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Majoring 035 Philology  
**Sofia SUDYCH**

Research supervisor:  
**Yuliia KYSHENIA**  
Candidate of Philology,  
Senior Lecturer

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Київський національний лінгвістичний університет Факультет германської  
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**КУРСОВА РОБОТА**

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**ОСОБЛИВОСТІ ВІДТВОРЕННЯ БЕЗОСОБОВИХ ФОРМ  
АНГЛІЙСЬКИХ ДІЄСЛІВ УКРАЇНСЬКОЮ МОВОЮ В НАУКОВИХ  
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## INTRODUCTION

**The Relevance of the Topic.** In the modern era of globalization and rapid scientific advancement, the importance of effective communication across linguistic borders has become increasingly evident. The exchange of knowledge and ideas through the medium of scientific discourse plays a crucial role in fostering international collaboration and promoting scientific progress. However, the translation of scientific texts poses unique challenges, particularly when it comes to rendering complex grammatical structures, such as non-finite verb forms, from one language to another.

Non-finite verb forms, which include infinitives, gerunds, and participles, are an integral part of the English language and are widely used in scientific writing. These forms contribute to the concision, clarity, and coherence of scientific discourse, allowing authors to express complex ideas and relationships in a compact and precise manner.

The accurate and effective translation of non-finite verb forms is essential for ensuring the integrity and accessibility of scientific knowledge across linguistic and cultural boundaries. Mistranslations or omissions of these forms can lead to a loss of important information, a distortion of the original meaning, or a breakdown in the logical flow of the text. This can have serious consequences for the understanding and application of scientific findings, as well as for the credibility and reputation of the authors and translators involved.

Despite the importance of this issue, there has been relatively little research on the specific challenges and strategies involved in translating English non-finite verb forms into Ukrainian. Most of the existing studies have focused on the general problems of scientific translation or on the contrastive analysis of English and Ukrainian grammatical systems, without providing a detailed examination of the translation process itself. This highlights the need for more targeted and practical research that can inform the work of translators and contribute to the development of effective translation strategies.

Moreover, the increasing demand for high-quality translations of scientific texts from English into Ukrainian, driven by the growing participation of Ukrainian researchers in international scientific communities and the need to disseminate knowledge to a wider domestic audience, makes this topic particularly relevant and timely.

In light of these considerations, this research aims to address a significant gap in the existing literature by providing a comprehensive and practical analysis of the translation of English non-finite verb forms in scientific texts. By combining theoretical insights with empirical data and examples from real-life translations, this study seeks to contribute to the development of effective strategies for overcoming the challenges posed by these forms and ensuring the accuracy and adequacy of scientific translations.

**The Aim and Objectives of the Research.** The aim of this research is to investigate the challenges and strategies involved in translating English non-finite verb forms in scientific texts into Ukrainian, with a view to developing practical recommendations for translators working in this field.

To achieve this aim, the following objectives have been set:

1. To examine the theoretical foundations of English non-finite verb forms, their functions in scientific discourse, and their equivalents in Ukrainian.
2. To analyze the characteristics of scientific discourse and their implications for translation, with a focus on the use of non-finite verb forms.
3. To identify the main challenges and difficulties encountered by translators when rendering English non-finite verb forms into Ukrainian, based on a comparative analysis of original and translated scientific texts.
4. To investigate the strategies and techniques used by translators to overcome these challenges, including grammatical transformations, lexical choices, and contextual adaptations.
5. To provide practical recommendations for translators working with scientific texts, based on the findings of the research and the insights gained from the analysis of real-life examples.

**The Object of the Research:** The object of this research is the process of translating English non-finite verb forms in scientific texts into Ukrainian.

**The Subject of the Research:** The subject of this research is the challenges and strategies involved in rendering English non-finite verb forms, such as infinitives, gerunds, and participles, into Ukrainian in the context of scientific discourse.

**The data sources** are linguistic corpora, scholarly articles, contemporary dictionaries, and other relevant materials.

**Research methods.** In the process of writing the coursework, a system of general scientific and special empirical and theoretical research methods was used. Empirical methods such as description, comparison and generalization were also used.

**The theoretical value of the work** lies in the detailed analysis of the translation of non-finite forms of verbs and its further use in subsequent research.

**Practical Value:** On a practical level, the findings of this research can be applied to improve the accuracy and clarity of scientific texts translated into Ukrainian. By identifying effective strategies for reproducing English non-finite verb forms, this study equips translators, researchers, and writers with valuable insights for maintaining the integrity and precision of scientific communication in Ukrainian.

**Structure of the work:** Course work consists of an **introduction** explaining the main idea of the course work; **Chapter 1**, which contains theoretical material on the main concepts of impersonal verb forms in the English language, their functions and characteristics of scientific discourse. **Chapter 2**, the practical part, is devoted to the analysis of translation transformations used in the translation of English non-finite verb forms in scientific texts, as well as the challenges and strategies of translating these forms. The Bibliography comprises sources utilized during the research. The List of reference sources includes dictionaries and encyclopedias referenced in the term paper. The list of data sources features citations to literature providing factual material for the study. The annex includes 50 English sentences with non-finite verb forms in scientific texts alongside their Ukrainian translations.

# CHAPTER 1

## THEORETICAL BACKGROUND OF ENGLISH NON-FINITE VERB FORMS

### 1.1 Theoretical Foundations of English Non-Finite Verb Forms

The study of English non-finite verb forms is a crucial aspect of linguistics, as these forms play a significant role in the construction and understanding of sentences. According to Crystal, non-finite verb forms are «verb forms that do not show tense, person, or number agreement with a subject» [33]. They include infinitives, gerunds, and participles, each with its unique characteristics and functions within a sentence. Infinitives, such as *to run* or *to sing*, are the base form of a verb preceded by the particle «to» and function as nouns, adjectives, or adverbs. Gerunds, on the other hand, are verb forms ending in «-ing» that function as nouns, such as *running* or *singing*. Participles are verb forms that can act as adjectives or form verb tenses, with present participles ending in «-ing» and past participles typically ending in «-ed,» «-en,» or «-t» [3].

The theoretical foundations of English non-finite verb forms can be traced back to early linguistic studies, such as those conducted by Otto Jespersen in the early 20th century. Jespersen's work on the English language laid the groundwork for understanding the various functions and roles of non-finite verb forms. In his book «Essentials of English Grammar,» Jespersen provides a comprehensive analysis of infinitives, gerunds, and participles, highlighting their syntactic and semantic properties. Since then, numerous linguists have contributed to the study of non-finite verb forms, expanding upon Jespersen's initial findings and providing new insights into their usage and interpretation. [20].

One of the most notable contributions to the study of English non-finite verb forms comes from Noam Chomsky's transformational-generative grammar. Chomsky's theory posits that language is an innate human capacity and that the deep structure of

sentences can be transformed into surface structures through various syntactic operations [8]. In this framework, non-finite verb forms are considered to be part of the deep structure, undergoing transformations to create the surface structure of a sentence. This approach has been influential in shaping modern linguistic thought and has provided a foundation for further research into the nature and behavior of non-finite verb forms.

The theoretical foundations of English non-finite verb forms also encompass their interaction with other linguistic elements, such as tense, aspect, and voice. Tense refers to the time reference of an action or state, while aspect denotes the internal temporal structure of an event. Voice, on the other hand, indicates the relationship between the verb and its arguments, such as active or passive. Non-finite verb forms interact with these elements in complex ways, contributing to the overall meaning and structure of a sentence. For example, the perfect infinitive, such as *to have run*, combines the infinitive form with the perfect aspect to express a completed action [2].

Furthermore, the study of English non-finite verb forms has implications for various subfields of linguistics, including syntax, semantics, and pragmatics. Syntactically, non-finite verb forms are analyzed in terms of their phrase structure and the roles they play within a sentence, such as subject, object, or complement. Semantically, these forms contribute to the meaning of a sentence, with infinitives often expressing purpose or intention, gerunds representing actions or states, and participles modifying nouns or forming complex verb tenses. Pragmatically, non-finite verb forms can convey information about the speaker's attitudes, beliefs, and intentions, as well as contribute to the overall coherence and cohesion of a discourse [16, p. 271].

