
   Asian (600-652, 976, 977, 979-982, 985):
      Chinese (605-607, 976)................................. 9
      Filipino (608, 977)..................................... 18
      Japanese (611, 981)...................................... 6
      Asian Indian (600, 982).............................. 16
      Korean (612, 979)...................................... 7
      Vietnamese (619, 980)................................. 2
      Cambodian (604)........................................ 0
      Hmong (609).............................................. 0
      Lao (613).................................................. 0
      Thai (618).................................................. 0
   Other Asian (601-603, 610, 614-617, 620-652, 985).... 8
Pacific Islander (653-699, 978, 983, 984):
   Polynesian (653-659, 978, 983):
      Hawaiian (653, 654, 978)............................ 1
      Samoan (655, 983)...................................... 0
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### PERSONS OF HISPANIC ORIGIN

**Universe:** Persons of Hispanic origin

**Total:** 184

### HISPANIC ORIGIN

**Universe:** Persons

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### HISPANIC ORIGIN BY RACE

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### AGE

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**SEX BY MARITAL STATUS**

*Universe: Persons 15 years and over*

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<tr>
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**HOUSEHOLD TYPE AND RELATIONSHIP**

*Universe: Persons*

<table>
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<th>Household Type and Relationship</th>
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<td>Natural-born or adopted</td>
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<td>In nonfamily households:</td>
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**HOUSEHOLD SIZE AND HOUSEHOLD TYPE**

*Universe: Households*

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<td>Family households:</td>
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<td>With related children</td>
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**PERSONS IN FAMILIES**

*Universe: Persons in families*

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**PERSONS PER FAMILY**

*Universe: Families*

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**AGE OF HOUSEHOLD MEMBERS BY HOUSEHOLD TYPE**

*Universe: Households*
### Households with 1 or more persons under 18 years

**Family households:**
- Married-couple family: 884
- Other family:
  - Male householder, no wife present: 76
  - Female householder, no husband present: 481

**Nonfamily households:**
- Male householder: 13
- Female householder: 3

**Households with no persons under 18 years**

**Family households:**
- Married-couple family: 19
- Other family:
  - Male householder, no wife present: 81
  - Female householder, no husband present: 195

**Nonfamily households:**
- Male householder: 49
- Female householder: 954

### RACE OF HOUSEHOLDER BY HOUSEHOLD TYPE (8)

**Universe:** Households

#### White

**Family households:**
- Married-couple family:
  - With related children: 762
  - No related children: 914
- Other family:
  - Male householder, no wife present:
    - With related children: 54
    - No related children: 65
  - Female householder, no husband present:
    - With related children: 263
    - No related children: 135

**Nonfamily households:**
- Householder living alone: 1050
- Householder not living alone: 136

#### Black

**Family households:**
- Married-couple family:
  - With related children: 106
  - No related children: 97
- Other family:
  - Male householder, no wife present:
    - With related children: 20
    - No related children: 15
  - Female householder, no husband present:
    - With related children: 214
    - No related children: 60

**Nonfamily households:**
- Householder living alone: 184
- Householder not living alone: 32

#### American Indian, Eskimo, or Aleut

**Family households:**
- Married-couple family:
  - With related children: 2
  - No related children: 3
- Other family:
  - Male householder, no wife present:
    - With related children: 0
    - No related children: 0
  - Female householder, no husband present:
    - With related children: 0
    - No related children: 0

**Nonfamily households:**
- Householder living alone: 5
Householder not living alone ........................................... 1
Asian or Pacific Islander
Family households:
Married-couple family:
With related children .................................................. 7
No related children ..................................................... 5
Other family:
Male householder, no wife present:
With related children .................................................. 0
No related children ..................................................... 2
Female householder, no husband present:
With related children .................................................. 1
No related children ..................................................... 0
Nonfamily households:
Householder living alone ............................................... 7
Householder not living alone ......................................... 1
Other race
Family households:
Married-couple family:
With related children .................................................. 4
No related children ..................................................... 3
Other family:
Male householder, no wife present:
With related children .................................................. 1
No related children ..................................................... 2
Female householder, no husband present:
With related children .................................................. 2
No related children ..................................................... 1
Nonfamily households:
Householder living alone ............................................... 3
Householder not living alone ......................................... 0

