

# Expertise Impact on English into Arabic Simultaneous Interpreting: A Cognitive Approach

Mohammed Jasim Mohammed

Department of Translation/ College of Arts, University of Mosul

[mjasim.1977@uomosul.edu.iq](mailto:mjasim.1977@uomosul.edu.iq)

Submission date: 30 / 10/2023

Acceptance date: 28 / 11 /2023

Publication date: 26 / 12/2023

## Abstract

Simultaneous interpreting is considered one of the demanding tasks that requires comprehending the source message, retaining it in the working memory, translating and producing it in the target language. All these mental processes occur at the same time which pose cognitive load on interpreters. In simultaneous interpreting, expertise is resulted from the appropriate use of strategies in the main mental processes: comprehension, translation, and production. Furthermore, the interplay between these processes, tailored to meet the requirements of a simultaneous interpreting task. The interpreters' capacity to effectively manage cognitive resources, especially how they allocate their attention, enables the coordination of comprehension, transformation, and production processes. To investigate the effect of expertise on the interpreters' performance when rendering simultaneously from English into Arabic, 10 student interpreters and 2 professionals participate in SI task from English into Arabic. The analysis in this study is based on Gile's Efforts Model which suggests that interpreting process includes four efforts; listening and analysis, memory, production, and coordination. It also uses a retrospection protocol (questionnaire) to verbalise data from the subjects regarding their interpretations. The study hypothesizes that, due to expertise gained from continuous training, high skills, and long experience, experts perform more appropriately in the main interpreting processes comprehension, translation and production than students.

**Keywords:** simultaneous interpreting, expertise, experts, students, cognitive processes

## أثر الخبرة في الترجمة الفورية من الإنكليزية إلى العربية: مقارنة معرفية

محمد جاسم محمد

قسم الترجمة/ كلية الآداب/ جامعة الموصل

## المستخلص

تعد الترجمة الفورية أحد المهام الصعبة التي تتطلب فهم الرسالة بلغة المصدر، والاحتفاظ بها في الذاكرة المؤقتة، وترجمتها وتقديمها في لغة الهدف. تحدث هذه العمليات المعرفية جميعها في نفس الوقت، مما يفرض أعباءً إدراكية على المترجمين الفوريين. في الترجمة الفورية، تنشأ الخبرة من استخدام مناسب لاستراتيجيات في العمليات المعرفية الرئيسية؛ الاستيعاب، والترجمة، والإنتاج. وزيادة على ذلك، تتداخل هذه العمليات بشكل متوازن لتلبية متطلبات مهمة الترجمة الفورية. قدرة المترجمين على إدارة الموارد المعرفية بفعالية، وخصوصاً في كيفية توجيه انتباههم، تمكن التنسيق بين عمليات الاستيعاب، والترجمة، والإنتاج. لدراسة تأثير الخبرة على أداء المترجمين أثناء الترجمة الفورية من الإنكليزية إلى العربية، شارك ١٠ مترجمين طلاب و ٢ محترفين في مهمة الترجمة الفورية من الإنكليزية إلى العربية. يعتمد التحليل في هذه الدراسة على نموذج جايل للجهد الذي يشير إلى أن عملية الترجمة تتضمن أربعة جهود؛ الاستماع والتحليل، والذاكرة، والإنتاج، والتنسيق. بالإضافة إلى استخدام الاستبيان للاستقاء المعلومات من المشاركين الخاصة بترجماتهم. تفترض الدراسة أن المترجمين المحترفين يقدمون أداءً أكثر ملاءمة في العمليات الرئيسية للترجمة؛ الفهم، والترجمة، والإنتاج من الطلاب بسبب الخبرة التي نتجت عن التدريب المستمر والمهارات العالية.

**الكلمات الدالة:** الترجمة الفورية، خبرة، محترفين، طلاب، العمليات المعرفية

## Introduction

From the cognitive point of view, expertise refers to the wide knowledge about a particular domain, skillful execution techniques and reliable decision making [1:P.691]. Expertise can be defined as “the outstanding work of an expert, exhibited at consistently high levels in different contexts within the same field”[2:P.152]. Measuring expertise can be done in an abstract way by studying the performance of outstanding individuals in different domains. It helps pinpoint overarching cognitive abilities that form the foundation of their exceptional performance. These abilities encompass the excellence in analytical thinking, the capacity to generate optimal solutions, the skill in identifying and acknowledging crucial aspects and the deep structure of situations, the consistent self-assessment of performance, effective task execution strategies, and cognitive efficiency[3:P.23]

