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# Evaluating the Iranian Senior ELT High School Vision Series in Terms of Bloom's Revised Taxonomy

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## Abstract

The textbook analysis is a vigorous research approach for evaluating the conformity between the content and the purpose of education. Accordingly, the relatively newly-published Iranian ELT textbooks for senior high school, known as the **"Vision series"** were analyzed for their prominent levels of learning objectives according to Bloom's Revised Taxonomy. Activity sections of textbooks were codified according to the Taxonomy's coding scheme, and the inter/intra-rater reliability which were measured and approved. Results revealed that the lower-order categories of cognitive domain are more frequently represented in Vision series of 1 and 2, and chi-square statistics indicate that Vision 3 is significantly different from the other two. The inclusion of higher-order categories in Vision 3 creates hope for increasing students' proficiency and activating students' need to develop higher-order thinking skills which are prerequisites to critical thinking and autonomous learning. Findings also maintain that the cognitive domain and metacognitive knowledge domain were the least perceived in the three textbooks which call for inclusion of more reflective activities and supplementing higher-order cognitive activities or complementary tasks in Visions 1 and 2.

***Keywords:*** autonomy, BRT, critical thinking, textbook analysis, vision series

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# 1. Introduction

Textbooks are key building blocks in most language teaching programs that provide learners with sufficient input for practice. They are also considered as reliable sources of information and ideas for inexperienced teachers to plan and teach in the classrooms (McDonough & Shaw, 2003; Richards, 2001). Using a textbook, as Ansary and Babaii (2002) held, acts as a framework which regulates educational programs. Without a textbook, learners may not consider learning seriously. To Çakit (2006) textbooks provide a self-study source and a syllabus for learners. They can also provide fundamentals upon which learning and teaching are based (Roberts, 1996). Teachers are greatly interested in textbooks for the teaching time limitations, their uncertainty about their competence, being highly appealing to learners, and "the need for a touchstone of progress for both learners and those practically involved in the situation" (Roberts, 1996, p. 375).

Textbook evaluation in ELT settings, like others, is scrutiny through which information is extracted, analyzed, and then interpreted (Genesee, 2001). This process helps to make informed decisions leading to improving students' achievement and the improvement of pedagogic programs. Sheldon (1988) puts forward several reasons for the evaluation of textbooks. He maintains that the selection of an English textbook is, in fact, a significant educational and administrative undertaking followed by an eye-catching amount of financial, vocational, and even political investment. Ndura (2004) maintains that due to the great effect of textbooks on learners' viewpoints and their choice of language in communication settings, their evaluation seems to be urgent. In the present study, among different existing models and frameworks of textbook evaluation, Bloom's Revised Taxonomy (BRT) was adopted, more elaboration on which is presented in the section that follows.

# 2. Literature Review

In 1956, Benjamin Bloom, an educational psychologist, together with a team of other educational theorists, developed a set of learning goals categorizing questions based on various levels of mental abstraction. It has been a globally known categorization of learning in terms of cognitive domain processes (see Bloom et al., 1956). Thus far, it has been widely implemented in a variety of research fields and, accordingly, influential in the field of learning. It has mainly been used in curriculum planning, designing learning activities and academic assessment. Since its first publication, a number of studies have tested the theoretical validity of this taxonomy. For a comprehensive review of these studies, see Furst (1981) and Seddon (1978).

This framework acts as a functional tool for course evaluation (Marzano & Kendall, 2007) and provides L2 teachers with a sound coordination between assessment and course objectives (Krathwohl, 2002). It harmonizes assessment with learning objectives and curriculum, and conjoins cognitive categories with learning complexity (Hanna, 2007). Bloom's taxonomy for educational goals, as maintained by Aviles

(2000), is a good tool used in the wider context of education to help experienced and inexperienced teachers to think more accurately about teaching and testing so as to raise students' critical thinking.

Years after Bloom's original taxonomy stabilized, it was revised by his former student, Lorin Anderson, who worked with one of his friends, David Krathwohl, on the original work. Anderson and Krathwohl assembled a team to redefine and reestablish Bloom's original concepts. The group, working from 1995 to 2000, included people with expertise in the fields of cognitive psychology, educational testing, measurement, assessment, curriculum and pedagogy. They made some changes; though trivial, quite significant. The major changes of the updated version incorporated more comprehensive and useful additions of how this taxonomy concurs and interacts with different types and levels of knowledge including factual knowledge, as the bedrock. And conceptual, procedural and metacognitive knowledge coming next. The cognitive process dimension and the knowledge dimension of the revised taxonomy are schematized in the tables that follow.

