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**THE EFFECTIVENESS OF TEACHING ENGLISH GRAMMAR
BY USING THE DEDUCTIVE MODEL
AND INDUCTIVE APPROACHES****ЕФЕКТИВНІСТЬ ІНДУКТИВНОГО ТА ДЕДУКТИВНОГО ПІДХОДІВ
У ПРОЦЕСІ ВИВЧЕННЯ ГРАМАТИКИ АНГЛІЙСЬКОЇ МОВИ**

The study investigates the comparative effectiveness of teaching English grammar by using deductive and inductive approaches. The study also attempts to see which of these two methods has a positive effect on the grammar learning of university students. Grammar plays a crucial role in the process of language acquisition and further in establishing successful communication links. This paper aims to study the awareness and experience of ESL teachers in using deductive and inductive approaches to teach English grammar. Moreover, it is determined to study some factors that can indicate the effectiveness of using these approaches while teaching certain grammar material. The authors find these aims for the research very important as they give the opportunity to deepen the knowledge of ESL teachers about the impact of different approaches on the achievements of ESL students. The authors' purpose is to establish awareness and experience of ESL teachers in using deductive and inductive approaches with the help of surveys and interviews and to outline recommendations to ESL teachers for making teaching English grammar more effective. If they know the main principles of how to use the advantages of both methods, it will definitely ensure the increase of achievements of ESL students. To achieve the purposes of the research the quantitative research method was used and involved collecting data by means of a survey. The data analysis was conducted with the use of descriptive statistics, which permitted summarizing and interpreting of the data obtained. The research was obtained from questionnaires completed by the teachers of English of the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". The finding of our research showed the effectiveness of both approaches, though they are quite different. It was established that most ESL teachers implement both approaches: inductive and deductive in their lessons.

Key words: inductive and deductive approaches, explicit instructions, grammar in context, teaching grammar, perception.

У дослідженні вивчається порівняльна ефективність викладання граматики англійської мови за допомогою дедуктивного та індуктивного підходів. Визначено, який з цих двох методів має позитивний вплив на академічну успішність студентів університету при вивченні граматики. Граматика відіграє вирішальну роль у процесі засвоєння мови та подальшому встановленні успішних комунікативних зв'язків. Метою цієї статті є вивчення досвіду викладачів англійської мови професійного спрямування у використанні дедуктивного та індуктивного підходів до викладання граматики англійської мови приділяється увага деяким факторам, які можуть свідчити про ефективність використання цих підходів під час викладання граматичного матеріалу. Автори вважають ці цілі дослідження дуже важливими, оскільки вони дають можливість поглибити знання викладачів англійської мови професійного спрямування про вплив різних підходів на успішність студентів. За допомогою анкетування та інтерв'ю автори ставлять за мету з'ясувати досвід викладачів англійської мови професійного спрямування у використанні дедуктивного та індуктивного підходів, а також окреслити рекомендації для викладачів англійської мови професійного спрямування щодо підвищення ефективності викладання граматики англійської мови за умови знання основних принципів використання переваг обох методів для забезпечення підвищення успішності студентів, які вивчають англійську мову професійного спрямування. Для досягнення мети дослідження було використано кількісний метод дослідження, який передбачав збір даних за допомогою опитування. Аналіз даних проводився з використанням методів описової статистики, що дозволило узагальнити та інтерпретувати отримані дані. Дані дослідження були отримані шляхом анкетування викладачів англійської мови Національного технічного університету України "Київський політехнічний інститут імені Георгія Сікорського". Результати дослідження показали ефективність обох підходів, хоча вони є досить різними. Встановлено, що більшість викладачів використовують обидва підходи: індуктивний та дедуктивний.

Ключові слова: індуктивний і дедуктивний підходи, експліцитні інструкції, граматика в контексті, навчання граматики, сприйняття.

Introduction. The problem of teaching grammar has always been one of the most challenging issues in language teaching and studying. This aspect of language always causes a lot of difficulties, especially for non-native speakers, who try to learn a foreign language. To be able to communicate freely it is not enough for ESL students to learn as many lexical units as they can, develop good listening, reading, and writing skills, but be able to use grammar rules in real communication. This demands from speakers not only a solid understanding of the rules themselves but also the ability to apply them flexibly and creatively. It means that effective communication includes a range of skills and grammar plays a significant role in this process.