Universe: Households with householder of Hispanic origin
Family households:
Married-couple family:
With related children .................................................. 13
No related children ..................................................... 7
Other family:
Male householder, no wife present:
With related children .................................................. 3
No related children ..................................................... 3
Female householder, no husband present:
With related children .................................................. 2
No related children ..................................................... 1
Nonfamily households:
Householder living alone ............................................... 10
Householder not living alone ......................................... 2

Universe: Persons under 18 years
In households:
Householder or spouse ................................................ 2
Own child:
In married-couple family ......................................... 1603
In other family:
Male householder, no wife present .................................. 98
Female householder, no husband present ......................... 743
Other relatives ......................................................... 204
Nonrelatives ............................................................. 49
In group quarters:
Institutionalized persons ............................................. 1
Other persons in group quarters .................................... 26
Filler ........................................................................ 22
In households:
Householder or spouse.......................................................... 2
Related child:
  Own child:
    Under 3 years............................................................... 454
    3 and 4 years................................................................... 310
    5 years........................................................................ 147
    6 to 11 years................................................................ 859
    12 and 13 years............................................................ 252
    14 years........................................................................ 128
    15 to 17 years............................................................... 294
Other relatives:
    Under 3 years............................................................... 48
    3 and 4 years............................................................... 20
    5 years.......................................................................... 13
    6 to 11 years................................................................ 78
    12 and 13 years............................................................ 16
    14 years........................................................................ 5
    15 to 17 years............................................................... 24
Nonrelatives:
    Under 3 years.................................................................. 6
    3 and 4 years.................................................................. 0
    5 years.......................................................................... 2
    6 to 11 years................................................................ 25
    12 and 13 years............................................................ 8
    14 years........................................................................ 0
    15 to 17 years............................................................... 8

In group quarters:
Institutionalized persons:
    Under 3 years.................................................................. 0
    3 and 4 years.................................................................. 0
    5 years.......................................................................... 0
    6 to 11 years................................................................ 0
    12 and 13 years............................................................ 0
    14 years........................................................................ 0
    15 to 17 years............................................................... 1
Other persons in group quarters:
    Under 3 years................................................................ 12
    3 and 4 years................................................................ 2
    5 years......................................................................... 5
    6 to 11 years................................................................ 7
    12 and 13 years............................................................ 0
    14 years........................................................................ 0
    15 to 17 years............................................................... 0

Filler..............................................................
### Age of Household Members (2) by Household Size and Household Type

**Universe: Households**

- **Households with 1 or more persons 60 years and over**
  - 1 person....................................................................... 798
  - 2 or more persons:
    - Family households......................................................... 801
    - Nonfamily households.................................................... 43

- **Households with no persons 60 years and over**
  - 1 person....................................................................... 451
  - 2 or more persons:
    - Family households......................................................... 1935
    - Nonfamily households.................................................... 27

### Age of Household Members (3) by Household Size and Household Type

**Universe: Households**

- **Households with 1 or more persons 65 years and over**
  - 1 person....................................................................... 700
  - 2 or more persons:
    - Family households......................................................... 92
    - Nonfamily households.................................................... 34

- **Households with no persons 65 years and over**
  - 1 person....................................................................... 549
  - 2 or more persons:
    - Family households......................................................... 2144
    - Nonfamily households.................................................... 136

### Household Type

**Universe: Households**

- **Households with 1 or more nonrelatives........................................... 314**
- **Households with no nonrelatives................................................... 3841**

### Household Type and Household Size

**Universe: Households**

- **Family households:**
  - 2 persons....................................................................... 1079
  - 3 persons....................................................................... 689
  - 4 persons....................................................................... 559
  - 5 persons....................................................................... 263
  - 6 persons....................................................................... 99
  - 7 or more persons.................................................................... 47

