For my final project in SLS 490, I have developed, piloted, and analyzed the results of a criterion-referenced test (CRT) for students in advanced writing classes in the English Language Institute (ELI). My goal was to analyze a test that assessed students’ awareness of plagiarism and ability to write about source texts without plagiarizing. I could not find any such tests other than simple Internet quizzes, so I requested permission to develop and pilot my own test. This paper explains the context in which I designed the test, the procedure for piloting and scoring the test, the test results, and an analysis of the quality, dependability, and validity of the test.

The Context of Advanced ELI Writing Classes

The ELI offers two writing courses at the advanced level: ELI 83 for graduate students, and ELI 100 for undergraduate students. The courses have different student populations and curricula, but very similar goals. Specifically, both courses seek to help students develop their academic writing in English, boost their confidence in writing and their awareness of writing strategies and conventions, and promote learner autonomy. ELI 83 and ELI 100 are also designed to help students become familiar with methods and resources for conducting research, learn about plagiarism, and develop their L2 vocabulary and grammatical accuracy in the context of their writing assignments (Messer, 2004a; Talmy, 2003).

In my experience teaching ELI 83 and ELI 100, I noticed that plagiarism was a particularly difficult topic for me to teach and for students to learn. This is due to the fact that
plagiarism is a complex, culture-specific concept that all student writers must confront as they develop English academic literacy (Angélil-Carter, 2000). Too often, instances of plagiarism in student writing are interpreted solely as evidence of academic dishonesty, rather than as an indication of students’ need for further support in their development of academic literacies (Howard, 1995; Pecorari, 2001). Thus, I was motivated to identify ways of improving my approach to teaching about plagiarism. I was also interested in finding effective ways to assess students’ knowledge of plagiarism and ability to write about source material according to English academic writing conventions.

**Test Design**

As I created this test, I tried to match it to the skills and knowledge that are developed through ELI writing classes. In ELI 83 and ELI 100, students may learn about plagiarism through their textbooks, handouts, class lectures, and discussions. Teachers of these courses may draw on the plagiarism module created by Mark Messer (2004b), which outlines activities intended to help teachers determine students’ awareness of plagiarism. The module includes materials that ask students to identify plagiarized and acceptable texts in addition to actions or situations that could be considered plagiarism. The ELI 83 and 100 curricula also include practice with paraphrasing, quoting, and citing sources, which are necessary skills for writing without plagiarizing.

This test is designed as an achievement test to be administered after students have learned about plagiarism and referencing in class. This test is meant to measure how well students are able to (1) define plagiarism, (2) identify situations of plagiarism, (3) identify plagiarized and
acceptable texts, (4) quote, (5) paraphrase, and (6) document sources. It is composed of three kinds of items:

1. Short response (definition): 1 item
2. Judgment tasks (identification): 7 items
3. Productive tasks (paraphrase & quote): 2 items

The test has weighted scores, so that students may receive partial credit for each item (worth 2-3 points each). There are ten items, worth a total of 26 points.

Piloting the Test

After creating the test, I submitted a proposal to the ELI requesting permission to contact ELI 83 and 100 teachers to see if they would be willing to pilot the test in their classes. My proposal was approved by the ELI, and I received a positive response from the writing teachers. One ELI 83 teacher and one ELI 100 teacher had the time to pilot the test in class and review the results with me.

I explained the purpose of my project to the participating teachers, made copies of the test for their classes, and gave the teachers an answer key (Appendix B). I asked the teachers to present the test as a low-stakes quiz that would have no effect on students’ grades. Since the test was being piloted (and since other sections of ELI 83 and 100 were not being tested), it was important to use it for instructional rather than assessment purposes. I hoped that the test would be a useful activity for helping students review the concept of plagiarism and practice the skills they had learned. I also asked teachers to encourage students to give feedback on the test design.

Both teachers chose to give the test during class time. The instructions made it clear that students were allowed to use their textbooks, handouts, and notes to help them complete the questions. Students were also allowed to consult with one another. Since the purpose of the test
is for students to apply the knowledge and skills they have learned, it makes sense for them to use the resources available to them.

