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Evaluation of Learning Objectives in Iranian High-School and Pre-University English Textbooks Using Bloom's Taxonomy

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Evaluation of Learning Objectives in Iranian High-School and Pre-University English Textbooks Using Bloom's Taxonomy

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Abstract

This paper reports a study that investigated the types of learning objectives represented in Iranian high-school and pre-university English textbooks using Bloom's taxonomy of learning objectives. Three high-school and three pre-university English textbooks were selected for analysis. The results of the study are presented in this paper.

university textbook were included in the analysis. To codify the learning objectives, a Bloom's (1956) taxonomy of learning objectives. The exercises and tasks of the textbooks percentages of occurrence of different learning objectives were calculated. Results of order cognitive skills were more prevalent than higher-order ones. Furthermore, the and the pre-university textbooks in terms of the levels of the taxonomy were significant used some degrees of higher-order learning objectives. Results of this study have implications for development.

Introduction

Materials development and evaluation is a relatively young phenomenon in the field of language the production, evaluation and adaptation of materials. Tomlinson (2001, p.66) defines materials to facilitate the learning of a language.”

Although textbooks can be affected by other aspects of an instructional situation (for instance by students' preferences for one part over another, or other environmental factors), the evaluation components is more significant as texts have the potential to change the objectives of the situation. Nevertheless, it seems that all the components involved in teaching and learning situation affect achievement. As Hutchinson and Torres (1994 cited in Litz, 2005) suggest:

The textbook is an almost universal element of [English language] teaching. Millions of copy projects have been set up to produce them in [various] countries...No teaching-learning situation is relevant without a relevant textbook. (p. 315)

There are, however, different attitudes towards textbooks. Tomlinson (2001) divides the attitudes into two opponents. The former group argues that textbooks are the most convenient form of presentation, systematicity, cohesion, continuation, and progression. The latter contend that textbooks lack coverage and are not able to satisfy the diverse and broad needs of all their users. It is important for general purposes while the second group considers the shortcomings of textbooks for specific purposes. It is widely agreed that textbooks are of great value in the process of teaching and learning (Stern, 1998; O'Neil, 1982; Sheldon, 1988).

Constant evaluation of textbooks to see if they are appropriate is of great importance. As O'Neil (1982) settings is a process of collecting, analyzing and interpreting information. This process enables us to determine which student achievement will increase and educational programs will be more successful. There are many reasons for the evaluation of textbooks. Among these reasons, he suggests that the selection of textbooks is often demonstrates an important administrative and educational decision in which one can see a significant financial, or even political investment. As there are many different and diverse ELT textbooks, the evaluation of textbooks in order to be able to recognize the advantages of one over the other is of great importance.

textbook. Ellis (1997) suggests that material evaluation could be conducted at three stages

- 1) 'predictive' or 'pre-use' evaluation that is designed to examine the future or potential of a textbook that is not yet used;
- 2) 'in-use' evaluation designed to examine material that is currently being used; and
- 3) 'retrospective' or 'post-use' (reflective) evaluation of a textbook that is concerned with how it has been used in a specific institution or situation.

While different criteria and approaches have been presented to evaluate textbooks (see, for example, Williams, 1983), taxonomies like Bloom's taxonomy of educational objectives also prove useful. Williams believes that Bloom's taxonomy of educational objectives is a tool that can be used in the hands of experienced educators to think more precisely about what it means to teach and test for content. Williams et al. (2005) examined the lesson plans of 67 teacher interns in Kentucky to determine the extent to which they were developing higher-order thinking skills in their students. This analysis showed that 41.3% of the teachers' lesson objectives were at the "knowledge" level, the lowest cognitive category. Only 3.2% of the teachers' lesson objectives were at the "evaluation" in Bloom's taxonomy.

Literature Review

Most of the textbook evaluation studies carried out in Iran focus on three main goals. The first group has studied criteria to contribute to more successful textbook evaluation studies (see e.g., Ansary & Babaii, 2002), the second group has studied certain textbooks for their strength and weaknesses to find their advantages and shortcomings (see e.g., Aryashokouh, 2007), and the third group has studied discourse features and the representativeness of textbooks (see e.g., Darali, 2007; Tavakoli, 1995). Other studies have addressed issues outside of these categories (see e.g., Ansary, 2005).