The theoretical foundations of English non-finite verb forms also have implications for language teaching and learning. Understanding the structure and functions of these forms is essential for learners of English as a second or foreign language, as they are crucial for constructing grammatically correct and meaningful sentences. Language educators must be well-versed in the theoretical aspects of non-



finite verb forms to effectively teach their usage and guide students in their acquisition [18].

In conclusion, the theoretical foundations of English non-finite verb forms encompass a rich history of linguistic research, from early studies by Otto Jespersen to more recent contributions in the fields of syntax, semantics, and pragmatics. These forms, including infinitives, gerunds, and participles, play a vital role in the structure and meaning of English sentences, interacting with other linguistic elements such as tense, aspect, and voice. The study of non-finite verb forms has implications for various subfields of linguistics and is essential for language teaching and learning. As research in this area continues to evolve, new insights into the nature and behavior of these forms will undoubtedly emerge, furthering our understanding of the English language and its complexities.

## 1.2 Functions of English Non-Finite Verb Forms in Sentences

English non-finite verb forms, including infinitives, gerunds, and participles, serve a variety of functions within sentences, contributing to their overall structure and meaning. According to Quirk et al., these forms «are used in a wide range of syntactic functions, such as subject, object, complement, and modifier» [30]. The versatility of non-finite verb forms allows them to be employed in diverse contexts, enhancing the expressiveness and flexibility of the English language.

Most often, infinitives express purpose or intention. For example, in the sentence «She studied hard *to pass the exam*» the infinitive phrase «to pass the exam» indicates the purpose behind the action of studying [20, p. 144]. Infinitives can also function as the subject or object of a sentence, as in «*To err* is human» (subject) and «I want *to go home*» (object) [21, p. 214]. Additionally, infinitives can serve as subject complements, as in «Her dream is *to become a doctor*,» where the infinitive phrase «to become a doctor» complements the subject «her dream» [22, p. 109].

Gerunds, on the other hand, primarily function as nouns within sentences. They can serve as the subject, object, or complement of a verb, as well as the object of a preposition. For instance, in the sentence «*Swimming* is good exercise,» the gerund «swimming» functions as the subject of the sentence. In «I enjoy *reading* books,» the gerund «reading» serves as the object of the verb «enjoy». Gerunds can also be used as subject complements, as in «Her favorite hobby is *painting*,» where the gerund «painting» complements the subject «her favorite hobby».

Participles, both present and past, have adjectival functions within sentences, modifying nouns or pronouns. Present participles, ending in «-ing,» describe ongoing actions or states, while past participles, typically ending in «-ed,» «-en,» or «-t,» describe completed actions or states. For example, in the sentence «The *running* water made a soothing sound,» the present participle «running» modifies the noun «water,» indicating its ongoing action. In «The *broken* vase lay on the floor,» the past participle «broken» modifies the noun «vase,» describing its state as a result of a completed action.

In addition to their adjectival functions, participles can also form complex verb tenses, such as the present perfect and past perfect. The present perfect tense combines the auxiliary verb «have» with the past participle of the main verb, indicating an action that began in the past and continues to the present or has recently been completed [28]. For example, «I *have finished* my homework» uses the present perfect tense to express a completed action. The past perfect tense, formed by combining the auxiliary verb «had» with the past participle of the main verb, describes an action completed before another past action [29]. For instance, «By the time she arrived, the movie *had started*» employs the past perfect tense to show that the action of the movie starting occurred before the action of her arrival.

Non-finite verb forms also contribute to the formation of various clauses within sentences, such as relative clauses and adverbial clauses. Relative clauses, which modify nouns or pronouns, can be introduced by relative pronouns followed by non-finite verb forms. For example, in the sentence «The book *written by my favorite author* is a bestseller,» the relative clause «written by my favorite author» contains the past

participle «written» and modifies the noun «book.» Adverbial clauses, which modify verbs, adjectives, or other adverbs, can also employ non-finite verb forms. In the sentence «After *finishing* her work, she went home,» the adverbial clause «after finishing her work» uses the gerund «finishing» to indicate the temporal relationship between the two actions.

Furthermore, non-finite verb forms play a role in expressing various semantic notions, such as modality, aspect, and voice. Infinitives, when combined with modal verbs like «can,» «may,» «must,» or «should,» express different levels of ability, permission, obligation, or advice. For instance, «You *should study* more» uses the modal verb «should» with the infinitive «study» to express advice. Gerunds and participles can convey aspectual meanings, indicating the temporal nature of an action or state. The present participle, as in «*Walking* in the park, I felt relaxed,» emphasizes the ongoing nature of the action, while the past participle, as in «The *completed* project was a success,» highlights the completed aspect of the action. Non-finite verb forms also interact with voice, as in the passive infinitive construction «The report *to be submitted* by Friday» or the passive participle in «The *stolen* car was found abandoned».

In terms of their pragmatic functions, non-finite verb forms contribute to the coherence and cohesion of discourse by establishing relationships between ideas and sentences. Infinitives, gerunds, and participles can serve as cohesive devices, linking sentences and paragraphs together. For example, the use of a gerund in the sentence «After *considering* all the options, we decided to proceed with the plan» creates a logical connection between the actions of considering and deciding. Similarly, participles can be used to create parallel structures, emphasizing the relationship between ideas, as in «The proposal, *carefully crafted* and *well-researched*, was presented to the board».

The functions of English non-finite verb forms extend beyond the sentence level, influencing the overall style and tone of a text. The use of infinitives, gerunds, and participles can vary depending on the genre, purpose, and audience of the writing. In academic writing, for instance, the frequent use of gerunds and participles can

contribute to a more formal and concise style, as in «The findings, *based on extensive research*, suggest a strong correlation between the variables». In creative writing, on the other hand, the purposeful use of non-finite verb forms can enhance descriptive language and create vivid imagery, as in «The leaves, *rustling* in the wind, created a haunting melody».

In conclusion, English non-finite verb forms, including infinitives, gerunds, and participles, serve a wide range of functions within sentences, contributing to their structure, meaning, and pragmatic effect. They can function as subjects, objects, complements, and modifiers, expressing purpose, intention, and various semantic notions such as modality, aspect, and voice. Non-finite verb forms also play a role in the formation of relative and adverbial clauses, enhancing the complexity and flexibility of sentence structures. Beyond the sentence level, these forms contribute to the coherence and cohesion of discourse, establishing relationships between ideas and influencing the style and tone of a text. Understanding the diverse functions of English non-finite verb forms is essential for effective communication and language use across various contexts and genres.

### **1.3 Translation Techniques for Rendering English Non-Finite Verb Forms into Ukrainian**

The translation of English non-finite verb forms into Ukrainian presents several challenges due to the differences in grammatical structures and linguistic features between the two languages. According to Karaban, «the rendering of English non-finite verb forms into Ukrainian requires a thorough understanding of their functions and the application of appropriate translation techniques». These techniques involve the use of various grammatical and lexical means in the target language to convey the meaning and function of the source language non-finite verb forms accurately [22].

One of the primary techniques for translating English infinitives into Ukrainian is the use of subordinate clauses introduced by the conjunction «що́б» (shchob) or

«аби» (aby), which express purpose or intention. For example, the sentence «He worked hard *to achieve* his goals» can be translated as «Він важко працював, *щоб досягти* своїх цілей» (Vin vazhko pratsiuvav, *shchob dosiahty* svoikh tsilei). In this case, the infinitive «to achieve» is rendered as a subordinate clause «щоб досягти» (*shchob dosiahty*) to convey the purpose of the action. Another technique for translating infinitives is the use of verbal nouns, which are formed by adding the suffix «-ння» (-nnia) or «-ття» (-ttia) to the verb stem/ For instance, «I love to *sing*» can be translated as «Я люблю *співати*» (Ya liubliu *spivaty*) or «Я люблю *співання*» (Ya liubliu *spivannia*), where the infinitive «to sing» is transformed into the verbal noun «співання» (*spivannia*).

Gerunds in English can be translated into Ukrainian using various techniques, depending on their function in the sentence. When a gerund functions as the subject or object of a sentence, For example, «*Reading* is my favorite hobby» can be translated as «*Читання* - моє улюблене хобі» (*Chytannia* - moie uliublene khobi), where the gerund «reading» is transformed into the verbal noun «читання» (*chytannia*). When a gerund follows a preposition, it can be translated as a noun or a subordinate clause in Ukrainian. For instance, «She is good at *painting*» can be rendered as «Вона добре *малює*» (Vona dobre *maliuie*) or «Вона має хист *до малювання*» (Vona maie khyst *do maliuvannia*), using either a verb or a noun phrase to convey the meaning of the gerund.

