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A Tale of Three Official English Textbooks: An Evaluation ofTheir Horizontal and Vertical Alignments

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Abstract

Instructional materials as a basic component of curriculums and a central constituent of standards-based programs play a provisional role in both setting the aims and leading the way. English textbooks in Iran's public education are officially developed and used nationwide. One recently introduced English textbook series is Prospects (I-III) . It is intended for the the Iranian junior high schools and is normally supposed to guide teachers and provide students with the basic exposure to English as a Foreign Language (EFL) context. The textbooks, together with the lessons, have to be aligned in targeting educational objectives given the sequential nature of the intended grades and the serial contents of instruction. This study evaluated the vertical and horizontal alignment among the series' textbooks and lessons drawing on Bloom's revised taxonomy of educational objectives (Anderson & Krathwohl, 2001). The evaluation initially involved descriptive content analysis of the activities within and across the textbooks using a checklist developed based on the taxonomy. Then, the content matrixes were subjected to Porter et al.'s (2007) alignment index for the statistical assessment of lessons and textbooks' alignment. The findings generally suggested that the lessons were tuned adequately, albeit accommodating mainly lower-order knowledge types and cognitive skills at the cost of discarding the higher-order ones. In addition, the statistically positive and significant PAIs of 0.93, 0.78, and 0.74 between Prospect I & II, Prospect I & III, and Prospect II & III, respectively pointed to a harmony in the series' content. The paper discusses the findings and implications in the Iranian EFL context.

Keywords: alignment, official English textbooks, Prospect series, textbook evaluation, educational objectives.

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1. Introduction

It is basically believed that the right to education is the most basic right of humans and one of the key elements contributing to citizenship. In fact, the most common form of learning derives from years of schooling that integrate studies of a wide range of subjects. Today, education is not focused on preparing students for a specific job but rather to help them develop critical reasoning and thinking skills (Gary, 1997). To move along with such rapidly changing world, a well-aligned and all-round education ought to be offered to students at schools. Put otherwise, even updated and most current educational orientations and means planned to accomplish coordinated goals are likely to result in failure or haphazard achievements when they are not implemented in concert.

Any education system may include different components of standards, instruction, instructional materials, and assessment with various roles at different levels in achieving the learning objectives. For an education system to achieve the intended goals, an alignment is premised among its components all contributing to quality education (Ornstein & Hunkins, 2004). Alignment is basically defined as "the degree of correspondence between instructors' educational objectives, methods of instruction, and forms of assessment'' (Anderson & Krathwohl, 2001, p. 10). It might also concern effective coherence between any pairs or all the varied elements of education.

In general, alignment studies fall into two main categories of horizontal and vertical classes. Horizontal alignment is essentially the side by side agreement of the facets of education aiming to achieve educational objectives. For example, "it might be the degree to which an assessment matches the corresponding content standards for a subject area at a particular grade level" (Case & Zucker, 2005, p. 3). Vertical alignment, however, concerns up-and-down harmony of education components from different or the same education levels logically seeking to accomplish certain objectives in sequence. In one study, Case and Zucker (2005, p. 4), for example, point out that "the standards and assessments themselves must be vertically aligned with one another so that they reflect the logical and consistent order for teaching the content in a subject area from one grade level to the next''. Such an alignment is of particular significance when instructional contents like textbook series are designed and developed for levels in continuity.

This study aimed at evaluating Iranian official English textbooks (Prospects

I-III), recently developed for junjor high school. Guided by Bloom's revised taxonomy (Anderson & Krathwohl, 2001), as a theoretical framework, it looked into the educational objectives represented in the three textbooks and alignment of the lessons in terms of the intended objectives within individual books (horizontal) and across the series (vertical alignment). More specifically, this study seeks to answer the following research questions.

1. What is the distribution pattern of the educational objectives intended in Prospect series?

2. Is there a significantly horizontal alignment among the lessons of individual books (I, II, & III) in terms of intended educational objectives?

3. Is there a significantly vertical alignment among Prospect textbooks (I-III) in terms of intended educational objectives?

2. Litrature Review

Learning English is markedly different in English as an EFL contexts, since there is virtually no chance of communication and use of English outside classes (Chan, 2020; Kim & Hall, 2002). EFL contexts like Iran in which English is not a common medium of communication, textbooks constitute a central part of language learning by providing almost the sole all-important exposure to English. Such textbooks, developed nationally, typically come in series to attain more broad-based curricular, course, and lesson objectives in sequence. Therefore, textbook series are intended and expected to sustain balance and priority in content and objectives coverage. For such series, alignment within and across the textbooks ought to be examined together with common quality criteria (for textbook evaluation see Ahmadi & Derakhshan, 2015; Chan, 2020; Cunningsworth, 1995; Nation & Macalister, 2010; Sheldon,1988; Ur, 1996).

Internationally, there has been a continuing tendency to evaluate textbooks in particular from the perspective of the educational objectives targeted. Assaly and Smadi (2015), for instance, evaluated the cognitive levels of the questions following the reading texts of Master class textbooks using a checklist based on Bloom's original taxonomy. They found that only about 40% of questions emphasized higher-order thinking skills and the rest unexpectedly were concerned

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with higher order skills.

In Iran's EFL context there has been a wide range of research studying instructional materials used in private and public educations. Gordani (2010), for instance, conducted a content analysis of Iranian guidance school English language textbooks to explore the types of educational objectives represented in the textbooks based on Bloom's (1956) original Taxonomy of educational objectives. The data was analyzed to detect trends in the cognitive demands inherent in them. The results revealed that the lower levels of cognitive skills were concentrated the most. In a similar study, Roohani et al. 015) examined test items in Top-Notch series to find out which levels of Bloom's taxonomy were reflected most frequently. The result pointed to the representation of lower-order skills most recurrently.