In interpreting studies, expertise includes both the cognitive processes applied in the process of interpreting and the output (product) of interpreting which can be achieved through unlimited time of learning and practice. The way expert interpreters tackle a demanding task like simultaneous interpreting reflect significant aspects of expertise [4: P.66]. In terms of competence, expertise represents part of it as not all interpreters, who have competence, are experts, but it is reasonable to presume that any expert interpreter is a competent [5:P.134]. This means that those experienced interpreters studied during the early interpreting era did not have to own definite expertise. Most of interpreting research has been done on relative expertise when comparing between novice and experienced interpreters as various aspects of interpreter's performance and output such as comprehension, disfluencies, quality, Ear voice span, accuracy, have been investigated to identify the differences between the two groups of interpreters [2:P.159].

Interpreting is considered a skill in the interpreter's performance, and its acquisition has held a pivotal role in interpreter education. Comparing novices to experts offers valuable insights into the skills and proficiency levels necessary to become a skilled expert. A more detailed examination of various levels of performers who are still at the novice stage on their journey toward expertise can provide even more valuable insights into the progression of skill development. This has the potential to make a substantial impact on the pedagogy of interpreting, enhancing our understanding of the stages that experts undergo to achieve highly professional performance [6:P.480]. The contrast between experts and novices can also offer valuable insights into cognitive flexibility, the plasticity of the brain, overall capabilities, and can foster collaborative research connections with the field of performance psychology. This field is dedicated to theoretically explaining human performance, integrating established models from cognitive psychology, and examining how stress and individual differences impact performance [7:P.25]. Additionally, a critical component of interpreter training success and efficiency is the comparison of expert interpreters' performance during interpretation tasks with that of novices, along with an understanding of how expertise evolves over time[3:P.23]. The act of interpretation inherently comprises three distinct cognitive processes and skills: comprehension, translation, and production. Drawing upon Liu's [8:

P.131-176] research, this study delves into each of these processes and skills, offering empirical evidence from the existing literature to elucidate the precise roles they play in the practice of expert interpreting.

### Comprehension process

Language comprehension stands as a highly explored and rich area of study across various disciplines, including psychology, linguistics, and psycholinguistics. In their experiment,[9:P.135] differentiate between expert interpreters, novice interpreters, bilingual speakers with completing tasks related to text comprehension and lexical decisions. The results of this study indicate that among all the groups, expert interpreters demonstrated the highest speed and efficiency in comprehension and other interpreting tasks, especially when dealing with more intricate stimulus relationships. Similarly, [10: P.85]explored the disparities in the comprehension process between experts and bilingual non-interpreters, as demonstrated by their accuracy in interpreting and recall. The outcomes of this investigation disclosed that there were no significant distinctions in the performance of these two groups, particularly concerning syntactic processing. Nevertheless, within the same study, it was observed that expert interpreters outperformed non-interpreters in terms of more efficient proposition generation. To be more precise, expert interpreters appeared to have acquired “to be more selective in the surface information they will process semantically, as a function of the conceptual frame structure that is to be built with it”[10:P.86]. Although there is no qualitatively different skills particularly in simultaneous interpreting between experts and novices based on Dillinger’s study, Liu[8:P.162] argues that indeed there is a qualitative difference due to their increased selectivity in processing information and heightened sensitivity to the conceptual frame structure of the source speech.

[11:P.135] conducted a comparative analysis of the cognitive demands involved in interpreting as opposed to other speech production tasks. Her findings demonstrated that the cognitive burden is notably higher during interpreting when contrasted with other speech production tasks. Furthermore, individuals with substantial experience in interpreting exhibited a superior ability to effectively manage this cognitive load compared to their inexperienced counterparts. Various studies have taken different investigative approaches to gain insights into how experts exhibit selectivity during simultaneous interpretation tasks. In this context,[12:P.280] observed that experts were inclined to omit superfluous and redundant elements, whereas novices and other bilingual groups often left out crucial information, thereby adversely affecting the quality of simultaneous interpretation. Similarly, in Liu et al.'s study[7:P.30], the differences between expert and novice interpreters in selecting more or less important information during challenging interpreting scenarios were examined. The results revealed that expert interpreters possessed a greater capacity to discern the more essential meaning units from the less critical ones.

