



TEACHING METHODOLOGY

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TEACHING LISTENING COMPREHENSION IN THE ARMENIAN CLASSROOM USING BOTTOM-UP AND TOP-DOWN STRATEGIES

The paper investigates bottom-up and top-down strategies widely implemented in teaching listening comprehension. Being constituent parts of cognitive strategies, these two processes have been widely discussed and argued in pedagogical and linguistic literature and implemented in ESL (English as a Second Language) classrooms to boost the listening skills of students. Some elements of these strategies, namely lexical knowledge, prior knowledge, the ability to make deductions and inferring the meaning, are discussed in the paper, underlining their relevant contribution to the excellent listening competence of Second language (L2) students.

The research carried out by outstanding scholars has been investigated and introduced in the paper. The aim of the research is to reveal the efficiency of these two strategies when implied in a classroom. The advantages and some disadvantages of bottom-up and top-down strategies are discussed and shown in the paper, emphasizing that only their simultaneous leverage is the answer to enhancing the listening comprehension of L2 students. Being mutually reinforcing and interwoven they benefit to the improvement of listening comprehension when being used in a balanced way.

Keywords: *listening, teaching listening, listening comprehension, bottom-up strategy, top-down strategy*

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INTRODUCTION. Four fundamental skills—speaking, listening, reading, and writing—are crucial for effective communication when acquiring language. In professional literature, these skills are divided into two groups: receptive (reading and listening) and productive (speaking and writing).

Although teaching listening has been a relatively neglected aspect of English language comprehension at Armenian schools and educational institutions for a long time, nowadays, the importance of it cannot be underestimated. In this article, we make an attempt to reveal some listening strategies which aim to improve the listening comprehension of young students studying at the College of Finance and Economics at Armenian State University of Economics (ASUE). The focus of the article is to discuss the benefits and drawbacks of bottom-up and top-down strategies. These strategies are interwoven and mutually reinforcing. Hence, their simultaneous implementation and leverage can make a great contribution to the improvement of listening comprehension. All elements of these strategies, namely lexical knowledge, grammar knowledge, prior knowledge, the ability to make deductions and inferring the meaning can greatly contribute to the excelling listening competence of Second language (L2) students.

LITERATURE REVIEW. Listening is a crucial factor in communication. Mendelsohn has estimated that of the total time spent on communication, listening takes 40-50%, speaking 25-30%, reading 11-16 % and writing about 9% (Mendelsohn, 1994). In the professional literature, many definitions of listening and listening comprehension have been introduced. O'Malley and Chamot define that listening comprehension involves an engaged and conscious process where the listener creates meaning by utilizing cues from context and prior knowledge while employing various strategic resources to meet the task demands (O'Malley & Chamot, 1989).

Thus, the widely spread notion that listening is a passive skill is somewhat misleading. During the listening process, many learners are supposed to sit “passively” in a classroom, listening to recordings and writing down the answers to some related questions.

This approach can be defined as more product-oriented which focuses mainly on the learners' abilities to enhance listening. Nowadays some linguists argue that this approach leads to testing listening but not teaching it. Whereas, the teacher should apply a process-oriented approach to guide the students to acquire specific listening strategies (Huong Nguyen & Marilyn L. Abbott, 2016).

Among all the strategies for listening, three main types stand out: metacognitive, cognitive and social.

Flavell originally introduced the concept of metacognition as the understanding of one's own cognitive functions (Flavell, 1976). Applied to listening, as students develop a greater understanding of their own listening process, they can assess their listening abilities and employ techniques to enhance their listening proficiency (Vandergrift, 1997). Thus, metacognition involves reflecting on our own thinking processes, and teaching it to students typically involves strategy instruction. Modern approaches to teaching metacognitive strategies usually consist of four key phases: planning, monitoring, problem-solving, and evaluating.

Vandergrift describes social strategies as the methods listeners employ to work together with others, confirm comprehension, or reduce anxiety. These strategies aim to enhance learning by fostering empathy between teachers and students.

In our paper, we will concentrate on cognitive ways of teaching related to comprehending and storing information in short- or long-term memory for future recall. They have been investigated in terms of bottom-up and top-down strategies. In his investigation, Xibo Henderson (California State University) states that these two bottom-up and top-down strategies were developed during the 1970s by IBM researchers Mills and Wirth. Since then these two strategies have been widely discussed and argued in pedagogical and linguistic literature and implemented in ESL classrooms to boost the listening skills of students.