After each class had completed the test, the teacher returned the tests to me. I scored the first eight items using the answer key, and the teacher and I scored the last two items (paraphrasing and quoting) together. Since answers could vary widely for these two items, I requested the teachers’ help in scoring with the goal of achieving inter-rater reliability. I met with each teacher to review the answer key and procedure for scoring Items 9 and 10, and then we scored them separately. As Table 1 shows, inter-rater reliability estimates were generally high. The estimates indicate that the quoting task was much easier to score and less subjective than the paraphrasing task.

Table 1: Inter-rater Reliability Estimates for Items 9 and 10

<table>
<thead>
<tr>
<th></th>
<th>Item 9: Quoting</th>
<th>Item 10: Paraphrasing</th>
</tr>
</thead>
<tbody>
<tr>
<td>w/ELI 83 teacher</td>
<td>1.00</td>
<td>0.86</td>
</tr>
<tr>
<td>w/ELI 100 teacher</td>
<td>0.94</td>
<td>0.80</td>
</tr>
<tr>
<td>Total</td>
<td>0.95</td>
<td>0.84</td>
</tr>
</tbody>
</table>

After the tests were scored, the teachers returned them to students. For the purpose of reporting the scores to students, I decided to use the teacher’s score (rather than my own) for the last two items in my calculation of the final score. However, the ELI 100 teacher preferred for me to use my scores, so I heeded this request. Therefore, the scores reported here for Items 9 and 10 are mine for ELI 100, and the ELI 83 teacher’s for that class.

Test Results

A review of the test results reveals that ELI 83 and 100 students were remarkably similar in their performance. The mean score for both classes is 19.0, and the standard deviation for
both is around 2.5. The statistics reported here exclude an outlier in ELI 83 who scored only 9.0 points on the test, mainly due to the fact that s/he left many questions blank. Figure 1 shows the combined frequencies of scores. There appears to be a distribution of scores towards the upper end of the scale. This skewed distribution towards the upper end is to be expected of criterion-referenced achievement tests; such results most likely indicate that students have learned the knowledge and skills being tested.

**Table 2: Comparison of Test Results for ELI 83 and ELI 100**

<table>
<thead>
<tr>
<th>Statistics</th>
<th>ELI 83 (Graduate)</th>
<th>ELI 100 (Undergraduate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>14.00</td>
<td>15.00</td>
</tr>
<tr>
<td>k</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Total possible score</td>
<td>26.00</td>
<td>26.00</td>
</tr>
<tr>
<td>Mean</td>
<td>19.00</td>
<td>19.00</td>
</tr>
<tr>
<td>Mode</td>
<td>18.00</td>
<td>20.00, 21.00</td>
</tr>
<tr>
<td>Median</td>
<td>18.50</td>
<td>20.00</td>
</tr>
<tr>
<td>Midpoint</td>
<td>19.50</td>
<td>18.50</td>
</tr>
<tr>
<td>High</td>
<td>24.00</td>
<td>23.00</td>
</tr>
<tr>
<td>Low</td>
<td>15.00</td>
<td>14.00</td>
</tr>
<tr>
<td>Range</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2.56</td>
<td>2.53</td>
</tr>
<tr>
<td>Variance</td>
<td>6.57</td>
<td>6.40</td>
</tr>
</tbody>
</table>

**Table 3: Combined Test Results**

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>29.00</td>
</tr>
<tr>
<td>k</td>
<td>10.00</td>
</tr>
<tr>
<td>Total possible score</td>
<td>26.00</td>
</tr>
<tr>
<td>Mean</td>
<td>19.00</td>
</tr>
<tr>
<td>Mode</td>
<td>18.00, 20.00, 21.00</td>
</tr>
<tr>
<td>Median</td>
<td>19.00</td>
</tr>
<tr>
<td>Midpoint</td>
<td>19.00</td>
</tr>
<tr>
<td>High</td>
<td>24.00</td>
</tr>
<tr>
<td>Low</td>
<td>14.00</td>
</tr>
<tr>
<td>Range</td>
<td>11.00</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2.55</td>
</tr>
<tr>
<td>Variance</td>
<td>6.48</td>
</tr>
</tbody>
</table>
Dependability and Validity