- **Nonfamily households:**
  - 1 person....................................................................... 1249
  - 2 persons....................................................................... 132
  - 3 persons....................................................................... 20
  - 4 persons....................................................................... 10
  - 5 persons....................................................................... 6
  - 6 persons....................................................................... 1
  - 7 or more persons.................................................................... 1

### Group Quarters

**Universe: Persons in group quarters**

- **Institutionalized persons (001-991):**
  - Correctional institutions (201-241, 271, 281, 951).................. 256
  - Nursing homes (601-671).................................................... 209
  - Mental (Psychiatric) hospitals (451-481)............................... 0
  - Juvenile institutions (01I-05I, 10I-12I, 15I)......................... 0
  - Other institutions (00I, 06I-09I, 13I, 14I, 16I-19I, 25I, 26I, 29).... 0

- **Other persons in group quarters (00N-99N):**
  - College dormitories (87N).................................................... 0
  - Military quarters (96N-98N)................................................ 0
  - Emergency shelters for homeless (82N, 83N)............................ 0
  - Visible in street locations (84N, 85N).................................... 0
  - Other noninstitutional group quarters (00N-81N, 86N, 88N-95N, 99N).... 44

### Persons Substituted

**Universe: Persons**

- **Not substituted................................................................. 10869**
- **Substituted for:..............................................................**
Noninterview ................................................................. 35
Count adjustment ................................................................

**IMPUTATION OF POPULATION ITEMS**
Universe: Persons not substituted
No items allocated .......................................................... 9064
One or more items allocated ........................................ 1805

**IMPUTATION OF RELATIONSHIP**
Universe: Persons not substituted
Allocated ........................................................................ 255
Not allocated .................................................................. 10614

**IMPUTATION OF SEX**
Universe: Persons not substituted
Allocated ........................................................................ 156
Not allocated .................................................................. 10713

**IMPUTATION OF AGE**
Universe: Persons not substituted
Allocated ........................................................................ 310
Not allocated .................................................................. 10559

**IMPUTATION OF RACE**
Universe: Persons not substituted
Allocated ........................................................................ 137
Not allocated .................................................................. 10732

**IMPUTATION OF HISPANIC ORIGIN**
Universe: Persons not substituted
Allocated ........................................................................ 1252
Not allocated .................................................................. 9617

**IMPUTATION OF MARITAL STATUS**
Universe: Persons 15 years and over
Substituted ....................................................................... 25
Not substituted:
   Allocated .................................................................... 183
   Not allocated .................................................................. 8299

**HOUSING UNITS**
Universe: Housing units
Total ............................................................................. 4335

**OCCUPANCY STATUS**
Universe: Housing units
Occupied .......................................................................... 4155
Vacant .............................................................................. 180

**TENURE**
Universe: Occupied housing units
Owner occupied .................................................................. 2514
Renter occupied ................................................................ 1641

**URBAN AND RURAL**
Universe: Housing units
Urban:
   Inside urbanized area .................................................... 0
   Outside urbanized area .................................................... 0
Rural ................................................................................ 4335
Not defined for this file ....................................................... 8

**VACANCY STATUS**
Universe: Vacant housing units
For rent ............................................................................ 60
For sale only ..................................................................... 55
Rented or sold, not occupied ........................................... 16
For seasonal, recreational, or occasional use ..................... 5
For migrant workers ......................................................... 0
Other vacant ...................................................................... 44

**BOARDED-UP STATUS**
Universe: Vacant housing units
Boarded up ....................................................................... 16
Not boarded up .................................................................. 164