As for Iranian official English textbooks of Prospect series, Bemani and Jahangard (2014) evaluated Prospect I from the teachers' viewpoints based on the framework proposed by Litz (2005). They concluded that the book is taken to be partially efficacious in need of further improvement incorporating varied language skills and cultural norms. More recently, Mizbani and Chalak (2017) in an analysis of listening and speaking activities of Prospect III through Bloom's revised taxonomy, came to know that the activities accommodated lower levels of cognitive complexity.

Alignment assessments have also been of interest in curriculum studies, though it has been under-researched and under-discussed particularly when it comes to English language education. Saeed and Rashid (2014), for instance, examined the alignment between chemistry curriculum and textbooks at the secondary level in Pakistan. They came to know that there were gaps between the curriculum and textbooks and only the specific objectives of some of the units were partially aligned with the general objectives. Polikoff (2015) also in a study of alignment in the context of fourth-grade mathematics in Florida, US, identified substantial areas of misalignment.

In a few alignment studies in Iran's education, Rezvani and Zamani (2012), for example, investigated the alignment of Iran's M.A. entrance exam of English translation and TEFL, the respective official curriculum standards, and the official textbooks in terms of Anderson and Krathwohl's (2001) taxonomy of educational objectives. The alignment indices suggested that the intended and assessed

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curriculums had the highest significant alignment of 0.70, whereas the intended and written curriculum, as represented in the textbooks, were just narrowly significant with an index of 0.51. It is worth noting that, according to Porter et al. (2007), alignment indexes larger than 0.50 are taken to be significant.

In a similar study, Rezvani and Haghshenas (2015) evaluated the alignment between English for Specific Purposes (ESP) textbooks published by SAMT publication (Iran's publication organization for university textbooks) and the respective official standards on the basis of Bloom's revised taxonomy (Anderson & Krathwohl, 2001). The study indicated that these two curriculum components were insignificantly aligned (0.40) albeit they are officially designed, developed, and stipulated. The study attributed the discrepancy to their varying emphasis on the educational objectives even though they both generally were tilted towards lower-order objectives.

The review of literature generally suggests that the recently published Iranian official English textbooks of Prospect series have been studied from diverse perspectives including discourse analysis, communication, culture, learning objectives, (Ahmadi & Derakhshan, 2015; Bemani & Jahangard, 2014; Derakhshan, 2018; Esfandiari, Hamidi, 2018; Mizbani & Chalak, 2017), although very limited efforts have been made to examine the content congruency or more technically vertical or horizontal alignments, within and across the series. Both vertical and horizontal alignments are essential in instructional materials particularly when they are encompassed in sequence or commonly ordered in series like Prospects I-III. This is what this study seeks to explore. In other words, this study is an attempt to examine the extent to which the series accommodates educational objectives and how aligned the series contents are.

2.1. Theoretical Framework: Bloom's (2001) Revised Taxonomy

Literature on the history of curriculum studies signifies that many alignment models, including the Webb's (2002) model, Porter and Smithson's (2001) approach, Achieve's (2001) method (2001), Bloom's (1956) taxonomy , and Bloom's revised taxonomy by Anderson and Krathwohl (2001), have been around to assess the go togetherness of educational components. The theoretical framework of this study is Bloom's Revised Taxonomy which has been vastly

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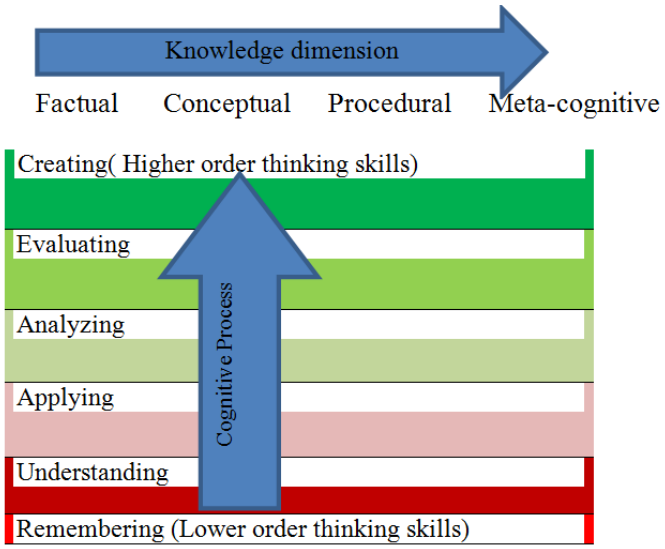
used to guide the examination of educational objectives aimed at in curriculum. Bloom's (1956) taxonomy has received multiple revisions. Most fundamentally, it was extended by Anderson and Krathwohl (2001) to involve both knowledge types and cognitive processes. The knowledge dimension corresponds to content in alignment analyses with four main categories lying along a continuum from the most concrete factual knowledge to the most abstract meta-cognitive one. The cognitive dimension concerns the cognitive complexity of educational objectives subdivided into six levels from lower (remembering and understanding) toward the more complex levels of (evaluating and creating) as shown in the following figure.

Figure 1

The Structure of Bloom's Revised Taxonomy (2001)



3. Method

This study was conducted in two phases. For the first phase of the study, the researchers descriptively explored the distribution of knowledge types and cognitive processes in the textbooks in line with the first research question. The descriptive findings generated in the first stage, then were used in the second phase to quantitatively address the alignment of the knowledge types and cognitive skills both among the lessons of individual textbooks and the three

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textbooks together drawing on Alignment Index (AI). The data analysis in the following sections will expound the procedure in more detail.