To calculate dependability estimates for the test, I converted the weighted scores to dichotomous scores, so that a score of 2-3 points on an item became 1 point, and a score of 0-1 points became zero points. Since I am not familiar with ways of calculating test reliability using weighted scores, this conversion allowed me to calculate the split-half, Cronbach Alpha, and KR-21 reliability estimates according to the methods we learned in SLS 490.

Table 4: Dependability Estimates

<table>
<thead>
<tr>
<th>Split-half</th>
<th>Cronbach Alpha</th>
<th>KR-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
</tr>
</tbody>
</table>

Using these estimates, I found the agreement coefficient to be 0.71 and the kappa coefficient to be 0.05. These estimates are much lower than I would like, and they suggest that the test does not consistently measure students’ knowledge of plagiarism. Two possible reasons for the low values could be that some information was lost when I made the scores dichotomous, and that the small number of test items resulted in lower dependability estimates.
Since the dependability estimates are low, I cannot legitimately argue that this is a valid test. It could be measuring skills other than students’ ability to recognize plagiarism and write without plagiarizing. However, the test is closely tied to the ELI writing curriculum, both writing teachers reported that the test was useful, and overall students responded positively to the test (according to their teachers). Additionally, the fact that students in both classes scored very similarly on the test could mean that it is consistent. Figure 2 is a scatterplot of each class’s scores on the test.\(^1\) There is a high correlation (0.94) between the two sets of scores. These factors seem to show that the test may have some consistency and usefulness in the context of advanced ELI writing classes.

**Figure 2: Plot for Correlation Coefficient**

![Scatterplot of ELI 83 and ELI 100 Scores](image)

**Item Analysis**

A detailed analysis of the strengths and weaknesses of the test items provides further information about the effectiveness of this test. All of the items (see Appendix A) require some kind of productive response from the test-takers. While this feature allows for more flexibility in

\(^1\) This scatterplot includes the outlier.
students’ responses, it also makes the test much harder to score, and more subjective. The
answer key (Appendix B) provides very detailed answers that may be more appropriate for
pedagogical purposes than for evaluating students’ performance. That is, the answer key gives
the kinds of explanations that I would offer as a teacher, rather than the kinds of answers that
facilitate scoring. The low reliability estimates could also have resulted from scoring
inconsistencies.

For example, the items in the test’s two main sections on “Identifying Situations of
Plagiarism” and “Identifying Plagiarized Texts” require a direct Yes/No answer in addition to an
explanation from the student. While the Yes/No answers were easily scored, the explanations
could vary widely. Also, in the “Situations” section, students sometimes repeated the question in
their explanations, so it was not easy to determine whether they truly understood the reason or if
the question had given them clues to the answer. For instance, in item 2 of the “Situations,”
some test-takers wrote “because you need to mention the author’s name” in response to the
question “Why/Why not?” While this answer is correct, it is possible that the question signaled
the correct answer. These sections could be revised to facilitate scoring and to minimize the
possibility that the questions give students clues about the answer. One way to revise the items
would be to make them multiple-choice. For example, the item discussed above could be revised
to look like this:

2) In your paper you refer to specific facts and statistics that you read about in a book and do not
mention the author’s name.

Is this plagiarism?
   a. Yes, because it is not right to refer to another author’s ideas in your paper.
   b. Yes, because it is necessary to give the author credit for his/her specific facts and statistics.*
   c. No, because it is not necessary to give the author’s name.
   d. No, because specific facts and statistics are common knowledge.
A multiple-choice format such as this would be easier to score, and it might more accurately measure students’ ability to judge the reasons why a particular situation is or is not considered plagiarism.