The bottom-up listening process begins with students concentrating on keywords or phrases during their listening session, gradually piecing together meaning by combining these phonemes (Vandergrift, 2004). Bottom-up processing is initiated by new incoming data, where the data's features are processed through the most appropriate, foundational schemata. These schemata are organized in a hierarchical manner, with specific details at the bottom and more general concepts at the top. This approach acknowledges listening as a process of decoding sounds, starting from individual phonemes and progressing to complete texts. Phonemic units are decoded and linked together to form words, which are then connected to create phrases, leading to the construction of coherent and meaningful texts. This process is connected to the learner's linguistic knowledge, that is to say, lexical and syntactic knowledge. The acquisition of vocabulary and grammar knowledge has been widely studied and discussed in ESL listening.

While listening, students comprehend and combine words in such a way that they can understand the meaning of the text. Schemata related to the words listened assist them grasp the meaning. In this context, many researchers have emphasized the role of content words (these are words that carry clear meanings) compared to function words (these are grammatical words that are not capable of expressing meaning in isolation). Vandergrift supported this

thesis explaining it with the fact that function words carry grammatical information, whereas content words are semantic in nature. In her study, Chen May Oh offered to pre-teach unfamiliar words so that students could foresee the gist of the text being listened to. Nevertheless, some scholars highlight that giving vocabulary notes before listening may make the students pay more attention to some definite words rather than to grasp the core meaning of the text (Chang & Read, 2006).

As for grammatical knowledge, it plays a critical role in the bottom-up listening process. The assignment of appropriate syntactic rules on semantic patterns requires a rapid and efficient parsing ability.

Top-down is a technique which employs already existing knowledge when understanding the meaning of a message. Carrell and Eisterhold point out that in top-down processing, the system generates broad predictions based on overarching schemata at a higher level, then scans the input for information that aligns with these pre-established, higher-level schemata. In the context of listening, the listener actively interprets (or reinterprets) the speaker's intended meaning by using new input as cues. During this interpretive process, the listener leverages background knowledge of the context and circumstances surrounding the listening experience to comprehend what is being said. This context and situation encompasses factors such as familiarity with the topic being discussed, the speakers involved, their relationship to the situation, as well as to each other and past occurrences (Carrell & Eisterhold, 1983).

In other words, the top-down listening approach utilizes prior knowledge and experience to interpret a listening text by integrating the information presented through sounds and words. Top-down listening skills involve identifying the essence, main concepts, topic, and setting of the text, distinguishing between specific and general details, organizing information sequentially, making predictions, inferring, and deducing implicit meanings within the listening material. Unlike the bottom-up approach, this strategy initiates the comprehension process with existing background knowledge.

Prior knowledge plays a crucial role in top-down processing for successful listening comprehension, and several studies have supported this role. Furthermore, numerous studies have explored the beneficial impacts of preparatory activities such as utilizing visuals, advanced organizers, pre-listening questions, or captions on enhancing listening comprehension. These preliminary tasks have the potential to evoke prior knowledge and positively impact comprehension.

However, Carrell and Eisterhold emphasize that when listeners encounter unfamiliar information, their existing schemata may not be activated, leading them to rely heavily on linguistic knowledge for comprehension. Additionally, even if a schema is triggered, it may not align with what the speaker intended. Therefore, solely relying on top-down processing can lead to comprehension failures (Carrell, & Eisterhold, 1983).

The two aforementioned strategies have alternately held dominant positions within the realm of listening comprehension and L2 listening pedagogy. Numerous researchers have highlighted the merits and demerits of each strategy, expressing preferences and accentuating the advantages of either bottom-up or top-down processing.

RESEARCH METHODOLOGY. Within the framework of the research, a combination of descriptive and comparative analyses has been applied.

It is of crucial importance to analyze listening teaching strategies, namely bottom-up and top-down, evaluate their relevance to enhancing listening comprehension and their facilitation to the acquisition of listening skills among L2 students.

A special text in accordance with requirements and English language proficiency level of young students is designed. Four exercises based on bottom-up strategy are designed. The same amount of exercises is developed for practicing top-down strategy.

The application of more process-oriented rather than product-oriented approaches is of utmost importance. Therefore, teaching listening not testing it is the target. For this purpose, descriptive and then comparative methods of analyzing cognitive listening strategies aimed at boosting listening competence of students are conducted.

Descriptive and comparative analyses enabled us to reveal the merits and demerits of cognitive listening strategies (bottom-up and top-down) and manage classroom teaching more efficiently and productively, ultimately benefiting learners and helping achieve the teacher's set objectives.

