UDC 81'255.4
DOI: https://doi.org/10.17721/2520-6397.2025.1.02

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PLANNING AS A COGNITIVE PROCESS IN SIMULTANEOUS INTERPRETING: CASE STUDY

Background. *The purpose of this article is to define the role of planning as a mental activity in simultaneous interpretation (SI) as well as to evaluate how it influences the components of SI, such as attention, decision taking, memory, and focus. It relies on the works of such Ukrainian scientists as V. Karaban, I. Korunets, O. Chernov as well as international scholars D. Gile, B. Moser-Mercer, and more, to point out the criticality of planning when switching between auditory channels in simultaneous interpreting due to cognitive overload.*

Results. *In the theoretical part of the work, the role of planning is considered in comprehending the speaker's intention and in the process of load distribution and in the process of dynamic emphasis and production of the bulge between the two processes. There was also an experiment with first year and second year Master's students of the Department of English Translation, who underwent a planning training over two semesters. The results obtained showed that cognitive functions improved in the following aspects: attention span grabbed by 12 %, attention in taking information improved by 20 %, retention of information increased to 25 %, and attention concentration improvement was by 30 %. Methods employed for teaching are not restricted to only anticipation exercises, chunking shadowing and cognitive load management.*

Conclusions. *Certain of such techniques not only enhanced the cognitive operation but managed to positively influence the accuracy, fluency and quality of interpreting skills among the students. Faced with this task, the author argues that planning makes the process of SI more purposeful and lessens the mental load that the interpreters encounter in solving problems practiced during SI. Moreover these conclusions draw the way for more studies addressing what actually are those planning strategies instructional to SI, how the planning aids might be used in the teaching practice and the planning effects over time in the course of interpreter's training. Considering*

the place of the work on improving practical and theoretical aspects of and teaching as well as the practice of interpreting, the work carries practical suggestions aimed at interpreter training in particular, such as the targeted provision of training in planning, as a means of increasing interpreters' cognitive capacity and their performance quality.

Keywords: *cognitive process, cognitive planning, simultaneous interpretating, anticipation, cognitive load.*

Background

Planning in simultaneous interpreting (SI) is considered a kind of cognitive organization in which the interpreter organizes the components of language output in connection with the language comprehension task. It involves the simultaneous tasks of comprehending the spoken process and producing the corresponding produced element in the foreign language within a single timeframe. The capacity to formulate and implement an effective strategy has garnered interest among academic scholars in cognitive linguistics and translation.

Planning as a Cognitive Skill in SI (Micro- and Macro-planning)

Planning involves various processes, including constructing future assumptions and establishing a linguistic framework, which entails drafting or articulating phrases.

In this approach, planning is one of the multiple tactics utilized by interpreters, particularly in production effort. D. Gile (2009) asserts that the Effort Model categorizes the stages of hearing, analysis, and production in simultaneous interpreting as significantly pertinent. Planning permits language interpreters to assimilate and process various disparate information segments in the source language into grammatically correct and well-structured phrases in the target language. Gille asserts, "Planning is a crucial element, akin to strategic battle, that enables the interpreter to compile fragments of information from the imposed language and organize them into a coherent grammatical structure in a second language" (p. 56).

It is also essential to recognize that a plan serves as a proactive strategy aimed at enhancing the quality of interpreting by minimizing errors and facilitating efficient delivery (Tymoshchuk, 2017). The author observed that planning encompasses not only individual words or phrases but also the idea of the entire desired target text, surpassing mere word or phrase preparation (p. 78).

The duality of macro- and micro-planning facilitates the interpreter's understanding, particularly at the cognitive level. Conceptualization involves structuring the essential components of a message, including primary points, thematic outlines, and material, to be articulated in the target language. This is due to the fact that, for example, in analyzing a politically charged speech, the representation of language cannot be based solely on individual clauses; the emotions and argumentative structure necessitate a logical rationale to effectively organize the intended target language text.

Micro-planning refers to the sentence-level translation planning that takes place during comprehension, resulting in the formulation of actual sentences.

O. Pavlenko (2020) asserts that micro-planning is essential in this context, as issues related to word order, grammar, or other concepts in interpreting can invariably be addressed by consulting an alternative language. O. Pavlenko notes that "this is a fraction of a second decision-making activity that necessitates a high level of language proficiency and a skilled intellect" (p. 88).