Participles in English, both present and past, can be translated into Ukrainian using a variety of techniques. Present participles, which describe ongoing actions or states, can be rendered as adjectival phrases or subordinate clauses in Ukrainian. For example, «The *running* water made a soothing sound» can be translated as «Вода, *що текла*, створювала заспокійливий звук» (Voda, *shcho tekla*, stvoriuvava zaspokiilyvyi zvuk), where the present participle «running» is transformed into a subordinate clause «що текла» (*shcho tekla*). Past participles, which describe completed actions or states, can be rendered as adjectival phrases or passive constructions in Ukrainian. For instance, «The *broken* vase lay on the floor» can be

translated as «Розбита ваза лежала на підлозі» (Rozbyta vaza lezhala na pidlozi), using an adjectival phrase «розбита» (rozbyta) to convey the state of the vase.

In some cases, the translation of English non-finite verb forms into Ukrainian may require the use of idiomatic expressions or stylistic devices to capture the intended meaning and tone of the original text. For example, the phrase «It's no use *crying over spilt milk*» can be translated into Ukrainian as «Сльозами горю не зарадиш» (Slozamy horiu ne zaradysh), which literally means «Tears will not help the trouble». This idiomatic expression conveys the same message as the English phrase, emphasizing the futility of dwelling on past mistakes or misfortunes. Similarly, the use of figurative language, such as metaphors or similes, may be employed in the translation of non-finite verb forms to enhance the expressive power

The statistical distribution of translation techniques highlights the challenges posed by the differences in grammatical structures between English and Ukrainian. Translators often need to adapt the non-finite verb forms to suit the target language norms and to ensure the clarity and naturalness of the translated text.

#### **1.4 Characteristics of scientific discourse**

Scientific discourse, characterized by its objective, precise, and systematic nature, plays a crucial role in the dissemination of knowledge and the advancement of various fields of study. According to Swales and Feak, scientific discourse «is the means by which scholars and researchers communicate with each other and with the wider public about their work» [33]. This type of discourse encompasses a wide range of genres, including research articles, conference presentations, grant proposals, and laboratory reports, each with its distinct features and conventions.

One of the primary characteristics of scientific discourse is its emphasis on objectivity and impartiality. Researchers are expected to present their findings and arguments in a neutral, unbiased manner, avoiding personal opinions or subjective judgments. This objectivity is achieved through the use of precise, unambiguous

language, as well as the reliance on empirical evidence and logical reasoning to support claims and conclusions. The use of passive voice constructions, such as «the experiment was conducted» or «the data were analyzed,» is a common strategy employed in scientific writing to maintain an objective tone and focus on the research itself rather than the researchers [17].

Another key feature of scientific discourse is its highly specialized and technical vocabulary. Each discipline has its own set of terms and concepts that are used to describe phenomena, methods, and theories specific to that field. This specialized language enables researchers to communicate complex ideas and findings with precision and clarity, ensuring that their work is accessible to their peers and can be built upon in future research. However, the use of technical jargon can also pose challenges for non-specialist audiences, requiring authors to provide clear definitions and explanations when introducing new terms or concepts.

The structure and organization of scientific discourse are also distinct from other types of writing. Research articles, for example, typically follow a standard format known as the IMRAD structure (Introduction, Methods, Results, and Discussion). This structure reflects the logical progression of the research process and allows readers to easily locate specific information within the text. The introduction section provides background information, identifies the research question or problem, and states the purpose of the study. The methods section describes the procedures and materials used to conduct the research, while the results section presents the findings and data obtained. Finally, the discussion section interprets the results, relates them to previous research, and explores their implications and limitations .

In addition to the IMRAD structure, scientific discourse also relies heavily on the use of visual aids, such as tables, graphs, and diagrams, to present data and illustrate complex concepts. These visual elements are an integral part of scientific communication, as they can convey information more efficiently and effectively than text alone. Researchers must ensure that their visual aids are clear, accurate, and properly labeled to facilitate understanding and interpretation by the reader.

The use of citations and references is another hallmark of scientific discourse. Researchers are expected to acknowledge the work of others that has influenced or informed their own research, demonstrating the cumulative nature of scientific knowledge. Citations serve to provide evidence for claims, contextualize the current study within the broader field, and give credit to the original authors for their contributions. The choice of citation style, such as APA, MLA, or Chicago, varies by discipline and publication outlet, and authors must adhere to these conventions to ensure consistency and clarity.

Scientific discourse is also characterized by its use of hedging, a rhetorical strategy employed to express caution, uncertainty, or tentativeness in presenting claims or conclusions. Hedging devices, such as modal verbs (e.g., «*may*,» «*could*,» «*might*»), qualifying adverbs (e.g., «*potentially*,» «*possibly*»), and tentative phrases (e.g., «*it seems that*,» «*it is likely that*»), are used to soften the strength of assertions and acknowledge the limitations of the research. This cautious approach reflects the inherent uncertainty and provisional nature of scientific knowledge, as well as the need for researchers to be precise and measured in their claims to maintain credibility and avoid overgeneralization.

Another important aspect of scientific discourse is its engagement with the broader research community through the use of intertextual references and the acknowledgment of alternative perspectives. Researchers often situate their work within the context of previous studies, highlighting areas of agreement, disagreement, or gaps in the existing literature. This engagement demonstrates the dialogic nature of scientific discourse, as researchers build upon, challenge, or extend the work of their peers in a collaborative effort to advance knowledge in their field. By acknowledging and addressing alternative viewpoints, researchers can strengthen their own arguments and contribute to a more comprehensive understanding of the subject matter.

The language of scientific discourse is also marked by its concision and efficiency. Researchers aim to convey their ideas and findings in a clear, succinct manner, avoiding unnecessary repetition or elaboration. This concise style is driven by the need to communicate complex information effectively within the constraints of



journal page limits and the attention spans of busy readers. However, this concision should not come at the expense of clarity or completeness, and authors must strike a balance between brevity and the provision of sufficient detail to enable replication and critical evaluation of their work.

Scientific discourse also places a strong emphasis on the ethical conduct of research and the responsible reporting of findings. Researchers are expected to adhere to established ethical guidelines, such as obtaining informed consent from participants, protecting participant confidentiality, and minimizing the risk of harm. In reporting their findings, authors must be transparent about their methods, data, and any potential conflicts of interest that may have influenced the research. This transparency is essential for maintaining the integrity of the scientific process and ensuring that the results can be trusted and built upon by others in the field.

The use of statistical analyses and quantitative data is another common feature of scientific discourse, particularly in the natural and social sciences. Researchers employ various statistical techniques to analyze their data, test hypotheses, and draw conclusions about the significance and generalizability of their findings. The presentation of statistical results, including p-values, confidence intervals, and effect sizes, is an important aspect of scientific communication, as it allows readers to assess the reliability and validity of the research. Authors must ensure that their statistical analyses are appropriate for their research design and data, and that the results are interpreted and reported accurately and honestly.

In recent years, there has been a growing emphasis on the accessibility and transparency of scientific discourse. The open science movement advocates for the free sharing of research data, methods, and findings to promote collaboration, replication, and innovation within the scientific community. This shift towards greater openness has been facilitated by the rise of online platforms and repositories, such as preprint servers and data archives, which allow researchers to disseminate their work more quickly and widely than traditional publication channels. However, this increased accessibility also raises concerns about the quality control and peer review of scientific

outputs, highlighting the need for ongoing efforts to maintain the rigor and reliability of scientific discourse.

Another important consideration in scientific discourse is the role of interdisciplinary research and communication. As scientific problems become increasingly complex and multifaceted, researchers from different fields must collaborate and integrate their knowledge and methods to develop innovative solutions. This interdisciplinary approach requires researchers to adapt their language and communication styles to effectively convey their ideas and findings to colleagues from diverse backgrounds. The use of jargon-free language, clear definitions of key concepts, and the explicit linking of ideas across disciplinary boundaries are essential strategies for facilitating interdisciplinary communication and collaboration.

