



Regular Article

**Relationship Between EFL Examination Questions at Kuwait University
and Bloom's Taxonomy**

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Abstract

Written language examination is still the conventional, albeit universal, tool to measure students' performance in language teaching, where the targeted cognitive ability is conceptualized through required learning outcomes. As it is the case with any other subject area, to assess the ability of the EFL written examination to evaluate students' abilities is contingent upon the questions included in the exam. In testing, it is a rule that any exam sheet has to include questions varying in their levels of complexity to accommodate students' individual differences. The current study *aims* at identifying these levels in EFL exam sheets, based on the criterion keywords found in them. The *method* used was a content analysis formula to assess how exam questions, students' answers, and EFL course learning outcomes interact. The findings showed that: (a) there was an inadequate matching between expected course learning outcomes and exam questions; and (b) students, when given a chance to choose, tended to choose lower-order questions. The study is *significant* to EFL instructors and those responsible for EFL testing. The study then concluded with relevant insights, presenting some recommendations with respect to a more appropriate EFL assessment.

Keywords: Bloom's Taxonomy, Examination Questions, Learning Outcomes

Literature Review

University graduates are anticipated to be an added value in their societies, being capable to ‘think well.’ Although ‘to think well,’ is communicated variously around the world, the core notion is that graduates have to show the ability to accept uncertainty, be creative and intuitive, and be capable of using their understanding or critical analysis skills in problem-solving tasks (Kubiszyn & Borich, 2015).

Education is believed to help change individuals’ behavior. Some of the essential aims of language education, as in any other type of education, are to prepare learners to be life-long language learners with great potentials (Koksal, & Ulum, 2018). To call exam questions higher-order cognitive skills the exam should include conceptual questions that require students to apply skills beyond factual knowledge to the levels that need metacognition strategies and critical thinking skills (Biggs, 2001).

Despite the fact that planning the lesson, delivering it, and assessing it are all stages employed to attain the aims of life-long learning, assessment is the vital process in deciding whether or not students have attained higher-order cognitive skills in their conceptual development. In that respect, assessment attempts to make judgments and decisions about teaching and learning effectiveness (Koksal, & Ulum, 2018). That is, if assessment has such a crucial and compelling role in the future of university graduates, it is beyond doubt that the nature of its would indicate what students learn and how they learn, as well as what instructors teach and how they teach. Examination is a prevailing method used to evaluate what students have learned in a given subject or discipline. Thus, it can be considered as an aspect of social life (Berger & Luckmann, 1966), or as an almost lasting “social practice” (Potter & Fairclough, 2000). Instructors with great potential are thought to be competent at setting appropriate questions in their exams. Brualdi (1998) proposed that higher-order questions would promote interaction between instructors and their students.

Bloom's taxonomy is an assessment framework for learning used by educators to classify required outcomes in any subject area into levels of complexity and specificity, creating assessments that precisely record what outcomes students achieved (Anderson & Krathwohl, 2001; Black, Harrison, Lee, Marshall & William, 2003). It involves six levels, with the principle that different levels of thinking defined within each domain are hierarchical. That is, each level implies that the student achievement at the levels preceding it is satisfying. Bloom's Taxonomy

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comprises six levels under three learning domains: the cognitive, affective, and psychomotor, and attributes a hierarchy that corresponds to different levels of learning across these domains. These levels are:

1. Knowledge. Knowledge questions are the questions concerning recalling facts that students have learned in the subject area. Question verbs such as *list, describe, draw, identify,* and *select* are among the verbs used to assess this level.

2. Comprehension. At this level students have to show their ability to rephrase information with their own language and convert facts into new forms, such as interpreting non-prose materials like diagrams into words. Question verbs such as *express, paraphrase, classify, write,* and *visualize* are used to assess this level.

3. Application. Questions at this level aim at identifying related information to solve problems. Question verbs such as *employ, provide,* and any other verb showing how to apply X to Z.