Planning functions as a crucial cognitive technique that influences the control of interpreters' cognitive load, a fundamental concept in cognitive load theory (Sweller, 1988). This idea, formulated by Sweller and colleagues, posits that the simultaneous engagement of many processors allows for the allocation of a component of the load, such as planning, hence facilitating an increase in activities during the creative phase. K. G. Seeber (2013) incorporates this idea into interpreting and contends that if interpreters engage in preparation, it will enhance their cognitive efficiency by mentally organizing the impending performance. K. G. Seeber emphasizes that translators proficient in planning will seldom experience total cognitive overload, since they engage as active output preparers rather than passive information responders. He asserts, "Planning enhances the interpretative process by reducing the volume of concurrent decision-making that would inherently occur as premeditation, thereby allowing corrections related to the initial output to be executed without disruptions and with cohesive results" (p. 73).

In such scenarios, it is particularly crucial how the planner executes the developed strategy, as circumstances may not remain conducive to mere prompting or discussion.

O. Chernov (2004) observes that in these instances, translators must decide how to convey the message in the target language prior to the entire delivery of the source language message. This is due to the foresight inherent in the source language that enables the interpreter to comprehend. Chernov notes that "preparation and anticipation are interconnected, as an interpreter's evaluation of spoken material encompasses not only what has been articulated but also what is likely to be articulated next" (p. 137).

I. Kovalenko (2019) asserts that a defining characteristic of an effective planner is extensive experience. She observes that proficient interpreters develop the ability to swiftly interpret input information globally and project output information, whereas less adept interpreters often fixate excessively on individual words or phrases. I. Kovalenko asserts that planning is a skill that can be developed through diligent effort and extensive experience; often, individuals can anticipate and prepare for segments of the conveyed ideologies verbally while simultaneously attending to the expressions of their subjects (p. 102).

Planning Strategies: Linguistic and Contextual Factors in Planning

Planning is not only a forethought and a brain process but also a function of language and context.

Interpreters have to consider the language's structure, especially when it comes to real-time interpreting, this can be quite difficult. For instance, regarding languages with different word orders such as English and Ukrainian, there is a strict limitation whereby the interpreters must change the tissues without distorting the intent. O. Pavlenko (2020) observes that "the "more" there are syntactic differences between the source language and the target language, the "more" becomes complicated planning, which is essential in order to be fluent and coherent" (p. 91).

Furthermore, knowledge about the context also influences how all the interpreters organize the output that is termed as the target language. As Riccardi (2002) observes, interpreters who possess knowledge about the subject tend to do better in planning their interpretating sessions since they understand the discourse and terminologies that will be used better. According to Riccardi, "Contextual knowledge helps the interpreter in anticipating certain

difficulties in the source text and enhances the structural organization of the target text during planning" (p. 147).

Planning is one of the key processes in the cognition of simultaneous interpreters that consummates their internal organization of the target language's structure. It comprises the two aspects which are macro- and micro- strategies arguing that, this reduces the cognitive burden experienced by interpreters during interpreting and improves coherence and accuracy of the interpretating.

Various researchers, including D. Gile, O. Chernov, L. Tymoshchuk and O. Pavlenko, point out the pre-emptive and constructive nature of planning with regards to its functions in dealing with challenges of real time language processing. The view of planning as a mental work has some important relevance in explaining how it is that interpreters can reach the levels of fluency and accuracy they do; hence it is an integral aspect of teaching and practicing interpreting skills.

Objectives. Owing to the fast and fluid nature of the process of SI, interpreters are forced to deliver high levels of cognitive functioning which explains the reason why planning is regarded as one of the fundamentals of successful interpreting performance. Planning is a higher mental process and it means predicting the next statement of the speaker and preparing the necessary verbal or nonverbal resources to centre on language and nonlanguage variables. However, within the past decade, there has been increasing interest towards examining the cognitive aspect of the process of simultaneous interpreting and its features.

V. Karaban and I. Korunets have made attempts at drawing attention to the fact that if an interpreter wants to produce a correct and adequate interpreting, it is necessary to plan it ahead. Much the same goes for foreign scholars D. Gile and B. Moser-Mercer who attempted to create of a model in which cognitive load management, planning and strategic choices are incorporated into their SI practice. All these studies support the fact that interpreters should engage effective planning processes in order to prevent cognitive stress that interferes with the precision, accuracy and fluency of any given interpreting.