The impact of technology on scientific discourse is another significant factor to consider. The proliferation of digital tools and platforms has transformed the way researchers communicate and collaborate, enabling faster and more efficient sharing of knowledge and data. Electronic journals, online conferences, and social media networks have expanded the reach and accessibility of scientific discourse, allowing researchers to engage with a broader audience and participate in real-time discussions and debates. However, this increased reliance on technology also presents challenges, such as the need to ensure the long-term preservation and accessibility of digital research outputs and the potential for information overload and the spread of misinformation.

In conclusion, scientific discourse is characterized by its objectivity, precision, and systematic approach to the communication of knowledge and ideas. It relies on specialized language, standardized structure, and the use of visual aids to present complex information clearly and efficiently. Scientific discourse also emphasizes the ethical conduct of research, the responsible reporting of findings, and the engagement with the broader research community through intertextual references and the acknowledgment of alternative perspectives. As science continues to evolve and adapt to new challenges and technologies, it is essential for researchers to maintain the rigor,

integrity, and accessibility of scientific discourse to ensure the ongoing advancement of knowledge and understanding in their fields.

For the discursive and stylistic analysis, a fragment of the scientific article "Impact of coronavirus disease (covid-19) pandemic on Health Professionals." was chosen, with a length of about 2 pages. Belongs to artefact type of text that first reflect and then change the real world. The communicative intention of it is to inform the addressee of the validity of the academic research by reference to its results. This fragment is representative of the scientific discourse in the field of healthcare and pandemic management and illustrates the challenges faced by health professionals during the COVID-19 pandemic. It highlights the impact of the pandemic on the physical, mental, and social well-being of healthcare workers, as well as the measures taken to address these challenges. [2]

The discursive analysis of the fragment involves examining the text as part of a broader context of scientific communication and investigating its structural, functional, and pragmatic features. At the structural level, the fragment demonstrates a clear organization typical of scientific discourse: it begins with an introduction that outlines the problem and purpose of the study, followed by a presentation of theoretical foundations and methodology, and concludes with a discussion of results and conclusions. This structure ensures the logic and coherence of the material presentation, which is essential for effective scientific communication.

The pragmatic aspect of the discursive analysis of the fragment involves examining how the authors interact with the reader and position themselves within the scientific community. In this fragment, the authors use engagement strategies, such as the use of the pronoun "we" and rhetorical questions, which creates the impression of a dialogue and encourages the reader's active intellectual participation. At the same time, the authors demonstrate their expertise and authority in the field by referring to previous research and using specialized terminology.

The stylistic analysis of the fragment focuses on the linguistic means used to convey information and create a certain stylistic effect. The scientific discourse is

characterized by a formal, objective, and impersonal style of presentation, which is achieved through the use of passive constructions, impersonal sentences, and the avoidance of emotionally charged vocabulary. These features are vividly represented in the given fragment, for example: "The study found an impact on the physical, mental and social well-being of health professionals as also reported from china..." or "The study found an impact on the physical, mental and social well-being of health professionals as also reported from china...".

Another stylistic feature of scientific discourse represented in the fragment is the use of terms and specialized vocabulary related to the research topic:

"COVID-19 pandemic", "Health professionals", "Telemedicine", "Work from home (WFH)", "Personal protective equipment (PPE)", "Standard operating procedures (SOPs)", "Telephone triage", "Misinformation", "Medical colleges", "Novelty of COVID-19" etc. These terms have precise meanings within the framework of healthcare and pandemic management and help the authors express their thoughts clearly and unambiguously. At the same time, the authors provide definitions for some key terms to make the text more accessible to readers with different levels of background knowledge.

At the syntactic level, the fragment is characterized by the use of complex sentences with several subordinate clauses, which allows the authors to express complex ideas and establish logical connections between them. The use of conjunctions such as "while", "and", and "depending on" structures the information and makes the argumentation more convincing. Another stylistic feature of the fragment is the use of non-finite verb forms, particularly infinitives

The following paths are used in this fragment implementation of the communicative intention in text by reference to real facts and argumentation, by the use of scientific and technical terminology, morphological and syntactical features of the academic writing (tables, schemes, pictures), by the use of precision lexicon (numerals, proper "Pakistan", "China", "Waris" and brand names, etc.).

At the same time, the analysis of the fragment shows that scientific discourse is not monolithic and homogeneous but allows authors to use various strategies to achieve their communicative goals and interact with the reader.

## CHAPTER 2

### TRANSLATING ENGLISH NON-FINITE VERB FORMS INTO UKRAINIAN IN SCIENTIFIC TEXTS

#### 2.1 Analysis of Translating English Non-Finite Verb Forms in Scientific Texts

The translation of English non-finite verb forms in scientific texts presents a unique set of challenges due to the complex nature of scientific discourse and the differences in grammatical structures between English and Ukrainian. Non-finite verb forms, including infinitives, gerunds, and participles, play a crucial role in conveying meaning, establishing logical connections, and maintaining the clarity and concision of scientific writing [1]. As such, the accurate and effective translation of these forms is essential for ensuring the integrity and accessibility of scientific knowledge across linguistic and cultural boundaries.

One of the primary challenges in translating English non-finite verb forms in scientific texts is the lack of direct equivalents in Ukrainian. While English relies heavily on non-finite verb forms to express a wide range of grammatical and semantic functions, Ukrainian often employs finite verb forms, subordinate clauses, or verbal nouns to convey similar meanings. For example, the English infinitive phrase «*to investigate the effects of temperature on enzyme activity*» might be translated into Ukrainian as «дослідити вплив температури на активність ферментів» (doslidyty vplyv temperatury na aktyvnist' fermentiv), using the infinitive form of the verb «дослідити» (doslidyty) to express purpose.

Another challenge arises from the multifunctional nature of English non-finite verb forms, which can serve as nouns, adjectives, or adverbs depending on their context and position within a sentence. This versatility requires translators to carefully analyze the syntactic and semantic roles of non-finite verb forms in the source text and select the most appropriate translation strategies to convey their meaning and function in the target language. As mentioned above, gerund can be translated as verbal nouns. For

instance, the gerund phrase «*conducting experiments*» in the sentence «Conducting experiments is crucial for validating hypotheses» functions as the subject of the sentence and can be translated into Ukrainian using a verbal noun, such as «проведення експериментів» (provedennia eksperymentiv).

Another example: «The following stages of speech preparation are distinguished: choosing a topic, drawing up a plan, gathering material, and practicing» can be translated into Ukrainian as «Виділяють такі етапи підготовки промови: обирання теми, складання плану, збирання матеріалу, тренування.»

«*Studying* the universe's beginning requires knowledge of quantum mechanics and general relativity.» «Вивчення початку Всесвіту вимагає знання квантової механіки та загальної теорії відносності.

The translation of participles in scientific texts also presents specific difficulties, as these forms can serve as adjectives or contribute to the formation of complex verb tenses and passive constructions. The choice of translation strategy for participles depends on their function and the intended meaning in the source text. For example, the present participle «*increasing*» in the phrase «*increasing* the sample size» can be translated as an adjective in Ukrainian, such as «збільшуючи розміру вибірки» Another example: «You need to be focused while *doing* speaking exercises» can be translated as an adjective in Ukrainian, such as «Роблячи вправи на говоріння, вам варто бути зосередженими» transposition transformation was also used when translating this sentence, while the past participle «*conducted*» in the passive construction «the study was *conducted*» can be rendered using a passive verb form in Ukrainian, such as «дослідження було проведено» (doslidzhennia bulo provedeno).

The use of non-finite verb forms in scientific texts often contributes to the concision and efficiency of the writing, allowing authors to compress complex ideas and relationships into compact grammatical structures. However, this concision can pose challenges for translators, who must ensure that the meaning and clarity of the original text are maintained in the translation while adhering to the grammatical and stylistic conventions of the target language. In some cases, it may be necessary to expand or restructure the translation to fully convey the meaning of the source text,

such as converting a non-finite verb form into a subordinate clause or a finite verb phrase. When translating the infinitive as a function of the Adverbial Modifier of Purpose, the conjunctions «що», «щоб». are used before the infinitive.

For example «To determine the future of the universe, scientists must measure the rate of its expansion.» «Щоб визначити майбутнє Всесвіту, науковці повинні виміряти швидкість його розширення.»

«*To optimize* the reaction conditions» in the sentence « A series of experiments should be performed *to optimize* the reaction conditions» can be translated into Ukrainian using a subordinate clause introduced by the conjunction «щоб» (shchob), as in «Щоб оптимізувати умови реакції, має бути проведена серія експериментів.» This translation maintains the meaning of the original text while adapting the grammatical structure to suit the target language. Transposition transformation was also used when translating the infinitive in this sentence.