The problem of teaching grammar has always been one of the most debated topics in the field of language teaching and a lot of research devoted to finding the best approach has been conducted. As a result, many different approaches and methods to teaching grammar have been developed over the years. However, there is still no solution, which will meet all learners' demands, needs and preferences. Effective grammar instruction requires a balance between explicit instruction and implicit learning, as well as a focus on meaningful communication and context. Ultimately, the key to successful grammar teaching is to create a supportive and engaging learning environment that encourages learners to acquire and develop their language skills.

Inductive and deductive approaches are the two main methods for teaching English grammar. Each approach has its own advantages and disadvantages, and both can be effective depending on the goals and needs of the learners.

Consideration of the inductive and deductive approaches in teaching a foreign language has significant methodological and methodological

importance, being the starting point for the construction of the entire content of education.

Analysis of recent research and publications. The results of numerous experiments conducted to determine one approach or another are quite different, and various conclusions are drawn. Thus, the deductive approach is favored by G. Saliger, R. Erlam, J. Scherer, and M. Wertheimer, while M. Tomasello, M. Takimoto, and W. Rutherford are in favor of the inductive approach. Some researchers found no significant difference between the two approaches.

J. Gollin has a logical conclusion that "from one lesson to another and during the same lesson a teacher can change approaches", using both inductive and deductive teaching techniques. H. Saliger notes that "the difference between inductive and deductive approach is not in the final result, but rather in the means of achieving this result", while deductive approach is presented as a shorter way to achieve the goal, and "if the result is identical in both inductive and deductive teaching strategies, the issue of efficiency should become paramount" [4, p. 7].

Cheryl Preethi Cynthia, Dr. C. Isaac Jebastine in their work advocated for inductive approach in teaching English grammar. They demonstrated more efficient ways of integrating grammar into the context followed by the exercises. The results of their study proved their hypotheses that through these exercises ESL students are able to learn grammar rules more easily and faster. The authors considered the inductive approach more effective and unique and claimed that it "helps the students to acquire a better understanding of grammar when it is being applied in a context" [2, p. 5].

The research of Gladys Jean, Daphne'e Simard (2013) was devoted to the investigation of links between learning gains, preferences and

learning styles of ESL students and approaches ESL teachers apply to teach them English grammar. They concluded that “learning styles where conscious learning plays a role were generally associated with the liking of grammar instruction irrespective of the fact that it was provided inductively or deductively” [7].

The purpose of the research conducted by L. A. Rismayanti, I.G.A.L.P. Utami et al., was to analyze the perception of teachers, especially those who routinely use deductive reasoning, to the use of an inductive approach in teaching grammar. It should be admitted that the majority of ESL teachers are used to implementing a deductive approach in teaching language. Therefore, it is very difficult for some of them to change something in their teaching strategies and techniques. However, the study found that “although English teachers generally prefer a deductive approach, it does not mean that they do not use an inductive approach at all. Findings of positive perceptions of deductive teachers towards inductive instruction in teaching grammar from the interview session” [10, p. 391–397].

O. Ochoa, N. Hernández et al., studied the peculiarities of teaching English grammar to adults, who live in a certain social environment and have their own experience, which should be incorporated into the contexts studying successfully. Therefore, they hypothesized that the inductive approach has a more significant impact in English grammar learning for adults than the deductive one. However, the findings of their research showed that the deductive approach was the most effective in teaching adult learners who needed more explanations not to be confused with grammar rules and be more motivated. They concluded that “in order to make the grammar teaching to be successful, the teacher should use an appropriate approach. In order to do so, it is necessary to know the type of learners there are in the class, their learning styles, and preferences [8].

Analysis of these publications proves the fact that grammar is a complex system and it mostly depends on a teacher how successful his/her students will be in acquiring any grammar material. ESL teachers must take into account a great number of factors before they choose this or that approach to teaching English grammar.

The purpose of the article. Grammar plays a crucial role in the process of language acquisition and further in establishing successful communication links. This paper aims to study the awareness and experience of ESL teachers in using deductive and inductive approaches to teach English grammar. Moreover, it is determined to study some factors that can indicate the effectiveness of using these approaches while teaching

certain grammar material. The authors find these aims for the research very important as they give the opportunity to deepen the knowledge of ESL teachers about the impact of different approaches on the achievements of ESL students.