This article also examines planning as a cognitive component which occurs during SI, and discusses how this affects a comprehender's approach to cognitive load and the degree of clarity.

The article will expand on the existing state of affairs in the discipline by fulfilling the explanation with an experiment with 1st and 2nd-year Master's students of the Department of English Translation. The aim of that study is to analyse how students applied planning technique during the simultaneous interpreting classes in two semesters, whereas the goals were to strengthen students' attention on these issues and concepts as adequate planning and anticipation as tools for enhancing the quality of performance and lowering mental overload.

We aimed to focus on the students' individual profiles and analyze the outcomes of the experiment and the effect of cognitive planning on the students' interpreting performance overall.

Among all aspects of the interpreter profession, simultaneous interpreting (SI) goes under the heaviest cognitive load where an interpreter listens to the message, understands and delivers it almost simultaneously. This insightful process involves a range of cognitive sub-processes, one of which is planning.

These capabilities enable interpreters to not only provide an appropriate speech but also to anticipate the content of the utterance based on information psychology and the context of the speakers' information usage, specifically on who can communicate what, how, when, and for what duration.

Publications that recognize planning as an essential part of the interpreter's cognitive activity during simultaneous interpreting have appeared both in Ukraine and elsewhere

V. Karaban has predominantly addressed tactics in translating and interpreting, whereas I. Korunets has focused on cognitive issues, including planning and processing during interpreting.

O. Chernov's research on 'anticipation techniques' in relation to discursive strategies elucidates how interpreters manage cognitive overload during interpreting processes by making predictions about forthcoming content.

I. Kovalenko (2019) addresses this issue, emphasizing planning as a crucial cognitive capacity for the proper execution of simultaneous interpreting. She states, "The interpreter's capacity for planning at both macro (overall message) and micro levels (individual sentences and components) contributes to enhanced precision and coherence in translation".

Both Ukrainian and international researchers have made significant strides in understanding the cognitive processes at work in SI. In his article "The Effort Model" D. Gile addresses the feasibility of simultaneous interpreting, focusing on the methods of planning and resource distribution for alleviating cognitive overload. According to Barbara Moser-Mercer, who has also been researching cognitive limits, translators use mental resources like planning to be accurate and fluent. Another notable contributor in the field of interpreting studies, Cecilia Wadensjö has written extensively about dialogue interpreting and the application of cognitive techniques in difficult communication contexts.

Also, D. Cao (Cao, 2007) and F. Pöchhacker (Pöchhacker, 2004) investigated cognitive strategies within various interpreting settings. They have added more evidence about the necessity of planning in the performance of the interpreter.

As a purpose of this article, the author wishes to examine how planning as a cognitive activity, which is performed during simultaneous interpreting, influences assimilating information and advancing quality. This article seeks to extend this through an experiment carried out with 1st and 2nd-year Master's students of English Translation. The students practiced planning and anticipation for two semesters with the hope of enhancing their interpreting competencies while reducing cognitive load during the practice.

The objective of this article is to fill some gaps in the literature on cognitive planning during simultaneous interpreting and discuss how different aspects of anticipation and planning may be useful in enhancing the effectiveness of interpreting in educational and professional settings.

Theoretical Methods and Approaches

The strategies and methods employed in cognitive modes undermine the linear nature of conventional interpreting training. Given the current state of development, it is essential to investigate the integrative functions of language, with more advanced languages being pivotal in this context, both in Ukraine and globally. Research in cognitive sciences involves the examination of individuality, transformation, and applicability.

Due of the significant time constraints inherent in the interpreting process, which encompasses listening, interpreting, reformulating,

and speaking, specialized interpreters train to perform all these tasks concurrently. V. Karaban and I. Korunets assert that interpreting is primarily a cognitive endeavor rather than a simple translational effort, necessitating the simultaneous navigation of numerous mental layers.

Accordning to Stephen McFarland D. time is a crucial element in the evolution of the discipline and the growing regionalization of the area of interpreting in its various dimensions. Simultaneous interpreters must actively attend to two linguistic inputs: the speaker's discourse in one language and their own interpreting in another language.