3.1. Materials

The Prospect textbooks (I-III) evaluated in the present study were published by the Iranian Ministry of Education and officially introduced nationwide for the junior high school. The series includes 8, 7, 6 lessons, respectively, for the first to the third grade of Junior high school period. They consistently integrate all four language skills along with review tests, and a photo dictionary. They are also supplemented with a workbook, a CD, and a teacher's manual.

All the lessons in the series follow a thematic order, growingly incorporating more demanding activities and skills. More specifically, Prospect I, as the initial textbook serving the main introduction to English learning in Iran's public education, not surprisingly, focuses on letters, words, numbers, and rudimentary writing activities. Prospect II, the second book in the series, involves more activities and exercises in all the four skills along with role-plays at the end of the lessons. The content and its sequence in the last textbook is not dissimilar to the preceding one. However, there are more extensive contents and activities, and a more explicit focus and treatment of English grammar is apparent.

3.2. Instruments

In order to identify and tally the six cognitive levels and knowledge types in the series' (Prospect I-III) contents, as it is commonly practiced in textbook evaluation, a 24-grid checklist was employed. The checklist (see appendix for a generic sample) was originally developed and used by Rezvani and Zamani (2012) in a study to investigate the intended, assessed, and written curriculum objectives in Iran's national English higher education. It involved a twenty-four cell-grid tapping into the two cognitive and knowledge dimensions of Bloom's revised theoretical framework. The four columns represent the main categories of knowledge dimension defined by subcategories and the six rows correspond to the main categories in the cognitive process further described by subdivisions.

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3.3. Data Collection Procedure

The data were collected from the conversations, practices, exercises, activities, themes and functions, and skills practices that constitute the total contents of the Prospect series. Through an analysis of the books' contents, action verbs and nouns were identified and the aims of instructions given to each section were carefully interpreted. Then they were codified employing the checklists for Prospects I-III. That is, the action verbs, representing the cognitive domain, and their subparts were annotated in the rows of checklist and the nouns of pointing to the types of knowledge with their subcomponents were incorporated in its columns. It is worth mentioning that when certain instructions involved multiple thinking demands, they were all identified and tallied in the respective cells.

3.4. Data Anlysis Procedure

As the first step, the collected data from all parts in three English textbooks were examined, codified, and analyzed by the researchers according to the six thinking levels and four knowledge categories to examine the extent to which these educational objectives were represented. To ensure reliability of coding, both researchers first coded a random sample (25%) of the data independently, and the agreement was 84%. The disagreements were resolved through discussion until consensus was reached. Then, all the data were coded by the first author, and another random subset of it (25%) was coded by the second author. The inter-coder agreement for this round increased to 97%.

Through Microsoft Excel (2016), the frequencies, proportion, and percentages of the distribution of the cognitive levels and knowledge types in each lesson of Prospects I-III were first calculated and accordingly, the totals for each cognitive level and knowledge in all lessons in the three textbooks were cumulatively summed to derive a total for each level. The totals were then used to assess whether there was a significant pattern in the occurrence of different levels of cognitive skills and knowledge types in the textbooks. Besides, it was examined as to what cells (intersection of the cognitive demand and knowledge types) in the matrix best represent the content being tested. In the second step, the basic data were converted to cell-by-cell proportion by dividing the frequency of each cell to the total number of activities. In this way, the proportion placed the finding in a common metric. Finally, Porter et al. (2007) alignment index (See the formula

below) was employed to analyze the degree of alignment of educational objectives among Prospects I-III and the lessons included.

$$AI = 1 - \frac{\left(\sum_{i=1}^{n}(Xi - Yi)\right)}{2}$$

Porter et al. (2007) Alignment Index Formula

In the formula, X denotes cell proportion in one matrix, and Y stands for cell proportion in another. The values of the AI "range from 0 to 1.0 indicating perfect alignment'' (Porter, 2002, p. 5). It is worth noting that indexes above 0.5 are also interpreted to be significant and indicative of acceptable alignment (Porter et al., 2007).

4. Results

In the following sections the results are presented and discussed in the order of the research questions guiding the study. First, an account will be given about the distribution of the knowledge and skills types in the three textbooks. Then, quantitative findings are reported in regard to the AI for the individual textbooks and across the series.

4.1. Educational Objectives in Prospect I-III

The result of content analysis of cognitive levels and knowledge types represented in Prospect I-III are described in the following sections (for details, see Appendix A). As indicated in Tables 1 and 2 below, thinking skills of ''apply'', and ''remember" with an equal average of 31% were heeded most in the lessons and reviews of Prospect I. The other skills of ''understand'' (average=22.5%%) ''evaluate'' (average=10%) ''analyze'' (average=7.5%) came in between and "create'' was neglected altogether in all lessons and reviews. Regarding knowledge types, the most frequent knowledge was "conceptual" with a mean of 40%. The next frequent knowledge types were "factual", "Meta-cognitive" and "procedural" with a mean of 36%, 10%, and 9%, respectively.

The findings based on the codification of Prospect II content are also summarized in the following tables. As it can be seen in Table 1 below, thinking skill of ''apply''(average=37%) was targeted most in all the lessons and reviews

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of Prospect II. "Remember" with a mean of 28% and "understand" with a mean of 27% were the next most frequent ones. ''Evaluate'' with a mean of 9% was accommodated less. The high-order thinking skills of "analyze" and "create" were notoriously absent in all lessons and reviews. Concerning the distribution pattern of knowledge types in the lessons of Prospect II as it was indicated in Table 2, the most regarded knowledge was "conceptual" (average=47%). Then come "factual" and "procedural" with an average of 31% and 14%, respectively. The least attention was also dedicated to "meta-cognitive" (average= 9%).