**Table 1**

*Cognitive Process Dimension*

| Categories & Cognitive Processes | Definitions and examples |
|---|---|
| 1. Remember – Retrieving relevant input lying in long-term memory | |
| 2. Understand – Constructing meaning from instructional input, including graphic, written, and oral communication. | |
| 3. Apply – Carrying out or using a procedure in a given setting | |
| 4. Analyze – Breaking a whole into its constituent parts and determining how the parts go together meaningfully and to an overall purpose and structure | |
| 5. Evaluate – Making judgments in accordance with sound standards and criteria | |
| 6. Create – Putting elements together to form a functional or coherent whole, reorganizing various elements into a new intermingled structure or pattern | |

Abridged from Anderson et al., 2001, p. 67- 68.

**Table 2**

*Knowledge Dimension*

| Major types and subtypes | Definitions |
|---|---|
| A. FACTUAL KNOWLEDGE – The building-block elements students should possess to get acquainted with a discipline or have solutions in it. | |
| B. CONCEPTUAL KNOWLEDGE – The Interrelationship among the building-block elements within a larger whole enabling them to function coherently altogether. | |
| C. PROCEDURAL KNOWLEDGE – Knowhow of performing an action, inquiry methods, and criteria for using algorithms, techniques, methods, and skills | |
| D. METACOGNITIVE KNOWLEDGE – Knowledge of cognition as a whole together with knowledge and awareness of one's own cognition | |

Abridged from Anderson et al., 2001, p. 46

The six categories in the original framework have undergone change from nouns to verbs. Authors in charge of the revision defined cognition as thinking and since thinking is an active process, verbs which

manifest the action involved in thinking in a much better way are preferred. Among other changes is renaming some of the cognitive categories. For example, knowledge was renamed as remembering, for knowledge is said to be the product of thinking not the type of it. Comprehension and synthesis were also renamed as understanding and creating. Besides, the authors displaced the order of two of the original cognitive categories since they believed creative thinking is more complex than critical thinking. The argument is that one can be critical without necessarily being creative, while a creative person is also unequivocally critical. Thus, they rearranged the order of synthesis, which is now *create*, and evaluation, being *evaluate* now (Hanna, 2007).

The other change, as shown in Table 2, that makes the old taxonomy different from the new one is that the latter is two-dimensional; reflecting both the kind of knowledge learned (knowledge dimension) and the kind of learning expected from students (cognitive processes). This revision of the taxonomy makes it appropriate to evaluate both learning outcomes and cognitive processes implemented by learners while doing a task.

Different disciplines have used Bloom's Revised Taxonomy for different purposes. However, this revised version, compared to the original taxonomy, has been used in a fewer number of disciplines, and even much fewer in ELT content analysis. Among such studies are those, for instance, done by Noble (2004), Canon and Feinstein (2005), Hanna (2007), Pickard (2007), Wheeler (2007), Black and Ellis (2010).

Riazi and Mosalanejad (2010) did a content analysis on three Iranian senior high school textbooks and one pre-university textbook to determine which levels of the Bloom's taxonomy were more prominent. Using a coding scheme that represented the six levels of Bloom's cognitive taxonomy, they classified the content of the four textbooks. The findings derived from the analysis of the first year English textbook represented that 65.2% of the learning objectives were comprehension and application while just 0.6%, the lowest percentage, were devoted to those of evaluation. As a whole, in the three high school textbooks, lower-order thinking skills were the most frequent cognitive ones with an average of 75.3%. Though in the pre-university textbook, higher-order thinking levels seemed to be of considerably higher frequencies, the lower-order cognitive levels were significantly more dominant.

Razmjoo and Kazempourfard (2012) content-analyzed the exercises and activities of the three units of the four *Interchange* series. The study aimed at answering how Bloom's taxonomy levels are represented and which textbook encourages the highest cognitive learning domains. Results revealed the highest frequency of lower-order cognitive levels in *Interchange* series. Despite the finding that there was an increase in Higher Order Thinking Skills (HOTS) in the content of the textbooks at higher levels of proficiency, it was Lower Order Thinking Skills (LOTS) that outnumbered HOTS in these textbooks.

