This study investigated the effects of student self-assessment on English-as-a-Foreign-Language (EFL) students' knowledge achievement and academic thinking. Ninety-four college seniors from the Department of English at the School of Education at Suez University in Egypt participated in the study. They were randomly divided into two groups, an experimental group and a control group. In the experimental group, throughout the semester, students were asked to independently assess their own knowledge and thinking before and after each lecture. In the control group, students were taught the same English language teaching methodology course with the same method without self-assessing their knowledge or thinking. Prior to and at the end of the semester all subjects were tested on both knowledge and academic thinking. The data were analyzed using the t-test. It was found that the mean score gain of the experimental group was slightly higher than that of the control group on both knowledge achievement and academic thinking. The difference was not significant at the 0.05 level. Therefore, there is not sufficient evidence to conclude that self-assessment can improve students' knowledge or academic thinking. Accordingly, there is also no finding that student self-assessment lowers scores either. Appendices containing the goals of the course and the pre/post knowledge and thinking tests are included. (Contains 52 references.) (KFT)
Effects of Student Self-Assessment on Knowledge Achievement and Academic Thinking

Abdel Salam A. El-Koumy
Suez Canal University, Egypt

Abstract

The purpose of this study was to investigate the effects of self-assessment on EFL students' knowledge achievement and academic thinking. The subjects for the study consisted of 94 seniors enrolled in the Department of English at the School of Education in Suez, during the first semester of the 2000/2001 academic year. These subjects were randomly divided into two equal groups: an experimental group and a control group. In the experimental group, each student was asked to independently assess his/her own knowledge and thinking before and after each lecture throughout the semester. In the control group, students were taught the same ELT methodology course with the same method without self-assessing their own knowledge or thinking. The study lasted a period of three months (one session per week). Prior to, and at the end of this period, all subjects were tested on both knowledge and academic thinking. The obtained data were analyzed using the t-test. The results showed that the mean gain score of the experimental group was slightly higher than that of the control group on both knowledge achievement and academic thinking, but the difference was not significant at the 0.05 level. Based on these results, conclusions were drawn and recommendations were made.

Introduction

Recently, self-assessment has been offered as a type of alternative assessment due to the concerns that the traditional type of assessment is not authentic and does not help students develop in knowledge or thinking (Campbell et al. 2000, Hirvela and Pierson 2000, O'Neil 1992, Pierce and O'Malley 1992, Santos 1997). This new type of assessment reflects the constructivist theory of learning which views learners as active participants in the construction and evaluation of their own knowledge and thinking (Shepard 2000). Advocates of this theory further claim that self-assessment has many advantages. The first of these advantages is that it promotes students' autonomy (Barnes 1999, Ekbatani 2000, Graham 1997, Newman and Smolen 1993, Santos 1997, Williams and Burden 1997, Yancey 1998). The second advantage, as mentioned by Nunan (1988), is that self-assessment assists students in "the development of a critical self-consciousness... of their own role as active agents within the learning process" (pp. 134-135). The third advantage is that self-assessment improves students' metacognition, which can, in turn, lead to better thinking and better learning (Andrade 1999, Cottell 1991, O'Malley and Pierce 1996, Steadman 1998). The fourth advantage of self-assessment is that it enhances students' motivation, which can, in turn, increase their involvement in learning and thinking (Angelo 1995, Coombe and Kinney 1999, Palomba and Banta 1999). The fifth advantage of self-assessment is that it fosters students' self-esteem and self-confidence, which can, in turn, encourage them to see the gaps in their knowledge and thinking and to quickly begin filling these gaps (Smolen et al. 1995, Statman 1993). The sixth and final advantage of self-assessment is that it alleviates the teacher's assessment burden (Dickinson 1987).

Note: Part of the research reported in this paper was presented at IELP-II's Third Conference for Returned Participants held at the Social Club, Cairo University, April 18-19, 2001.
Along with the previously mentioned advantages, self-assessment has also a number of disadvantages. The first disadvantage is that it is an unreliable measure of thinking and learning. The unreliability of this type of assessment is due to two main reasons. The first reason is that students may under- or over-estimate their own knowledge and thinking (Heilenman 1990, McNamara and Deane 1995). The second reason is that students can cheat when they assess their own abilities (Gardner and Miller 1999). The second disadvantage is that self-assessment is quite difficult for some student types (Burton and Nunan 1986, Miller and Turner 1987). The third and final disadvantage of self-assessment is that few students engage in it (McNamara and Deane 1995, Oxford 1990).