In Prospect III, as Table 1 shows, the thinking skill ''apply'' was addressed most (44%). The second mostly attended skill was "understand" distributed evenly in all lessons with a mean of 30%. The other thinking skills of "evaluate" and ''remember'' were accommodated with the same average of 10%. "Create" was also targeted with a mean of 7%, whereas "analyze" was heeded in no lessons and reviews of the textbook. As regards the knowledge dimension and according to Table 2, the content of Prospect III mainly focused on "conceptual" knowledge (average=44). The next most emphasized knowledge was "procedural" with a mean of 31%. "Factual" knowledge and "meta-cognitive" with a close mean of 12% and 11% received little attention.

Table 1

Cognitive Levels in Prospect I-III

Cognitive→ Levels ⇩	Remember ⇩	Understand ⇩	Apply ⇩	Analyze ⇩	Evaluate ⇩	Create ⇩
Prospect I	(31%)	(22.5%)	(31%)	(7.5%)	(10%)	-
Prospect II	(28%)	(27%)	(37%)-	-	(9%)	-
Prospect III	(10%)	(30%)	(44%)-	-	(10%)	(7%)
Mean	(23%)	(26.5%)	(33%)	(2%)	(2.5%)	(10%)

Table 2

Knowledge Types in Prospect I-III

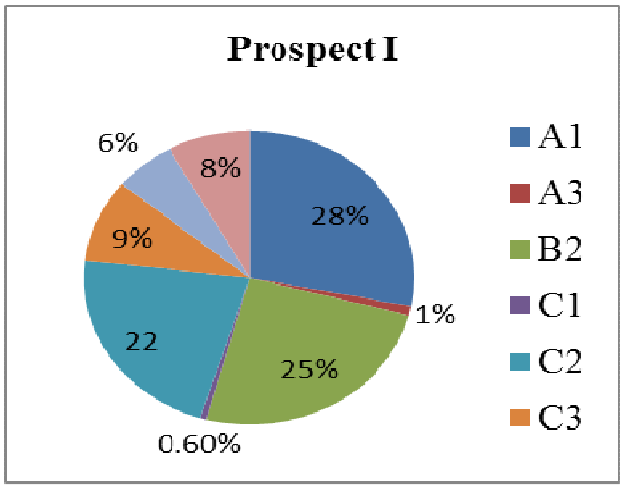
Knowledge Types →	Factual ⇩	Conceptual ⇩	Procedural ⇩	Meta-cognitive ⇩
Prospect I	(36%)	(40%)	(9%)	(10%)
Prospect II	(31%)	(47%)	(14%)	(9%)
Prospect III	(12%)	(44%)	(31%)	(11%)
Mean	(26%)	(44%)	(18%)	(10%)

4.2. The Cell Values of Educational Objectives in Prospect I

The content matrix where the cognitive levels are intersected by knowledge types is needed to be analyzed for identifying how the intersections are distributed across the cells of the two-dimensional taxonomy table in terms of Bloom's new taxonomy of educational objectives. The following figure presents the cell value of Prospect I.

Figure 2

Intersection of Cognitive Levels and Knowledge Types in Prospect I



Note: Letters and numbers in the above tab represent the one to one intersection of the cognitive levels and knowledge types. A_1 & A_3, for instance, stand for "Remember × Factual Knowledge'' as the first cognitive level (column) and the first and third types of knowledge (row) of the checklist.

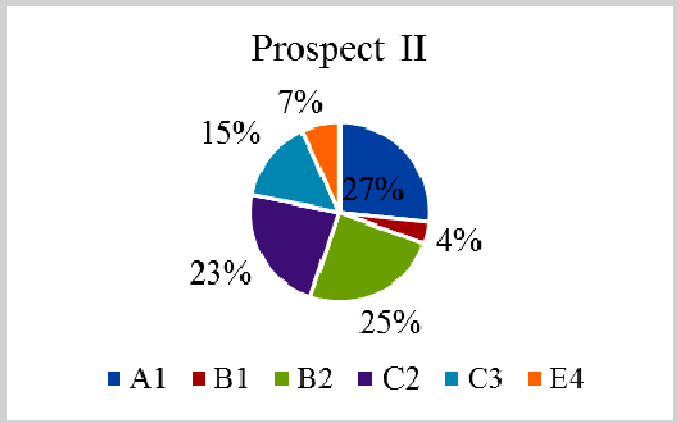
The pie chart above demonstrates that A_1 constituted the largest proportion by 28%, followed by B_2 (25%), C_2 (22%), and C_3 (9%) in order. E_4 and D_1 were also targeted by 8%, and 6%, respectively. A_3 (1%), and C_1 (6%) were represented minimally. A finding of note is the total absence of the rest of the intersections.

4.3. The Cell Values of Educational Objectives in Prospect II

As regards the intersection of the thinking levels by types of knowledge, Figure 3 illustrates the cell value of Prospect II. As it is shown in the figure, A_1, B_2, and C_2 were emphasized most by a proportion of 27%, 25%, and 23%, respectively. The matrices of C_3 (15%), and E_4 (7%), and B_1 (4%) were underemphasized, while the other matrices were completely ignored in Prospect II.

Figure 3

Intersection of Cognitive Levels and Knowledge Types in Prospect II



4.4. The Cell Values of Educational Objectives in Prospect III

Figure 4 demonstrates that B_2, C_3, and C_2 were mainly emphasized by 28%, 21%, and 21%, respectively. The matrices of A_1 (11%), E_4 (9%), F_3 (5%), B_3 (4%), and C_1 (2%) were also targeted; however, no attention was paid to other matrices of educational objectives in Prospect III.