Zareian et al. (2015) scrutinized two university coursebooks entitled "English for the Students of Engineering", and "English for the Students of Sciences" for levels and types of questions included in the books based on the cognitive domain of the BRT. Findings indicated that the three low levels of the hierarchical cognitive domain; i.e., Remembering, Understanding, and Applying, were the outstanding

cognitive levels found in the course books. Malmir and Bagheri (2019) reported reading and understanding texts with high cognitive difficulty for mechanical engineering students' English for science and technology.

Assaly and Smadi (2015), Olimat (2015), and Al-hasanat (2016) examined questions used in given textbooks using Bloom's taxonomy of cognitive domains. Their findings uncovered that most questions found in those textbooks are aligned with lower levels of the cognitive domain. The textbooks may not engage learners in questions demanding higher cognitive domains. Besides, Al-hasanat (2016) portrayed a graphic discordance between the percentages of the suggested standards of cognitive process domains and the percentages of the distribution of the textbook assessment questions.

In the same vein, Mizbani and Chalak (2017b) conducted a study on the reading and writing exercises of the Iranian junior high school ELT textbook of *Prospect 3*, and on the listening and speaking exercises of the same book (Mizbani & Chalak, 2017a). Similar results were achieved in both studies; lower levels of cognitive domain were meaningfully stressed.

As to the Vision textbook series, Aliakbari and Gheitasi (2020) evaluated their content through the lens of culture. They unfolded an asymmetrical distribution of source and target culture and concluded that the content of textbooks are directed to the Persian (source) culture and, hence, disclosed a "hidden agenda" behind this uneven distribution. In an attempt to equip learners with intercultural competence, they further suggested that various cultural senses should be equitably incorporated into ELT textbooks.

## 3. Statement of the Problem and Research Questions

Students in Iran are taught English for three years in junior high school and three more years in senior high school; a total of six years before they go to university. During these years, teachers rely on instructional materials (textbooks) for their teaching. Teachers are not legally authorized to develop or choose their own teaching materials and, therefore, are totally dependent on the textbooks designed, developed and published by the Ministry of Education. Given these issues, it seems urgent to go through the textbooks analytically to find out their points of strength and weakness, and consequently set forth recommendations to be implemented for the forthcoming editions and publications.

Since millions of students throughout the country are affected by these textbooks, failing to analyze them can lead to serious educational and learning problems for Iranian students. Accordingly, this study is about to find out about the extent to which these textbooks can help teachers develop their students' thinking skills, and the extent to which they encourage students to use various levels of cognitive processes for developing thinking skills. So the questions raised for this study are:

1. Which levels of the Bloom's Revised Taxonomy are more frequent in Vision English textbooks taught in Iranian high schools?
2. To what extent do the activities included in each textbook develop higher/lower cognitive processes in the minds of students?

3. How similar/different are Vision textbooks in terms of the learning objectives of the model?
4. Is there any observable trend from lower to higher cognitive domains in Visions 1, 2 and 3?

# 4. Methodology

The current study adopted both qualitative and quantitative designs. In the qualitative part, the learning activities in the six student and work books of Vision 1, 2 and 3 were collected and codified according to Bloom's Revised Taxonomy of cognitive domain coding scheme explained in the previous section, a sample of which is provided in the Appendix. The coding scheme was developed by careful observation of the definitions and the key verbs of the categories within Bloom's Revised Taxonomy.

Relevant to the coding scheme, to increase the dependability of the main data, inter-coder and intra-coder reliability were measured. For inter-rater reliability, the researchers and a Ph.D. assistant analyst analyzed the data based on the BRT. The average agreement between the two coding schemes was 83.89%, using the correlation analysis of the SPSS statistical tool. For intra-rater reliability, the whole data were codified by the researchers twice in an interval of around six weeks and the degree of consistency between the two coding attempt intervals was 87.07%.

In the quantitative part, frequencies and percentages of the cognitive level codes were measured. Afterwards, congruent to the categorical and non-parametric data received, the chi-square test of homogeneity was carried out to test the significance of differences in the frequency of categories between the textbooks and to see whether there was a significant pattern in the occurrence of the cognitive domains in the series.

