Cooperative Learning in Today's Bilingual Classrooms

Heath Swanson

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Cooperative Learning in Today's Bilingual Classrooms

Abstract
This research study examined the strategy of cooperative learning and whether or not it is an effective strategy for English Language Learners (ELLs). Previous studies have shown that by utilizing cooperative learning groups, each ELL student is enabled with an opportunity to work in a team with other students who have already gained proficiency with the language. The group dynamic of cooperative learning not only provides a supportive environment for learning new content and acquiring English language skills, but also helps to foster friendships and social development (Holt, Chips, & Wallace, 1991) This research study looked specifically at how cooperative learning improved the scores of the ELL students in the subject of English. This study found no statistical evidence of greater academic achievement for those ELL students who were part of a cooperative learning environment. This study concluded that students who partake in the strategy of cooperative learning did not have higher academic scores, though there was a strong student preference for this strategy.

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Cooperative Learning in Today’s Bilingual Classrooms

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B.A. Dakota Wesleyan University, 1996

Action Research Report
Submitted in Partial Fulfillment
of the Requirements for the
Degree of Master of Education

Department of Education
Dordt College
Sioux Center, Iowa
January, 2014
Cooperative Learning in Today’s Bilingual Classrooms

by

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Date
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Abstract

This research study examined the strategy of cooperative learning and whether or not it is an effective strategy for English Language Learners (ELLs). Previous studies have shown that by utilizing cooperative learning groups, each ELL student is enabled with an opportunity to work in a team with other students who have already gained proficiency with the language. The group dynamic of cooperative learning not only provides a supportive environment for learning new content and acquiring English language skills, but also helps to foster friendships and social development (Holt, Chips, & Wallace, 1991) This research study looked specifically at how cooperative learning improved the scores of the ELL students in the subject of English. This study found no statistical evidence of greater academic achievement for those ELL students who were part of a cooperative learning environment. This study concluded that students who partake in the strategy of cooperative learning did not have higher academic scores, though there was a strong student preference for this strategy.
Across the United States, the English Language Learners (ELLs) are a large and growing population. According to the National Center for Educational Statistics (2013), 11.2 million students spoke a language other than English at home. Nationally, based on 2010-2011 enrollments, there were 4.7 million ELL students within the public school system that represented 10% of the total pre-K-12 population (United States Department of Education, 2013). The numbers of ELLs vary from state to state. The states with the highest percentage of ELLs, in order, are Nevada (31%), California (24%), and New Mexico (18%). The cities with the highest ELL percentage population are Santa Ana, California, with 62%, Compton, California, with 58%, and Garden Grove, California, at 48%. The cities with the highest total number of ELL students are Los Angeles, New York City, and Chicago. Iowa’s percentage of ELLs is fairly low at only 4.56% (United States Department of Education, 2013). However, the ELL populations in Iowa’s cities are beginning to reflect the national trends.

Statistics show that Iowa’s total student enrollment from 1997-2008 dropped by 2.8%, but the ELL enrollment increased 145% from 8,044 students in 1997 to 19,736 students in 2008. According to the Iowa Department of Education (2012) statistics, Rock Valley, Iowa, has an enrollment of 824 students. 102 of the students are ELL, which accounts for 12.38% of the population. In kindergarten through sixth grade the numbers are extremely high, where ELL students account for 44% of the total enrollment.

The numbers clearly show that the ELL population across the United States and Iowa continue to grow. The ongoing challenge for educators is to teach all ELL students in ways that allow them to reach their optimum potential. This can be done through numerous teaching strategies and techniques which require the teacher to differentiate his/her instruction. One specific strategy that this study focused on is the use of cooperative learning and small group
learning for ELL students. In order to fully influence the academic achievement of ELLs, they must feel supported both affectively and cognitively. The learning environment created for ELLs is one of the most critical factors to their success (Hamayan, Marler, Sanchez-Lopez, & Damico, 2013).