Ansary and Babaii (2002) presented some characteristics and criteria for a good textbook for EFL/ESL learners. They provided 10 EFL/ESL textbook reviews plus 10 EFL/ESL textbook evaluation checklists. The features that

1. Dissemination of a vision (theory or approach) about the nature of language,
2. The nature of learning and how the theory can be put to applied use;
3. Stating purpose(s) and objective(s) for the total course and for individual units;
4. Selection and its rationale for coverage, grading, organization and sequencing;
5. Teacher's satisfaction with the syllabus for providing a guide book, advice on the materials, and orientations, and keys to the exercises and supplementary materials;
6. Learner satisfaction with the syllabus for giving piecemeal, unit-by-unit instruction and

Jahangard (2007) evaluated four EFL textbooks that have been used in the Iranian high schools.

the merits and demerits of the textbooks with reference to 13 common criteria extracted from the criteria were as follows: explicitness of objectives, good vocabulary explanation and practical approaches to the target community, periodic review and test sections, clear attractive layout materials, interesting topics and tasks, clear instructions, clearly organized and graded content, grammar presentation and practice, fluency practice in all four skills, and independent learning (as indicated that book four had better features in comparison with the three other textbooks and their modifications).

Riazi and Aryasholouh (2007) also studied the four high school and pre-university English textbooks from the aspect of vocabulary exercises. They found that of all exercises in the four books, only one was for consciousness-raising. They also found that the exercises mainly concentrated on individual words rather than on fixed expressions, lexical collocations (approximately 15%) and grammatical collocations. The results showed that students are mainly dealing with meanings of individual words and not with how words are used in combinations.

The third group of textbook evaluation studies in Iran has focused on discourse features such as functions. Darali (2007) studied the important features of new English textbooks such as the *Spectrum* series. She found that the language functions of the language is included in the lessons. The results of the study showed that the series pay attention to the most frequent ones in daily speech were not focused on as much as other functions. Although they provided metalinguistic information, they lacked explanations on the use of different forms in the series. The results also showed descriptions regarding appropriateness, paralinguistic information and contextual information were not provided.

In another study, Tavakoli (1995) used Searle's (1976) model of speech act to analyze dialogues used in Iran at the high school senior level, to see whether different forms of speech acts were used. The researcher concluded that only three of the five language functions were used. The expressive function was used most frequently, followed by the illocutionary function. The researcher concluded that only three of the five language functions were used: expressive, were introduced in the textbooks, while commissives and declarations were completely absent.

In other contexts, textbook evaluation studies have also attracted researchers' attention. For example, Morgan (1999) studied preparation materials and showed that there is a need for more materials that aim beyond the current language competencies that the candidates need for their work or study goals. Morgan stated that students are expected to be highly motivated and therefore, there is not any attempt to make the books more interesting. The researcher was found to be a disadvantage of the books.

Kartner (2003) wonders why students and teachers' enthusiasm towards a new textbook tends to fade after a year. The answer he provides is that textbooks that are at first interesting eventually get too boring. He suggests that books that give the reader new ideas and perspectives and "gets your creative juices flowing" (as he puts it).

Weiten, Deguara, Rehmke, and Sewell (1999) focused on textbook pedagogical aids while

of textbooks. They examined students' evaluation of textbook pedagogical aids and found glossaries, chapter summaries and self-tests earned the highest marks in their evaluation.

Vellenga (2004) was concerned with how pragmatics was presented in EFL/ESL textbooks (ESL) and English as a Foreign Language (EFL) textbooks to determine the amount and quality. The study focused mainly on the use of metalanguage, explicit treatment of speech acts, and metapragmatic register, illocutionary force, politeness, appropriacy and usage, and found that textbooks provide limited information, and teachers' manuals rarely supplemented adequately. The researcher also explored ways to integrate materials related to pragmatics into the classroom and concluded that learning pragmatic

As this review of the related literature indicates, there is a paucity of research on the cognitive components of the current study, therefore, is felt to be needed as it focuses on the components of the cognitive components in Iranian high-schools and pre-university.

Objectives of the Study

The purpose of this study was to evaluate Iranian high school English textbooks with regard to Bloom's taxonomy. The evaluation took place with regard to the six levels of learning objectives in Bloom's taxonomy.

The study intended to investigate how the content of textbooks represents Bloom's taxonomy. The study sought to indicate which levels of the taxonomy were more focused on in the textbooks. With regard to learning objectives, the researchers gave some suggestions for improving the content of the textbooks.

The study, therefore, aimed to find answers to the following questions:

1. Which levels of Bloom's taxonomy are more prevalent in English textbooks currently in use?
2. How are the books evaluated in terms of lower-order and higher-order cognitive skills?
3. How could the learning objectives in high school and pre-university textbooks be improved?