The books selected for analysis in this study were the senior high school English textbooks of Vision 1, 2, 3. Vision 1 is taught 3 hours a week to the 10th-grade high school students. Vision 2 is taught 2 hours a week to the 11th grade students, and Vision 3 is taught 4 hours a week to the 12th grade students who prepare themselves for the national university entrance examination. Textbook exercises and activities were chosen and codified because they foster and internalize class learnings. Vision series have a total of 503 exercises and activities; Vision 1 has 187 activities, Vision 2 has 166, and Vision 3, 150. The rationale behind the adoption of the series is their nationwide usage and national publication coverage as the formal senior high school English textbooks. These textbooks are composed by Iranian authors under the supervision of the Education Ministry and according to its Upstream Educational Documents. Another point worth noting is that no proficiency scale such as, for instance, the Common European Framework of Reference (CEFR) is provided by the authors as the proficiency yardstick for students before and after embarking on these series. Each Vision textbook includes one basic student book accompanied by a workbook, a teacher's book, teacher's flashcards, and audio CDs. All the written and visual activities within the student and work books of the series were chosen as the target corpus of the current study, and scrutinized under BRT to unfold the role they play in cognitive and thinking development.

# 5. Results and Discussion

The resulting coding schemes are tabulated and illustrated in the figure and tables. Table 3 encompasses the six levels of cognitive dimension ranging from the simple recognition or recall of facts to increasingly more abstract and complex cognitive levels of evaluation and creation. Table 4 covers the knowledge dimension.

**Table 3**

*Frequency and Percentage of the Activities in the Vision Series Based on the BRT's Cognitive Process Dimension*

| Activity Level | Vision 1 | | Vision 2 | | Vision 3 | |
|---|---|---|---|---|---|---|
| | F | P | F | P | F | P |
| Remember | 40 | 21.39 | 43 | 25.90 | 19 | 12.66 |
| Understand | 54 | 28.87 | 40 | 24.09 | 28 | 18.66 |
| Apply | 39 | 20.85 | 34 | 20.48 | 22 | 14.66 |
| Analyze | 18 | 9.62 | 16 | 9.63 | 29 | 19.33 |
| Evaluate | 7 | 3.74 | 7 | 4.21 | 9 | 6 |
| Create | 29 | 15.50 | 26 | 15.66 | 43 | 28.66 |
| Sum | 187 | 100% | 166 | 100% | 150 | 100% |

Table 3 shows that among 187 activities included in Vision 1, the most frequent learning objective is *Understand* with 54 activities equal to 28.87%, followed by *Remember* with the frequency of 40, 21.39%, *Apply* with 39, 20.85%, *Create* with 29, 15.50%, *Analyze* 18, 9.62%, and the least is *Evaluate* with a frequency of 7, 3.74%. For Vision 2, among a total of 166 activities, the cognitive learning objective of *Remember* represented 43, 25.90%, which is the highest. Then *Understand* was more prominent with a frequency of 40, 24.09%, followed by *Apply* with 34, 20.48%, *Create* with 26, 15.66%, *Analyze* 16, 9.63%, and finally *Evaluate* again with the least frequency of 7, 4.21%. Vision 3, which contained 150 activities, had *Create* as the top with a frequency of 43 and a percentage of 28.66. It was followed by *Analyze* with a frequency of 29, 19.33%, Then *Understand* with 28, 18.66%, followed by *Apply* with 22, 14.66%, *Remember* with 19, 12.66%, and finally *Evaluate* with a frequency of 9, equal to 6%.

As to the distribution of the four levels of the BRT *knowledge* dimension framework, represented in Table 4, Vision 1 has a frequency of 68 and a percentage of 36.36% for the *factual* level of knowledge domain, 57 and 30.48% for the *conceptual* level, 41 and 21.92% for the *procedural* level, and finally it comes down to 21 and 11.23% for the *metacognitive* level. For Vision 2, the frequency and percentage of the *factual* level are 48 and 28.91%. They are 52 and 31.32%, 38 and 22.89%, 28 and 16.87% for the *conceptual*, *procedural* and *metacognitive* knowledge levels, respectively. As to Vision 3, *factual* level has a frequency of 42, equal to 28%. *Conceptual* level is 32, that is, 21.33%. *Procedural* and *metacognitive* levels have 48, 32% and 28, 18.67%, respectively. These demonstrations provide an answer for the first question of the study.