**USUAL HOME ELSEWHERE**
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</tr>
<tr>
<td>All other vacants</td>
<td>172</td>
</tr>
<tr>
<td><strong>RACE OF HOUSEHOLDER</strong></td>
<td></td>
</tr>
<tr>
<td>Universe: Occupied housing units</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>3379</td>
</tr>
<tr>
<td>Black</td>
<td>728</td>
</tr>
<tr>
<td>American Indian, Eskimo, or Aleut</td>
<td>11</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>23</td>
</tr>
<tr>
<td>Other race</td>
<td>14</td>
</tr>
<tr>
<td><strong>TENURE BY RACE OF HOUSEHOLDER</strong></td>
<td></td>
</tr>
<tr>
<td>Universe: Occupied housing units</td>
<td></td>
</tr>
<tr>
<td>Owner occupied</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>2195</td>
</tr>
<tr>
<td>Black</td>
<td>296</td>
</tr>
<tr>
<td>American Indian, Eskimo, or Aleut</td>
<td>4</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>12</td>
</tr>
<tr>
<td>Other race</td>
<td>7</td>
</tr>
<tr>
<td>Renter occupied</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>1184</td>
</tr>
<tr>
<td>Black</td>
<td>432</td>
</tr>
<tr>
<td>American Indian, Eskimo, or Aleut</td>
<td>7</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>11</td>
</tr>
<tr>
<td>Other race</td>
<td>7</td>
</tr>
<tr>
<td><strong>HISPANIC ORIGIN OF HOUSEHOLDER BY RACE OF HOUSEHOLDER</strong></td>
<td></td>
</tr>
<tr>
<td>Universe: Occupied housing units</td>
<td></td>
</tr>
<tr>
<td>Not of Hispanic origin</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>3347</td>
</tr>
<tr>
<td>Black</td>
<td>721</td>
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<td>11</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>21</td>
</tr>
<tr>
<td>Other race</td>
<td>2</td>
</tr>
<tr>
<td>Hispanic origin</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>32</td>
</tr>
<tr>
<td>Black</td>
<td>7</td>
</tr>
<tr>
<td>American Indian, Eskimo, or Aleut</td>
<td>0</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>2</td>
</tr>
<tr>
<td>Other race</td>
<td>12</td>
</tr>
<tr>
<td><strong>TENURE BY AGE OF HOUSEHOLDER</strong></td>
<td></td>
</tr>
<tr>
<td>Universe: Occupied housing units with householder of Hispanic origin</td>
<td></td>
</tr>
<tr>
<td>Owner occupied</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>13</td>
</tr>
<tr>
<td>Black</td>
<td>4</td>
</tr>
<tr>
<td>American Indian, Eskimo, or Aleut</td>
<td>0</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>0</td>
</tr>
<tr>
<td>Other race</td>
<td>7</td>
</tr>
<tr>
<td>Renter occupied</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>19</td>
</tr>
<tr>
<td>Black</td>
<td>3</td>
</tr>
<tr>
<td>American Indian, Eskimo, or Aleut</td>
<td>0</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>2</td>
</tr>
<tr>
<td>Other race</td>
<td>5</td>
</tr>
<tr>
<td><strong>TENURE BY RACE OF HOUSEHOLDER</strong></td>
<td></td>
</tr>
<tr>
<td>Universe: Occupied housing units</td>
<td></td>
</tr>
<tr>
<td>Owner occupied</td>
<td></td>
</tr>
<tr>
<td>15 to 24 years</td>
<td>29</td>
</tr>
<tr>
<td>25 to 34 years</td>
<td>435</td>
</tr>
<tr>
<td>35 to 44 years</td>
<td>537</td>
</tr>
<tr>
<td>45 to 54 years</td>
<td>399</td>
</tr>
<tr>
<td>55 to 64 years</td>
<td>415</td>
</tr>
<tr>
<td>65 to 74 years</td>
<td>419</td>
</tr>
<tr>
<td>75 years and over</td>
<td>280</td>
</tr>
<tr>
<td>Renter occupied</td>
<td></td>
</tr>
</tbody>
</table>
## Age Distribution