One of the effort models for simultaneous interpreting activities involves analyzing the usage of sub pauses in connection with second language phrase production. Stephen McFarland appears to display reduced excitement in supporting this last consideration. Neurophysiological and neurological studies have shown that working memory markedly improves interpreting performance, unlike most persons who depend on long-term memory for information processing.

His framework consists of three elements: the listening and analytical effort, the producing effort, and the memory effort (Gile, 1995). The distribution of cognitive resources between different tasks is essential for the quality of interpreting, as demonstrated by performance evaluations in any of these areas.

B. Moser-Mercer has also been intrigued by several facets of interpreting, especially the cognitive limitations imposed by the profession. She elucidates that the cause of this cognitive overload is the simultaneous over stimulation of the speaking and listening faculties. Moser-Mercer posits that an appropriate strategy for managing cognitive overload will prevent the frequent errors encountered in interpreting (Moser-Mercer, 2000).

O. Chernov's anticipating tactics in interpreting, established in Ukraine, provide a vital elucidation of how interpreters manage this cognitive strain. C. Chernov (1994) asserts that anticipation, or the capacity to predict the speaker's next statement, alleviates the cognitive burden on the interpreter by enabling prior organization of the segments requiring interpreting. He presents alternative cognitive theories that emphasize the necessity of foresight in simultaneous interpreting.

Similar to Gill, others have recognized Pöchhacker as a prominent scholar in interpreting studies, who has contributed to the

evolving perception of the interpreter as a more active participant, rather than merely a passive comprehender, exemplified by "the completion of an interpretative task" (Pöchhacker, 2004). In this regard, the interpreting of one language in the SI of another is more complex than it may appear.

Planning in Simultaneous Interpreting as a Skill Buidlung Method

It is difficult to argue that planning is one of the most essential in simultaneous interpreting, since it allows interpreters to manage the influx of information and anticipate the subsequent utterances of the source speaker. A cognitive control, in certain aspects, also encompasses the anticipatory growth shown in the active planning processes utilized by the interpreter. Anticipation, by its nature, operates by processing the task in its basic form, which reduces the cognitive burdens on the performer.

However, planning encompasses more than just expectation. It encompasses the coordination of cognitive processes related to linguistic selection, the regulation of short-term memory during interpreting, and the precision of the interpreting itself. The Attention and Effort Model posits that the effective allocation of cognitive resources is improved when interpreters participate in advanced planning. Gile notes that cognitive resources are most effectively utilized when Planning is implemented, since it reduces cognitive overload, particularly during rapid speech and intricate words.

B. Moser-Mercer emphasizes that planning tools facilitate the redistribution of cognitive load associated with the demands of speech comprehension and production.

Planning is essential as interpreters structure their output to ensure it is linguistically coherent and contextually pertinent, despite the cognitive challenges inherent in simultaneous interpreting. She asserts that, "It is thus essential for interpreters to refrain from exceeding their processing capacity by analyzing the information to be translated out of obligation while simultaneously deciding how to deliver the output" (Moser-Mercer, 2000). The audience maintains its stance: 'When we are stationary in the room... there exists a framework, and it is not intended to be conceived solely by the intellect of the individual in charge'. – 'Only the head's intellect will function within this – there is a framework, and it is not meant to be envisioned solely by the head present in the room'.

F. Pochacker recognizes the significance of planning in SI. He asserts that the interpreters are engaged in ongoing micro-planning, requiring numerous intricate details for immediate implementation, particularly about the optimal transmission of the speaker's thoughts. He asserts, however, that this form of supplementary planning during interpreting is crucial for enabling interpreters to operate with a high degree of precision and detail, even under stringent time constraints (Pöchhacker, 2004).

V. Karaban has contributed to interpreting research related to planning. Combinatory techniques aid interpreters and facilitate the planning of applications for complicated physical objects in both the intricate chores of interpreting and beyond (Karaban, 2010). His findings contribute to the ongoing discourse among international scholars by illustrating the interplay between language and planning in the formation of cognitive loads.

These researchers assert that planning is not only a method for alleviating cognitive burden but also a fundamental strategy that can improve interpreters' performance in simultaneous interpreting. This project, part of a Master's program in the Department of English Translation, primarily examines planning as a cognitive process and its impact on targeted communicators.