4. Analysis. Students at this level are asked to isolate any given piece of information into its components. This analysis implies that students understand how these components are related to form the whole. Question verbs such as *analyze, separate, compare/contrast* are used to assess this level.

5. Synthesis. If students can analyze, they are supposed to synthesize what they analyze. This level allows students to test hypotheses. Question verbs such as *design, construct, develop,* and *formulate* are used to assess this level. Students could be assessed through writing an essay or report synthesizing ideas already analyzed.

6. Evaluation. Evaluative questions are intended to assess students' ability to judge the qualities of a certain issue or topic. This level proposes that students should achieve, in varying degrees, the preceding levels. Question verbs such as *critique* ,and *defend* are used to assess this level.

Learning outcomes could be defined as clear expressions that anticipate what learners should achieve by the end of a program, such as the end of the semester or school year. Hence, a learning outcome is a kind of statement articulating what form of achievement is expected- factual, conceptual, procedural, or metacognitive knowledge (Anderson & Krathwohl, 2001). If intended learning outcomes are well expressed, they could help both instructors and students. Such statements clearly express what is needed to successfully achieve requirements of a course, only if the learning outcomes are strongly associated with the assessment criteria and methods.

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Provided that learning outcomes are appropriately defined, students are expected to be motivated to concentrate on the outcomes that a particular course is supposed to convey. Based on that, students must know exactly the expected outcomes and how they are to be evaluated. For example, an EFL course learning outcomes with respect to teaching modal verbs would be as (a) demonstrate knowledge of modals structure and usage in English, (b) analyze a sentence showing a situation where a modal verb is used, (c) applying the grammar of modal verbs to realistic scenarios, and (d) evaluating situations where different modal verbs are all possible and appropriate to a varying degree. The action verb is the crucial word to assess achieving these learning outcomes. Selecting the suitable action verb is essential, and the selection is based on (a) how clearly it conveys instructional intent, and (b) how precisely it specifies the acceptable level of achievement that illustrates that learning has taken place (Chatterji, 2003). Of course, action verbs are not the same in their ability to accommodate both criteria. In their review of the relevant literature concerning labeling learning outcomes in light of Bloom's Taxonomy, Almerico and Baker (2004) found inconsistency in lists which categorically classified verbs according to Bloom's taxonomy (e.g., Airasian, 2001; Borich & Tombari, 2004; Chatterji, 2003; Lee, 1999; McMillan, 2004). There were verbs categorized into multiple categories within the hierarchy in a given list. Moreover, it becomes more confusing when verbs were found assigned across levels of the taxonomy in various lists.

Based on what has been said so far, there is no doubt that questions used by instructors constitute a vital element of effective teaching. Questions are used in educational contexts daily to keep students motivated to use their thinking and reasoning abilities. Nevertheless, it is a common practice that questions used in exams are usually those that assess the recalling and application abilities of students (McMillan, 2004). In academia, it is not unusual to meet academicians who assume that application-related questions must be given the priority in higher education while recall questions should be reduced (Biggs, 2001). Good questions incorporate informational and problem-solving questions (Leeds, 2000) and have to help elevate issues that make students keen to receive feedback or keep thinking further (Black et al., 2003). Thus, questions should be composed of two qualities: (a) they should be clear and certain in nature by avoiding difficult lexicon, complicated syntax or unplanned clues (Popham, 1999); and (b) they have to possess the art of skillful

questioning that elevate productive discussion getting students engaged in higher-order thinking (Chin & Langsford, 2004).

Biggs (2001) believes that constructive alignment, through which we can enhance effective learning, is fostered by aligning learning outcomes, assessment, and teaching/learning activities. Through that alignment, students are assumed to learn the skills and understanding on completion of the course. Hence, an examination paper might include more questions requiring recall of information when the objective is to assess the recall of facts and basic concepts by the end of the course. In remedial or introductory courses, for example, students are expected to learn new information rather than being exposed to complex problems that need evaluation skills to solve. Therefore, an examination paper in remedial or introductory courses comprises recall of information questions more. Most courses, however, go beyond that; and their assessment has to show constructive alignment with regard to asserting the appropriate balance various levels of cognitive questioning- lower, intermediate, and higher-order questions.

