Understanding the Cognitive Processes Underlying Performance in the IELTS Listening Comprehension Test

Purya Baghaei Moghaddam  
Associate Professor of English Department, Mashhad Branch, Islamic Azad University, Mashhad, Iran

Zahra Zohoorian  
Assistant Professor of English Department, Mashhad Branch, Islamic Azad University, Mashhad, Iran

Mohammad Ghahramanlou  
MSc of Teaching, Imam Reza International University, Mashhad, Iran

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Extended Abstract

1. Introduction
There is a consensus among listening researchers that listening comprehension includes a variety of subskills; though there is not yet a general agreement on their precise nature or exact number (Buck & Tatsuoka, 1998). Thus, it should be possible to define listening as complex skill operations which involve a number of subskills or constituent elements (Goh & Aryadoust, 2014). Psycholinguists have suggested several taxonomies and classifications based on theoretical speculation. One of the initial taxonomies was based on a two-stage process of extracting basic linguistic information and utilizing the information for a communicative purpose. In a study, Rost (1990) identified a set of macro and micro comprehension features for listening comprehension. Rost (2002) proposed the subskills related to perception, interpretation, and information transfer, arguing that there are some overlapping or parallel orientations. However, apart from this parallel model, other psycholinguists preferred to conceptualize the hierarchical model. In such a model, the underlying processes are conceived at various levels that are built on each other either from top to bottom or from bottom to top (Clark & Clark, 1977). Yet, other researchers mention the interactive model in which various levels interact simultaneously where general knowledge, contextual expectations, and predictions play a focal role (Rost, 1990).

2. Methodology
A sample IELTS listening test was administered to 300 undergraduate and graduate English students to elicit the data needed for the study. The test consisted of 40 items in four different sections. Furthermore, the following taxonomy of listening comprehension was proposed: (1) using syntactic knowledge, (2) using semantic
knowledge, (3) understanding details and explicit information, (4) understanding reduced forms, (5) keeping up with the pace of the speaker, and (6) making inferences (Goh & Aryadoust, 2014). That is, it was assumed that these subskills underlie listening comprehension. The test items were examined by four experts in the field to build the Q-matrix involving the cognitive operations at work for each item. The data were analyzed using linear logistic test model (Fischer, 1973).

3. Discussion
In the present study, we aimed at finding the cognitive operations or subskills underlying listening comprehension in English as a foreign language. Findings showed that 'Keeping up with the pace of the speaker' was the hardest operation; that is, students found it very difficult to process the constant flow of words produced by the speaker when they were delivered with a fast pace. 'Understanding reduced forms' closely followed the 'keeping up with the pace' operation. Due to the discrepancy between the spoken form of English and its written form, understanding what the complete form of the word is, seems to be a demanding task for foreign language learners of English.

The third most challenging operation was 'inference making'. Students are required, in some stages of listening, to relate some pieces of information to either the previously stated information or their background knowledge or information outside the text. In some cases, they make an inference by referring to a previously mentioned piece of information in the text or they might be expected to make a prediction based on the preceding elements of the text.

The fourth place belongs to 'understanding details and explicit information'. It is the ability to find small pieces of information directly stated in the text, including names, numbers, etc. 'Using syntactic knowledge' stood in the fifth place. The easiest operation is using semantic knowledge. It seems that upper intermediate and advanced students of English do not seem to have major problems in dealing with the meaning of the words.

4. Conclusion
The concept of subskills (a set of cognitive abilities or processes that learners need to master and activate to perform on language tasks and communicate successfully) play an important role in the assessment and teaching of foreign language skills. Accordingly, the focus of teaching methods and curricula have largely been on the development of these subskills as applied linguists started to propose lists and taxonomies of subskills to aid language teachers and material developers in fostering the subskills (Munby, 1983; Richards, 1983). However, the psychological reality of these subskills, their independent existence, and discriminability, which altogether boil down to their empirical verifiability has always been a question. Correlational research including regression analysis and exploratory and confirmatory factor analysis have yielded contradictory results.
Dearth of research regarding the underlying cognitive operations of listening was the driving force for conducting this study. The findings indicate that 72% of the variance in item difficulty can be explained by the six operations studied. Well-designed prospective studies may ultimately shed light on the other operations that explain the remaining 28% of variance in IELTS listening item difficulties. Apart from the operations, the test format is another influential factor. The next step would be to study the impact of test formats on the students’ performance.

**Keywords:** listening comprehension, subskills, validity.

**References**