**Purpose of the Study**

The purpose of the study was to determine if cooperative learning strategies are effective ways to differentiate instruction to meet the academic learning needs of ELLs. Cooperative learning was chosen for this research study because it is a powerful tool for fostering language acquisition.

**Research Question**

This study was designed to answer the following question:

- Does cooperative learning, as a differentiated instructional strategy, have a positive academic impact on ELL students in the elementary English classroom?

**Definition of Terms**

A basic understanding of the terms used is central to any thoughtful consideration of a piece of work and must be laid out before attempting to answer the aforementioned question. Unless otherwise stated, all definitions are the author’s. For the purposes of this work, the following definitions are put forth:

**ELL** is an acronym for English Language learner. It is defined as any person that learns a language other than English before learning English.
**ESL** is an acronym for English as a Second Language (program). It is a program that uses only English as the instructional language for eligible students and enables such students to achieve English proficiency and academic mastery of subject matter content and higher order thinking skills.

**Cooperative Learning** may be best defined as small, heterogeneously mixed working groups of learners learning collaborative/social skills while working toward a common academic goal or task (Jones, 1994).

**Cooperative Grouping** requires a positive interdependence among group members in which goals are structured so that students need to be concerned about the performance of all group members as well as their own (Johnson, Johnson, & Holubec, 1986).

**Differentiated Instruction** is the practice of modifying and adapting instruction, materials, content, student projects and products, and assessments to meet the learning needs of individual students (Gregory 2007).
Literature Review

Teaching English language learners presents many challenges for mainstream teachers. No two ELLs have the same amount of grounding in their native language, or are at the same stage of English language acquisition. The students’ level of exposure to English, their educational histories, the socioeconomic levels of their families, and the number of books in their homes all play a role in their readiness to learn (and learn in) a new language (Hill & Flynn, 2006).

Teaching English language skills to ELLs is now the responsibility of all school staff. In the past, some teachers thought that the English as a Second Language teacher would take care of everything. Perhaps we even encouraged classroom teachers to leave this kind of teaching to the specialists, much as we did with students in pullout special education programs (Hill & Flynn, 2006).

In addition to the concern of assuming responsibility for ELL instruction, teachers and their schools must also address the rapidly growing ELL population. English language learners represent the fastest growing segment of the school-age population. At this moment, the greatest growth is being experienced in elementary schools. Forty-four percent of all ELLs in U.S. public schools are currently in grades preK-3 (Hill & Flynn, 2006).

Within the last decade, there are few questions in educational research have been researched more often than: Do instructional strategies make a difference in student achievement? The most important and influential of these meta-analytic studies came from the research team of Marzano, Pickering, and Pollock (2001) who compared the effects of various teaching strategies on student performance and ranked the strategies according to the academic gains students made when exposed to each one. From this research, nine distinct classroom
practices were proven to make a positive difference in student performance. Researchers at Mid-continent Research for Education and Learning (McREL) determined that these nine instructional strategies have proven to be exceptionally effective in increasing the performance of English Language Learners (Marzano et al., 2001).

The first instructional strategy endorsed by Marzano et al. (2001) requires teachers to set objectives and provide feedback to their students. Setting objectives and providing feedback provides direction for learning and offers information on how well the students are performing relative to a particular learning goal. The federal No Child Left Behind Act of 2001 requires evidence of progress in both academic achievement and English language proficiency for ELLs. Researchers and educators have strongly supported the integration of content and language objectives (Chamot & O’Malley, 1994; Dong, 2004/2005; Genesee, 1994; Mohan, 1990; Short, 1991; Simich-Dudgeon, McCreedy, & Schleppegrell, 1998). For ELLs, setting objectives is especially important: Imagine the incredible amount of incoming stimuli bombarding these students as they try to learn both a new language and content knowledge. This sense of being overwhelmed can subside when students are told exactly what they are going to learn each day upon entering the classroom. Aware of the intended outcomes, ELLs know what to focus on and what to screen out as they process new information (Hill & Flynn, 2006).