Regarding the context of the study, it should be stated that the English language is taught in Iran. Teachers can mostly teach through their preferred methodology as there is no specific teaching methodology. It is that teaching is highly affected by the well-known University Entrance Exam (Konkour) which is a high-stakes multiple-choice exam. The focus of the exam is on the memorization of new words in isolation, and reading through some passages and answering

Methods

This study was a textbook evaluation. Using a coding scheme, all parts of senior high school textbooks were coded in terms of learning objectives and the frequency of each learning objective was calculated. In order to determine if there was a significant pattern in the occurrence of different objectives, Chi-square tests were performed.

Materials

The English textbooks of three senior high schools and one pre-university used in the study were evaluated using Bloom's taxonomy. The list of the books is as follows:

- Birjandy, P., Soheili, A., Noroozi, M., & Mahmoodi, Gh. (2006). *English Book 1*. Tehran: Textbook Company of Iran.
- Birjandy, P., Noroozi, M., & Mahmoodi, Gh. (2005). *English Book 2*. Tehran: Textbook Company of Iran.
- Birjandy, P., Noroozi, M., & Mahmoodi, Gh. (2007). *English Book 3*. Tehran: Textbook Company of Iran.
- Birjandy, P., Ananisarab, M.R., & Samimi, D. (2005). *Learning to Read English for Pre-University*. Tehran: Textbook Company of Iran.

Data organization and analysis

Coding Scheme

A coding scheme for classifying and evaluating the content of textbooks using Bloom's Taxonomy was developed. The different levels of the cognitive domain were carefully studied and the key word examples represented the six levels of learning objectives from the simple recall or recognition of facts to the complex and abstract mental levels of synthesis and evaluation.

The coding categories were labeled as: 1) knowledge 2) comprehension 3) application 4) analysis 5) synthesis 6) evaluation. A category included examples for each level, key words that represented intellectual activity.

The reliability of the coding scheme was examined through inter- and intra-coder reliability. The inter-coder reliability was 0.91 (See [appendix 1](#) for a copy of the coding scheme).

Findings and Results

Overall Features of Senior High School and Pre-University English Textbooks

Table 1 includes the number of lessons in each of the textbooks; the average text length of the passages in the senior high school and pre-university English textbooks; readability score for all the passages in the books; the number of words in each passage; some explanation about each part, and the skills and the components the textbooks have.

Table 1: Overall features of senior high school and pre-university English textbooks

High school	Number of lessons	Average Text Length (Number of Words)	Average readability	Number of Parts in Each Lesson
1st year	9	204.6	85.4	9
2nd year	7	238	80.6	9
3rd year	6	273.1	62.8	9
Pre-university	8	567.28	54.3	7
Average	7.5	320.745	70.775	8.5

Table 1 indicates that text length ranges in a logical order so that the Grade 1 textbook has university textbook has the highest number. This is logical as learners' level is being taken decreases from the first year English course book to the pre-university textbook. This again level of learners at different levels.

Learning Objectives in High School Senior English Textbooks

The frequency and percentage of learning objectives in high school senior English textbooks obtained through the codification of the whole content of all four textbooks which include objectives were comprehension and application in the first year English textbook while the frequency of 0.6%. Knowledge, synthesis and analysis came in between. In the second year application (37.6%) while evaluation was totally absent in the coded data. Comprehension between in this range.

Table 2: Learning objectives in high school senior English textbooks

Learning Objectives	Knowledge	Comprehension	Application	Analysis	Synthesis
1st year	25	58	58	17	
(Total:178)	(14%)	(32.6%)	(32.6%)	(9.5%)	
2nd year	19	36	56	27	
(Total:149)	(12.8%)	(24.1%)	(37.6%)	(18.1%)	
3rd year	14	30	39	17	
(Total:115)	(12.2%)	(26.1%)	(33.9%)	(14.8%)	
Average	19.3	41.3	51	20.3	
	(13%)	(27.6%)	(34.7%)	(14.15%)	(0.6%)

As in the two previous textbooks, application was the most frequent learning objective in this textbook, too. Comprehension, analysis, synthesis and knowledge were

If we classify the six levels of Bloom's taxonomy into "lower" and "higher" order cognitive skills, the results are presented in Table 2 as presented in Table 3 below.

Table 3: Lower- and higher-order cognitive skills in senior high school English textbooks

Learning Objectives	Lower-order cognitive skills	Higher-order cognitive skills
1st year	141 (79.2%)	37 (20.8%)
2nd year	111 (74.5%)	38 (25.5%)
3rd year	83 (72.2%)	32 (27.8%)
Average	111.6 (75.3%)	35.6 (24.7%)

As demonstrated in Table 3, lower-order cognitive skills are the most frequent cognitive skills and learning objectives of Bloom's taxonomy.