## Translation process

One of the interpretations of translation process in the context of simultaneous interpreting is the investigation of how interpreters manage to segment the source message in order to cope with the intensive flow of source speech [13:P.165]. It seems that interpreters' decisions when they resort to segment the source message is not based on understanding the source speech as expert interpreters have been observed to either divide the source speech into segmented chunks or merge two or more original chunks together[11:P.133].The process of translation significantly influences how expert interpreters break down the original speech, as it involves the identification of an equivalent expression in the target language. This establishment of an equivalence relationship between the source and target languages introduces a dynamic element into simultaneous interpreting [14:P.114]. The variations in the choices of segmentation may, in part, be attributed to the differing time delays observed in simultaneous interpreting across various language combinations [15:P.45]. Therefore, it appears that a crucial aspect of expertise in simultaneous interpreting lies in the interpreter's ability to discern patterns in the equivalence relationship between the two languages involved in the interpretation process [8:P.150]. It seems that the interpreter's processing capacity determines the maximum segment size in the simultaneous interpreting task, as opposed to the minimum segment size dictated by the equivalence relationship. The process of translation in simultaneous interpreting requires effort as the pronunciation process of words while translation takes about 50 percent more time than merely repeating the words[14:P.115]. In his study, [16:P.60] found that student interpreters who were allowed to use the English terms in the source speech performed better than those who were required to produce an all-Cantonese output in simultaneous interpreting. Mixing the English and Cantonese in the interpreting output and skipping part of the translation process reduced the processing capacity requirements during simultaneous interpreting.

Different studies show that interpreters develop particular strategies in order to cope with the extra task of translation during the process of simultaneous interpreting [12;17;18; 8]. In this context, [17:P.235] found that expert interpreters tend to process larger chunks of the source speech as compared to novices' small chunks which may explain why expert interpreters often do not resort to literal translation as the novices do[12]. This is due to experts' ability to follow a semantic-based processing and it could be resulted from the segmentation process of the source speech that experts follow when render into the target language [8].

## Production process

Production process in simultaneous interpreting refers to “the set of operations extending from the mental representation of the message to be delivered to speech planning and the performance of the speech plan, including self-monitoring and self-correction when necessary”[19:P.163]. The literature shows that there is few studies explore the difference between expert and novice interpreters regarding the production of

their interpretations. In experimental studies, the interpretations of experts were considered accurate, meaningful, coherent, and exhibited a smoother and more natural delivery interpretations than novices interpreters in simultaneous interpreting task [20; 21]. In the same line, Sunnari [18:P.111] discovers that novice interpreters tend to choose and connect speech segments arbitrarily, resulting in an incoherent interpretations. Similarly, Kirchhoff [14:P.115] describes the interpretations of novices as fluctuated in speed and disruptions with pauses whereas, experts tend to make deliberate efforts to keep a consistent and steady pace. In her study, Chernov [22:P.280] compares the number of syllables in the English source language output and the Russian language output during a simultaneous interpreting task. This researcher found that expert interpreters produced outputs with fewer syllables compared to novice interpreters. According to Chernov, expert interpreters develop strategies such as compressing the lexical or syntactic elements when the speech delivery rate is higher than interpreters' speaking rate or when the interpretation is longer than the source message. In the same line Sunnari[18:P.112] observes that expert interpreters resort to skipping the unnecessary or redundant words and using shorter words or shorter sentences in their interpretations.

## Research Design

The methodology applied in this study includes:

### Data Collection

To study the impact of expertise on interpreters' performance in the context of simultaneous interpreting from English into Arabic, an experimental study involved the participation of 10 student interpreters and 3 expert interpreters. The subjects began by completing a pre-task questionnaire, which inquired about general information such as age, language proficiency, and training background. Subsequently, they undertook a simultaneous interpreting (SI) task from English to Arabic, after which they filled out a post-task questionnaire that focused on their interpretations of challenging elements encompassing lexical, syntactic, and cultural aspects.

Regarding the student interpreters, their native language is Arabic, and their second language is English. Among them, three students have French as their third language. These students are in their fourth year of the academic program at the Department of Translation, College of Languages, University of Princess Nora bintu Abdulrahman, KSA. Their ages range between 21 and 26, with only three of them having received training in interpreting, including consecutive and sight interpreting. On the other hand, the expert interpreters were members of the department's staff, each possessing 10 to 15 years of experience in conference interpreting. Their native language is Arabic, while English is their foreign language. Additionally, two of the experts are proficient in Spanish as their third language. Notably, these experts have participated in and supervised training courses in both simultaneous interpreting (SI) and consecutive interpreting (CI), both within and outside of the Kingdom of Saudi Arabia.