The second instructional strategy, called nonlinguistic representations, enhances students’ ability to represent and elaborate on knowledge using mental images such as graphic representations, physical models, pictographs, and engaging in kinesthetic activity. Short (1991) recommended using diverse media, including real objects, graphs, photos, maps, and demonstrations. According to Hill and Flynn (2006) ELLs cannot rely solely on linguistic ability to learn and retain knowledge in a new language. Nonlinguistic methods of learning are
particularly important to them. Their instruction must be supplemented with visuals, body language, facial expressions, gestures, and hands-on experiences.

The third instructional strategy involves the use of cues, questions, and advance organizers. This strategy enhances students’ ability to retrieve, use, and organize what they already know about a topic. Ovando and Collier (1998) recognized the importance of prior knowledge in providing rich clues to meaning. According to Hill and Flynn (2006) cues and questions should focus on what is important rather than what is unusual because ELLs need to be able to filter out unnecessary information in order to grasp the critical content. Hill and Flynn (2006) recommended using higher-level questions in order to produce deeper learning. The research done by Hill and Flynn (2006) also suggested that teachers wait at least three seconds before accepting responses from students in order to increase the depth of the answers. Hill and Flynn’s (2006) last generalization was that using a question before a learning experience can serve to activate and access prior knowledge.

The fourth instructional strategy is the strategy that was used in this research study. It is the use of cooperative learning. This specific strategy allows students to interact with each other in groups in ways that enhance their learning. Small groups “create opportunities for sustained dialogue and substantive language use” as students use language to accomplish the task at hand (Zehler, 1994, p. 7). According to Hill and Flynn (2006) this dialogue that small groups promote offers the following advantages: 1.) The small group dialogue allows for the repetition of key words and phrases, which allows the ELL to move the content he/she hears from short-term comprehension to long-term acquisition. 2.) They require functional, context-relevant speech, which adds to an ELL’s fluency. 3.) They are feedback-rich. An ELL is less likely to feel self-conscious about being corrected in a small group setting. 4.) They can greatly reduce student
anxiety. Because small groups are supportive and interdependent, ELLs feel more comfortable speaking.

The fifth instructional strategy is summarizing and note taking. This strategy gives the students the ability to synthesize and organize information in a way that captures the main ideas and supporting details which aids in processing information. According to Short (1994), when ELLs are taught to understand text patterns and recognize the signal words accompanying them, reading and writing skills improve. Summarizing techniques work best when the teacher uses comprehensible input, such as visuals and kinesthetic clues, while keeping in mind the appropriate questioning strategies for each stage of language acquisition. Note-taking works well when the teacher encourages students to supplement his or her written notes with visual representations. Combining linguistic and nonlinguistic learning increases the likelihood that knowledge will be stored and retained (Hill & Flynn, 2006).

The sixth instructional strategy is homework and practice. Assigning students homework and practice extends the learning opportunities for reviewing and applying knowledge and enhances the ability to reach the expected level of proficiency for a skill or process. Homework can be modified for ELLs by reducing complexity and increasing applicability. For example, Echevarria and Graves (1998) suggested shortening the list of science terms on a study sheet or extending the due date.

The seventh instructional strategy emphasizes reinforcing effort and providing recognition. The goal is to enhance students’ understanding of the relationship between effort and achievement by addressing attitudes and beliefs about learning. Not all students realize the importance of effort as a means for academic success. Students can learn that effort pays off. Providing recognition refers to providing students with rewards or praise for their
accomplishments related to the attainment of a goal. Krashen and Terrell’s “affective filter” hypothesis (1983) described how negative feelings and lack of self-confidence and motivation can reduce a student’s ability to acquire a new language.

The eighth instructional strategy challenges the students to generate and test their own hypotheses in order to deepen their understanding of the principle they are applying. Berman, Minicucci, McLaughlin, Nelson, and Woodworth (1995) wrote about the need to create new classroom environments that help ELLs acquire higher-level language and reasoning skills. According to Hill and Flynn (2006), time set aside in the classroom for students to verbally explain hypotheses and conclusions will not only assist in the oral language development of ELLs, it will also help them develop academic content knowledge.