The effectiveness and quality of the simultaneous interpreting (SI) system necessitate extensive preparation, as it impacts the interpreters' ability to manage the complexities inherent in their role. In this profession, interpreters must manage a continuous flow of conversation, necessitating meticulous planning that includes prediction, appropriate cognitive load concentration, and high-quality interpreting. Planning is crucial since it not only improves the clarity and accuracy of the translated material but also influences cognitive functions such as attention, memory, and decision-making.

Planning Impact on SI Outcomes and Quality. Practical Aspect

The parameters influencing the quality of simultaneous interpreting, specifically regarding efficiency and effectiveness, are identified in relation to the correctness, fluency, and coherence of the target language. Interpreters typically structure their target messages in the source language by categorizing the processed information into requisite pieces.

The rationale behind interpreters' planning is termed cognitive considerations, a component of Daniel Gile's Effort Model theory (Gile, 1995). It is prudent to assert that when pre-planning is conducted, interpreters recognize the necessity of exercising meticulous consideration throughout segments of the speech that may be intricate or ambiguous, hence enhancing target language writing proficiency.

Strategic planning is crucial when understanding or translating complex source documents. V. Karaban, firmly asserts that planning is essential, particularly for maintaining and protecting the integrity of the target audience's language. He asserts that interpreters who engage in planning before the actual interpreting believe that the message's substance will be conveyed precisely in appropriate language, with structure being of secondary importance (Karaban, 2010).

Planning Impact on Additional Cognitive Functions

Attention Management: The organization of simultaneous interpreting enhances an interpreter's ability to focus on a specific assignment.

Gile's model asserts that attention is a finite resource, which, for instance, becomes diminished as a listener focuses on the source language input, then analyzes the input, and ultimately produces the target language output. Due to preparation, interpreters can better allocate their attention and retain focus on significant aspects of the discourse, enabling them to predict subsequent statements (Gile, 1995). O. Chernov's research on anticipatory techniques corroborates this claim, indicating that advance planning can reduce cognitive burden, hence allowing interpreters to focus more on the overarching message rather than the exact wording (Chernov, 1994). Utilization of working memory: In simultaneous interpreting, working memory is essential as the interpreter must remember and process information for feedback in a different language. Grounding assists in alleviating the demands on working memory as a habitual activity by regulating the utilization of this cognitive resource. When interpreters anticipate the speaker's forthcoming statements, they assess the volume of information to retain, hence reducing the likelihood of excessive memorization. B. Moser-Mercer has observed that when interpreters engage in adequate planning, a significant percentage of their memory capacity is liberated, enabling them to undertake more precise tasks, such

as rearticulating concepts in the target language (Moser-Mercer, 2000). The Ukrainian researcher I. Korunets asserts that effective planning enhances the ability of short-term memory.

He asserts that individuals engaged in the planning of the interpretative process are superior chunkers, as they can maintain a comprehensive understanding throughout a prolonged discourse without overwhelming their working memory (Korynets, 2014).

Planning significantly influences executive function activities, including decision-making. Targeted modifications are necessary as interpreters continually make decisions on meaning transfer, selection of target language counterparts, ambiguities, and the management of missing information. F. Pöchhacker asserts that planning improves interpreters' decision-making by allowing them to anticipate obstacles and formulate strategies to address them (Pöchhacker, 2004). Stressors associated with decision-making during performance are alleviated, consequently enhancing the quality and efficiency of interpretative decisions. Reduction of Cognitive burden: A prominent advantage of planning in SI is the alleviation of cognitive burden. According to Newsome (2005), simultaneous interpreting (SI) is quite demanding, as it necessitates interpreters to manage multiple cognitive processes simultaneously, which can become overwhelming if not adequately addressed. Interpreters employ planning as a strategy to optimize their limited cognitive resources. Providing advance indications diminishes cognitive load, allowing interpreters to avoid engaging in mental processes "on" the translated information, which consequently enhances the quality of the final output (Gile, 1995).

O. Chernov's work on anticipation is uniquely significant as it broadens the scope of planning to include interpreting and specifically tackles the problem of information overload. New information necessitates "effortful processing", but anticipation enables interpreters to "alleviate some of the burden" and include less new material requiring processing, hence conserving cognitive resources for more complex tasks (Chernov, 1994).

Practical part. This investigation aimed to enhance the comprehension of the impact of planning training on both individual and collective performance in simultaneous interpreting (SI).

The target audience for the experiment consisted of first and second-year Master's students in the Department of English Translation.