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 to 24 years</td>
<td>120</td>
</tr>
<tr>
<td>25 to 34 years</td>
<td>466</td>
</tr>
<tr>
<td>35 to 44 years</td>
<td>239</td>
</tr>
<tr>
<td>45 to 54 years</td>
<td>148</td>
</tr>
<tr>
<td>55 to 64 years</td>
<td>145</td>
</tr>
<tr>
<td>65 to 74 years</td>
<td>276</td>
</tr>
<tr>
<td>75 years and over</td>
<td>247</td>
</tr>
</tbody>
</table>

## Rooms

**Universe: Housing units**

<table>
<thead>
<tr>
<th>Room Count</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 room</td>
<td>16</td>
</tr>
<tr>
<td>2 rooms</td>
<td>84</td>
</tr>
<tr>
<td>3 rooms</td>
<td>668</td>
</tr>
<tr>
<td>4 rooms</td>
<td>667</td>
</tr>
<tr>
<td>5 rooms</td>
<td>609</td>
</tr>
<tr>
<td>6 rooms</td>
<td>846</td>
</tr>
<tr>
<td>7 rooms</td>
<td>661</td>
</tr>
<tr>
<td>8 rooms</td>
<td>357</td>
</tr>
<tr>
<td>9 or more</td>
<td>427</td>
</tr>
</tbody>
</table>

## AGGREGATE ROOMS

**Universe: Housing units**

<table>
<thead>
<tr>
<th>Room Count</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>24730</td>
</tr>
</tbody>
</table>

## AGGREGATE ROOMS BY TENURE

**Universe: Occupied housing units**

<table>
<thead>
<tr>
<th>Tenure Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner occupied</td>
<td>17246</td>
</tr>
<tr>
<td>Renter occupied</td>
<td>6597</td>
</tr>
</tbody>
</table>

## AGGREGATE ROOMS BY VACANCY STATUS

**Universe: Vacant housing units**

<table>
<thead>
<tr>
<th>Vacancy Status</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>For rent</td>
<td>247</td>
</tr>
<tr>
<td>For sale only</td>
<td>300</td>
</tr>
<tr>
<td>Rented or sold, not occupied</td>
<td>77</td>
</tr>
<tr>
<td>For seasonal, recreational, or occasional use</td>
<td>34</td>
</tr>
<tr>
<td>For migrant workers</td>
<td>0</td>
</tr>
<tr>
<td>Other vacant</td>
<td>229</td>
</tr>
</tbody>
</table>

## Persons in Unit

**Universe: Occupied housing units**

<table>
<thead>
<tr>
<th>Persons per Household</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 person</td>
<td>1249</td>
</tr>
<tr>
<td>2 persons</td>
<td>1211</td>
</tr>
<tr>
<td>3 persons</td>
<td>709</td>
</tr>
<tr>
<td>4 persons</td>
<td>569</td>
</tr>
<tr>
<td>5 persons</td>
<td>269</td>
</tr>
<tr>
<td>6 persons</td>
<td>100</td>
</tr>
<tr>
<td>7 or more persons</td>
<td>48</td>
</tr>
</tbody>
</table>

## Persons per Occupied Housing Unit

**Universe: Occupied housing units**

<table>
<thead>
<tr>
<th>Persons per Household</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2.50</td>
</tr>
</tbody>
</table>

## Tenure by Persons in Unit

**Universe: Occupied housing units**

<table>
<thead>
<tr>
<th>Person Count</th>
<th>Owner occupied</th>
<th>Renter occupied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 person</td>
<td>477</td>
<td>772</td>
</tr>
<tr>
<td>2 persons</td>
<td>824</td>
<td>387</td>
</tr>
<tr>
<td>3 persons</td>
<td>462</td>
<td>247</td>
</tr>
<tr>
<td>4 persons</td>
<td>446</td>
<td>123</td>
</tr>
<tr>
<td>5 persons</td>
<td>196</td>
<td>73</td>
</tr>
<tr>
<td>6 persons</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>7 or more</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>
6 persons..............................................27
7 or more persons..............................12