The ninth and final instructional strategy requires that the students identify similarities and differences in the content they are learning. This will allow them to make new connections, experience new insights, and correct misconceptions. Teacher-directed activities are important as students become familiar with the tasks of comparing, classifying, creating metaphors, and creating analogies. It is recommended that teachers should allow plenty of talk time as students demonstrate verbal abilities before moving them into written forms of distinguishing similarities and differences (Hill & Flynn, 2006).

As stated, the main focus of this study is on the strategy of cooperative learning in ELL contexts. Hill and Flynn (2006), Kagan (1995), and Gregory (2007) all suggested that teachers need to be very sensitive about how they group their English Language Learners. These researchers recommended that ELL groups should very rarely be organized by ability, rather through heterogeneous grouping. The ELLs will benefit greatly from being grouped with English-dominant students who can model correct English (Kagan, 1995). As ELLs strive to
convey information, English-dominant students can scaffold language development by helping them find the right word or verb tense. These researchers also recommend that these cooperative learning groups be small in size. According to Hill and Flynn (2006), having groups of 2 to 4 students will allow each individual an opportunity to speak more frequently and in turn promote social skills.

Kagan (1995) recommended that teachers use the structural approach to cooperative learning, which involves content-free ways of organizing social interaction in the classroom. Kagan (1995) explained that structures require a series of steps to be implemented into the group dynamic. Kagan (1995) listed well-known structures that have been successfully used in multiple grade levels and subject areas: jigsaw, student teams achievement divisions, think-pair-share, numbered heads together, three-step interview, co-op, round robin, inside-outside circle, and roundtable.

Holt, Chips, and Wallace (1991) also recognized the possible benefits of cooperative learning in linguistically and culturally diverse classrooms. Holt, Chips, and Wallace (1991) suggested that:

English Language Learners need the maximum amount of time possible for comprehending and using the English language in a low risk environment in order to approach the language proficiency to their peers. By utilizing cooperative learning groups, teachers offer ELLs the opportunity to interact with students who are proficient in English language skills. Furthermore, because ELLs are not usually provided with content-area classes taught in their primary language, they often struggle with the difficult academic material. Cooperative learning groups enable them to work in a team with other students who have already gained proficiency with the language. This group
dynamic not only provides a supportive environment for learning new content and acquiring English language skills, but also helps to foster friendships and social development (Paragraph 14).

Every learner is unique in his or her own way. Teachers have a wide variety of instructional strategies to meet the needs of each one of their student’s needs. The specific strategy of cooperative learning allows ELL students to learn social skills as well as cognitive skills. The goal is to use higher levels of thinking as the students discuss and clarify the information being learned. Mainstream teachers with both ELLs and English-dominant students in their classrooms can use cooperative learning strategies as a powerful tool for fostering language acquisition (Hill & Flynn, 2006).

**Methods**

The diversity of students and their individual learning styles, within each classroom, is expanding. Teachers are faced with the challenge of differentiating their instruction to meet these needs to ensure higher achievement than the traditional classroom. This study focused on the differentiated instructional strategy known as cooperative learning and how it enhanced the ELLs opportunity to learn more efficiently and effectively. It was the intention of this study to test whether ELL students would benefit academically from one-on-one and small group learning environments utilizing cooperative learning. This researcher examined the growth that is made from the beginning of the English unit to the end. Results were based on pre- and post-test scores.
Participants

The participants in this study consisted of 20 third grade students from a rural public school. Of the 20 third graders, two of the students are English language learners. The participants in this study were chosen because they were the researcher’s homeroom class. The participants’ make up is largely homogeneous in terms of age, ethnicity, and socioeconomic status. In general, the students are middle class, Caucasian, and reside in a rural setting.