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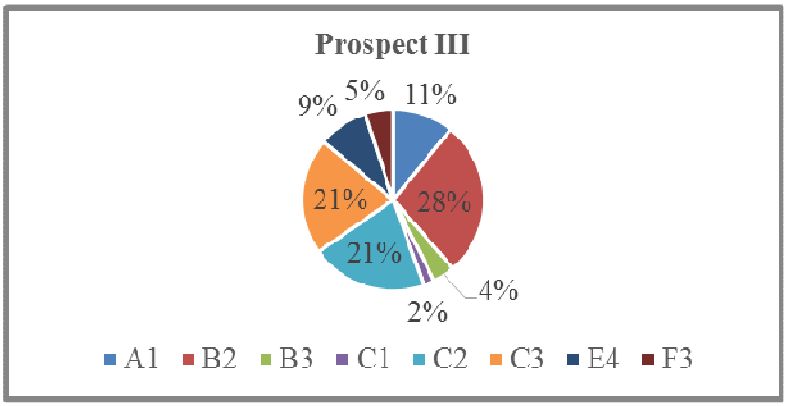
Figure 4

Intersection of Cognitive Levels and Knowledge Types in Prospect III



4.5. Alignment among the Lessons of Each Book of Prospect Series

In order to address the second research question, the data from the codification processes of the lessons of Prospect I-III were analyzed to produce a content matrix of proportions indicating relative content emphasis for each cognitive and knowledge coverage. The matrices were then used to assess lesson by lesson PAIs. The findings are presented in the subsequent sections, and further details are provided in Appendices H-J.

4.6. Alignment among the Lessons of Each Book of Prospect Series

The PAI indexes of lessons 1 & 5, and 3 & 8 were perfectly aligned. Concerning the alignment between other pairs of lessons, the lowest alignment value was between lesson 2 & 4 (PAI=0.85), while lesson pairs of 1 & 2, 1 & 3, 2 & 5, 3 & 4, and 6 & 7 came in between by the alignment value of 0.92. The average alignment among all the lessons of Prospect I equaled 0.91. Therefore, the lessons of Prospect I were significantly aligned in terms of Bloom's revised taxonomy (2001) of educational objectives suggesting that the lessons were in close harmony in aiming at the objectives of interest.

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4.7 PAI for the Lessons of Prospect II

As Appendix H reveals, lesson pairs including 2 & 7, and 5 & 6 among the lessons of Prospect II were in tight harmony by the perfect alignment of 1. In comparison, lessons pairs of 2 & 7, and 5 & 6 by the lowest value (.75) were in close agreement. Fortunately, the average PAI demonstrated a significant value (PAI=0.76). Thus, the alignment results imply that the lessons in general tap similar knowledge types and cognitive levels rather harmoniously.

4.8 PAI for the Lessons of Prospect III

An interesting finding in this study, which is noteworthy, is that PAIs of Prospect III lesson pairs were all perfect, according to Porter (2002). When rounded, the indexes all equaled to 1. Theoretically, these promising values can be construed that the materials developers and writers managed to tap into a remarkably similar set of objectives both cognitively and in terms of knowledge types. The considerable consistency and harmony are probable to lead to more focused and effective learning and teaching if supplemented by other key components of a curriculum and education.

4.9. PAI between Prospect I and II

Concerning research question three, PAI between Prospect I and II was found that there was quite highly significant alignment between seventh and eighth grade English textbooks of Prospect series. Since these two textbooks come in sequence this going togetherness or technically alignment is of particular import. It is theoretically interpreted to make provision for consistent attempt to achieve the objectives in concert.

Table 3

PAI between Prospect I & II

Textbook Pairs	Alignment Index (AI)
Prospect I & II	0.93

Note: Alignment is significant > 0/50.

4.10. PAI between Prospect I and III

A statistical comparison of the two matrices of the objectives accommodated with only three cells in common through PAI in common resulted in a moderate but positively significant alignment (PAI=0.78). This value of alignment between the two textbooks with one in between, that is Prospect II, does not come as a surprise. Favorably, the more tuned the textbooks in a series are, the more fruitful they are in achieving and promoting educational objectives. However, textbooks intended for distant levels might not normally align ideally. Moderately high and positive AIs are, thus, quite acceptable for materials that are not adjacent in a sequence.

Table 4
PAI between Prospect I & III

Textbook Pairs	AI
Prospect I & III	0.78

Note: Alignment is significant > 0/50.

4.11. PAI between Prospect II and III

Research question three addressed the AI of the last pair of the books in the series. A glance at the tables in respective appendixes of the targeted objectives indicates that they have five cells in common. PAI estimated for the alignment of these two consecutive textbooks was 0.74. Therefore, educational objectives embedded in Prospect II were significantly and moderately aligned with those of Prospect III. Unlike PAI for the pair of Prospect I and III, the value, though quite acceptable, was supposed to be even higher given the sequence of the contents.

Table 5
PAI between Prospect II & III

Textbook Pairs	AI
Prospect II & III	0.74

Note: Alignment is significant > 0/50.

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5. Discussion

Regarding the first research question posed about the distribution pattern of educational objectives in Prospect series, this study revealed that the lower-order thinking skills, including "remember", "understand", and "apply" were over-emphasized in three textbooks while higher-order cognitive levels of "analyze", "evaluate", and "create" were rather disregarded. It was also indicated that Prospect series directed the highest degree of attention to the "conceptual" (44%), and the least to "meta-cognitive" (10%) knowledge types.

The larger representation of lower-order objectives in instructional materials officially used in Iran comes as no wonder. Informed by the same theoretical framework, Gordani (2010) came across similar results though the materials were the older series superseded by Prospect series. The study by Roohani et al. (2015) undertaken in the private education, though concerned with an internationally widespread series of textbooks, that is Top Notch, also revealed that the questions which were used in the textbooks generally favored lower cognitive levels. The closest study to the current one in terms of both the underpinning theoretical framework and focus of the study, which explored the speaking and listening activities in only Prospect III (Mizbani & Chalak, 2017) also indicated that the activities tended to aim at lower levels of educational objectives.