Materials, namely texts and exercises, developed and designed during the study, have been used during our teaching process and can be used and applied by any educator.

ANALYSIS. The focus of this article is to determine which of these two strategies, bottom-up or top-down, is more effective and beneficial to enhancing the listening comprehension of young Armenian students studying at ASUE College of Finance and Economics. The research was conducted for 2nd-year students of the "Marketing" department. 2 groups of students were selected. Each group consisted of 15 students. The average proficiency level in both groups corresponded to A2. Students from Group A and Group B had the same level of English language acquisition as their curriculum, which started in September 2023, was the same. In both groups, the course of Business English started in January 2024.

During the experiment, an attempt was made to find out which listening strategy was more efficient for the students. The same listening pattern was given to both groups. The listening lasted 3:19 minutes. Below follows the text on market structure.

Market Structure:

An Introduction for High School Students Market structure is a fundamental concept in economics that helps us understand how different markets operate and how firms interact within them. By studying market structure, we can gain insights into the level of competition, pricing strategies, and overall dynamics of various industries. In this text, we will explore the four main types of market structures: perfect competition, monopolistic competition, oligopoly, and monopoly.

Perfect Competition:

Perfect competition is considered the most ideal market structure, although it is rarely found in reality. In a perfectly competitive market, there are many buyers and sellers, all offering identical products or services. This means that there is no firm that could have the power to change prices, as they are set by supply and demand existing in the market. Additionally, there are no obstacles to enter or leave the market, that is to say new firms can freely and easily enter the market. Examples of industries that come close to perfect competition include agriculture and some online markets.

Monopolistic Competition:

In monopolistic competition a large number of companies compete in the market, each offering slightly differentiated products. This differentiation allows firms to exercise control over prices and gives them some market power. However, unlike monopolies, still many firms exist in industry which leads to competition based on product differentiation, branding, marketing, such as retail restaurants, and clothing brands, and personal care products.

Oligopoly:

In an oligopoly, a small number of large companies prevail in the market, often leading to intense competition and strategic interactions among competitors. These companies possess some market power and can influence prices and output levels. Oligopolies can result in price wars, collusion, and non-price competition, such as advertising and product differentiation. Examples of industries with oligopolistic market structures include the automobile industry, telecommunications, and airlines.

Monopoly:

A monopoly exists when a single firm controls the entire market for a particular product or service. This gives the monopolists significant market power, allowing them to set prices and restrict output to maximize profits. Usually monopolies arise because of impediments to entry, such as patents, economies of scale, or government regulations. While monopolies can lead to inefficiencies and higher prices for consumers, they can also spur innovation and investment in research and development. Examples of monopolies include utilities, some pharmaceutical companies, and certain tech giants.

The exercises conducted for each group were different. They were written based on either bottom-up or top-down strategies. In Group A, where bottom-up

processing was carried out, students performed the following exercises based on the text they heard.

Exercise 1: *Underline the words or phrases used in the text (there are words which aren't used in the text):*

Output, drawback, determine, consumers, competition, differentiated products, support, market power, barriers to entry or exit, produce, advertisement, set prices.

Exercise 2: *Match the following market structures with their descriptions:*

1. *Perfect Competition*
2. *Monopolistic Competition*
3. *Oligopoly*
4. *Monopoly*

Descriptions:

- A. *Involves a small number of large firms dominating the market, leading to intense competition and strategic interactions.*
- B. *Occurs when a single firm controls the whole market for a particular product or service, leading to significant market power.*
- C. *Defined by a large number of small companies offering identical products or services, with no barriers to entry or exit.*
- D. *Features a large number of companies which offer slightly different products and allow some control over pricing.*

Exercise 3: *Fill in the blanks with the words you have heard*

1. *In a perfectly competitive market, there are many _____ and _____, all offering identical products or services.*
2. *Monopolistic competition is characterized by a large number of firms competing in the market, each offering slightly _____ products.*
3. *In an oligopoly, a small number of _____ firms dominate the market, often leading to intense competition and strategic interactions among competitors.*
4. *A _____ exists when only one firm exercises control over the whole market of the given product or service.*

Exercise 4: *Mark the following statements True or False*

1. *Perfect competition is commonly found in reality.*
2. *Monopolistic competition involves firms offering identical products.*
3. *Oligopolies can lead to intense competition among competitors.*
4. *Monopolies can arise due to government regulations.*

Students of Group A were not familiar with the listening topic. However, before listening they were introduced to some words and phrases which might have been unknown to them. After listening once, some of the students asked for the second time audition.