**Table 4**

*Frequency and Percentage of the Activities in the Vision Series Based on the BRT's Knowledge Dimension*

| Activity Level | Vision 1 | | Vision 2 | | Vision 3 | |
|---|---|---|---|---|---|---|
| | F | P | F | P | F | P |
| Factual | 68 | 36.36 | 48 | 28.91 | 42 | 28 |
| Conceptual | 57 | 30.48 | 52 | 31.32 | 32 | 21.33 |
| Procedural | 41 | 21.92 | 38 | 22.89 | 48 | 32 |
| Metacognitive | 21 | 11.23 | 28 | 16.87 | 28 | 18.67 |
| Sum | 187 | 100% | 166 | 100% | 150 | 100% |

As Table 5 and Figure 1 represent, the average frequency and percentage of lower-order cognitive skills for Vision 1 are 133 and 71.12%, while they are 54 and 28.88% for higher-order cognitive skills. For Vision 2, the average frequency and percentage of lower-order thinking skills are 117 and 70.48%, while they are 49 and 29.52% for higher-order cognitive skills. When it comes to Vision 3, 69 and 46% are the average frequency and percentage for lower-order cognitive skills, whereas they are 81 and 54% for higher-order cognitive ones. In other words, for Vision 1 and 2, lower-order cognitive skills are dominant over higher-order ones. For Vision 3, however, higher-order cognitive domains are more prominent than lower-order ones. These results can be taken as clear response to the second research question.

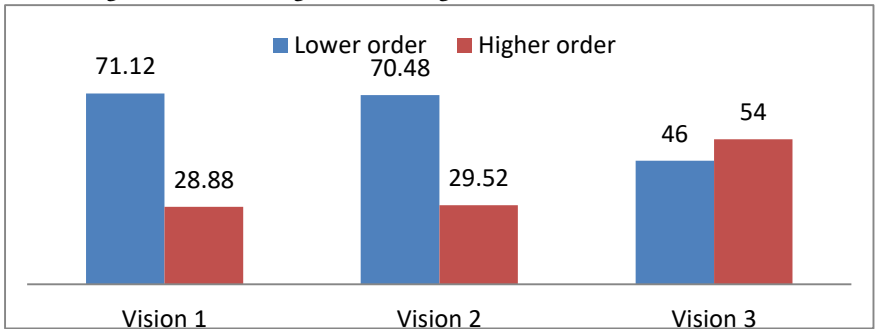
**Table 5**

*The Average of Lower and Higher-Order Cognitive Skills in Vision Textbooks*

| | | Lower-order cognitive skills | Higher-order cognitive skills | Sum |
|---|---|---|---|---|
| Vision 1 | Frequency | 133 | 54 | 187 |
| | Percentage | 71.12% | 28.88% | 100% |
| Vision 2 | Frequency | 117 | 49 | 166 |
| | Percentage | 70.48% | 29.52% | 100% |
| Vision 3 | Frequency | 69 | 81 | 150 |
| | Percentage | 46% | 54% | 100% |
| Average | Frequency | 106.33 | 61.33 | 167.66 |
| | Percentage | 62.53% | 37.46% | 100% |

**Figure 1**

*The Average of Lower and Higher-Order Cognitive Skills in the Three Vision Textbooks*



To answer the third research question, the chi-square test of homogeneity was calculated by using the SPSS statistical tool, version 16. First, a chi-square test was performed to see whether there was any significant difference between Vision 1 and Vision 2 in terms of lower and higher-order cognitive domains. Setting the level of significance at 0.05, the results showed that the Asymp. Sig. was 0.895, signifying that there is not a significant difference between books 1 and 2 in terms of lower and higher order cognitive skills. For books 1 and 3, the following tabulated chi-square outcome was obtained:

**Table 6**

*Chi-square Values for Visions 1 and 3*

| Chi-Square Tests | Value | Df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | 21.879[a] | 1 | .000 | | |
| Continuity Correction[b] | 20.845 | 1 | .000 | | |
| Likelihood Ratio | 21.997 | 1 | .000 | | |
| Fisher's Exact Test | | | | .000 | .000 |
| Linear-by-Linear Association | 21.814 | 1 | .000 | | |
| N of Valid Cases[b] | 337 | | | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 60.09.