To reach the following aims, the following tasks are to be completed:

1. to establish awareness and experience of ESL teachers in using deductive and inductive approaches with the help of surveys and interviews;

2. to outline recommendations to ESL teachers for making teaching English grammar more effective if they know the main principles of how to use the advantages of both methods to ensure the increase of achievements of ESL students.

In the study, we hypothesize that teachers of English are aware of the basic principles of deductive and inductive approaches to teaching English grammar and their advantages and disadvantages, but do not use them effectively in everyday practice separately or in combination.

Presentation of the main material of the study. There are different preferences for teaching approaches of grammar used in the English class. As Huang underlines that “grammar instruction has moved from its central position in traditional language teaching approaches to playing virtually no role in communicative approaches.” [6, p. 29].

Ellis argued that teaching might not only be based on the traditional approach but also focused on the form approach. The author has suggested a few forms of grammar teaching are essential for communicative language teaching [3].

Prince and Felder stated that “Inductive teaching and learning is an umbrella term that encompasses a range of instructional methods, including inquiry learning, problem-based learning, project-based learning, case-based teaching, discovery learning, and just-in-time teaching.” The results of numerous experiments conducted to prioritise the use of one approach or another are very different, and different conclusions are drawn [9, p. 124].

Inductive teaching is a bottom-up approach that gives learners greater responsibility for their own learning. When using the inductive method in teaching, students themselves formulate the rule, studying grammatical phenomena from the singular to the general. Learning can be divided into several stages:

- students are given a text in which a new grammatical rule is often used. The teacher asks them to identify and formulate the rule. At this stage various prompts should be used, such as italicizing the text, or a different color, the texts or sentences provided should be clear so that the

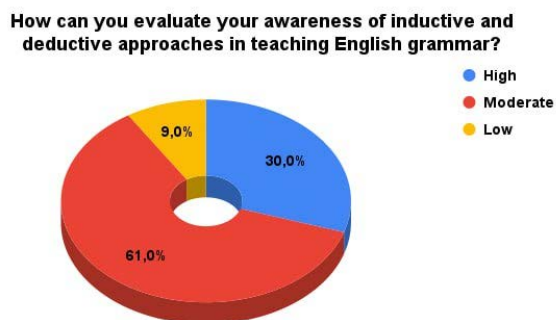


Figure 1. Awareness evaluation of inductive and deductive approaches in teaching English grammar

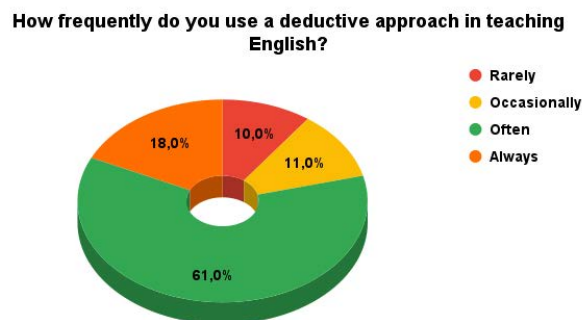


Figure 2. Frequency of using a deductive approach in teaching English

students can easily identify the new grammatical forms and derive the rule.

- the students formulate the rule, and the teacher corrects it.

- The deductive method involves a teacher giving a new grammatical rule and students practicing the new structures in communicative-oriented situations. In other words, learning using the deductive method is learning from the general to the particular, from the rule to the action. The principle of this method can be described in the following stages:

- students are given the task of finding a new grammatical phenomenon in the text, naming the form, and explaining the reason for its application;

- students perform the substitution exercise according to the sample.

Methodology. To achieve the purposes of our research we used a quantitative research method, which involved collecting data by means of a survey. The data analysis was conducted with the use of descriptive statistics, which permitted summarizing and interpreting of the data obtained. The questionnaire was completed by the teachers of English of the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”. The Likert scale was chosen to measure the respondents’ attitudes toward their favorable approach to teaching grammar. The Likert scale can guarantee data quality and it is easy to understand and implement. To measure central tendency, we calculated the median (Mdn) and to show the spread of the responses we calculated the Interquartile Range (IQR) for the prompts based on a Likert scale’s options. The survey covered the issues related to teachers of English views on alternative approaches to teaching grammar. The questionnaire included 12 questions. To collect the data we used the Google Forms application.