The participants had previous interpreting experience, but the research aimed to assess if training in planning and anticipation abilities may provide them with a competitive edge in their methods during simultaneous interpreting.

Methods

The target group consisted of 30 students aged 22–25 who completed basic interpreting courses and who are aware of the difficulties involved in sequential interpreting. The students were then separated into two groups: the control group who were still acquiring standard instruction on SI while the experimental group took a more intensive twosemester course focusing on planning and anticipation. In this case the training aimed at teaching students the practical skills to help them predict the purpose of the speaker, allocate and coordinate available mental resources effectively, as well as organize the cognitive aspects of a task.

Effects of Planning Training on Cognitive Processes

The subjects in the experiment were assessed for four cognitive processes: attention, decision-making, memory, and concentration. In comparison to the baseline scores, the experimental group that underwent planning training for two semesters excelled in all cognitive process metrics.

Attention is the ability to concentrate and simultaneously allocate focus between comprehending the source language and producing the target language. This is crucial in SI operations. The experimental group showed a 12 percent improvement in attention performance after the training session that took place.

This was established using live SI sessions employing cognitive assessments, as students had to comprehend quick remarks. As an example, before a student would have had great difficulties most especially concentrating and was missing some very important details, then it is expected from such a learner to grasp the components which he/she had previously ignored.

The experimental group showed a 12 % improvement in attention performance after the training session that took place.

Decision-Making

The process of decision making in regard to interpreting was considerably improved especially in the production of language in real time. The students made their decision 20 percent quicker and more accurately. This was illustrated more clearly in difficult areas where the interpreters had to choose one from many potential target language equivalents. Upon completion of training, the experimental group efficiently identified pertinent equivalents during interpreting, thereby reducing cognitive processing time and enhancing the fluency of subsequent output. Students comprehended ambiguous statements in the SL and effectively assisted in their translation, employing suitable terminology and context while remaining within the passage's framework.

Recollection

The experimental group had a 25 % enhancement in working memory, which pertains to the storing and processing of incoming information, particularly novel data. This was accomplished by assessing the degree to which students could retrieve information from lengthy phrases and intricate concepts prior to their translation into the target language. As a result of the planning instruction, students were able to retain more SL material for extended durations, leading to more precise and comprehensive translations.

In an experiment where students were tasked with interpreting a lengthy and intricate political speech, those who received planning instruction recalled and understood 25 % more information compared to their performance before to the training.

Results

Focus and Attention. Concentration levels, a facet of attention, rose by 30 %.

The students exhibited greater attention and the ability to avoid distractions even in tough situations which had noise and complex problems. For example, while sitting through a Supplemental Instruction session where there was additional noise from the surroundings, students skilled in planning for high concentration and precision were able to do so, their earlier attempts on the same conditions had failed before the training.

The students were subjected to time constraints while interpreting live speeches on politics, technology, and economics. Students experienced cognitive overload resulting from poor planning prior to the commencement of the planning course, resulting in several missed cuts, instances of freezes, and mistakes in interpretings. Nonetheless, following a two-semester intensive training session, these same students attained the subsequent statistical objectives.

Some technical speech interpreting students encountered difficulties with artificial intelligence; however, the students in the experimental group demonstrated sufficient acumen to initiate several complex phrases, indicating they did not struggle with interpreting. As the political debate session turned more action-oriented than verbal, the students noted that several of the synonyms were quite loaded, prompting a need to work around which words best capture the meaning of what the speaker is trying to say.

They produced better and more precise results than the control group. Such improvements concern the areas of attention, decision making, memory, focus, and stress: otherwise known as planning as order within the system of SI.

The planning training techniques used in the course of the experiment aimed at the improvement of attention, memory, decision

making, and concentration, in view of the structure of these mental functions. It has been rather common to foster students' ability to foresee events, so that they will be more effective in dealing with cognitive overload and even more vivid in their imaginations. The essence of the term-training methods is specified in the next few paragraphs.

Anticipatory and Predictive Exercises

Students were instructed to predict the subsequent line or phrase while listening to speeches or reading texts including numerous pauses. Such activities were helpful in fostering the ability to anticipate and centre on the patterns, phrases, and structure of the discourse. For example, in predicting the political speech contexts, students learned to imagine the essential phrases or arguments which often appear, thus helping them focus on the best ways to present such information quickly.