Purpose of the Study

The purpose of this study is to investigate the use of the three different types of questions classifying Bloom's six levels, lower-order, intermediate-order, and higher-order, in EFL course exams at Kuwait University. The intention is to identify whether EFL instructors are using appropriate questions to assess their students' cognitive skills, namely critical-thinking and problem-solving skills. The mean marks obtained by students in the exams are also reviewed, in addition to the trend with respect to what students select to answer from a list of optional questions. To arrive at more cohesive findings, a kind of well-established taxonomy was used to compare the learning outcomes to the examination questions. Several taxonomies are there, but Bloom's was chosen because most academicians believe it is generic in nature, and its structure is clear and straightforward in a way making it applicable in various subject areas (Anderson & Krathwohl, 2001; Kubiszyn & Borich, 2015).

Significance of the Study

The findings of this study will benefit those considering that EFL education plays an essential role nowadays. The demand for graduates with a good command of English justifies the need for a more effective EFL assessment. Thus, EFL instructors and

those responsible for them will be able to improve the assessment quality for the sake of improving students' performance in EFL courses.

Methods

Procedure

A sample of 30 EFL examination sheets administered in the academic year 2018/2019 were examined in the present study. Guided basically by Dalton and Smith's (1986) verb list, they were recorded and categorized into the following levels: lower, intermediate, and higher-order cognitive questions.

Content analysis

The two researchers did the content analysis. It included three main steps. First, the exams were evenly divided between the two researchers. Each researcher, i.e., coder, analyzed and categorized on his own the questions of each exam using codes (i.e., Bloom's taxonomy and Dalton and Smith's list) established before proceeding with data collection. Next, the two researchers met to cross-check their data in an attempt to reach a consensus of the final categories. Finally, an expert outsider researcher worked individually to review our analysis to ensure that the coding was consistent with the criteria put forward.

Jordan (1997), using Hamp-Lyons (1990) model of examination questions, identifies four aspects of any question: topic, focus, comment, and perspective. A question, for example, could read as follows: persuade (*verb*) your bookshop manager (*focus*) to accept your proposal for a new marketing campaign (*topic*) to sell more books (*perspective*). The cornerstone of this question is the *verb* because it is strongly linked to a cognitive level. In other questions, however, the *verb* might not fully consider the question gestalt, then the *focus* and *perspective* should be considered in order to decide the cognitive level of the question. The bookshop manager question, the verb was used to stir the cognitive level, but to persuade your manager is something different than persuading a customer and marketing books is something different than selling cars. That is, the whole sentence ensures that the context is taken into consideration. For example, "what are the persuasion expression used in English" is a lower-order question while "persuade x to do z" would be an intermediate-order question.

Usually, an examination question is composed of sub-questions; therefore, the cognitive level identified was computed in terms of the given marks. Then, the total

scores for each cognitive level across the examination paper were accounted and scaled in light of the total marks on the examination paper. In the same line with this analysis, cognitive levels suggested in the course learning outcomes were analyzed. Again, the verb becomes the key, using Dalton and Smith' list (1986). Only those learning outcomes related to the examination were analyzed, however, centering on questions reflecting the three cognitive levels (being presented as a percentage). If we consider learning outcomes with respect to teaching modal verbs provided above and see how they are assessed via different assessment types, we might find that they are assessed through both coursework assignments and examinations. Any learning outcome not reflected in the examination would be analyzed.