Analysis of relevant research. According to the results of the survey, approximately (51%) the respondents had more than ten years of experience teaching English, (32%) of the respondents had been teaching English for 7–10 years. It allows us to conclude that most of the respondents were experienced teachers of English who had their own opinions about the approaches to teaching English grammar.

The findings of the study showed that 30% of the respondents evaluate their awareness of inductive and deductive approaches in teaching English grammar as high, 61% of the respondents have a moderate level and only 9% indicated a low level (Figure 1). These findings show that teachers have enough knowledge about different methods and techniques of teaching English and are aware of their differences. To generate effective lesson plans and achieve good results from students, ESL teachers should know how to make these approaches an efficient instrument in their work. The calculation of the median (Mdn) and the Interquartile Range (IQR) shows that most respondents have moderate levels (Mdn=2, IQR=1). (See Table 1).

According to the results of the study, practically 57% of respondents claimed that the deductive approach supports the inductive approach and plays an important role in several ways. Less than half of the respondents (43%) considered that the inductive approach supports the deductive approach and plays an important role in several ways. It shows that the majority of ESL teachers rely on the deductive approach in teaching English grammar and consider it a fundamental background for accumulating knowledge by ESL students and further practicing using grammar structures in the context.

The analysis of responses given by ESL teachers on the next question proved their preferences towards the deductive approach. According to the

How frequently do you use an inductive approach in teaching English?

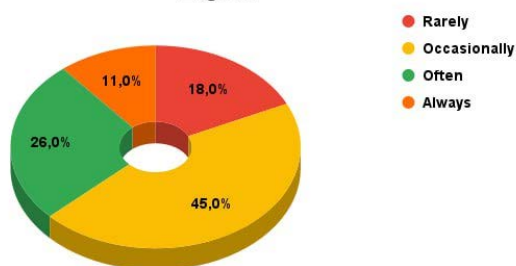


Figure 3. Frequency of using an inductive approach in teaching English

How often do you integrate both inductive and deductive approaches in the same lesson?

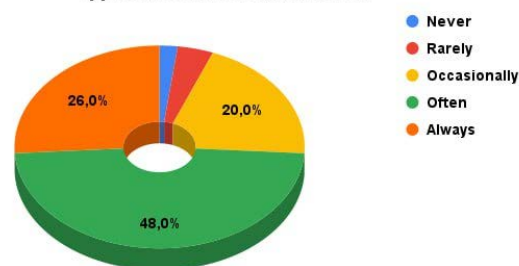


Figure 4. Frequency of integrating both inductive and deductive approaches in the same lesson

results of the study, the majority of respondents (61%) reported that they often use a deductive approach in teaching English in their lessons. The results are proved by $Mdn=4$, and $IQR=0$. (See Table 1). It can be concluded that the experience of the teachers proves the effectiveness of using this approach and as a result, their students feel more confident when they obtain their knowledge through learning definite rules and getting some instructions. (Figure 2).

As for the frequency of implementing an inductive approach the obtained data showed that the majority of ESL teachers (45%) use it only occasionally and accordingly the minority (11%) expressed their commitment to an inductive approach and claimed that they use it often in teaching English grammar. (Figure 3). The obtained data fully correlate with the conclusions made after the analysis of the previous questions that the respondents feel more comfortable using a deductive approach in their practice. However, it indicates the tendency of ESL teachers to combine both methods in their work. ESL teachers should recognise the differences between both approaches and finally define what approach to choose and how efficient it will be to teach certain grammar material. The calculation of the median (Mdn) and the Interquartile Range (IQR) shows that most respondents use occasion-

ally the inductive approach in teaching English grammar ($Mdn=3$, $IQR=1$) (See Table 1).