Chunking and Information Aggregation

The learners were asked to analyze phrase structures, rearranging them in terms of parts or units that make syntax. This approach is useful because the information is presented in a logical order which is easy to remember.

Using many example such as, and especially the extremely long and complex sentences borne out of class instruction, the children were taught to think in themes and break down the content rather than word for word as action was told. Such a chunking strategy is useful as it enhances the understanding of the target language and the ability to produce the language.

Shadowing with Proactive Strategy

Shadowing necessitates that students replicate auditory input in the same language; nevertheless, this instance includes shadowing with integrated active planning. They had to concentrate on certain aspects in the first place, taking around two seconds to restate the remark as they were planning their TL. By doing this, they could engage in working memory, hold information which they would need later to design the language they would want to speak. This kind of technique gives an interpreter the ability to concentrate on more things at the same time and to quickly switch from one language to another.

Exercises with Incremental complexity

Students participated in live simultaneous session interpreting drills, during which graders imposed progressively increasing demands for

moderation. Initially, the speaker delivered slow, simplistic talks, gradually advancing to more complicated, rapid-paced materials.

Sessions for Managing Cognitive Load

Students participated in tasks involving delayed time span, which encouraged overexertion. For instance, throughout these exercises, they analyzed rapid and logically dense speeches. Subsequently, they were directed to discern significant features from the information provided, strategize accordingly, and disregard trivial elements. This strategy improved their capacity to regulate mental exertion, so mitigating mental weariness, which ultimately resulted in a reduction of errors and omissions in interpreting.

Lexical Anticipation Exercises

Students were re-annotated and instructed to interpret designated talks on technology, law, or medicine. Prior to the interpreting, contextualized and common lexical elements and terminology from these disciplines were introduced. The translation tools contained technical terminology, and students anticipated these words or phrases during interpreting. This technique enabled them to pursue answers to domain-specific issues as they emerge.

Tasks for Memory Retention and Recall

Furthermore, students were instructed to listen to extended and more complex words or sequences of ideas that lacked logical pauses and did not involve interpreting, as was prevalent at this point. Subsequently, they were mandated to replicate the presented content and convert it into a designated language. This strategy facilitated their information retention and enabled them to manage extensive content, as their memory was anticipated to handle substantial data in SI.

Attention and Distraction Management

Students participated in an interpreting exercise among noisy or distracting background noise to simulate real-world interpreting conditions.

They acquired the ability to disregard distractions and focus on the speaker, employing planning skills to organize their comprehension beforehand. Thus, it has improved their capacity to concentrate over a longer period which is important for ideal and accurate interpretation.

Post-Interpretating Evaluation and Analysis

They did this at the end of every session, giving the students feedback which highlighted achievement, zeroing in on the task that

focuses on the planning part: how effective it actually was. They also watched videos of their interpreting to look for instances of what they called "think", what they called "overload" and what was more effective, the "look ahead". This crucial self-evaluation helped the learners change their planning style and with it improve the performance of their mental processes over time.

Discussion and conclusions

The article assesses the relevance of the planning phase in the cognitive aspects of simultaneous interpreting and evaluates its potential in influencing the interpretation outcome and quality. This study provides both theoretical and empirical evidence on the importance of planning in managing attention resource which in turn facilitates problem solving, memory enhancement and decision-making, and concentration within the context of SI.

This research is grounded in a constructive theoretical framework derived from the contributions of both Ukrainian and international experts. These include studies conducted by Ukrainian researchers V. Karaban, I. Korunets, and O. Chernov, as well as international experts D. Gile, B. Moser-Mercer, and F. Pöchhacker. Numerous researchers have also examined planning in SI. The researchers demonstrated that planning not only facilitated mental preparation for upcoming parts but also enabled interpreters to allocate their attention more efficiently, hence enhancing interpreting accuracy, fluency, and coherence.

The experimental component of this investigation corroborated these theoretical ideas. The experiment, conducted on first and second-year Master's students in the Department of English Translation, demonstrated that students who received planning training experienced notable cognitive advancement. Attention raised by 12 %; decision-making speed accelerated by 20 %; memory retention enhanced by 25 %; and attention and concentration improved by an additional 30 %. The quantitative data demonstrate that the cognitive component of planning training can fulfill the necessary requirements for good SI execution. Irrespective of the possibility of various active strategies in enhancing attentional mechanisms.