In addition, as I scored the tests, I noticed one item that definitely needs revision. In response to Situation 3, one perceptive student wrote “it depends on the length of the paragraph.” She or he correctly pointed out that for block quotations of more than forty words, quotation marks are not used. This item could be revised for clarity.

Table 5 shows the item facility and B-index for each item. Again, these values were calculated after the conversion to dichotomous scores. The relatively high IF values indicate that several items were easy for students; in the CRT context, this means that they have learned the material. The item that almost all students answered correctly was the first one, which asked them to define plagiarism. Since the most fundamental aspect of teaching about plagiarism is defining it, students seemed to be very familiar with the meaning of plagiarism. However, as the last three items seem to show, having a knowledge of plagiarism does not necessarily mean that students can always recognize it in their own or others’ writing. Identification 3, which was by far the most difficult item, represents a kind of plagiarism that I commonly see in students’ writing. The text in this item is an example of “patchwriting” (Howard, 1995), where the writer incorporates words and phrases from the source text into his/her own writing without using quotation marks. Several test-takers reported that this text was not plagiarism because there was a citation; others said that it was plagiarism because the writer needed to give the title of the source (“ELI Student Handbook”). Both answers are incorrect, although students who correctly identified the passage as plagiarism were given partial credit.
Table 5: *Item Facility and B-Index*

<table>
<thead>
<tr>
<th>Item</th>
<th>IF</th>
<th>B-Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Explaining Plagiarism</td>
<td>0.97</td>
<td>0.20</td>
</tr>
<tr>
<td>2: Situation 1</td>
<td>0.90</td>
<td>0.36</td>
</tr>
<tr>
<td>3: Situation 2</td>
<td>0.86</td>
<td>0.32</td>
</tr>
<tr>
<td>4: Situation 3</td>
<td>0.72</td>
<td>0.39</td>
</tr>
<tr>
<td>5: Situation 4</td>
<td>0.86</td>
<td>0.56</td>
</tr>
<tr>
<td>6: Identification 1</td>
<td>0.93</td>
<td>-0.08</td>
</tr>
<tr>
<td>7: Identification 2</td>
<td>0.79</td>
<td>0.48</td>
</tr>
<tr>
<td>8: Identification 3</td>
<td>0.31</td>
<td>-0.35</td>
</tr>
<tr>
<td>9: Quoting</td>
<td>0.79</td>
<td>0.48</td>
</tr>
<tr>
<td>10: Paraphrasing</td>
<td>0.69</td>
<td>0.59</td>
</tr>
</tbody>
</table>

The *B*-index values for these items were calculated using a cut-point score of 70% (or seven points after the conversion to dichotomous scores). The two negative *B*-index values indicate that Identification 1 and 3 need to be examined more closely because they do not consistently distinguish the masters (students who passed) from the non-masters (students who failed the test). One explanation for these values could be that the test measures very different kinds of skills, and some students may have mastered certain skills, but are still developing others. For instance, a student who quotes and paraphrases a source very well may not be as adept at noticing plagiarism in others’ texts. Since the test measures these different skills in relatively few items, it may not divide “masters” and “non-masters” very well, which could account for the low *B*-index values.

**Conclusion**

Based on my experience piloting this test, I have found that it is not easy to measure students’ knowledge of plagiarism. First, it is necessary to identify the skills and knowledge that students need to write without plagiarizing, and then create items that effectively assess those abilities. Because acquiring skills for writing about sources is a key goal of advanced ELI
writing classes (as well as an important part of English academic literacy), it is important to assess how well ELI students are mastering these skills. With further development and revision of the areas discussed above, this plagiarism CRT could be used in future ELI writing classes. Perhaps its most useful function would be to help students and teachers identify the students’ weaker areas and work on the skills they need to write about source texts according to English academic writing conventions.
Appendix A

The questions below are meant to test your understanding of plagiarism. You may use your notes or textbook to help you answer the questions.