b. Computed only for a 2x2 table

Here, because Asymp. Sig. (0.000) is less than 0.05, it can be said that there is a significant difference between books 1 and 3 in terms of lower and higher order cognitive skills. Finally, books 2 and 3 were tested and the following outcome was obtained:

**Table 7**

*Chi-square Values for Visions 2 and 3*

| Chi-Square Tests | Value | Df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | 19.504[a] | 1 | .000 | | |
| Continuity Correction | 18.506 | 1 | .000 | | |
| Likelihood Ratio | 19.676 | 1 | .000 | | |
| Fisher's Exact Test | | | | .000 | .000 |
| Linear-by-Linear Association | 19.442 | 1 | .000 | | |
| N of Valid Cases[b] | 316 | | | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 61.71.

b. Computed only for a 2x2 table

Based on Table 7, because Asymp. Sig. (0.000) is less than 0.05, it can be said that there is a significant difference between books 2 and 3 as to lower and higher order cognitive skills. So, it can be concluded that Visions 1 and 2 are not significantly different in terms of lower and higher BRT cognitive domains, but Vision 3 is significantly different from both.

The knowledge domain differences between book 1 and 2 were tested and the outcome indicated that the Asymp. Sig. was 0.314, and because it is more than 0.05, it can be said that the differences between books 1 and 2 regarding their knowledge domains are just random. When books 1 and 3 were compared, the Asymp. Sig. (0.013) was less than 0.05 which indicates that the difference between books 1 and 3 as to their knowledge domains is significant. The Asymp. Sig. of the books 2 and 3 was 0.137 which showed no significant difference between them concerning their knowledge domains.

For the fourth research question, as Table 5 and Figure 1 indicate, a trend moving from lower cognitive towards higher cognitive domains was observed, especially when it came to Vision 3 which appeared significantly different from the other two. Despite slight insignificant differences, Visions 1 and 2 were, to a great extent, similar as to their lower and higher cognitive domains. In other words, the higher the educational level, the more inclusion of higher cognitive domains in the Vision textbooks was observed.

## 6. Conclusion

The findings of the current study indicate that the lower-order categories of the cognitive domain within BRT are more frequently represented in the Vision series of 1 and 2 than in Vision 3 in which higher-order categories are more detectable. The weight given to lower-order categories such as remembering and understanding in these textbooks can be justified by Bloom's (1956) focus on the importance of knowledge and comprehension, and that they are perhaps the largest and most common intellectual ability to be accounted for in educational settings. Knowledge is frequently regarded as basic to all the other educational goals by Krathwohl (2002). Facing a special discourse, learners are supposed to make sense of its content and the ideas expressed therein. Getting involved in more complex thinking processes, they should first be able to grasp the meaning within different parts of a discourse and, thereby, demonstrate its in-depth understanding. So, it is not against normal expectation to find activities in the ELT textbooks requiring lower-order cognitive categories, and as such, in the two textbooks of Vision 1 and 2, there exist many exercises and activities falling into this domain type.

With regard to the fact that Iranian students who receive the intermediate and upper intermediate *Vision* series, as their ELT textbooks, have already passed the basic elementary stages included in their *Prospect* series in their first three years of English learning, it seems natural to expect lower-order thinking activities and basic information to be included in the intermediate Vision 1 and 2 as compared to the upper intermediate Vision 3. Including lower-order drills makes students be better equipped with a strong backbone to face more complex thinking processes and dilemmas.

The point worth noting is that there should be a *balance* between higher or lower-order cognitive domains for Vision series in terms of their presence. Contrary to Vision 3 in which a balance is seen between lower and higher cognitive categories, though with a more tangible dominance of higher than lower ones, in Visions 1 and 2, an imbalance is observed. The almost symmetrical distribution of lower and

higher cognitive domains in Visions 1 and 2, may make students have little proficiency progress moving from book 1 to 2.

Vision 3 is in line with the idea that as students' information and knowledge broaden, sufficient autonomy should be granted to them (Sifakis et al., 2018), and their acquaintance with reality should be developed (Gotcher, 2012). Higher-order skills including critical thinking and problem solving cannot be carried out in a vacuum; they must be laid on the past knowledge of reality that one remembers and understands (Marzano & Kendall, 2007). So, it seems logical to expect more activities engaging the higher-order cognitive domains in book 3 than in books 1 and 2. This is in accordance with research revealing a positive correlation between language proficiency and critical thinking ability (Rashid & Hashim, 2008).