The source material for the interpreting task was derived from a speech delivered by former U.S. President Donald Trump at the CPAC 2021 <https://www.c-span.org/video/?509084-1/president-trump-addresses-cpac>. The extract contained approximately 1000 words, encompassing diverse rich points, including semantic, syntactic, and cultural elements that could pose challenges for interpreters. The average duration of the extract was around 3 minutes, and the source speech was delivered at an average rate of 100-110 words per minute, which falls within the range considered as a standard pace based on Schlesinger [23:P.41].

### Model Adopted

In the light of Gile's [19:P.160] Effort Model which describes interpreting process in terms of four Efforts: comprehension, memory (processing), production, and coordination (attention), this study investigates the impact of expertise on interpreters' performance during each of these cognitive processes. The comprehension or listening and analysis involves various operations, starting with the interpreter's subconscious analysis of the sound waves conveying the source-language speech that they hear. This process continues through word recognition and culminates in the interpreter's final determination of the 'meaning' of the spoken words [19:P.160]. This author divides the memory system into working memory where the information is kept for a short time to be processed later and long term memory where the information retained for longer time [19:P.162]. In the context of simultaneous interpretation, Gile [19:P.163] describes production effort as the series of actions that start with cognitively grasping the message to be conveyed, then progressing through speech preparation and the execution of the speech plan. It encompasses self-monitoring and, when needed, self-correction. Within the Effort Models framework, problem triggers are viewed as factors linked to increased processing capacity demands. These demands could surpass the available capacity or result in challenges in managing attention. Additionally, problem triggers may be related to a susceptibility to momentary lapses of attention during speech segments with specific features [19: P.171].

### The Experiment

The study investigates the impact of expertise on the interpreters' performance during English into Arabic simultaneous interpreting task, particularly in the main cognitive processes: comprehension, translation, and production. The participants were informed before the day of experiment and got general ideas about the source speech but they have not been accessed it. The students' experiment was conducted at the Lab of the Department of Translation, College of Languages, University of Princess Norah Bintu Abdurrahman, during the summer training courses in July 2022. As for the professionals, they conducted the experiment in September 2022. The participants in this study performed an English-Arabic SI task, immediately after the task they used a retrospective protocol through answering a post task questionnaire regarding the interpretation of the rich points which referred to semantic, syntactic, and cultural elements and how they coped with the difficulties of interpreting these elements. All the materials were delivered

by email as the audio recordings were transcribed and analysed according to the methodology applied for this study.

### Data Analysis

This study is based on the analysis of the subjects' interpretations (product) and the analysis of their post task reports which are concerned with the way of interpreting the rich points. The study used retrospective protocol (questionnaires) as an instrument to collect data from the subjects regarding their interpretations as well as the subjects' interpreting recordings. The analysis of this study used qualitative method through applying Gile's [19:P.160] Efforts Model to study the impact of expertise on interpreters' performance when experts and students interpret simultaneously from English into Arabic particularly during the main cognitive processes: comprehension, translation (processing), and production. Moreover, the strategic behavior of the subjects will be identified to be applied in teaching simultaneous interpreting.

### Findings

The results of this study reveal that expertise has a significant impact on the quality of interpretation particularly during the main cognitive processes of simultaneous interpreting. The examples provided in the analysis are the main interpretations of the subjects of each group.

### Comprehension process

This study shows that expert interpreters are able to comprehend and deal with complex and highly detailed interactions and connections between various stimuli which require a deep level of analysis and understanding. In other words, the analysis reflects that expert interpreters, due to substantial experience and expertise in the field, excel in comprehending and effectively managing these intricate or complicated relationships between the stimuli they encounter in their interpretation tasks [9]. In the following example 1,

*"It took them the new administration only a few weeks to turn this unprecedented accomplishment into a self- inflicted humanitarian and national security disaster"*

Experts:

استغرق الامر بضعة اسابيع لقيام ادارة بايدن بتحويل هذا الانجاز غير المسبق الى كارثة ذاتية تمس

الامن القومي والانسانية

Student interpreters, in contrast, struggled with these complexities due to their limited experience who may require more training and exposure to become proficient in handling intricate stimulus relationships [12;21]. In this context the majority of the students failed to provide adequate rendering as they resorted to omitting part of the example 1 above and left the sentence incomplete which affected negatively on their performance. They reportedly related that to comprehension challenges that affected their interpretations. See an example of students' rendering for example 1:

اخذت الادارة الجديدة اسابيع ل الانجاز الى الى .....الكارثة الامنية

*"the new administration took weeks to....the security disaster"* (back translation)

This study reveals that experts were able to recognize complex sentence structures with multiple clauses that require careful attention when interpreting into target language with different syntactic structure. However, students encountered syntactic problems with rendering syntactically complex sentences as they tended to reflect different target language meaning and structure. Most of the students reportedly related the difficulties with syntactic problems to the comprehension aspects [13;21]. This result does not agree with Dillinger's [10] study which revealed that there is no significant differences in the performance of expert and non-expert interpreters in syntactic processing. As it has complex structure with multiple clauses, example 2 explains the difference in syntactic processing between the experts and the students.

*"We did such a good job. It was all worked, nobody's ever seen anything like we did..."*

Experts rendered this complex structure into *عملنا عملا رائعا فلم ير اي احد مثلما فعلناه هناك*

Novices, in contrast, either provided in appropriate rendering such as *سنعمل هذا* *"we will do that and all will do the same with us and that many dis not like it"*, or resorted to incomplete sentence as they left the structure unfinished

*... "we have done well and nobody...."* *عملنا جيدا فلا احد ...*

Lexical elements, such as numbers, are problem triggers that increase the cognitive load were interpreted adequately by expert interpreters who reportedly related their successful interpreting to their experience and skills to deal with the cognitive load imposed by simultaneous interpreting. However, the majority of the students failed to render the numbers in source speech correctly as they resorted either to provide inadequate number or omitted the numbers in the target language. In their reports, experts stated that they focused on the numbers during the interpreting task because they understand that these elements are challenging elements. The students related their inadequate renderings of numbers to difficulties with recalling [11;21] See example 3 below:

*" I came here and he was giving me 95%, 97%, 92%. And I said, "They're great. ""*

Experts provided *اعطوني ٩٥% و ٩٧% وايضا ٩٢%* whereas the majority of students failed to provide the accurate numbers as they provided

*اعطوني ٩٩% و ٩٩% ووو ...*

In the same line, this study reflects that experts tend to omit the redundant and unnecessary information which reduces the cognitive load and keeps the interpreting flow appropriately. Moreover, experts in this study show greater ability to distinguish essential information from the secondary one. Students, in contrast, resorted to omitting significant information that have negative effects on interpreters' performance and on the interpreting process [12;7]. Moreover, students' reportedly related omitting important



information in their target language to the problems with understanding the source message. Example 4 explains the difference:

Expert interpreted: *"Already the Biden administration has proved that they are anti-jobs, anti-family anti-borders, anti-energy, anti-women, and anti-science."*

into *"The Biden administration has proved that they are against jobs, families, borders, energy, women, and science."*

Students interpreted *"We all knew that the Biden administration was going to be bad, but none of us even imagined just how bad they would be and how far left they would go."*

into *"We knew the Biden administration was going to be bad...."*

### Translation process

The analysis of this study reveals that expert interpreters seemed to segment the source speech into short simple segments. In the same line, they tended to merge two or more chunks into one. They reportedly related that to reduce the cognitive load that was resulted from processing intensive long segments. Moreover, the analysis shows that experts are more concerned with conveying the meaning of the source message which gives evidence to the claim that expert interpreters are more concerned with semantic processing rather than following the source message literally [8]. It is also emerged from the experience and training that increase interpreter's ability to manage such situations. Students in this study could not manage to segment the source message or merge long chunks into small ones as they seemed to following the source message literally [11;18; 19]. In this context, students reportedly related the word for word interpretation to time pressure and intensive flow of the source message that could not let them think about inferring the meaning from the context [12;21]. Examples 5 and 6 show the difference between experts and students regarding segmentation and merging their interpretation respectively.

*"So no matter how much the Washington establishment and the powerful, special interests may want to silence us, let there be no doubt we will be victorious and America will be stronger and greater than ever before."*

Experts:

رغم محاولة الادارة في واشنطن اسكاتنا الا اننا عازمون على الانتصار وجعل امريكا اقوى واعظم من اي

وقت مضى

Students:

لا يهم كيف كان حجم مؤسسة واشنطن ذات المصالح الخاصة القوية تحاول صمتنا بدون شك ستتتصر  
امريكا القوية كما كانت قبل

*" it not important how the Washington institution with its powerful special interests try to silence us undoubtedly the strong America will win as it was before"*  
(back translation)

and

*"In just one short month we have gone from America first to America last. Think about it, right? America last. There is no better example than the new and horrible crisis on our Southern border."*

Experts:

في شهر واحد فقط تحولنا من امريكا اولا الى اميركا اخرا والدليل على ذلك ازمة الحدود الجنوبية

البشعة

Students:

في شهر قصير واحد ذهبنا من امريكا الاولى الى امريكا الاخير فهل تعتقدون ذلك ؟ امريكا في الآخر لا

يوجد افضل مثالا من المحنة الجديدة في الحدود

*" in a one short month we went from the first America to the last do you think that? America is in the last there is no better example from the new crisis on the borders "* (back translation).