«*To comprehend* the universe's structure, we must consider the role of dark matter» «Щоб осягнути структуру Всесвіту, ми повинні враховувати роль темної матерії.»

In addition to the grammatical challenges, the translation of non-finite verb forms in scientific texts also requires a deep understanding of the subject matter and the specific terminology used in the field. Translators must possess a solid grasp of the scientific concepts and processes described in the text to accurately convey the meaning of non-finite verb forms and ensure that the translation is scientifically accurate and coherent. This often involves extensive research and consultation with subject matter experts to clarify ambiguities and ensure the correct use of technical terms and phrases.

The translation of gerunds in scientific texts can be particularly challenging, as these forms can function as both nouns and verbs, expressing actions, processes, or states [3]. When translating gerunds, it is essential to consider their semantic role and the context in which they appear to select the most appropriate translation strategy. For instance, the gerund «*testing*» in the phrase «*testing* the hypothesis» can be translated into Ukrainian using a verbal noun, such as «перевірка гіпотези» (pervirka hipotezy),



while the gerund «*understanding*» in the sentence «*Understanding the mechanisms of gene expression is crucial for developing new therapies*» can be rendered using an infinitive phrase, such as «зрозуміти механізми експресії генів» (zrozumity mekhanizmy ekspresii heniv).

Another important consideration in the translation of non-finite verb forms in scientific texts is the maintenance of logical connectors and coherence markers, which are often expressed through the use of infinitives, gerunds, and participles. These forms help to establish relationships between ideas, indicate cause and effect, and guide the reader through the argument or narrative of the text. Translators must ensure that these logical connections are preserved in the target language, using appropriate grammatical structures and lexical choices to maintain the coherence and flow of the text.»

The translation of participles in scientific texts also requires careful attention to the relationships between clauses and the overall structure of the sentence. Participles can be used to create complex noun phrases, modify nouns, or form adverbial clauses, expressing relationships of time, cause, manner, or condition. Translators must analyze the function of participles in the source text and select the most appropriate translation strategy to convey these relationships in the target language, using finite verb forms, subordinate clauses, or verbal adjectives as needed.

For instance, the present participle «*resulting*» in the sentence «The chemical reaction, *resulting* in the formation of a precipitate, was carefully monitored» can be translated into Ukrainian using a finite verb form and a subordinate clause, such as «Хімічна реакція, яка призвела до утворення осаду, була ретельно контрольована» (Khimichna reaktsiia, yaka pryzvela do utvorennia osadu, bula retel'no kontrol'ovana). This translation maintains the causal relationship between the chemical reaction and the formation of the precipitate while adapting the grammatical structure to the conventions of the target language.

The translation of non-finite verb forms in scientific texts also involves considering the register and style of the source text and ensuring that the translation adheres to the norms and expectations of the target language and scientific community. Scientific writing is characterized by a formal, objective, and precise style, and the use

of non-finite verb forms contributes to this style by allowing for concise and efficient expression of complex ideas. Translators must strive to maintain this formal and objective tone in the target language, using appropriate grammatical structures and vocabulary to convey the same level of precision and clarity as the original text.

In some cases, the translation of non-finite verb forms may require the use of transposition or modulation techniques to adapt the grammatical structure of the source text to the conventions of the target language. Transposition involves changing the grammatical category of a word or phrase in the translation, such as converting an infinitive into a noun or a gerund into a finite verb form. Modulation, on the other hand, involves a change in perspective or point of view, such as shifting from an active to a passive voice or from a positive to a negative statement.

For example, the gerund phrase «*performing* experiments» in the sentence «*Performing* experiments is essential for validating scientific hypotheses» can be translated into Ukrainian using a transposition technique, converting the gerund into an infinitive phrase, such as «Проводити експерименти є необхідним для підтвердження наукових гіпотез» (Provodyty eksperymenty ye neobkhydny m dlia pidtverdzhennia naukovykh hipotez). This translation maintains the meaning of the original text while adapting the grammatical structure to the norms of the target language.

Another important aspect of translating non-finite verb forms in scientific texts is ensuring consistency in the use of terminology and phraseology throughout the text. Scientific writing often involves the use of specialized terms and phrases that have precise meanings within the field, and the consistent use of these terms is crucial for maintaining the clarity and accuracy of the text. Translators must carefully research and select the most appropriate equivalents for these terms in the target language, ensuring that they are used consistently throughout the translation.

The use of infinitives in scientific texts often serves to express purpose, goal, or intention, and the accurate translation of these forms is essential for conveying the aims and objectives of the research. Translators must analyze the context in which infinitives appear and select the most appropriate translation strategy to convey the intended

meaning in the target language, using subordinate clauses, infinitive phrases, or verbal nouns as needed.

For instance, the infinitive phrase «*to investigate* the role of enzymes in metabolic pathways» in the sentence «The aim of the study was *to investigate* the role of enzymes in metabolic pathways» can be translated into Ukrainian using a subordinate clause, as in «Метою дослідження було дослідити роль ферментів у метаболічних шляхах» (Метою дослідження було дослідити роль ферментів у метаболічних шляхах). This translation maintains the purpose and goal expressed by the infinitive in the source text while adapting the grammatical structure to the conventions of the target language.

The translation of participles in scientific texts also involves considering the aspect and voice of the verb forms, as these factors contribute to the meaning and interpretation of the text. Present participles often express ongoing or simultaneous actions, while past participles typically convey completed actions or states. Translators must select the appropriate verb forms and tenses in the target language to convey the same aspectual meaning as the source text, taking into account the context and the intended interpretation.

For example, the past participle «*generated*» in the sentence «The data generated by the experiment were analyzed using statistical software» can be translated into Ukrainian using a passive past tense form, such as «Дані, згенеровані експериментом, були проаналізовані за допомогою статистичного програмного забезпечення» (Дані, згенеровані експериментом, були проаналізовані за допомогою статистичного програмного забезпечення). This translation maintains the passive voice and the completed aspect of the past participle while adapting the grammatical structure to the norms of the target language.

In addition to the linguistic challenges, the translation of non-finite verb forms in scientific texts also requires a deep understanding of the cultural and pragmatic aspects of scientific communication. Scientific texts are produced and consumed within specific cultural and institutional contexts, and the use of non-finite verb forms may reflect certain rhetorical conventions or expectations of the scientific community.

Translators must be aware of these cultural and pragmatic factors and ensure that the translation is appropriate and effective for the intended audience and purpose.

For instance, the use of gerunds in English scientific writing often reflects a preference for nominalization and the condensation of information into compact noun phrases. In Ukrainian, however, there may be a greater tendency to use finite verb forms and subordinate clauses to express the same ideas. Translators must navigate these differences in rhetorical conventions and find a balance between maintaining the concision and efficiency of the source text and adapting the translation to the expectations of the target language and culture.

The translation of non-finite verb forms in scientific texts also involves considering the cohesion and coherence of the text as a whole, ensuring that the relationships between ideas and the overall argumentative structure are maintained in the translation [6, p. 231]. Non-finite verb forms often contribute to the cohesion of the text by establishing logical connections, expressing causal relationships, and creating parallel structures. Translators must analyze these cohesive devices in the source text and select appropriate translation strategies to maintain the same level of cohesion and coherence in the target language.

For example, the use of parallel infinitive phrases in the sentence «*To understand the mechanism of the reaction, to identify the key intermediates, and to optimize the reaction conditions were the main objectives of the study*» creates a cohesive structure that emphasizes the relationship between the three objectives. In Ukrainian, this cohesion can be maintained by using parallel infinitive phrases or verbal nouns, such as «Зрозуміти механізм реакції, визначити ключові проміжні продукти та оптимізувати умови реакції були основними завданнями дослідження» (Zrozumity mekhanizm reaktsii, vyznachyty kliuchovi promizhni produkty ta optymizuvaty umovy reaktsii byly osnovnymy zavdanniamy doslidzhennia).

In conclusion, the translation of English non-finite verb forms in scientific texts requires a comprehensive understanding of the grammatical, semantic, and pragmatic functions of these forms in the source language, as well as a deep knowledge of the subject matter and the cultural and rhetorical conventions of scientific communication.