PERSONS PER OCCUPIED HOUSING UNIT BY TENURE
Universe: Occupied housing units
Persons per occupied housing unit
Owner occupied....................................2.78
Renter occupied....................................2.07

AGGREGATE PERSONS
Universe: Persons in occupied housing units
Total................................................10395

AGGREGATE PERSONS BY TENURE
Universe: Persons in occupied housing units
Total
Owner occupied....................................7001
Renter occupied....................................3394

PERSONS PER ROOM
Universe: Occupied housing units
0.50 or less........................................2996
0.51 to 1.00......................................1068
1.01 to 1.50.......................................74
1.51 to 2.00.......................................14
2.01 or more.....................................3

TENURE BY PERSONS PER ROOM
Universe: Occupied housing units
Owner occupied
0.50 or less......................................1902
0.51 to 1.00......................................576
1.01 to 1.50.......................................30
1.51 to 2.00.......................................6
2.01 or more.....................................0
Renter occupied
0.50 or less......................................1094
0.51 to 1.00......................................492
1.01 to 1.50.......................................44
1.51 to 2.00.......................................8
2.01 or more.....................................3

VALUE
Universe: Specified owner-occupied housing units
Less than $15,000..................................14
$15,000 to $19,999.................................4
$20,000 to $24,999.................................6
$25,000 to $29,999.................................17
$30,000 to $34,999.................................20
$35,000 to $39,999.................................29
$40,000 to $44,999.................................42
$45,000 to $49,999.................................37
$50,000 to $59,999.................................131
$60,000 to $74,999.................................325
$75,000 to $99,999.................................833
$100,000 to $124,999.........................392
$125,000 to $149,999.........................177
$150,000 to $174,999.........................92
$175,000 to $199,999.........................57
$200,000 to $249,999.........................55
$250,000 to $299,999.........................30
$300,000 to $399,999.........................19
$400,000 to $499,999.........................5
$500,000 or more...............................4

LOWER VALUE QUARTILE
Universe: Specified owner-occupied housing units
Lower value quartile..............................72600
Modified Learning Style Inventory

Answer each of the following questions true or false.

1. I like to read in silence. _____
2. I prefer to read with music. _____
3. I like to read in a warm temperature. _____
4. I like to read in a cool temperature. _____
5. I would rather read alone. _____
6. I would rather read with another student. _____
7. I would rather listen to the teacher read. _____
8. I read best when I can see the words. _____
9. I read best when I hear the story. _____
10. I read best if I take notes on the story. _____
11. I read best if act out the story. _____
12. I read best when I do all of questions 8-11. _____
13. I like having directions before I read. _____
14. I prefer to have choices of reading materials. _____
15. I prefer to eat when I read. _____
16. I like to drink when I read. _____
17. I like to move around while I read. _____
18. I would rather sit in a soft chair when I read. _____
19. I read best in the morning. _____
20. I read best in the afternoon. _____
APPENDIX C
1. Who are the characters in this story?

2. What is the setting of the story? Do you think the setting is important? Why or why not?

3. What do you think Sarah learned and inferred about Anna and Caleb from their letters?
1. What did Sarah bring as gifts for Caleb and Anna?

2. Why do you think Sarah chose these gifts?

3. Why does Anna wish that she and her family had a sea of their own?
1. Why are the children so anxious for Sarah to like them and to like their home?

2. From reading her letters, do you think Sarah will fit in with the family? Why or why not?

3. Do you think people can get to know each other simply by exchanging letters? Explain.
The following informal lesson plans for traditional instruction were designed specifically for the elementary school in the study. Lesson plans for future researchers intending to duplicate this study may not follow the exact content material, but should contain traditional teaching approaches (visual and auditory skills).

Day 1
Objective:
At the end of the lesson the students will write an essay about meeting someone for the first time.

Anticipatory Set:
Use an overhead to record verbal answers of how students felt when they first met their fourth grade teacher.