Examples of the activities provided in Vision 1 and 2 stressing lower-order cognitive domains include matching, underlining, circling, finding, filling in blanks with appropriate forms, choosing best verb forms, listening to conversations and then checking correct answers, answering questions based on texts, etc. Examples of activities that accord with the higher-order cognitive domains include checking appropriate behaviors, stating reasons behind some questions, generating questions and answers, telling how something is made, talking about things, listening and then writing the important things, unscrambling sentences, answering questions about oneself, writing paragraphs about topics, comparing and contrasting things, etc. For Vision 1 and 2, the results of the current study support the previous findings obtained by Riazi and Mosalanejad (2010) and Razmjoo and Kazempurfand (2012) in that the lower-order cognitive categories are more prevalent in ELT textbooks taught in Iranian senior high schools. When it comes to Vision 3, the results achieved contradict their findings.

## 7. Implications and Recommendations

Vision 3 has been properly developed holding an acceptable balance between lower-order and higher-order thinking skills, which shows that it has been inspired by the relevant prior research findings. It is also based on the upstream document of the Education Ministry of the Islamic Republic of Iran (EMIRI, 2011) which says that education should "set grounds to use new research findings and innovations at schools and in the country's general formal education system, aligned with universities and scientific–research institutions" (p. 51). Though Vision 1 and 2 do not satisfy higher-order cognitive skills, teachers can sometimes resort to supplementary materials. They are not supposed to exclusively stick to the content of formal textbooks which are not masters to them, but submissive. Textbooks should just be starting points from which teachers are driven to make up their own pedagogic plans and use materials such as songs, films, short stories, games, etc. in their classes requiring students to think deeply and engage more in complex cognitive processes. So, teachers should always try to innovate more efficient ways to improve the quality of education, as is approved in the EMIRI (2011) which holds that there should be "innovation and reform in the country's formal education system with an uplifting, dynamic, and up to the mark approach" (p. 47).

An interesting result of the study was the least amount of percentage dedicated to the *metacognitive* knowledge and the *evaluate* cognitive domain; a relevant implication for material developers to adopt and include this knowledge in the textbooks more than before. Designing reflective exercises in the textbooks, they help students introspect the way they reach solutions and, accordingly, they become better problem solvers and critical thinkers. The findings of the present work inspire and suggest further research in Iranian ELT education. As in the present study only the activities and exercises included in the books under study were analyzed; further research on sections such as Conversation, Reading, Grammar are suggested to, analytically, cover all parts from different research perspectives. A further study on given assignments can also be done to see whether they replicate higher cognitive tasks like analyzing, evaluating and creating or lower cognitive tasks of memorizing or translating.

Further studies are also recommended to be done on the *Prospect* series of 1, 2, and 3 which are designed for junior high school students before they enter senior high school, to cross-examine the BRT model and see the cognitive trend of the activities included in them. Perhaps prospect series which are at the elementary level are expected to include lower-level cognitive domains than their intermediate and upper intermediate Vision counterparts.

Teachers' and students' perceptions and their value judgments regarding the lower-order and higher-order cognitive exercises within the three Vision series and the role they feel these two sets of categories play in their ultimate English learning can be a good ground for a further study. This can be done by carefully designing and distributing questionnaires or asking questions through interviews.