Explaining Plagiarism
In the space provided, explain what plagiarism means. (3 points)

_________________________________________________________________________________

Identifying Situations of Plagiarism
Decide whether each of the following situations is plagiarism or not and explain why. (2 points each)

1) You cut and paste information from a web site into your essay. The author’s name is not on the web site, so in your paper you do not mention the source of the information.

Is this plagiarism? Circle one: Yes No
Why/Why not?

_________________________________________________________________________________

2) In your paper you refer to specific facts and statistics that you read about in a book and do not mention the author’s name.

Is this plagiarism? Circle one: Yes No
Why/Why not?

_________________________________________________________________________________

3) You copy a paragraph from a news article and put it in your essay without using quotation marks.

Is this plagiarism? Circle one: Yes No
Why/Why not?

_________________________________________________________________________________

4) You download a paper from the Internet and turn it in as your own.

Is this plagiarism? Circle one: Yes No
Why/Why not?

_________________________________________________________________________________
Identifying Plagiarized Texts
First carefully read the original passage below from the ELI Student Handbook, written by the English Language Institute. Then decide whether paragraphs 1, 2, and 3 from a student paper are plagiarized or not and explain why. (3 points each)

ORIGINAL:
“When in a culture that is new and unknown (or somewhat new and unknown), the people who succeed most tend to be those who develop strategies for learning from the language and the people around them, as well as strategies for coping with the extra demands they face. . . . Additionally, they actively seek to become familiar with their new surroundings and the resources provided there, so that they can be more independent and confident in their ability to know and use all the resources that are available. And finally, they pay attention to their own needs and seek connections between these and the resources available.”

*From the ELI Student Handbook, pp. 9-10, written by the English Language Institute, 2003.*

STUDENT WRITING 1:
How do you succeed when studying in a foreign culture? The answer is to develop strategies for learning from the language and the people around you, as well as strategies for coping with the extra demands you face.

Is this plagiarism? Circle one: Yes No
Why/Why not?

STUDENT WRITING 2:
According to the “ELI Student Handbook,” students who do best are the ones who learn how to adapt to their new environment. The handbook emphasizes the importance of learning about the resources that students can use to make their lives easier (ELI, 2003).

Is this plagiarism? Circle one: Yes No
Why/Why not?

STUDENT WRITING 3:
When studying in a foreign environment, it’s important to be aware of your own needs and develop strategies for learning from the language and the people around you. The people who succeed the most tend to be those who are independent and confident in their ability to know and use all the resources that are available (ELI, 2003).

Is this plagiarism? Circle one: Yes No
Why/Why not?
**Quoting and Paraphrasing**
Read the passage below, which was written by Ilona Leki in her book, _Academic Writing._

“**Even professional writers revise, rereading what they wrote, crossing out sections, rereading again, moving sections from one place to another, constantly comparing what they have on paper with an image in their minds of what they want to communicate. Revising is not punishment for writing a bad text. All experienced writers revise.”**

*From page 140 of Academic Writing, by Ilona Leki, published in 1998.*

1) **Quote** a phrase or sentence from the passage above. Follow standard APA or MLA citation. (3 points)

_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________

2) **Paraphrase** part of the passage above. Follow standard APA or MLA citation. (3 points)

_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
Appendix B

Name: _____________________

PLAGIARISM QUIZ ANSWER KEY

The questions below are meant to test your understanding of plagiarism. You may use your notes or textbook to help you answer the questions.

Explaining Plagiarism
In the space provided, explain what plagiarism means. (3 points)
The definition should include something like using others’ words (1 pt) or ideas (1 pt) without giving credit for them (1 pt).

Identifying Situations of Plagiarism
Decide whether each of the following situations is plagiarism or not and explain why. (2 points each)

1) You cut and paste information from a web site into your essay. The author’s name is not on the web site, so in your paper you do not mention the source of the information.

Is this plagiarism? Circle one:   Yes     No
Why/Why not?