The analysis gives an insight into 'the degree of match' between the anticipated cognitive levels (articulated in the course learning outcomes) and those assessed in the final examinations. The degree of matching has been classified into three categories: 'Very close,' 'Close,' 'Allowable or 'No matching.' Then students' answers to the questions were analyzed. For each question, the mean score was determined, and the number of students trying to answer the question. The three cognitive levels for each question were examined in a proportionate format as w:x:y for lower, intermediate and higher levels, respectively.

Results and Discussion

The findings of the content analysis on the cognitive levels employed in EFL examinations reveal that, on the whole, there is a sort of inadequacy. The examination questions are not appropriately associated with the required levels of learning outcomes, though the higher-order learning outcomes are there in course syllabuses of which exams we analyzed. Mainly, it was found that examination questions did not ideally reflect learning outcomes in the higher-order sphere. Most of the questions reflected lower-order learning outcomes (82.8%), and few intermediate-order outcomes (15.3%). Although this might sound erroneous, given a second thought can be considered allowable. To be up to the level in higher-order examination questions, students must show competencies in evaluation and creativity. While these competencies are definitely needed in language courses, time limitation on in examination could make a bit difficult for instructors to put in the exams and maybe for students to answer them fully. For some, it is deemed easier to assess and mark answers for lower-order cognitive questions than subjective-oriented

questions (i.e., higher-order questions). Marking answers and grading procedures should not, however, be a factor in preparing EFL examinations.

The analysis concerning a connection between choice and cognitive level in the examination indicates that the majority of students, when given optional questions to choose from, tended to answer lower-order questions in most cases, and to a lesser extent, intermediate-order ones, while the least selected was higher-order questions. It was noticed, nevertheless, that optional questions were not ideally balanced against each other, making students select the easiest option. Therefore, it seems that there is an obvious instrumental connection between what students select to answer and the cognitive level of a question. When reviewing the mark sheet, however, there was an evident link between the question chosen and the mean mark for that question. The analysis reveals that the mean mark for the lower-order questions was 78.4% while it was 53.3% for the intermediate-order questions.

Conclusion and Recommendations

This study has not looked into whether the course learning outcomes were articulated appropriately (which is the responsibility of faculty and academic affairs deanships in colleges that should ensure that learning outcomes of all courses are well defined and set). The study focused only on investigating EFL examinations at Kuwait University and how these examinations reflected the various levels of learning outcomes. The findings showed that EFL examinations at Kuwait University utilized more questions of lower-order and intermediate-order than higher-order questions, and students were instrumental in choosing a question from options.

As far as the student performance on examination papers was concerned, the result supported the link between question level and the mean mark towards the lower-order questions. Based on these findings, it is recommended that, due to the nature of language and language education, EFL students should be taught well to acquire a higher level of critical thinking skills. EFL instructors, like other instructors of disciplines, can equip their students with appropriate instruction if, and if only, they use a combination of higher, intermediate, and lower order cognitive questions in their assessments, including examinations. However, as stated by Bloom (1956, cited in Almerico & Baker, 2004), teachers tend to use questions in the “knowledge” category 80% to 90% of the time. “Knowledge” category is by no means bad; however, using them more frequently than other categories is not an appropriate

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practice. All levels should be utilized in a balanced manner. The optimum of such assessment is that they motivate more powerful brain efforts to elicit critically-oriented answers.

This study calls for further studies to explore the status quo and the hoped with respect to professional development among EFL instructors at Kuwait University on how testing strategies and skills appropriately match essential cognitive skills that are articulated by course learning outcomes. On the same line of argumentation, since the appropriateness of the course learning outcomes is a significant element in aligning questions to required skills, a further study is needed on how EFL units and instructors at Kuwait University shape the outcomes of EFL courses. One more further study is fascinating- for what reasons students choose certain questions to answer from an option. This further study assumes that their choice might be influenced by other factors such as the examination component (grammar, vocabulary, reading, and writing) or the quality of teaching, not necessarily by the cognitive *verb* that is shaping the question.

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