A study ascertained the effectiveness of color-coded subject-predicate cards and learning strategies to teach language skills to middle school students at risk for academic failure. The 17 seventh-grade students significantly improved their scores on sentence type and subject-predicate identification as well as their academic grade in Language Arts after 4 weeks. The color-coded cards and learning strategies utilized in the study are inexpensive and easily constructed for use by general and special educators. Contains 29 references and 2 tables of data. Appendixes contain a diagram of the Sentence-Body Analogy learning strategy and a list of 4 sentence types. (Author/EF)
New Methodology Significantly Improves Language Arts Skills of Middle School Students at Risk for Academic Failure

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This study ascertained the effectiveness of color-coded subject-predicate cards and learning strategies to teach language skills to middle school students at risk for academic failure. The 17 seventh-grade students significantly improved their scores on sentence type and subject-predicate identification as well as their academic grade in Language Arts after 4 weeks. The color-coded cards and learning strategies utilized in the study are inexpensive and easily constructed for use by general and special educators.
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The current emphasis on inclusion presents major challenges for general educators (Schumaker & Deshler, 1988). Stainback, Stainback, East, and Sapon-Shevin (1994) stated: “We must find ways to build inclusive school communities that acknowledge students differences and meet students' needs...” (p. 487). General educators tend to accommodate students with learning disabilities or those at-risk for academic failure by simply modifying class assignments and tests or by providing assistance through a tutorial-type approach, which often creates learned helplessness, low self-esteem, and minimal progress (Bender, 1998; Lerner, 1997; Smith, 1998;).

The current move toward full inclusion highlights the importance that teachers utilize research-based methodologies, techniques, and strategies to effectively teach and meet the individual needs of each student. Unfortunately, many students (those with and without disabilities) are told merely to “try harder”, when in reality many are trying as hard as they can (Wilson, 1993). Roberts and Mather (1995) noted that many general educators become frustrated by their inability to meet the diverse individual needs of students with learning disabilities. Consequently, additional research is needed to provide innovative methodologies, techniques, and strategies to effectively teach all students, which goes beyond the traditional textbook approach.

Previous researchers noted: (a) learning strategies improve academic performance of students with learning disabilities (Barton, 1988; Bos & Filip, 1984; Bulgren, Hock, Schumaker, & Deshler, 1995; DeBettencourt, 1987; Ellis, 1993; Ellis,
Deshler, & Schumaker, 1989; Fulk, 1994; Gerber, 1983; Graham & Freeman, 1986; McKinney & Haskins, 1980; Palinscar & Brown, 1987; Taylor, 1982; Torgesen, 1980; (b) direct instruction is needed to effectively teach students with learning disabilities (Bender, 1998; Darch & Kameenui, 1987; Gersten, 1985; Smith, 1998); (c) multi-sensory techniques are useful (Bendar, 1998; Lerner, 1997; Mercer & Mercer, 1998; Smith, 1998); (d) success is importance (Mercer & Mercer, 1998); (e) charting progress improves performance (Mercer & Mercer, 1998); and (f) behavior management is necessary (Bendar, 1998; Mercer & Mercer, 1998). Moreover, researchers suggested that color may be a useful aid in working with children on visual, short-term memory tasks (Fagen, 1984; Fischman, 1986; Lamberski, 1980, 1982; Malliet, 1986, Ostergaard & Davidoff, 1985). Voorhees (1985) noted that color captured the attention of the learner, and Geotz (1987) stated that color had “the power to guide the reader’s eyes” (p. 24).

The present research utilized multi-sensory, hands-on techniques using color-coded cues and learning strategies to ascertain the effectiveness of teaching seventh grade students identified as “at-risk” specific language arts skills.

Method

Sample

The population of this study consisted of 17 seventh grade students identified as “at-risk” in an inner-city southeastern state school district. Approximately 90% of the school population were African-Americans from low rent housing or project communities. All of the students participating in the study were receiving academic
instruction in a Project Success Language Arts class. Project Success was a program designed for the middle school students who were functioning approximately two grade levels below average as determined by achievement tests and past academic failures. These students had been retained twice and scored below the 20 percentile in math and reading according to the Iowa Test of Basic Skills. Project Success was developed to modify the curriculum and reduce the student-teacher ratio to 20:1 for more individualized instruction and assistance. The 17 students in the study consisted of 15 African-Americans (11 males and 4 females) and 2 male Caucasians. Two of the males (one white and one black) were also identified as having a learning disability, and two of the females were identified as having an emotional/behavioral disability under federal and state guidelines.

Procedure

The 17 students were divided into four groups with four students in three groups and five students in one group. The general educator, teaching assistant, and two graduate students served as facilitators for each group.