This inclination to attend to lower thinking skills might be premised on the students' preliminary language proficiency when they enter the first-period high school. Their English proficiency at the entrance might have induced the textbook developers to assume that students may find it formidable to achieve higher levels of cognitive knowledge and complexity. Human learning is fundamentally incremental (Grabe & Stoller, 2013) and educational instructional and materials are supposed to be additive and essentially aligned with the former and prospective levels. For example, remembering, though the lowest level, is presumed to be "one of the most important cognitive processes because as a person's knowledge or information increases, there is also a development of his or her acquaintance with reality" (Gotcher, 2012, p. 23).

Another finding worthy of note is the consistency in the distribution pattern of educational objectives in the series. Discrepancy in targeting educational objectives is basically frowned upon. It is argued that discrepancy in the objectives might give rise to unsystematic practice and unplanned outcomes

(Joyce, 1993). As the three textbooks were officially introduced in a series in Iran's standards-based education, they play the dual role of both content and curriculum standards. This accord, thus, can theoretically bring about order and systematicity in teachers' and learners' approach of materials.

The counter-argument, however, is that materials developers tend to emphasize and accommodate lower-order knowledge types and skills just because they are less challenging to design and devise, and eventually to teach and learn. The evidence comes from the rather consistent research findings accrued on instructional materials suggesting that such objectives are broadly heeded to a larger extent. English textbooks evaluations from various contexts and levels (Assaly & Smadi, 2015; Gordani, 2010; Hoeppel, 1980; Rezvani & Haghshenas, 2015; Rezvani & Zamani, 2012; Zareian et al., 2015) also point to the privileged prominence of these objectives and make a case for the argument.

The immediate materials that students are introduced to are their lessons from the current book they use in this particular instructional context. This might also be true of the teachers. They might not be aware of or concerned about the next level and respective content of instruction. This accentuates the import of alignment of lessons of the same book in the first instance and then when the students are led to the next level, the forthcoming lessons. As such, the same arguments are in order for the harmony of lessons of the same book and consecutive books in a series in particular (Chen, 2016). While the lessons of the textbooks (Prospect I-III) of concern in this study generally enjoyed adequately horizontal alignment to pave the way for teachers and learners to achieve the objectives envisioned, concerns might be voiced about what the lessons in effect would lead the students to acquire. This returns us to the answer to the first research question above.

As for the PAI of 0.93, 0.78 and 0.74 between Prospect I and II, I and III, and II and III as the indicators of vertical alignment across the textbooks and along the series represent adequate conformity and coherence of the textbook contents in making the provision for a concentrated acquisition of similar educational objectives. This concentrated aiming of the educational objectives as far as the instructional contents of instruction are concerned is arguably the basic requirement for enacting the intended curriculum (Fan, 2010). The ultimate achievement of students rests, as argued by Gamoran et al. (1997), on the

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alignment in the enacted curriculum. In other words, the quality and alignment of the content of instruction as represented by instructional materials will predict strongly what students will bring in through their education and at the end of it. As argued above, the relation is more intense and pivotal in system-based educations like Iran's national curriculums, including English curriculum in which the textbooks are officially developed and nationally implemented in all corners of the country. In short, the adequate vertical alignment among the textbooks as the only English materials for most of the students in Iran's EFL context is encouragingly favorable for teachers and students both.

6. Conclusion

This study attempted to provide an evaluation of vertical and horizontal alignment among Iranian official English textbooks introduced in Prospect series in terms of Bloom's revised taxonomy of educational objectives. As regards the first question concerning the distribution patterns of educational objectives in the series, the findings revealed that lower-order levels, including "remember", "understand", and "apply" received the largest coverage by 23%, 26.5%, and 33% respectively. On the other hand, "analyze", "evaluate", and "create" labeled as higher-order levels were addressed only by 14.5% in the contents of the Prospect series. In regard to knowledge categories, the largest coverage was given to "conceptual" knowledge by 44%, followed by "factual" and "procedural" knowledge types by 26% and 18%, respectively. It should be noted that "Meta-cognitive" knowledge attracted the least attention (10%). Admittedly, few scholars and writers might support this accentuation of the lower order thinking skills and knowledge types. However, an advantage, in this disadvantaged coverage, is that the coverage was rather consistent through the series' content.

Through the two dimensional content matrix for estimating the significance of alignment, the researchers examined whether the textbook lessons were in agreement in addressing educational objectives. The PAIs of the lessons of Prospect I, II, and III were calculated to be 0.91, 0.76, and 1.0, respectively. The evaluation of PAIs of the lesson in general was positively supporting the adequacy of the lessons to be theoretically harmonious enough to tap into similar objectives. The Prospect textbooks were also found to be significantly aligned with each other in terms of educational objectives. Such vertical alignment can be

interpreted positively given their sequential organization. Theoretically, this can pave the way for more concerted attempts on the part of both teachers and learners in Iran's EFL context impoverished in terms of exposure to English content.