Materials

The materials used for this study included the third grade Houghton Mifflin textbook, supplemental worksheets, and the teacher-derived test. The instructional learning strategy that this research focused on was cooperative learning. Throughout the course of a two-week period in the homeroom classroom the students learned about adjectives in English. The pre- and post-tests were generated by the researcher. The curriculum was based on the Iowa Core and the textbook was published by Harcourt Language (2002).

Design

The independent variable of this experiment was the instructional learning strategy of cooperative learning. Within the classroom, the participants partnered with their peers in groups of three or less for the assignment portion of each of the nine lessons. Cooperative grouping was organized by the researcher. Groups consisted of pairs, threesomes, groups of 5’s, and whole class collaboration. Most of the grouping was done by purposeful selection and some was done through random selection. The researcher used selective grouping to partner lower functioning students with medium to high ability students. In the case of this study, the ELL students were partnered with fluent English-speaking students that were mid to high functioning academically.
The dependent variable was the identical pre- and post- English test created by the researcher based on the curriculum covered.

**Procedure**

In February 2013, the third grade students in the treatment group began a two-week unit focused on learning adjectives. Day one of the unit began with a pre-test (Appendix A), which was written by the researcher. The researcher was able to design the test based on 17 years of experience teaching at the third grade level and based on an understanding of the district’s curriculum and standards. Over the course of the next eight days the students were engaged in eight different lessons pertaining to learning adjectives. During this two-week period, the students were engaged daily in numerous cooperative learning scenarios. A majority of the daily work and assignments were done with partners. The two ELL students were paired with randomly selected and purposefully selected students. At the end of the study, all the students in the class took the exact same 14-question test as the post-test.

**Results**

**Data Analysis**

Difference scores were used to analyze the results of the two English tests (see Table 1). The pre-test score was subtracted from the post-test score to reveal a difference score. An independent, paired sample 1 tailed t-test was then conducted using the mean of average gain scores between the two tests and a t-test was run for significance. An alpha level of p<.05 was used to show significance. Any probability less than .05 suggests that the likelihood of that outcome randomly happening would occur less than 5% of the time. Thus, for results less than
.05 the null is rejected. For this study, the null hypothesis was that there would be no difference between the treatment group and the control group.
Table 1

*Pretest & Posttest Scores*

<table>
<thead>
<tr>
<th>Student</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>A*</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>B*</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>C</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>D</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>E</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>F</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>G</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>H</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>I</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>J</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>K</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>L</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>M</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>N</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>O</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>P</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Q</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>R</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>S</td>
<td>12</td>
<td>14</td>
</tr>
</tbody>
</table>

* ELL Students
**Findings**

No significant difference was found among the ELL students as compared to the native English-speaking students. There was a significant difference, however, among the entire class regarding the academic achievement of all students during the English unit. The results of these analyses are displayed in Table 2 and Table 3.

Table 2

*Differences in English Test Scores*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>sd</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>20</td>
<td>11.6821</td>
<td>2.868461</td>
<td>0.000012798</td>
</tr>
<tr>
<td>Post-test</td>
<td>20</td>
<td>14.6821</td>
<td>0.9455905</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 2, there was a significant difference in achievement based on the pre- and post-test with a *p*-value of <.05. It is inconclusive as to the how much of the difference in students’ scores was due to the use of cooperative learning as the instructional strategy.
Table 3

*Differences in Test Scores for ELLs*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>sd</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>2</td>
<td>12</td>
<td>1.414214</td>
<td>0.102416</td>
</tr>
<tr>
<td>Post-test</td>
<td>2</td>
<td>15</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

As demonstrated in Table 3, the difference in scores on the pre- and post-test for the two ELL students was not statistically significant at the \( p < .05 \) level.

**Discussion**

**Summary**

The purpose of the study was to determine whether or not cooperative learning grouping is an effective strategy for ELL learners. Although the results did not show significant gains in comparison to their peers, there was evidence of educational growth as well as opportunities for social growth. The effectiveness may not have appeared to be substantial but it certainly was beneficial.