The above diverse viewpoints make it difficult for teachers to decide whether to allow students to assess their own knowledge and thinking or not. These viewpoints also point toward the need for research in this area to help teachers in their decision making about the inclusion of this type of assessment in their courses.

Review of research
The research related to the problem under investigation reported conflicting results in different subject areas. In the area of language, some studies (e.g., LeBlanc and Painchaud 1985, von Elek 1982) found a positive correlation between the accuracy of students' self-assessment of their language skills and their actual (classroom/test) performance, whereas others (e.g., Blanche 1986, Peirce, Swain and Hart 1993) found a very weak or no correlation between the same variables. (For detailed reviews of research in this area, see Blanche and Merino 1989, and North 2000.) Similarly, studies done in subject areas other than language also yielded contradictory results. Some of these studies (e.g., Shelton 1991, Walker 1991) found that self-assessment improved knowledge achievement, whereas others (e.g., Cottell and Harwood 1998, Olmsted 1994) found that self-assessment did not increase knowledge achievement. In the area of thinking, no studies have focused directly on the effect of self-assessment on this skill in general or academic thinking in particular.

Research hypotheses
Based on the literature reviewed above, the hypotheses of the study were stated in the null form as follows:

1. There would be no significant difference between the mean gain score of the experimental group and that of the control group on knowledge achievement.
2. There would be no significant difference between the mean gain score of the experimental group and that of the control group on academic thinking.

Significance of the study
As self-assessment is one of the cornerstones of autonomous learning, this study may contribute to promoting autonomy in prospective EFL teachers. As a consequence of this, they are likely to be more active and more reflective, both during their preparation program and throughout their professional life. The study is also a step forward toward integrating thinking with knowledge during the implementation of academic courses.
Method

Subjects

The subjects for the study consisted of 94 seniors enrolled in the department of English, at the School of Education in Suez, during the first semester of the 2000/2001 academic year. These subjects were randomly divided into two equal groups: an experimental group and a control group. The same instructor, the researcher, taught the two groups with one class immediately following the other. To avoid bias, he kept a daily log to ensure that the same materials were taught to both groups with the same method, with the exception of allowing the experimental group to assess their own knowledge and thinking before and after each lecture.

Instruments

The instruments used in the study were the following:

(1) Two pre-posttests, one for testing knowledge and the other for testing thinking. These tests were very specific to the goals of the course taught to the subjects for the study. (For the course goals, see appendix A.) In designing both tests, the researcher followed the procedures suggested by Bachman and Palmer (1996). (See part I in appendixes B & C.) Before the administration of both tests, their validity was established by four university teachers, who reviewed them in light of portions of design statement and course goals. Furthermore, their internal consistency was determined by the split-half reliability procedures. The Pearson product-moment correlation coefficient was calculated, from scores of twenty students not included in the study, on the odd- and even-numbered tasks, and this statistic was then adjusted by applying the Spearman-Brown prophecy formula. The resulting split-half reliability coefficient was .83 for the knowledge test, and .76 for the thinking test.

(2) Two holistic rating scales, one for scoring knowledge and the other for scoring thinking. (See part II in appendixes B & C.)

Course description

The ELT methodology course used for the study consisted of 7 main parts. Part one dealt with the various approaches to teaching and learning English as a foreign language. Part two dealt with teaching the subsidiary language skills. Part three dealt with teaching the main language skills. Part four was devoted to the similarities and differences between each two main language skills. Part five dealt with the integration of each two main language skills in the EFL classroom. Part six dealt with the integration of all language skills in the EFL classroom. Part seven consisted of three chapters that were devoted in turn to error correction, use of the mother tongue in foreign language teaching, and language testing.

Procedure

Before the study began, all subjects were tested on their knowledge and thinking of the ELT methodology course that would be taught to them. These subjects were then randomly divided into two equal groups: an experimental group and a control group. In the experimental group, each student was asked to independently assess his/her own knowledge and thinking before and after each lecture throughout the semester. Before the beginning of each lecture, students answered four teacher-prepared questions that probed their background knowledge and thinking (two for each) of the main topics in the lecture. At the end of the lecture, they were asked to answer the same questions and compare their pre- and post responses to see how much they had learned. In the control
group, students were taught the same course with the same method without self-assessing their own knowledge or thinking. The study lasted a period of three months (one session per week). At the end of this period, all subjects were tested on knowledge and thinking of the ELT methodology course taught to them. After that, the pre- and posttests were scored by two independent raters.