On a more critical note, apart from the encouraging alignment indexes yielded in the currents study, certain recommendations are in order to make up for the imbalanced, though rather consistent, accommodation of the educational objectives. Basically, it is suggested that higher-order thinking skills and knowledge types be incorporated in teachers' procedures given the current emphasis on critical thinking (Gacel-Ávila, 2005; Pally, 1997). In particular, we tend to argue that implementing more integratively interactional activities (Nation 2009; Nation & Newton, 2009) like role-plays by nature involve multiple resources all together obviating teachers the burden to devise and implement tasks that focus on individual knowledge types and cognitive skills. The activities should fit the learners' cognitive and proficiency level and ought to be incrementally demanding. However, it is admitted that greater curricular and teacher flexibility for more locally fitting of the activities and materials can be both a gift and a burden for the teachers (Sinnema et al., 2020). Additionally, it is recommended that materials developers design, craft, and create more versatile and open contents to encourage and invite teachers' creativity and local experience to and for them to infuse their own way when a need arises to incorporate different processes. This can also be practically undertaken when new supplementary materials and new editions or next series are developed or revised.

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Appedices

Appendix A. Sample Checklist representing Bloom's Revised Taxonomy of Educational Objectives

Knowledge Dimension

Cognitive Demands	.1.Factual	2.Conceptual	3.Procedural	4.Meta-cognitive
A.Remembering	A_1	A_2	A_3	A_4
B. Understanding	B_1	B_2	B_3	B_4
C. Applying	C_1	C_2	C_3	C_4
D. Analyzing	D_1	D_2	D_3	D_4
E. Evaluating	E_1	E_2	E_3	E_4
F. Creating	F_1	F_2	F_3	F_4

Appendix B. Activities, and Cognitive Levels in the lessons and reviews of Prospect I

Cognitive Levels ⟶		Remember	Understand	Apply	Analyze	Evaluate	Create
Lessons⟶Activities		⇩	⇩	⇩	⇩	⇩	⇩
Welcome	10	(80%)	(10%)	(10%)	-	-	-
1	14	(21%)	(36%)	(36%)	(7%)	-	-
2	14	(21%)	(36%)	(43%)	-	-	-
3	15	(27%)	(33%)	(33%)	(7%)	-	-
4	14	(14%)	(33%)	(43%)	(7%)	-	-
5	14	(21%)	(36%)	(36%)	(7%)	-	-
6	13	(23%)	(38%)	(38%)	-	-	-
7	16	(19%)	(38%)	(38%)	(6%)	-	-
8	15	(27%)	(33%)	(33%)	(7%)	-	-
Review 1	10	(20%)	-	(40%)	(10 %)	(30%)	-
Review 2	12	(42%)	-	(25%)	(8%)	(25%)	-
Review 3	9	(44%)	-	-	(11%)	(44%)	-
Review 4	15	(40 %)	-	(27 %)	(7%)	(27%)	-
Mean	13	(31%)	(22.5%)	(31%)	(7.5%)	(10%)	-

Appendix C. Activities, and Knowledge Types in the lessons and reviews of Prospect I

Knowledge Types ⟶		Factual	Conceptual	Procedural	Meta-cognitive
Lessons⟶Activities		⇩	⇩	⇩	⇩
Welcome	10	(80%)	(20%)	-	-
1	14	(29%)	(57%)	(14%)	-
2	14	(29%)	(57%)	(14%)	-
3	15	(33%)	(53%)	(13%)	-

Knowledge Types ⟶		Factual	Conceptual	Procedural	Meta-cognitive
4	14	(21%)	(64%)	(14%)	-
5	14	(29%)	(57%)	(14%)	-
6	13	(23%)	(62%)	(15%)	-
7	16	(25%)	(62.5%)	(12.5%)	-
8	15	(33%)	(53%)	(13%)	-
Review 1	10	(30%)	(40%)	-	(30%)
Review 2	12	(50%)	(25%)	-	(25%)
Review 3	9	(56%)	-	-	(44%)
Review 4	15	(33%)	(27 %)	(13%)	(27%)
Mean	13	(36%)	(40%)	(9%)	(10%)

Appendix D. Activities, and Cognitive Levels in the lessons and reviews of Prospect II

Cognitive Levels⟶		Remember	Understand	Apply	Analyze	Evaluate	Create
Lessons⟶	Activities						
1	20	(25%)	(40%)	(35%)	-	-	
2	14	(21%)	(36%)	(43%)	-	-	
3	19	(21%)	(42%)	(37%)	-	-	
4	15	(13%)	(33%)	(53%)	-	-	
5	20	(25%)	(40%)	(35%)	-	-	
6	20	(25%)	(40%)	(35%)	-	-	
7	14	(21%)	(36%)	(43%)	-	-	
Review1	10	(50%)	-	(20%)	-	(30%)	-
Review2	10	(40%)	-	(30%)	-	(30%)	-
Review3	23	(35%)	-	(39%)	-	(26%)	-
Mean	16.5	(28%)	(27%)	(37%)	-	(9%)	-

Appendix E. Activities, and Knowledge Types in the lessons and reviews of Prospect II

Knowledge Types ⟶		Factual	Conceptual	Procedural	Meta-cognitive
Lessons⟶	Activities				
1	20	(35%)	(50%)	(15%)	-
2	14	(21%)	(57%)	(21%)	-
3	19	(21%)	(63%)	(16%)	-
4	15	(13%)	(60%)	(27%)	-

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Knowledge Types ⟶		Factual	Conceptual	Procedural	Meta-cognitive
Lessons ⟶	Activities	⇩	⇩	⇩	⇩
5	20	(35%)	(45%)	(20%)	-
6	20	(35%)	(45%)	(20%)	-
7	14	(21%)	(57%)	(21%)	-
Review1	10	(50%)	(20%)	-	(30%)
Review2	10	(40%)	(30%)	-	(30%)
Review3	23	(35%)	(39%)	-	(26%)
Mean	16.5	(31%)	(47%)	(14%)	(9%)

Appendix F. Activities, Cognitive Levels in the lessons and reviews of Prospect III