In summary, this research study found that there was no statistical evidence of greater academic achievement in the elementary English classroom for the ELL students that were a part of a cooperative learning environment. Although the difference in mean scores on the pretest and posttest did not show significant gains for the ELLs due to the treatment of a cooperative learning environment, this researcher did find an overall statistically significant academic gain for the entire class.
Cooperative learning strategies have been demonstrated as an effective way to differentiate instruction (Marzano et. al 2001). The research suggested that there would be a significant change in the academic achievement based on cooperative learning. While this study did not show a statistically significant difference in the English pretest and posttest scores of the ELLs who participated in the study, it did show a statistically significant difference when comparing the differences in test scores for the entire class.

**Conclusion**

This researcher recognizes the value of implementing differentiated cooperative learning opportunities within the classroom. This type of differentiation demonstrates to students the acknowledgement of their individual needs and that teachers are willing to adapt the classroom to help students learn in the best environment possible. Although the data does not show significant academic growth for the ELL students, the class as a whole did. This researcher was able to witness higher-order conversations and thinking that took place between the students. The strategy is very effective and definitely one this researcher will continue to use in the future in all subjects.

There were strong academic achievement gains amongst all 20 students. Every student in the class showed academic growth during the two week period. In addition, many students expressed their enjoyment of English because of the interaction that took place during each lesson due to the cooperative learning strategies being implemented. The ELLs benefited greatly because of the social interaction that took place amongst them and their peers.
Implications

The implications of this research are valuable for education specifically for ELL instruction. Although there was minimal statistical evidence of a change or difference in academic achievement in the ELL students, there was influential growth socially amongst the students. The students enjoyed the strategy of cooperative learning. Anytime students enjoy what they are doing, they are more engaged.

The results for this study, however, did vary from what the research suggests. Therefore, there is a need for further study. A larger sample size is needed, along with a longitudinal research design. This research does provide some opportunities for further study. Some suggestions would be to replicate the study in other grade levels and amongst a larger population of students. It would also be worth extending the time frame to more than two weeks. This researcher would also be interested in knowing if ELL students benefit from cooperative learning more depending on their age or IQ.

Limitations

Some of the confounding variables in this study were the students’ prior knowledge, as well as other learning activities that occurred during the two-week treatment period. While the pretest did account for some prior knowledge, the extent of students understanding of adjectives could not be fully known through this assessment. The two-week treatment period was a relatively short treatment to fully measure the effect of using cooperative learning as an instructional strategy, specifically for the benefit of the ELL students.

The number of ELLs in the study affected the validity of the study as well as the reliability of the study. The effect of cooperative learning on two ELL students cannot results in
generalizability to a larger population. The researcher also wrote the test, which would be another limitation as the use of a more standardized test would have helped strengthen the validity of the study. The fact that the students were familiar with the test because the researcher went through it with them after the pre-test is another limitation. A final limitation would be the treatment time period. It would have been preferable to extend this study beyond a two-week trial. A true experimental or quasi-experimental design would result in greater validity and reliability.
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[https://www.educateiowa.gov/data-reporting/district-aea-reports](https://www.educateiowa.gov/data-reporting/district-aea-reports)


Appendix A

English Test

1. Circle the definition of an adjective.
   a. person, place, thing, or animal
   b. a word that describes a verb
   c. shows action
   d. a word that describes a noun

2. Circle the adjective in the sentence.
   a. The brown dog is sleeping.
   b. Loud noises came from the hallway.
   c. Elephants have long trunks.
   d. The shark has sharp teeth.
   e. Snakes can live in the hot dessert.

3. Circle the adjective that describes the underlined noun.
   a. The beautiful sky is all different colors.
   b. The bright moon lights up the sky.
   c. Three people were very good leaders.
   d. After several problems, they were able to finish the game.
   e. Some animals live underground.

4. Write a sentence using the adjective blue.

5. Write a sentence using two as your adjective.

6. Write a sentence and circle your adjective.
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