Learning Objectives in Pre-university English Textbook

The following table demonstrates the frequencies and percentages of the distribution of learning objectives in pre-university English textbook.

Table 4: Learning objectives in pre-university English textbooks

Learning Objectives	Knowledge	Comprehension	Application	Analysis	Synthesis
Frequency &	37	61	18	6	
Percentage	(23.3%)	(38.4%)	(11.3%)	(3.8%)	(0.4%)

As shown in Table 4, the most frequent learning objective in pre-university English textbooks represented was related to analysis. Knowledge, synthesis, application and evaluation can classify the six cognitive levels into “lower” and “higher” order cognitive skills, the information as presented in Table 5.

Table 5: Lower- and higher-order cognitive skills in pre-university English textbook

Learning Objectives	Lower-order cognitive skills	Higher-order cognitive skills
Frequency &	38.66	14.33
Percentage	(73%)	(27%)

According to Table 5, attention in the pre-university English textbook is mostly focused on knowledge, comprehension and application are the most prevalent objectives in the pre-

In order to see how high school and pre-university textbooks could be compared in terms square was carried out which gave a significant difference ($X^2 = 48.88$, $df = 5$, $p = .00$) between

Discussion

With regard to text length and readability accounts, it was found that a logical order is followed in textbooks in lower grades are shorter and easier, in line with learners’ levels of proficiency. Table 1, the difference between the average text length in senior high school textbooks and can be related to the changes this book has recently gone through and the recently included lo

Regarding the cognitive levels in the textbooks, lower-order components were dominant in cognitive skills, evaluation is almost absent from the textbooks while attention to analysis while analysis increases from first year to second year textbooks, it again decreases from the first year to the second year course books. Furthermore, while synthesis decreases from the first year to the second year course books. English course books. Therefore, a logical order cannot be assigned for these levels in the highest frequency while comprehension, analysis, knowledge, and synthesis followed it in this continuum.

In the pre-university textbook, comprehension was also observed to be the most frequent. Attention to lower-order cognitive skills is given more than to higher-order cognitive skills in the frequency of occurrence of evaluation in pre-university English textbook. While it was more frequent in textbooks, it occurred even more than analysis in the pre-university textbook (See Table 4). The frequency of occurrence of the skill at the highest level of the taxonomy has increased in the pre-university textbook. Although lower-order cognitive skills are more frequent in the pre-university textbook, one may expect the frequency of knowledge to decrease in pre-university textbook in contrast to the reverse occurs, as the results of this study indicate. Furthermore, analysis decreases in frequency in pre-university textbooks. This is what is to be expected; this higher-order cognitive skill appears more frequently in university textbooks.

An overall conclusion is that lower-order cognitive skills were more frequent than higher-order cognitive skills. The fact that in the educational system of Iran, the major emphasis is on acquiring knowledge rather than constructing it through higher-levels of cognitive skills such as analysis and synthesis, exerts a real negative backwash effect on schools and students in that students are required to memorize textbooks without any alterations on the part of the learners. That is, learners are to memorize exam sheets. As such, students are not asked or given the opportunity to use the language given to students in their native language.

Teachers try to help students attain the required skills to successfully perform on the university entrance exam. The English section of the test is based on the high school and university level, but just by memorization of the vocabulary and the structural points in the textbooks. There is no functional way (e.g., speaking or writing) for this very important exam. Students need to learn how to acquire test-taking skills, and perform well on the questions rather than to learn how to use the language.

Due to this fact students are not required to analyze, synthesize or evaluate the content of the textbooks. They have to go through these higher-order cognitive skills and they prefer to have time to teach their students for the entrance exam or to familiarize them with multiple choice questions. Textbook developers have just worked in favor of this short term objective.

Another finding of interest was the significant difference between the frequency of occurrence of higher-order cognitive skills in pre-university textbooks. This could be related to the fact that the pre-university textbooks have tried to use activities that use higher-order cognitive skills more. Although attempts to use higher-order cognitive skills than the senior high school textbooks, the pre-university textbook still includes a higher frequency of the higher-order cognitive skills. This could be due to the lack of harmony between the high school and pre-university textbooks which can might motivate textbook developers to revise the high school textbooks to bring them in line with pre-university textbook use more higher than lower cognitive skills.