Twenty sets of color-coded language art cards were constructed with five sentences consisting of at least one declarative, one interrogative, one exclamatory, and one imperative in each set. The complete subjects were on pink cards with the simple predicate on yellow cards and the remaining predicates on green. The learning strategies used involved comparing a sentence to the human body with the complete subject being like the head, the complete predicate being like the body, and the main verb/s being like the neck which connects the head to the rest of the body. Also,
learning strategies for each sentence type included the following: (a) "in what? for interrogative; (b) declare something (tell) for declarative; (c) excitement for exclamatory; and (d) important/immediate for imperative. Each student had a study guide with a sentence-body analogy drawing (see Appendix A) and a sentence-type guide (see Appendix B). Also, each student used a prepared notebook for organizational purposes. A pretest-posttest design was utilized to ascertain any significance gain in scores on identification of subject-predicates and gain scores on identification of subject-predicates and sentence type.

The study lasted four weeks and consisted of 50 minute sessions, Monday through Friday. Each student completed at least one card set per day by arranging the cards into five complete sentences. The student read the sentence to the group facilitator; if an error existed, the facilitator encouraged and guided as needed the student to self-correct an possible error through guided self-questioning such as “Does this sentence make sense?” or “Can an interrogative sentence end with a period?” After being sure the sentences were correct, the facilitator directed the student to copy the sentences in his/her notebook. Next, the student circled the simple subject, underlined the simple predicate, and drew a vertical line to separate the complete subject and predicate. The color-coding made the task easy and tangible, as well as errorless for immediate success. Lastly, the student labeled each sentence as declarative, interrogative, exclamatory, or imperative. The facilitator checked the written work, and a percentage score was awarded with any error counting -5 for the subject-predicate and -20 for any error in sentence identification.
Results

There was a significant difference between the pretest and posttest in identification of sentence types, subject-predicate, and total test scores after four weeks of utilizing multi-sensory techniques (color-coded cards) and specific learning strategies. The mean pretest score on subject-predicates was 11.59, and the mean posttest was 70.82 (a significant gain score of 59.24). The mean of the sentence-type identification pretest was 57.06, and the mean of the posttest was 89.41 showed a significant gain of 45.88. See Table 1 for the data results.

Table 1

Analyses of Subject-Predicate, Sentence Type, and Total Test Pretest and Posttest

<table>
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<tr>
<th></th>
<th>N</th>
<th>X Pretest</th>
<th>X Pretest</th>
<th>Gain</th>
<th>t</th>
</tr>
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<td>Subject-Predicate</td>
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<td>70.82</td>
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<td>9.27*</td>
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<td>89.41</td>
<td>32.35</td>
<td>5.53*</td>
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<tr>
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<td>34.53</td>
<td>80.41</td>
<td>45.88</td>
<td>10.5*</td>
</tr>
</tbody>
</table>

*significant at .01 level

An ANOVA was calculated to determine an significant difference in posttest scores among students at-risk, those with learning disabilities, or with emotional/behavioral disability. There was a significant difference in the means of students with EBD (3.75); however, there was no significant difference between mean posttest scores of students with no disability (88.1) and students with learning disabilities (73.5). See Table 2 for data results.
Table 2

Analyses of Scores of Students At-Risk, LD, and EBD

<table>
<thead>
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<th>MS</th>
<th>F</th>
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<tr>
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<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>6218.12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*significant (6.51)

In addition to the Pretest-Posttest Design, a questionnaire was administered to facilitators and student participants in the study. When asked which method the students liked best to learn subject-predicate and sentence type identification, 100% of the students responded that they preferred the color-coded language arts cards to the traditional textbook method. When asked if the color-coded cards helped them learn the materials, 100% of the students responded yes. On a scale of one to ten with ten being extremely successful, 100% of the students rated the overall success of the project as 10. The overall responses from the students were overwhelmingly positive as indicated by the progress, questionnaire, and observation of verbal response and behavior.

Implication and Discussion

The significant gain scores and positive responses from students and facilitators suggest that this method of instruction is effective for students at-risk and those with learning disabilities. The multi-sensory techniques and learning strategies utilized concur with previous research that these are effective methods and techniques for
students with learning disabilities. Also, the students stated that they enjoyed using the cards as opposed to the traditional textbook; consequently, motivation may be enhanced.

This study could be expanded to include elementary students and lengthened to include compound sentences, compound subjects, and compound predicates. The techniques and strategies used in this study could be utilized in any general education classroom or resource room setting. The materials are inexpensive and easily constructed. Moreover, individual card sets may be constructed to match reading level and areas of individual interest.
References


Appendix A

Sentence-Body Analogy Learning Strategy
A sentence is like your body.

Adjectives describe nouns.

Main verb links subject to predicate.

Simple subject must be a noun.

→ Complete subject.

→ Simple Predicate
(Main verb or verbs)

Complete Predicate
Appendix B

Sentence Types
4 SENTENCE TYPES

I - Interrogative?
    In what?    Asks

D - Declarative.
    Declares - tells something

E - Exclamatory!
    Excitement

I - Imperative.
    Immediate request
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