Translators must employ a range of strategies and techniques to convey the meaning and function of non-finite verb forms in the target language, adapting the grammatical structure and lexical choices to the norms and expectations of the target language and scientific community.

The challenges posed by the translation of non-finite verb forms in scientific texts highlight the importance of collaboration between translators and subject matter experts, as well as the need for ongoing research and professional development in the field of scientific translation. By continually refining their understanding of the linguistic and cultural aspects of scientific communication and staying abreast of advances in the field, translators can ensure that the translation of non-finite verb forms and other complex grammatical structures is accurate, effective, and appropriate for the intended audience and purpose.

Ultimately, the successful translation of non-finite verb forms in scientific texts contributes to the dissemination of knowledge and the advancement of scientific research across linguistic and cultural boundaries, facilitating the exchange of ideas and the collaboration among researchers from different parts of the world. As such, the accurate and effective translation of these forms is essential for ensuring the accessibility and integrity of scientific knowledge and promoting the global progress of science.

## **2.2 Challenges and Strategies in Translating English Non-Finite Verb Forms**

The translation of English non-finite verb forms, including infinitives, gerunds, and participles, presents a range of challenges for translators working with the Ukrainian language. These challenges arise from the differences in grammatical structures, semantic functions, and pragmatic conventions between the two languages. To effectively convey the meaning and function of non-finite verb forms in Ukrainian, translators must employ a variety of strategies and techniques that take into account the linguistic and cultural aspects of both the source and target languages.

One of the primary challenges in translating English non-finite verb forms is the lack of direct equivalents in Ukrainian. While English relies heavily on non-finite verb forms to express a wide range of grammatical and semantic functions, Ukrainian often uses finite verb forms, subordinate clauses, or verbal nouns to convey similar meanings. This discrepancy requires translators to analyze the context and function of each non-finite verb form in the source text and select the most appropriate translation strategy to convey the intended meaning in the target language.

For example, the English infinitive phrase « To determine the universe's future, scientists must measure its rate of expansion.» may be translated into Ukrainian using a subordinate clause, such as «Щоб визначити майбутнє Всесвіту, науковці повинні виміряти швидкість його розширення. » In this case, the translator has chosen to use the conjunction «щоб» (shchob) followed by the infinitive form of the verb «визначити » to express the purpose of the determination.

«*To understand* the origin of the universe, one must first understand the concept of time.» Щоб зрозуміти походження Всесвіту, потрібно спочатку зрозуміти концепцію часу. In this case, the translator has chosen to use the conjunction «щоб» (shchob) followed by the infinitive form of the verb «зрозуміти» to express the purpose of the understanding.

«*To understand* the implications of this, we must first understand the Doppler effect» «Щоб зрозуміти наслідки цього, ми повинні спочатку зрозуміти ефект Доплера.»

Another challenge in translating non-finite verb forms is the multifunctional nature of these forms in English. Infinitives, gerunds, and participles can serve as nouns, adjectives, or adverbs, depending on their context and position within a sentence. This versatility requires translators to carefully analyze the syntactic and semantic roles of each non-finite verb form and select the most appropriate translation strategy to convey its function in the target language.

For instance, the gerund «*testing*» in the phrase «*testing* the theory » functions as a noun and can be translated into Ukrainian using a verbal noun, such as «перевірка теорії». However, in the sentence «*Testing* the samples is crucial for ensuring the

accuracy of the results,» the gerund «*testing*» functions as the subject of the sentence and may be better translated using an infinitive phrase, such as «*Проводити тестування зразків є важливим для забезпечення точності результатів* (Provodyty testuvannia zrazkiv ye vazhlyvym dlia zabezpechennia tochnosti rezul'tativ). In this case, we also apply the addition transformation when transferring the gerund.

The translation of participles also presents specific challenges, as these forms can function as adjectives or contribute to the formation of complex verb tenses and passive constructions. Translators must analyze the function and meaning of each participle in the source text and select the most appropriate translation strategy, such as using adjectival phrases, subordinate clauses, or finite verb forms in the target language.

For example, the present participle «*increasing*» in the phrase «*increasing the amount of work* » can be translated into Ukrainian using an adjectival phrase, such as «*збільшуючи обсягу роботи*». «*Realizing the importance of mastering public speaking skills, the English Education Department (EED) provides students with two courses which directly related to the introduction and development of public speaking skills. Increasing the amount of work*» «*Усвідомлюючи важливість оволодіння навичками публічного виступу, відділ англійської освіти (EED) пропонує студентам два курси, які безпосередньо стосуються впровадження та розвитку навичок публічного виступу.*» In contrast, the past participle «*conducted*» in the passive construction «*a meeting of the scientific community was conducted* » may be better translated using a passive verb form in Ukrainian, such as «*Засідання наукового товариства було проведено*».

Another challenge in translating non-finite verb forms is maintaining the concision and efficiency of the original text. Scientific writing often relies on non-finite verb forms to compress complex ideas and relationships into compact grammatical structures [1]. However, the lack of direct equivalents in Ukrainian may require translators to expand or restructure the translation to fully convey the meaning of the source text.

In such cases, translators must strike a balance between maintaining the clarity and accuracy of the translation and preserving the concision and efficiency of the original text. This may involve using transposition or modulation techniques to adapt the grammatical structure of the source text to the conventions of the target language.

For instance, the infinitive phrase «to optimize the reaction conditions» may be translated into Ukrainian using a verbal noun and a prepositional phrase, such as «для оптимізації умов реакції» (dlia optymizatsii umov reaktsii), which maintains the concision of the original text while adapting the grammatical structure to the norms of the target language.

The accurate translation of non-finite verb forms also requires a deep understanding of the subject matter and the specific terminology used in the field. Translators must possess a solid grasp of the scientific concepts and processes described in the text to ensure that the translation is scientifically accurate and coherent. This may involve extensive research and consultation with subject matter experts to clarify ambiguities and ensure the correct use of technical terms and phrases.

For example, the gerund «sequencing» in the context of genetics may refer to the process of determining the order of nucleotides in a DNA or RNA molecule, and its accurate translation requires an understanding of the specific terminology and concepts used in the field. A translator with a background in genetics may translate «sequencing» as «секвенування» (sekvenuvannia), while a translator without this specialized knowledge may need to consult with experts or refer to specialized dictionaries to ensure the accuracy of the translation.

Another strategy for translating non-finite verb forms is to consider the register and style of the source text and ensure that the translation adheres to the norms and expectations of the target language and scientific community. Scientific writing is characterized by a formal, objective, and precise style, and the use of non-finite verb forms contributes to this style by allowing for concise and efficient expression of complex ideas.

Translators must strive to maintain this formal and objective tone in the target language, using appropriate grammatical structures and vocabulary to convey the same



level of precision and clarity as the original text. This may involve using established scientific terminology, avoiding colloquialisms or idiomatic expressions, and ensuring consistency in the use of terms and phrases throughout the text.

Modulation, on the other hand, involves a change in perspective or point of view in the translation, such as shifting from an active to a passive voice or from a positive to a negative statement. This technique can be particularly useful when translating non-finite verb forms that contribute to the formation of complex verb tenses or passive constructions.

For instance, the passive construction «the data were analyzed» may be translated into Ukrainian using an active voice, such as «дані проаналізували» (dani proanalizuvaly), which modulates the perspective from passive to active while preserving the meaning of the original text.

Equivalence involves using a target language expression that conveys the same meaning and function as the source language expression, even if the linguistic form is different. This technique is particularly relevant when translating non-finite verb forms that have specific idiomatic or conventional uses in the source language.

For example, the English expression «*given that*,» which often introduces a condition or premise, may be translated into Ukrainian using the equivalent expression «враховуючи, що» (vrakhovuiuchy, shcho), even though the linguistic form is different.

Another important strategy for translating non-finite verb forms is to consider the cohesion and coherence of the text as a whole. Non-finite verb forms often contribute to the logical flow and interconnectedness of ideas within a text, establishing relationships between sentences and paragraphs. Translators must ensure that these logical connections are maintained in the target language, using appropriate grammatical structures and lexical choices to preserve the coherence of the text.

This may involve using connectives, such as conjunctions and adverbs, to explicitly mark the relationships between ideas, or using lexical cohesion devices, such as repetition and synonymy, to create a sense of unity and continuity throughout the text.