The responses to the question as for the frequency of integrating both inductive and deductive approaches in the same lesson show that approximately most of the teachers (48%) often integrate both inductive and deductive approaches in their lessons. A great number of respondents reported that they use the combination of these approaches always (26%) and slightly less (20%) occasionally. (Figure 4). It confirms the hypothesis that ESL teachers should enhance their knowledge and broaden their experience in using both approaches and integrating them to achieve the goals of the lessons more effectively. The calculation of the median (Mdn) and the Interquartile Range (IQR) shows that most respondents use the combination of these approaches always ($Mdn=4$, $IQR=2$) (See Table 1).

In addition, the teachers were asked to share their opinions about methods of inductive approach in teaching English grammar they use more often. The majority of respondents (24%) use contextualized learning when the teacher presents grammar rules and examples in a meaningful context, such as in a text or in a real-life situation, and prompts the students to use the rules in their own language use. Slightly less (22%) prefer the inductive reasoning method, when the

Table 1

Teachers' perspective on approaches to teaching English grammar

Questions	Never	Rarely	Occasionally	Often	Always	Median	IQR
1. How frequently do you use an inductive approach in teaching English?	0%	18%	45%	26%	1%	3	1
2. How frequently do you use a deductive approach in teaching English?	0%	10%	11%	61%	8%	4	0
3. How often do you integrate both inductive and deductive approaches in the same lesson?	2%	4%	20%	48%	6%	4	2

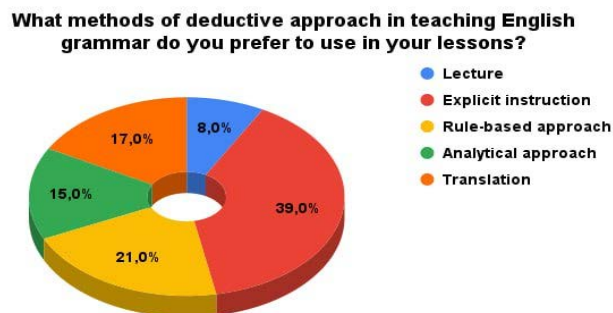


Figure 5. Methods of deductive approach in teaching English grammar do you prefer to use in your lessons

teacher provides examples of language use and encourages the students to make generalizations and hypotheses about certain grammar rules and patterns. 20% of respondents prefer discovery learning when the teacher provides examples of language use and encourages the students to discover the grammar rules and patterns. The least number of respondents (18% and 16% correspondingly) implement problem-solving and guided inquiry methods in their practice. Thus, it can be concluded, that teaching English grammar in a meaningful context is considered the most effective method and has its bonuses.

As for the methods of deductive approach in teaching English grammar it can be seen that the majority of ESL teachers (39%) use explicit instructions when grammar rules are explained through instructions and then a teacher guides the students through exercises that reinforce these rules. 21% of respondents choose a rule-based method, when the teacher presents the grammar rules and provides examples that demonstrate how the rules are applied. The students then practice using the rules in context. 15% of respondents use an analytical approach when the teacher presents examples of language use and encourages the students to analyze the patterns and rules that govern the language. 17% of respondents prefer the translation, when the teacher provides examples of sentences in the students' native language and asks the students to translate them into English. The minority of respondents (8%) prefer the lecture, when the teacher explains the grammar rules and provides examples for the students to analyze and apply.

The deductive method is a traditional approach to language teaching that involves the teacher presenting a grammatical rule or concept to the students, and then having the students practice using the rule in various communicative-oriented situations. This approach assumes that students will learn the language more effectively if they are given clear explanations and rules, and then given opportunities to practice using those rules in context.

Conclusions. The research aims to establish awareness and experience of ESL teachers in using deductive and inductive approaches with the help of surveys and to outline recommendations to ESL teachers for making teaching English grammar more effective if they know the main principles of how to use the advantages of both methods to ensure the increase of achievements of ESL students. 51 experienced teachers of English from the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” have been involved in the survey. The research has been conducted with the use of quantitative and qualitative methods with the voluntary consent of the participants, the data obtained is visually presented. It was established that most teachers apply both approaches: inductive and deductive in teaching English grammar. Questionnaire results indicated that there are benefits to both approaches, though they are quite different. The combination of these approaches can guarantee the effectiveness of the teaching process. Thus, ESL teachers should deepen their knowledge about them and implement the methods of both approaches effectively to increase the achievements of their students.

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