Scoring
Before scoring, the two independent raters were instructed in the use of the two scoring scales. The interrater reliability was also established for both dependent variables. It was found to be 0.82 for knowledge and 0.77 for thinking. During scoring, answers with scores that differed by two or more points were read by a third rater and the extreme score was dropped. The score for each answer was the average of two raters — either the first two raters, or in case in which a third rater was required, the average of the third rater and the closest score. To avoid scoring bias, all subjects used identification numbers on their answer sheets. Furthermore, the raters made no marks on students' sheets and recorded scores on separate ones.

Results and discussion
The data gathered via the pre- and posttests were statistically analyzed using the t-test. The level of significance was set at 0.05.

Table 1
The T-Value of the Difference in the Mean Gain Scores between the Experimental Group and the Control Group on Knowledge Achievement

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Gain Score</th>
<th>SD</th>
<th>T-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>47</td>
<td>6.06</td>
<td>1.03</td>
<td>0.88</td>
</tr>
<tr>
<td>Control</td>
<td>47</td>
<td>5.89</td>
<td>0.84</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 1, statistical analysis of the pre- and posttest data revealed that the mean gain score of the experimental group was slightly higher than that of the control group on knowledge achievement, but the difference was not significant at the 0.05 level (t = 0.88, p > 0.05). Therefore, the first null hypothesis was accepted. This result may be due to several reasons. First, students in the experimental group might not participate fully and positively in assessing their own knowledge because of the fact that they are used to being spoon-fed and evaluated by their instructors. Second, the students' lack of self-assessment skills might have kept them from getting the most benefit from self-assessment. Third, students' resistance to new innovations could have decreased the benefits of self-assessment for them. Fourth, students' unawareness of the advantages of self-assessment might lead them to perceive it as a waste of their time and question its value for arriving at goals. Fifth, students might not take self-assessment seriously because of the instructor's passivity during and after their engagement in it.
Table 2
The T-Value of the Difference in the Mean Gain Scores between the Experimental Group and the Control Group on Academic Thinking

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean Gain Score</th>
<th>SD</th>
<th>T-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>47</td>
<td>8.62</td>
<td>1.01</td>
<td>0.96</td>
</tr>
<tr>
<td>Control</td>
<td>47</td>
<td>8.43</td>
<td>0.93</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 2, statistical analysis of the pre- and posttest data revealed that the mean gain score of the experimental group was slightly higher than that of the control group on academic thinking, but the difference was not significant at the 0.05 level (t=0.96, p>0.05). Therefore, the second null hypothesis was accepted. This result may be due to the short time of the study. The development of students' thinking, as many studies have shown, "occurs only after a two-year period of consistent and sustained instruction that employs a carefully designed curriculum and well trained teachers" (Costa 1985: 276). Furthermore, linking self-assessment to lecturing, as done in this study, is not enough for the development of students' thinking. The development of students' thinking requires considerably more than this. It requires that all teachers should (a) incorporate thinking into their courses, (b) use teaching strategies that provoke students' thinking, (c) help students become aware of their own thinking processes, and (d) use examinations that test knowledge as well as thinking.

Conclusions and recommendations
There is not enough evidence to conclude that self-assessment can improve students' knowledge or academic thinking. At the same time, there is no evidence from this study or other studies that self-assessment causes students to score lower on knowledge or thinking tests. Therefore, the researcher suggests that for self-assessment to achieve its full potential teachers should (a) choose, adapt, or design self-assessment techniques that fit the goals of their courses, (b) provide students with support during assessing their own knowledge and thinking, and lessen this support gradually as students become more confident, (c) collect students' responses, read through them, give feedback on them, and make use of them to change their own teaching strategies, (d) self-assess their own teaching to encourage students to involve and stay involved in self-assessment, and (e) be explicit with their students about the advantages of this type of assessment to help them build positive attitudes towards it. Additionally, students need to develop a routine of self-assessment by embedding it in every course at all levels.

References


Appendix A
Goals of the course

By the end of the fourth year ELT methodology course students should:
1. know and evaluate the different approaches to teaching English as a foreign language;
2. know and evaluate the methods of teaching subsidiary language skills;
3. analyze main language skills into subskills;
4. know and evaluate the methods of teaching main language skills;
5. know how to integrate subsidiary skills with main language skills in teaching English as a foreign language;
6. know the similarities and differences between each two main language skills;
7. know how to integrate each two main language skills in teaching English as a foreign language;
8. know how to integrate all language skills in teaching English as a foreign language;
9. know and evaluate the different approaches to error correction;
10. know and evaluate the different approaches to using the mother tongue in teaching English as a foreign language; and
11. know and evaluate the different approaches to language testing.
Appendix B
Pre/Post Knowledge Test

(I) Portions of design statement

Purpose of the test: This test is designed to measure students' knowledge of ELT methodology. It is very specific to the goals and objectives of the fourth year methodology course.