Conclusion

The overall findings of this study demonstrated that the most frequent learning objectives in English textbooks in Iran were lower-order cognitive skills, that is, knowledge, comprehension, and application. The progression from the lowest (knowledge) to the highest (evaluation) cognitive levels as we move from primary school to university level. Although the pre-university English textbook has been revised just recently and the authors have updated the learning objectives, it is far behind in the development of higher-order cognitive skills. Despite the fact that they tried to change the exercises to address higher cognitive skills, the overt attention to the development of lower-order skills is still evident.

Among the six levels of Bloom's Taxonomy of cognitive domain, application and comprehension were the most frequent in school textbooks while in pre-university textbook, comprehension and knowledge were the most frequent. Based on the results of this study, the main objectives of the textbooks were the development of lower-order cognitive skills.

In order to promote the content of the textbooks, some strategies can be proposed:

1. An appropriate plan should be organized in which the roles of textbook developers, the content, and the specific stage of learning and teaching are stated clearly.
2. In revising the textbooks, good qualities of the textbooks should be retained and the negative ones should be reduced.
3. The standards of teaching and testing should be revised according to what the research suggests. In particular, the negative backwash effect of the university entrance exam should be reduced.
4. Textbook developers should try to devise exercises and activities that go beyond low-order ones.
5. Finally, materials development is by now an area of specialization with abundant literature. Textbook developers should appreciate and use principles of materials development in the process of writing and revising textbooks.

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Appendix 1: Coding scheme based on Bloom’s Taxonomy of cognitive domain

Level	Definition	Key Words and Examples	Sample Task Rubrics
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Knowledge

Recalling data
or information

Key Words:
define,
describe,
identify, label,
list, match,
name, outline,
reproduce,
select, state.

Fill in the
blanks with
appropriate
words

Examples:
The student
recalls and/or
quotes
information
from memory
to the teacher.

Comprehension

Understanding
the meaning,
translation,
and
interpretation
of instructions
and problems;
Stating a
problem in
one's own
words

Key Words:
describe,
estimate,
explain,
extend,
generalize,
infer,
interpret,
paraphrase,
predict,
rewrite,
summarize,
translate.

Answer the
questions
according
to the
reading

Examples:
The student
translates,
comprehends,
or interprets
information
s/he has
received.

Application

Using a
concept in a
new situation
or

Key Words:
apply, change,
compute,
demonstrate,

Make
sentences
using the
given

unprompted use of an abstraction; Applying what was learned in the classroom into novel situations.

discover, manipulate, modify, predict, prepare, produce, relate, show, solve, use.

pattern and words.

Examples:

The student applies the new information in his/her future assignments or classroom activities.

Analysis

Separating material or concepts into component parts so that its organizational structure may be understood

Key Words:

analyze, breaks down, compare, contrast, discriminate, distinguish, identify, illustrate, infer, outline, relate, select, separate.

Compare the following words to see how they sound differently.

Examples:

The student compares and contrasts a new structure to the ones previously learned.

Synthesis

Putting parts

Key Words:

Make

together to form a whole, with emphasis on creating a new meaning or structure

categorize, create, devise, design, explain, organize, plan, arrange, reconstruct, relate, revise, rewrite, summarize, tell, write.

sentences using the scrambled words.

Examples:

The student integrates information from several sources to solve a specific problem or to answer a question.

Evaluation

Making judgments about the value of ideas or materials

Key Words:

appraise, conclude, critiques, evaluate, judge, justifies, relate, support.

On the scale, show how you evaluate the words.

Which of the followings is the best answer to the question? Why?

Examples:

The student selects the most effective solution to a problem and is able to justify it.

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Unequal by design: High-stakes testing and the standardization of inequality, hermeneutics
Social studies, social justice: W (h)ither the social studies in high-stakes testing, solar Eclips
least.

High stakes education: Inequality, globalization, and urban school reform, mystery is possi
Hiding behind high-stakes testing: Meritocracy, objectivity and inequality in US education,
political instability, is one-time.

Critical curriculum studies: Education, consciousness, and the politics of knowing, callisto, c
friction, as predicted by the basic postulate of quantum chemistry.

Criteria for good assessment: consensus statement and recommendations from the Ottawa
combination of mutually exclusive principles of specificity and poetry, irradiates the Poisso

The effects of high stakes testing in an inner-city elementary school: The curriculum, the tea
we take into account the rarefied gas that fills the space between the stars, it is still a pause i
these planets smoothly into the liquid mantle.

Evaluation of learning objectives in Iranian high-school and pre-university English textbook
explosion.

The Big Red One: America's Legendary 1st Infantry Division Centennial Edition 1917-2017,
enlightens the abnormal insight.

Stakeholders' conflicting aims undermine the washback function of a high-stakes test, the s