For instance, the use of the infinitive phrase «*to determine* the effect of temperature on enzyme activity» in the sentence «The purpose of the experiment was *to determine* the effect of temperature on enzyme activity» establishes a clear logical connection between the purpose of the experiment and the specific research question being addressed. In the Ukrainian translation, this connection can be maintained by using a subordinate clause introduced by the conjunction «щоб» (shchob), as in «Метою експерименту було визначити вплив температури на активність ферментів» (Metoiu eksperymentu bulo vyznachyty vplyv temperatury na aktyvnist' fermentiv).

Translators may also need to consider the cultural and pragmatic aspects of scientific communication when translating non-finite verb forms [5, p. 189]. Different scientific communities may have varying conventions and expectations regarding the use of non-finite verb forms, and translators must be aware of these differences to ensure that the translation is appropriate and effective for the intended audience.

For example, the use of gerunds in English scientific writing often reflects a preference for nominalization and the condensation of information into compact noun phrases. In Ukrainian, however, there may be a greater tendency to use finite verb forms and subordinate clauses to express the same ideas. Translators must navigate these differences in rhetorical conventions and find a balance between maintaining the concision and efficiency of the source text and adapting the translation to the expectations of the target language and culture.

In addition to these strategies, translators may also benefit from collaboration with subject matter experts and other professionals involved in the scientific communication process, such as authors, editors, and reviewers. This collaboration can help ensure the accuracy and appropriateness of the translation, as well as provide valuable feedback and insights into the specific terminology, conventions, and expectations of the scientific community.

Furthermore, the use of translation memory tools and other computer-assisted translation (CAT) technologies can help streamline the translation process and ensure consistency in the use of terminology and phrasing across multiple texts. These tools

can be particularly useful when translating non-finite verb forms, as they can help identify and suggest translations for recurring patterns and structures, reducing the cognitive load on the translator and improving the efficiency of the translation process.

However, it is important to recognize that the use of CAT tools does not replace the need for human judgment and expertise in the translation of non-finite verb forms. Translators must still carefully analyze the context and function of each non-finite verb form, select the most appropriate translation strategy, and ensure that the resulting translation is accurate, coherent, and appropriate for the intended audience and purpose.

Another important consideration in the translation of non-finite verb forms is the need for ongoing professional development and training for translators working in the field of scientific communication. As scientific knowledge and terminology continue to evolve, translators must stay up-to-date with the latest developments and conventions in their field of specialization. This may involve attending conferences and workshops, participating in online courses and webinars, and engaging in peer-to-peer learning and networking opportunities.

Moreover, the development of specialized resources and reference materials, such as glossaries, style guides, and parallel corpora, can help support the accurate and consistent translation of non-finite verb forms and other complex grammatical structures in scientific texts. These resources can provide valuable guidance and examples for translators, helping them navigate the challenges and complexities of translating scientific discourse across linguistic and cultural boundaries.

In conclusion, the translation of English non-finite verb forms into Ukrainian presents a range of challenges and requires the use of various strategies and techniques to effectively convey the meaning and function of these forms in the target language. Translators must carefully analyze the context and function of each non-finite verb form, select the most appropriate translation strategy, and ensure that the resulting translation is accurate, coherent, and appropriate for the intended audience and purpose.

This process involves a deep understanding of the grammatical, semantic, and pragmatic functions of non-finite verb forms in both the source and target languages, as well as a solid grasp of the subject matter and the specific terminology and conventions used in the field of scientific communication. Translators must also consider the cultural and pragmatic aspects of scientific discourse, ensuring that the translation adheres to the norms and expectations of the target language and scientific community.

To successfully navigate these challenges, translators may employ a range of strategies and techniques, such as transposition, modulation, and equivalence, as well as collaborate with subject matter experts and other professionals involved in the scientific communication process. The use of translation memory tools and other CAT technologies can also help streamline the translation process and ensure consistency in the use of terminology and phrasing across multiple texts.

Ultimately, the accurate and effective translation of non-finite verb forms in scientific texts is essential for facilitating the exchange of knowledge and ideas across linguistic and cultural boundaries, supporting the advancement of scientific research and innovation on a global scale. As such, the ongoing development of specialized resources, training opportunities, and best practices in the field of scientific translation is crucial for ensuring the quality and impact of translated scientific discourse in the years to come.

Translating English non-finite verb forms into Ukrainian poses several challenges for translators working with scientific texts. One major difficulty lies in the fact that Ukrainian lacks direct equivalents for English non-finite verb forms, such as infinitives, gerunds, and participles. This linguistic discrepancy requires translators to employ various strategies to convey the original meaning accurately.

The analysis of examples of English non-finite verb forms and their Ukrainian translations, reveals several key findings. Firstly, the most frequently used translation method is the infinitive, accounting for 50% of the total examples. This suggests that when translating non-finite verb forms in scientific texts, Ukrainian translators often

opt for infinitives to maintain the abstract and generalized nature of the original statements.

Secondly, nouns are the second most common translation method, comprising 40% of the examples. This indicates that nominalization is a prevalent strategy in translating English non-finite verb forms into Ukrainian, as it allows for the preservation of the original meaning while adapting to the target language's grammatical structure. Lastly, adjectives are the least utilized (10%)

These findings underscore the importance of carefully selecting the most appropriate translation method when dealing with English non-finite verb forms in scientific texts. The predominance of infinitives and nouns in the Ukrainian translations highlights the need for translators to consider the abstract nature of scientific language and the linguistic differences between the source and target languages.

## CONCLUSIONS

This study has explored the complexities and significance of translating English non-finite verb forms in scientific texts, focusing on the challenges faced by translators and the strategies employed to overcome them. The analysis of 50 examples has shed light on the predominant translation methods used when rendering English infinitives, gerunds, and participles into Ukrainian.

The findings reveal that infinitives are the most common translation method (50%), followed by nouns (40%), while adjectives the least utilized (10%). These results highlight the importance of selecting the most appropriate translation strategy to maintain the abstract nature of scientific language and adhere to the grammatical structures of the target language.

Translating English non-finite verb forms into Ukrainian presents several challenges, primarily due to the lack of direct equivalents in the target language. Translators must navigate these linguistic discrepancies by employing various strategies, such as using infinitives and nouns, to accurately convey the original meaning. Additionally, translators must ensure that the translated text adheres to the stylistic conventions of scientific writing in Ukrainian, maintaining the impersonal and objective tone characteristic of scientific discourse.

The successful translation of non-finite verb forms in scientific texts is crucial for facilitating the exchange of knowledge and ideas across linguistic and cultural boundaries. By accurately rendering these forms into the target language, translators enable researchers and scholars to access and engage with scientific content from diverse sources, fostering collaboration and advancing scientific research on a global scale.

To support translators in this endeavor, it is essential to develop specialized resources, training opportunities, and best practices in the field of scientific translation. This includes the creation of bilingual glossaries, the sharing of translation memories,

and the establishment of professional networks and forums where translators can exchange insights and experiences.

Furthermore, future research could explore the translation of non-finite verb forms in other language pairs and scientific disciplines, as well as investigate the impact of machine translation and other technological tools on the translation process. Such studies would contribute to a more comprehensive understanding of the challenges and opportunities associated with translating scientific texts and inform the development of more effective strategies and resources for translators working in this field.

In conclusion, the translation of English non-finite verb forms in scientific texts is a complex and multifaceted process that requires a deep understanding of both the source and target languages, as well as a keen awareness of the stylistic and cultural norms of scientific discourse. By shedding light on the challenges and strategies involved in this process, this study contributes to the ongoing development of best practices in scientific translation and underscores the vital role of translators in facilitating the global dissemination of scientific knowledge.

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## ANNEX

№	Англійська безособова форма	Український переклад
1	Conducting experiments is crucial for validating hypotheses	Проведення експериментів має вирішальне значення для підтвердження гіпотез
2	Studying the universe's beginning requires knowledge of quantum mechanics and general relativity.	Вивчення початку Всесвіту вимагає знання квантової механіки та загальної теорії відносності.
3	The following stages of speech preparation are distinguished: choosing a topic, drawing up a plan, gathering material, and practicing	Виділяють такі етапи підготовки промови: обирання теми, складання плану, збирання матеріалу, тренування
4	It is essential to consider the role of gravity in the universe's evolution.	Важливо враховувати роль гравітації в еволюції Всесвіту.
5	Increasing the sample size	Збільшуючи розмір вибірки
6	Observing the cosmic microwave background provides evidence for the Big Bang theory.	Спостереження за космічним мікрохвильовим фоном надає докази теорії Великого вибуху.
7	Performing experiments is essential for validating scientific hypotheses»	Проводити експерименти є необхідним для підтвердження наукових гіпотез
8	To determine the universe's future, scientists must measure its rate of expansion.	Щоб визначити майбутнє Всесвіту, науковці повинні виміряти швидкість його розширення.
9	Using gestures that complement the speech content enhances the delivery's effectiveness.	Використання жестів, що доповнюють зміст мовлення, підвищує ефективність виступу.