Students of Group B were to deal with exercises based on a top-down strategy. They had a prior knowledge of the topic as they had already studied a similar text as a part of their curriculum. Below follow exercises assigned for

Group B

Exercise 1:

Name the main idea of the text

Exercise 2: *Read the following descriptions of different industries and determine which market structure they best fit:*

- a. An industry with many small firms producing identical products.*
- b. A market with a few large firms dominating the industry and engaging in strategic interactions.*
- c. A market where a single firm controls the entire industry with no close substitutes.*
- d. An industry with many firms offering slightly differentiated products and engaging in non-price competition.*

Exercise 3: *Describe the market type using the following phrases: Many buyers and sellers, identical products, no barriers to entry or exit.*

Exercise 4: *Discuss the benefits and drawbacks of one of the four given market structures. Provide examples to support your arguments.*

The analysis of the data gathered from two groups demonstrated an interesting outcome.

For Group A two factors were considered – the number of correct answers which was equivalent to identifying words and the acquisition of the meaning of the text. The first task was checked with the help of Exercises 1 and 3. The second task was carried out through Exercises 2 and 4.

Checking the knowledge of grammatical structures was not included in the context of the tasks as the curriculum did not imply grammatical material which according to the curriculum of our college is covered in the 1st year of studying the English language.

Table 1

Group A

Results of exercises based on bottom-up strategy

<i>Correct answers</i>		<i>Acquisition of the meaning of the text</i>	
Exercise 1	76.1%	Exercise 2	87.5%
Exercise 3	40.7%	Exercise 4	34.4%

Students succeeded in exercises aimed at distinguishing word patterns and giving correct answers. Bottom-up exercises that emphasize language forms at the word and sentence levels are particularly beneficial for lower-level students. However, some of them still had difficulties dealing with those patterns which were unfamiliar to them. They also needed further practice in differentiating content and function words with the help of stress and intonation. The results of the second task were satisfying as well. Students with better lexical and grammar knowledge attended bottom-up exercises more effectively. However, it can be hypothesized that if they had had prior knowledge of the topic, the results would have been more satisfying.

For Group B, two main factors were taken into consideration. The first task was to give correct answers which in turn were to be inferred from the listening. Exercise 2 was responsible for this assignment. The second task was to make deductions and draw conclusions bridging the prior knowledge of the topic and the text which was listened to. Exercises 1, 3 and 4 targeted this task.

Table 2

Results of the exercises based on top-down strategy

<i>Correct answers</i>		<i>Accurate deductions</i>	
Exercise 2	42.6%	Exercise 1	35.7%
		Exercise 3	46.7%
		Exercise 4	23.8%

Group B students who had a wider vocabulary attended top-down processing more easily, demonstrating better results. Having background knowledge about the topic, they were able to leverage it and make deductions and predictions, thus dealing with exercises more effectively.

Students with a relatively lower level of English language knowledge struggled with listening comprehension more heavily. Their results were poor. Even though they had a prior acquaintance with the topic, they failed the tasks because of poor vocabulary and their inability to make deductions and infer the meaning of the listening. Most of them weren't able to evoke higher schemata and make deductions and predictions because they could only partially understand the meaning of the text.

CONCLUSION. Having carried out research aimed at finding out the benefits of bottom-up and top-down strategies implemented in ESL classrooms and considering the results of the above-mentioned research, the following conclusions can be drawn.

First, classrooms consisting mainly of students with a relatively lower level of English language knowledge acquisition demonstrate better results when implementing a bottom-up strategy. During listening comprehension, students focus on vocabulary units, which helps them identify words or phrases more easily. In this respect, vocabulary knowledge plays a crucial role.

Secondly, it has to be emphasized that having a prior knowledge of the topic and evoking this knowledge with the help of various preliminary tasks rises the efficiency of the listening comprehension providing even better results. Top-down and bottom-up strategies are interwoven and mutually reinforcing. Hence, simultaneous implementation and leveraging of these strategies in ESL classrooms can make a greater contribution to improving listening comprehension skills.

Thirdly, listening tasks based on both bottom-up and top-down processes should be balanced in listening classes. All elements of these strategies, namely

lexical knowledge, grammar knowledge, prior knowledge, the ability to make deductions and inferring the meaning can greatly contribute to the excelling listening competence of L2 students.

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