Whenever using info. from another source, it’s necessary to give credit to that source. If no author’s name is listed on the web site, you can mention the sponsor of the site (i.e., the company or organization that created it). Also, if you cut and paste exact words from a web site, it’s necessary to use quotation marks and indicate where the words came from.

2) In your paper you refer to specific facts and statistics that you read about in a book and do not mention the author’s name.

Is this plagiarism? Circle one:   Yes     No
Why/Why not?

Whenever referring to information that is not “common knowledge,” such as specific facts/statistics, it is necessary to name the source of that information.

3) You copy a paragraph from a news article and put it in your essay without using quotation marks.

Is this plagiarism? Circle one:   Yes     No
Why/Why not?

It’s always necessary to use quotation marks around language that has been copied exactly from a source. (It is also necessary to show where that language came from.)

4) You download a paper from the Internet and turn it in as your own.

Is this plagiarism? Circle one:   Yes     No
Why/Why not?
Because you are presenting this writing as your own although you have not written it.

**Identifying Plagiarized Texts**
First carefully read the original passage below from the ELI Student Handbook, written by the English Language Institute. Then decide whether paragraphs 1, 2, and 3 from a student paper are plagiarized or not and explain why. (3 points each)

**ORIGINAL:**
“When in a culture that is new and unknown (or somewhat new and unknown), the people who succeed most tend to be those who develop strategies for learning from the language and the people around them, as well as strategies for coping with the extra demands they face. . . . Additionally, they actively seek to become familiar with their new surroundings and the resources provided there, so that they can be more independent and confident in their ability to know and use all the resources that are available. And finally, they pay attention to their own needs and seek connections between these and the resources available.”

*From the ELI Student Handbook, pp. 9-10, written by the English Language Institute, 2003.*

**STUDENT WRITING 1:**
How do you succeed when studying in a foreign culture? The answer is to develop strategies for learning from the language and the people around you, as well as strategies for coping with the extra demands you face.

Is this plagiarism? Circle one: Yes No

Because the student writer has copied language from the passage without using quotation marks or giving the name of the source.

[For teachers: When the writer copies language from the source and plugs in a few of their own words/phrases, this is an example of “patchwriting” (Howard, 1995)].

**STUDENT WRITING 2:**
According to the “ELI Student Handbook,” students who do best are the ones who learn how to adapt to their new environment. The handbook emphasizes the importance of learning about the resources that students can use to make their lives easier (ELI, 2003).

Is this plagiarism? Circle one: Yes No

Because the writer effectively paraphrases the information in the passage, using his/her own words and crediting the source.

**STUDENT WRITING 3:**
When studying in a foreign environment, it’s important to be aware of your own needs and develop strategies for learning from the language and the people around you. The people who succeed the most tend to be those who are independent and confident in their ability to know and use all the resources that are available (ELI, 2003).

Is this plagiarism? Circle one: Yes No
Why/Why not?
Because the writer copies the language of the source without using quotation marks to show that these are not his/her words. (Even though the writer gives credit to the source, inserts some of his/her own words, and changes the order of the copied phrases, this is still plagiarism.)

Quoting and Paraphrasing
Read the passage below, which was written by Ilona Leki in her book, Academic Writing.

“Even professional writers revise, rereading what they wrote, crossing out sections, rereading again, moving sections from one place to another, constantly comparing what they have on paper with an image in their minds of what they want to communicate. Revising is not punishment for writing a bad text. All experienced writers revise.”

*From page 140 of Academic Writing, by Ilona Leki, published in 1998.*

1) **Quote** a phrase or sentence from the passage above. Follow standard APA or MLA citation. (3 points)

Answers will vary; look to see if (1) students have used quotation marks around exact words/phrases from the original and (2) students have included an in-text citation that mentions Leki’s name and the page number (and the year if using APA).

2) **Paraphrase** part of the passage above. Follow standard APA or MLA citation. (3 points)

Answers will vary; look to see if (1) students have accurately expressed the meaning of the passage in their own words and (2) students have given credit to the source by mentioning Leki’s name (plus the year if using APA; the page number if using MLA).
References