Input:
Explain that the class will be reading a new story, Sarah, Plain and Tall. Give some details about it.

Modeling:
Pretend you are about to meet a new student.
Demonstrate what you might do or say.

Guided Practice:
Have the students ask each other questions in cooperative groups as if they did not know each other.

Checking for Understanding:
The students will write an essay about the first time they met someone new, using adjectives to describe how they felt.

Independent Practice:

None for this lesson.
Day 2

Objective:
At the end of the lesson the students will be able to define six vocabulary words and write a sentence for each on an index card.

Anticipatory Set:
Read a short story containing the six new words from the literacy book.

Input:
Explain that these words are the new vocabulary words for the story.

Modeling:
Use the overhead projector to complete a transparency containing fill in the blank sentences. Have students help to come up with a meaning for each word.

Guided Practice:
Students will complete a worksheet in cooperative groups with teacher assistance.

Checking for Understanding:
Students will use a dictionary to define each word and write their own sentence on an index card.

Independent Practice:
Write new sentences for each word and study the meaning.
Days 3 and 4

There are no formal plans for these days due to the nature of the work. Students will listen as the teacher reads the story out loud. Questions following the text will be answered independently.
Day 5

Objective:
At the end of the lesson students will be able to complete a worksheet identifying homophones with 70 percent accuracy or better.

Anticipatory Set:
Read several sentences out loud to the students. Ask what they notice about each (some should contain homophones but not all). Record their responses.

Input:
Explain what a homophone is and give several examples.

Modeling:
Use the chalkboard to write several sentences containing homophones. Underline each and define the word.

Guided Practice:
In pairs the students should come up with ten pairs of homophones and list on paper to later share with the class. Record the answers on the board.

Checking for Understanding:
Students will complete a worksheet on homophones.

Independent Practice:
Study for a spelling test with selected homophones from the story.
Day 6

Objective:
At the end of the lesson the students will be able to write a paragraph comparing and contrasting two friends to be turned in for a grade.

Anticipatory Set:
Have two volunteers come to the front of the room. Have the other students verbally describe what is alike about them and what is different. Record the responses on the chalkboard.

Input:
Explain to the students that they just compared and contrasted the two students. Discuss what it means to compare and contrast two different things. Give examples.

Modeling:
Use the overhead projector to demonstrate how to compare and contrast using a Venn diagram approach.

Guided Practice:
Have the students make a Venn diagram to compare and contrast two friends.

Checking for Understanding:
Using the Venn diagrams they made, have each student write a compare and contrast paragraph about two friends to be turned in for a grade.

Independent Practice:
There is no practice for this lesson.
APPENDIX E
Multi-perceptual Plans

Days 1 and 2

There is no formal plan for days one or two.

Students will spend the literacy period reading Sarah, Plain and Tall with a partner of their choice. Each student should read parts of the story out loud to the other.

On day two, students will listen to an audio tape of the story.
Day 3

Objective:

At the end of the lesson the students will be able to complete a story map on *Sarah, Plain and Tall*.

Anticipatory Set:

Review the events that take place in the story out loud.

Input:

Explain what a story map is and how it is used.

Modeling:

Complete a story map for the previous story that the students read on an overhead projector.

Guided Practice:

Help students begin to complete a story map. Offer any assistance if necessary.

Checking for Understanding:

Students will complete a story map independently for a grade (an example of the map follows these plans).

Independent Practice:

There will be no practice for this lesson.
Day 4

Objective:
At the end of the lesson the students will be able to draw a picture that represents part of the story and share it with the class.

Anticipatory Set:
Look through the book at the pictures. Ask students what they think when they see the pictures or what the pictures convey to the reader.

Input:
Explain that art and drawing can be ways to learn and understand material. Explain that the students will be drawing their own picture for *Sarah, Plain and Tall*. It can be a scene or a character or something that the reader may have inferred.