Cognitive Levels ⟶		Remember	Understand	Apply	Analyze	Evaluate	Create
Lessons ⟶	Activities	⇩	⇩	⇩	⇩	⇩	⇩
1	20	(15%)	(45%)	(40%)	-	-	-
2	20	(15%)	(45%)	(40%)	-	-	-
3	20	(15%)	(45%)	(40%)	-	-	-
4	20	(15%)	(45%)	(40%)	-	-	-
5	20	(15%)	(45%)	(40%)	-	-	-
6	20	(15%)	(45%)	(40%)	-	-	-
Review1	16	-	-	(56%)	-	(31%)	(12.5%)
Review2	17	-	-	(47%)	-	(29%)	(24%)
Review3	17	-	-	(53%)	-	(29%)	(18%)
Mean	19	(10%)	(30%)	(44%)	-	(10%)	(7%)

Appendix G. Activities, and Knowledge Types in the lessons and reviews of Prospect III

Knowledge Types ⟶		Factual	Conceptual	Procedural	Meta-cognitive
Lessons ⟶	Activities	⇩	⇩	⇩	⇩
1	20	(15%)	(55%)	(25%)	-
2	20	(15%)	(55%)	(25%)	-
3	20	(15%)	(55%)	(25%)	-
4	20	(15%)	(55%)	(25%)	-
5	20	(15%)	(55%)	(25%)	-
6	20	(15%)	(55%)	(25%)	-
Review1	16	(6%)	(25%)	(37.5%)	(31%)
Review2	17	(6%)	(18%)	(47%)	(29%)
Review3	17	(6%)	(24%)	(41%)	(29%)
Mean	19	(12%)	(44%)	(31%)	(11%)

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Appendix H. PAI Indices among the lessons of Prospect I

	Lesson1	Lesson2 AI	Lesson3 AI	Lesson4 AI	Lesson5 AI	Lesson6 AI	Lesson7 AI	Lesson8 AI	Average AI
Lesson1	-----	0.92	0.94	0.92	1	0.93	0.96	0.94	0.94
Lesson2	-----	-----	0.88	0.85	0.92	0.93	0.89	0.88	0.89
Lesson3	-----	-----	-----	0.92	0.94	0.89	0.91	1	0.93
Lesson4	-----	-----	-----	-----	0.91	0.87	0.95	0.87	0.9
Lesson5	-----	-----	-----	-----	-----	0.93	0.96	0.95	0.94
Lesson6	-----	-----	-----	-----	-----	-----	0.92	0.89	0.90
Lesson7	-----	-----	-----	-----	-----	-----	-----	0.91	0.91
Lesson8	-----	-----	-----	-----	-----	-----	-----	-----	-----
Average	-----	0.92	0.91	0.89	0.94	0.91	0.93	0.92	0.91

Note: Alignment is significant ≥ 0/50.

Appendix I. PAI among the lessons of Prospect II

	Lesson1	Lesson2 AI	Lesson3 AI	Lesson4 AI	Lesson5 AI	Lesson6 AI	Lesson7 AI	Average AI
Lesson1	-----	0.86	0.86	0.84	0.95	0.95	0.86	0.88
Lesson2	-----	-----	0.94	0.86	0.86	0.86	1	0.90
Lesson3	-----	-----	-----	0.8	0.81	0.81	0.93	0.83
Lesson4	-----	-----	-----	-----	0.75	0.75	0.86	0.78
Lesson5	-----	-----	-----	-----	-----	1	0.91	0.95
Lesson6	-----	-----	-----	-----	-----	-----	0.86	0.86
Lesson7	-----	-----	-----	-----	-----	-----	-----	-----
Average		0.86	0.9	0.83	0.84	0.87	0.90	0.86

Note: Alignment is significant ≥ 0/50.

Appendix J. PAI among the lessons of Prospect III

	Lesson1	Lesson2 AI	Lesson3 AI	Lesson4 AI	Lesson5 AI	Lesson6 AI	Average AI
Lesson1	-----	1	1	1	1	1	1
Lesson2	-----	-----	1	1	1	1	1
Lesson3	-----	-----	-----	1	1	1	1
Lesson4	-----	-----	-----	-----	1	1	1
Lesson5	-----	-----	-----	-----	-----	1	1
Lesson6	-----	-----	-----	-----	-----	-----	1
Average		1	1	1	1	1	1

Note. All the values were rounded up.

Appendix K. Matrices of Cognitive Levels and Knowledge Types in Prospect I

Knowledge Types ⇨	1. Factual	2. Conceptual	3. Procedural	4. Meta-cognitive
Cognitive levels	⇩	⇩	⇩	⇩
A. Remember	.280	-	.011	-
B. Understand	-	.245	-	-
C. Apply	.005	.222	.093	-
D. Analyze	.058	-	-	-
E. Evaluate	-	-	-	.081
F. Create	-	-	-	-

Appendix L. Matrices of Cognitive Levels and Knowledge Types in Prospect II

Knowledge Types ⇨	1. Factual	2. Conceptual	3. Procedural	4. Meta-cognitive
Cognitive levels	⇩	⇩	⇩	⇩
A. Remember	.266	-	-	-
B. Understand	.036	.248	-	-
C. Apply	-	.230	.145	-
D. Analyze	-	-	-	-
E. Evaluate	-	-	-	.072
F. Create	-	-	-	-

Appendix M. Matrices of Cognitive Levels and Knowledge Types in Prospect III

Knowledge Types ⇨	1. Factual	2. Conceptual	3. Procedural	4. Meta-cognitive
Cognitive levels	⇩	⇩	⇩	⇩
A. Remember	.10	-	-	-
B. Understand	-	.282	.035	-
C. Apply	.017	.205	.0211	-
D. Analyze	-	-	-	-
E. Evaluate	-	-	-	.088
F. Create	-	-	.052	-

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