Definition of construct: The construct to be measured is knowledge of ELT methodology. This construct includes:

1. knowledge of different approaches to teaching English as a foreign language,
2. knowledge of methods of teaching subsidiary and main language skills,
3. knowledge of similarities and differences between each two main language skills,
4. knowledge of different approaches to error correction,
5. knowledge of different approaches to using the mother tongue in teaching English as a foreign language,
6. knowledge of different approaches to language testing, etc.

Characteristics of test takers: Test takers are senior students enrolled in the department of English at the School of Education in Suez, 21 years of age and up, male and female.

(II) The test

Instructions to test takers: This is a test of your knowledge of ELT methodology. It takes 3 hours. It consists of 4 tasks. Three marks will be awarded for each response. These marks will be given according to the following scale:

0 mark No evidence of knowledge of the topic in question
1 mark Limited knowledge of the topic in question
2 marks Moderate knowledge of the topic in question
3 marks Evidence of complete knowledge of the topic in question

Test tasks

Answer the following questions:

1. Outline the components of the following:
   (a) listening
   (b) reading

2. What are the similarities and differences between spoken and written discourse?

3. What are the advantages and disadvantages of guided composition?

4. What are the differences between formative and summative evaluation?
Appendix C
Pre/Post Thinking Test

(I) Portions of design statement

Purpose of the test: This test is designed to measure students' ability to think of ELT methodology. It is very specific to the goals and objectives of the fourth year methodology course.

Definition of construct: The construct to be measured is students' thinking of ELT methodology. This construct includes:
(1) evaluating the different approaches to teaching English as a foreign language,
(2) evaluating the different methods of teaching subsidiary and main language skills,
(3) evaluating the different approaches to error correction,
(4) evaluating the different approaches to using the mother tongue in teaching English as a foreign language,
(5) evaluating the different approaches to language testing, etc.

Characteristics of test takers: Test takers are senior students enrolled in the department of English at the School of Education in Suez, 21 years of age and up, male and female.

(II) The test

Instructions to test takers: This is a test of your thinking of ELT methodology. It takes 3 hours. It consists of 4 tasks. Twelve marks will be awarded for each response. These marks are assigned to 4 aspects (3 marks each) as follows:

<table>
<thead>
<tr>
<th>Aspects</th>
<th>Rating Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>Poor</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>1. Examinee considers different points of view.</td>
<td>0</td>
</tr>
<tr>
<td>2. Examinee uses credible sources and mentions them.</td>
<td>0</td>
</tr>
<tr>
<td>3. Examinee keeps his/her thinking relevant to the topic in question</td>
<td>0</td>
</tr>
<tr>
<td>4. Examinee takes a position when the reasons are sufficient to do so</td>
<td>0</td>
</tr>
</tbody>
</table>

Test tasks
Answer the following questions:
(1) Which do you think is the most effective in our context, a whole language approach, a skills-based approach, or a compromise between them? Why?
(2) Do you think grammar needs to be deliberately taught in the EFL classrooms? Why? Why not?
(3) Do you think that overemphasis on language mistakes can distract learners' attention from meaning? Why? Why not?
(4) What is your view about breaking down language proficiency into components for the purpose of testing?
I. DOCUMENT IDENTIFICATION:

Title: Effects of Student Self-Assessment on Knowledge Achievement and Academic Thinking

Author(s): Abdel Salam A. El-Kaoumy

Corporate Source: Publication Date: April 19, 2001

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, Resources in Education (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Service (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce the identified document, please CHECK ONE of the following options and sign the release below.

[ ] Permitting microfiche (4" x 6" film), paper copy, electronic, and optical media reproduction.

[ ] Permitting reproduction in other than paper copy.

Level 1

Level 2

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but neither box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Signature: El-Kaoumy
Position: Associate professor of TEFL
Printed Name: Abdel Salam A. El-Kaoumy
Organization: Faculty of Education in Suez
Address: Singirg, Menouf, Menoufia, Egypt
Telephone Number: (048) 431221
Date: 04/27/2001
III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

<table>
<thead>
<tr>
<th>Publisher/Distributor:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td></td>
</tr>
</tbody>
</table>

Price Per Copy:     

Quantity Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name and address of current copyright/reproduction rights holder:

Name:           

Address:       

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

ERIC Clearinghouse on Languages & Linguistics  
1118 22nd Street NW Washington, D.C. 20037