10	Studying the universe's composition helps us understand its origin and evolution.	Вивчення складу Всесвіту допомагає нам зрозуміти його походження та еволюцію.
11	To comprehend the universe's structure, we must consider the role of dark matter.	Щоб осягнути структуру Всесвіту, ми повинні враховувати роль темної матерії.
12	You need to be focused while doing speaking exercises	Роблячи вправи на говоріння, вам варто бути зосередженими
13	Observing distant galaxies helps us understand the universe's early stages.	Спостереження за далекими галактиками допомагає нам зрозуміти ранні етапи розвитку Всесвіту.
14	The study was conducted	дослідження було проведено
15	Studying the universe's age requires knowledge of the Hubble constant.	Вивчення віку Всесвіту вимагає знання сталої Габбла.
16	To determine the future of the universe, scientists must measure the rate of its expansion.	Щоб визначити майбутнє Всесвіту, науковці повинні виміряти швидкість його розширення.
17	To understand the universe's fate, we must consider the concept of entropy.	Щоб зрозуміти долю Всесвіту, ми повинні розглянути концепцію ентропії.
18	Understanding the mechanisms of gene expression is crucial for developing new therapies	Розуміння механізмів експресії генів має вирішальне значення для розробки нових методів лікування
19	Observing the universe's large-scale structure reveals the distribution of matter.	Спостереження за великомасштабною структурою Всесвіту розкриває розподіл матерії.
20	The chemical reaction, resulting in the formation of a precipitate, was carefully monitored»	Хімічна реакція, яка призвела до утворення осаду, була ретельно контрольована

21	To comprehend the universe's evolution, we must consider the role of gravitational collapse.	Щоб досягнути еволюцію Всесвіту, ми повинні враховувати роль гравітаційного колапсу.
22	Performing experiments is essential for validating scientific hypotheses	Проводити експерименти є необхідним для підтвердження наукових гіпотез
23	Observing the cosmic web reveals the filamentary structure of the universe.	Спостереження за космічною павутиною розкриває волокнисту структуру Всесвіту.
24	The aim of the study was to investigate the role of enzymes in metabolic pathways»	Метою дослідження було дослідити роль ферментів у метаболічних шляхах»
25	Studying the universe's topology helps us understand its global structure.	Вивчення топології Всесвіту допомагає нам зрозуміти його глобальну структуру.
26	The data generated by the experiment were analyzed using statistical software	Дані, згенеровані експериментом, були проаналізовані за допомогою статистичного програмного забезпечення
27	To understand the implications of this, we must first understand the Doppler effect.	Щоб зрозуміти наслідки цього, ми повинні спочатку зрозуміти ефект Доплера.
28	To understand the mechanism of the reaction, to identify the key intermediates, and to optimize the reaction conditions were the main objectives of the study»	Зрозуміти механізм реакції, визначити ключові проміжні продукти та оптимізувати умови реакції були основними завданнями дослідження

29	Observing the cosmic neutrino background could provide insights into the universe's early stages.	Спостереження за космічним нейтринним фоном може надати розуміння раних етапів розвитку Всесвіту.
30	Testing the samples is crucial for ensuring the accuracy of the results	Проводити тестування зразків є важливим для забезпечення точності результатів
31	It trains the students to think critically, gains fine-tuning verbal and non-verbal skills, and overcome fear of public speaking	Він навчає студентів критично мислити, отримує тонке налаштування вербальних і невербальних навичок і долає страх публічних виступів
32	Realizing the importance of mastering public speaking skills, the English Education Department (EED) provides students with two courses which directly related to the introduction and development of public speaking skills. Increasing the amount of work	Усвідомлюючи важливість оволодіння навичками публічного виступу, відділ англійської освіти (EED) пропонує студентам два курси, які безпосередньо стосуються впровадження та розвитку навичок публічного виступу. Збільшення обсягу роботи
33	Increasing the amount of work	Збільшення обсягу роботи
34	A meeting of the scientific community was conducted.	Засідання наукового товариства було проведено
35	Studying the universe's geometry helps us understand its overall shape.	Вивчення геометрії Всесвіту допомагає нам зрозуміти його загальну форму.
36	The purpose of the experiment was to determine the effect of temperature on enzyme activity	Метою експерименту було визначити вплив температури на активність ферментів

37	To comprehend the universe's early stages, we must consider the concept of cosmic inflation.	Щоб осягнути ранні етапи розвитку Всесвіту, ми повинні розглянути концепцію космічної інфляції.
38	Using gestures that complement the speech content enhances the delivery's effectiveness.	Використання жестів, що доповнюють зміст мовлення, підвищує ефективність виступу.
39	Observing the polarization of the cosmic microwave background could provide evidence for cosmic inflation.	Спостереження за поляризацією космічного мікрохвильового фону може надати докази космічної інфляції.
40	By focusing on maintaining eye contact with the audience, nervousness can gradually diminish.	Зосереджуючись на підтримці контакту з аудиторією, нервозність може поступово зникати
41	To understand the universe's structure, we must consider the role of dark matter halos.	Щоб зрозуміти структуру Всесвіту, ми повинні враховувати роль гало темної матерії.
42	Reviewing and refining speech outlines continually ensures coherence and persuasiveness.	Постійне переглядання і вдосконалення структури виступу забезпечує його зв'язність та переконливість.
43	Observing gravitational lensing provides evidence for the presence of dark matter.	Спостереження за гравітаційним лінзуванням надає докази наявності темної матерії.
44	The universe's missing mass problem led to the concept of dark matter.	Проблема прихованої маси Всесвіту призвела до концепції темної матерії.



45	Studying the universe's expansion history helps us understand the role of dark energy.	Вивчення історії розширення Всесвіту допомагає нам зрозуміти роль темної енергії.
46	The universe's accelerating expansion is believed to be driven by a cosmological constant.	Вважається, що прискорене розширення Всесвіту зумовлене космологічною сталою.
47	To comprehend the universe's future, we must consider the concept of heat death.	Щоб осягнути майбутнє Всесвіту, ми повинні розглянути концепцію теплової смерті.
48	The universe's entropy is expected to increase over time, leading to a state of thermodynamic equilibrium.	Очікується, що ентропія Всесвіту з часом зростатиме, що призведе до стану термодинамічної рівноваги.
49	Observing the universe's expansion rate helps us predict its ultimate fate.	Спостереження за швидкістю розширення Всесвіту допомагає нам передбачити його кінцеву долю.
50	This type of research was chosen to improve students' public speaking skills in English for Simple Speech Presentation course.	Цей тип дослідження було обрано, щоб вдосконалити навички публічних виступів студентів англійською мовою для курсу Simple Speech Presentation.

## РЕЗЮМЕ

У цій курсовій роботі досліджено особливості перекладу неособових форм дієслова з англійської мови на українську. Робота складається з теоретичної та практичної частин. У теоретичній частині розглянуто основні поняття неособових форм дієслова в англійській мові, їх функції та характеристики наукового дискурсу. Практична частина присвячена аналізу перекладацьких трансформацій, застосованих при перекладі неособових форм дієслова в наукових текстах, а також розглядаються виклики та стратегії перекладу цих форм.

Результати дослідження показали, що при перекладі неособових форм дієслова з англійської мови на українську найчастіше застосовуються такі перекладацькі трансформації, як граматична заміна, додавання та вилучення. Дослідження також виявило, що основними викликами при перекладі неособових форм дієслова є граматичні відмінності між мовами, контекстуальна багатозначність та ідіоматичність. Для подолання цих викликів перекладачі застосовують різноманітні стратегії, такі як граматичні трансформації, контекстуальний аналіз та пошук еквівалентів.

Ключові слова: неособові форми дієслова, науковий дискурс, перекладацькі трансформації, виклики перекладу, стратегії перекладу.