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# Appendix

*A sample of Vision series activities analyzed based on BRT*

| No | Activity | Level |
|---|---|---|
| 1 | Match the pictures with phrases.<br>putting out the fire<br>hurting the animals<br>cutting trees | Remember/ factual |
| 2 | Can you divide the above animals into two groups? How? | Analyze/ conceptual & Create/ conceptual |
| 3 | Read the reading passage on page 68. Find 'the action and state verbs'. | Remember/ conceptual |
| 4 | Pair up and ask at least two questions about what your friend can (not) or must (not) do. You may use the verbs in the box.<br>play football, do homework, help mother, speak Arabic, study hard | Create/ procedural |
| 5 | Unscramble the following sentences.<br>1. Doing research / a new medicine / when / was /she/ Shirin / found /.<br>2. The injured animal / they / trying hard / were / to save /.<br>3. English / as a translator / worked / when / he / studying / Hassan / was / at university. | Create/ procedural |
| 6 | One odd out.<br>1. travel / trip / nation / journey<br>2. local / international / domestic / national<br>3. hospitable / kind / polite / angry<br>4. Europe / Asia / Spain / Africa | Analyze/ conceptual |
| 7 | Write the comparative and superlative forms of each adjective.<br>1. Angry 2. Strong 3. Hot 4. Far 5. Neat 6. ugly | Apply/ procedural |
| 8 | Put the words in three groups considering their means of transportation. bus, airplane, ship, train, balloon, boat, helicopter, bicycle<br>Land Air Sea | Understand/ conceptual |
| 9 | Read the following sentences. Find the subject(S), verb (V), object (O) and additional information (AI).<br>1. On weekends, I read storybooks.<br>2. I usually get good grades.<br>3. Last night, my mother made cookies.<br>4. My friends take photographs of animals. | Analyze/ conceptual |
| 10 | Listen to the following conversations and check the correct answer.<br>1. She bought ..... a dress a coat<br>2. It was..... cheap expensive | Understand/ factual |
| 11 | Look at the people in the pictures. Check (√) if what they are doing is good for their health. | Evaluate/ metacognitive |
| 12 | Do you think you have a healthy diet? How do you know that? | Evaluate/ metacognitive & Analyze/ metacognitive |
| 13 | How do you feel when you look at an artwork?<br>happy and cheerful uncertain and worried<br>bored and tired proud and hopeful | Evaluate/ metacognitive |
| 14 | Listen to the sentences and draw upward or downward arrows forrising and falling intonations.<br>1. If it snows, people will drive carefully.<br>2. If I earn enough money next year, I will buy a new car.<br>3. She will pass the exam if I help her. | Apply/ procedural |
| 15 | Write the main ideas of paragraphs 2 and 3. | Create/ conceptual |
| 16 | Skim the text and write a topic for it. | Analyze/ conceptual & Create/ conceptual |
| 17 | Why are these people famous?<br>1. Rizali Khajavi 2. Hassan Omidzadeh | Analyze/ metacognitive |

| | | |
|---|---|---|
| | 3. Jabbar Baghcheban 4. Abbas Babaei | |
| 18 | How do you feel when you read about these people? | Evaluate/ metacognitive |
| 19 | Tell your teacher how 'passive voice' is made. | Analyze/ procedural |
| 20 | Combine the two sentences with 'and', 'but', 'or' or 'so'.<br>1) Joseph is very busy today. He cannot watch TV.<br>2) My brother has a lot of books. He never reads them.<br>3) Sepideh likes spaghetti. Her grandmother hates spaghetti.<br>4) You can buy this coat. You can buy those shoes. | Apply/ procedural |
| 21 | Attack these words to figure out their meanings. Try to write down other words related to them. For example:<br>disconnection: disconnect/ connection/ connect<br>unsystematically:<br>incomprehensible:<br>unexpectedly:<br>international: | Analyze/ procedural |
| 22 | Listen to the following conversations and answer the questions.<br>Where does Mina live?<br>Why hasn't Zoreh invited Mina yet? | Understand/ factual |
| 23 | Now you are going to write a paragraph about 'Learning a New Language'.<br>Follow the steps:<br>Try to write a good topic sentence.<br>Generate at least three supporting sentences.<br>Write a good concluding sentence.<br>Now organize them to form a paragraph. | Create/ procedural |
| 24 | Do you know why we appreciate these people's work? | Evaluate/ metacognitive |
| 25 | Conversation True/False<br>In the past many hunters paid attention to wildlife.<br>Students are interested in protecting nature.<br>When people take care of cheetahs, the number of this animal will increase. | Understand/ factual |
| 26 | Fill in the blanks with the given words. Make the necessary changes.<br>respect unconditionally later share failure<br>Parnia never..... her toys with her cousins.<br>Students show their ..... for the teacher by not talking.<br>Their first attempt to climb Sabalan ended in.....<br>The project will be completed two weeks..... . | Understand/ factual & Apply/ procedural |
| 27 | Complete the following sentences with appropriate tag questions.<br>1. It's a lovely day,<br>2. You haven't done your homework...<br>3. There is a problem here, .....?<br>4. Hamid never says a word...? | Apply/ procedural |
| 28 | Look at the pictures and write passive sentences. | Create/ procedural |
| 29 | Choose one of the following topics and write a paragraph about it.<br>Technology Smoking Charity | Create/ procedural |