Future Research Perspectives

This study presents various limitations and offers multiple recommendations for future SI sessions. The initial focus of the

recommendation is the investigation of the long-term impacts of the strategy on professional interpreters.

It is essential to examine the parameters within which interpreters facilitate the capacity to evaluate and instigate changes in technology users as they cultivate certain skills.

Furthermore, studies concentrating on the application of planning across diverse languages and contexts would provide a promising direction for future research. For instance, one can seek to determine whether the identical planning procedure is utilized for languages that differ in grammar, structure, or culture.

Additional areas need to encompass the application of technology in instructional planning. Given the advancements in AI and machine interpreting technologies, it is prudent to investigate how these tools can enhance interpreters' planning and workload management. It is necessary to examine if planning in SI can be affected by the implementation of effective technology, such as real-time voice recognition or predictive analytics.

The future study may examine how planning affects several non-linguistic variables inherent in the interpretative process, including emotions, arousal, stress, and performance under duress. Understanding how interpreters structure emotional and cognitive aspects during the planning of simultaneous interpreting should facilitate the enhancement of both dimensions.

This study confirms that planning is a crucial element of the cognitive processes in simultaneous interpreting that influences the efficacy, accuracy, fluency, and overall quality of an interpreting.

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Отримано редакцією журналу / Received: 10.10.24
Прорецензовано / Revised: 03.11.24
Схвалено до друку / Accepted: 12.12.24

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ПЛАНУВАННЯ ЯК КОГНІТИВНИЙ ПРОЦЕС У СИНХРОННОМУ ПЕРЕКЛАДІ: ПРАКТИЧНЕ ДОСЛІДЖЕННЯ

Вступ. *У статті досліджується функція планування як розумової діяльності в контексті синхронного перекладу (СП), а також його вплив на основні компоненти СП – увагу, прийняття рішень, пам'ять і концентрацію. Спираючись на роботи українських вчених, таких як В. Карабан, І. Корунець та О. Чернов, а також доробки зарубіжних вчених, зокрема Д. Джайла, Б. Мозер-Мерсер, Ф. Поххакера, дослідження демонструє важливість планування з погляду роботи з когнітивним навантаженням у синхронному перекладі.*

Результати. *У теоретичній частині досліджено, яким чином планування допомагає перекладачеві розуміти наміри мовця, розподіляти когнітивне навантаження, а також динамічне двостороннє слухання та продукування, що знаходиться між цими трьома процесами. Також було проведено експеримент зі студентами 1-го та 2-го курсів магістратури кафедри теорії і практики перекладу з англійської мови, які брали участь у тренінгу з синхронного перекладу, що тривав протягом двох семестрів. Отримані результати показали, що когнітивні функції покращилися так: здатність до уваги зросла на 12 %, швидкість сприйняття – на 20 %, утримання інформації – на 25 %, концентрація уваги – на 30 %. Підходи, що використовувалися для тренувань, включали, але не обмежувалися вправами на антиципацію, дробленням на частини, тіньовою роботою та управлінням когнітивним навантаженням.*

Висновки. *Деякі з таких методів не лише покращили когнітивну ефективність, але й сприяли підвищенню точності, плавності та загальної якості усного перекладу студентів. Автор стверджує, що планування є важливим у СП як розумове завдання, яке підвищує ефективність усного перекладача у вирішенні проблем, що виникають у кабінці, і зменшує потенціал для розумового перевантаження. Ці висновки спонукають до подальших досліджень того, які стратегії планування сприяють покращенню якості усного перекладу, які засоби планування можуть бути включені в навчальну програму, а також щодо впливу планування з плином часу на підготовку усного перекладача. З погляду практики та теорії усного перекладу, робота*

містить практичні рекомендації, що стосуються навчання усних перекладачів, особливо щодо забезпечення цілеспрямованого навчання плануванню з метою підвищення когнітивних ресурсів усних перекладачів та покращення їхньої перекладацької продуктивності.

Ключові слова: *когнітивний процес, когнітивне планування, синхронний переклад, антиципація, когнітивне навантаження.*

Автор заявляє про ненаявність конфлікту інтересів. Спонсори не брали участі в розробленні дослідження; у зборі, аналізі чи інтерпретації даних; у написанні рукопису; в рішенні про публікацію результатів.

The author declares no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.