Modeling:
For this lesson, modeling will occur as the students work. Rather than demonstrate at the beginning, the teacher will draw while the students do. This is an attempt to create creativity for students who may copy what the teacher does for lack of inspiration.

Guided Practice:
There is no practice for this assignment.

Checking for Understanding:
Students will draw a picture for the story and share it with the class.

Independent Practice: None for this lesson.
Day 5

Objective:

At the end of the lesson the students will be able to write a letter as one of the characters in the book and read it to another student.

Anticipatory Set:

Discuss the significance of the letters in the story. Ask students if they feel people can get to know each other through letters.

Input:

Explain that the students will be writing their own letters as a character in the book.

Modeling:

Read a letter written by the teacher as one of the characters. Discuss the letter with the students.

Guided Practice:

Have students work in pairs writing letters to each other. Emphasize that they should attempt to include information about themselves as if they did not know each other.

Checking for Understanding:

Students will write a letter as a character in the story and read it out loud to the class.

Independent Practice:

Students will write another letter in response to a letter (of their choice) that was read in class.
Day 6

The last lesson will take approximately three days. There is no formal lesson plan designed for this particular part of the multi-perceptual teaching. Drama will be used to further help in the understanding and interpretation of the story. Students will work in groups of two to four to create a drama. Students may act out a scene from the story, create a scene that was inferred in the story, create a scene from where the story left off, or something else of their choice with teacher approval (suggestions follow these plans if necessary). The drama should be at least three minutes and will be acted out in front of the class and possibly other classrooms. Teacher discretion should be used in determining the pace that students need to follow. For the purpose of this study, students will get in groups and brainstorm ideas on day one. On day two students will be given the literacy period (approximately one hour and thirty minutes) to practice and organize themselves. Day three will be the performance.
Story Map

Title: ________________________________

Characters: ____________________________

Setting: ______________________________

Problem: ______________________________

Events:

1. ________________________________

2. ________________________________

3. ________________________________

4. ________________________________

5. ________________________________

Outcome: ______________________________

____________________________________

____________________________________

Draw a picture to go with the story.
Reading Motivation:

Lesson-Adaptable Sit-down Drama Ideas for the Classroom

1. "The Telephone Game"

Ask the students each to think of a vocabulary word. Ask each of them to say the word they're thinking of. Then ask two of them to make a "telephone" conversation, bringing the word they have chosen into the conversation. Next, have two other students do the same, and so on.

2. "Characteristics"

Place various objects in a bag, each one representing the character in a story that the class has recently read (a brush change purse, a shirt with a missing button, etc.). Each student reaches into the bag and draws out an item (in turn). In role as the character represented by the object, the student recites a three or four sentence monologue appropriate to the role of the character and object in the story.

3. "Magic Chair"

The teacher tells students that the chair they're sitting on has magically transformed into a ________. Using spelling or vocabulary words, they are to write a description of the ________, telling what kind they are (or where they are, when they are, who owns them, etc.).

4. "Mirror Images"

Students work in pairs facing each other. The work is done silently. Taking turns being leader, students try to move identically (as in a mirror) to music in imitation of actions done by a specified character in a current or recent story read by all. For example, stirring a pot, putting on make-up, driving while drowsy, reading the evening newspaper.

These activities are only suggestions if students struggle to come up with their own drama idea. Activities were adapted from: Scher, Anna, & Charles Verrall (1987). 100+ Ideas for Drama. Heinemann Books.
<table>
<thead>
<tr>
<th><strong>VITA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name:</strong></td>
</tr>
</tbody>
</table>
| **Date and Place of Birth:** | March 25, 1973  
Woodbury, New Jersey |
| **Elementary School:** | Academy Street School  
Glassboro, New Jersey |
| **High School:** | Glassboro High School  
Glassboro, New Jersey |
| **College:** | Rowan University  
Glassboro, New Jersey  
B.A. Psychology, 1995 |
| **Graduate:** | Rowan University  
Glassboro, New Jersey  
M.S.T. Elementary Education, 1998 |