### Production process

This study shows that expert interpreters were able to provide accurate interpretations with coherent meaningful segments even when working under time pressure and sever cognitive load. It was clear that experts are keen on providing consistent renderings with a steady flow [18]. They reportedly were able to monitoring their renderings as they managed to correct themselves when they felt that their interpretations were not accurate [20;21] Students, in contrast, seemed to deliver target language randomly which led to provide incoherent renderings [18]. In the same line, they presented interpretations with disfluencies such as pauses, hesitation remarks, and inconsistencies [14]. The students reportedly considered time pressure, cognitive load, and fast delivery rate are the main causes of these disfluencies. Consider examples 7, 8, and 9 respectively.

*"Talked about energy, I said, "This guy actually he's okay with energy." He wasn't okay with energy, he wants to put you all out of the business. He's not okay with energy. He wants windmills, the windmills. The windmills that don't work when you need them"*.

Experts:

تحدث حول ملف الطاقة وقلت حسنا انه يحسن التعامل مع هذا الملف لكنه لم يكن كذلك واخفى عليكم

الحقيقة لأنه يريد طاقة الرياح ,تلك الطاقة التي لا تعمل عندما تحتاجها

Students:

تكلم عن الطاقة وقلت حقيقة هذا الرجل هو جيد ولكنه ليس جيدا اه اه اراد ان يضعكم في هذا البرنز

فهو جيد في الطاقة لانه اراد الوندمل اه اه لا نحتاجها

*"he talked about energy and I said this man is good but not good ahahah ....put you in ...he is good in energy but wanted ...we do not need"* (back translation).

*“For the next four years, the brave Republicans in this room will be at the heart of the effort to oppose the radical Democrats, the fake news media and their toxic cancel culture, something new to our ears, cancel culture”*

Experts:

ففي الاربع سنوات القادمة سيكون الجمهوريون الشجعان في هذه القاعة في خضم الجهود المعارضة للرايكيالين الديمقراطيين وماكنتهم الاعلامية الزائفة

Students:

وللأربع سنوات فان الجمهوريون في هذه الغرفة سيكونون في قلوب ال ال ال الديمقراطيون وهذه وسائل الاعلام والثقافة وووووالغائها

*“for four year the republicants in this room will be in the hearts ahahah the democrats and these media and culture and ahahah cancel it” (back translation)*

*“The Democrat immigration bill is a globalist corp. You take a look at the corporatists, big tech attack on hard working citizens of every race, religion, color, and creed and Republicans must ensure that it never is allowed to become federal law, which is what they want to do”.*

Experts:

مشروع قانون الهجرة الديمقراطي هو مشروع قانون عالمي النطاق. ينبغي أن تلقي نظرة على الجهات التجارية وهجمات التكنولوجيا الكبرى على المواطنين العاملين بجد من جميع الأعراق والأديان والألوان والعقائد، وعلى الجمهوريين ضمان ألا يتم السماح بتحويله إلى قانون اتحادي، وهو ما يرغبون في تنفيذه.

Students:

ان قائمة الهجرة الديمقراطية هي اه اه هي شركة عالمية ووو هجوم قوي على المواطنين ذات الدين واللون والجمهوريون يقول من غير الممكن ان يكون قانونا وووو

*“The democratic immigration list is ahahah is a global company and and and big attack on citizens with religion, color, and the republicans say it is not possible to be a law and and and ....”*

Moreover, the results of this study reveal that experts rely on using coping strategies which helped them with solving the problems and reduced the cognitive load. They showed the ability to access lexical information more rapidly and compressing the lexical and syntactic elements when producing the target language though the differences between the source language and the target language [22;24]. Experts reportedly related the use of strategies to the expertise they have which were due to years of practice and the skills they developed in the interpreting field. However, students could not manage to use the required strategies to solve the problems when producing the target language as they resorted to omission and literal translation which have a negative impact on their performance and on the interpreting process [21]. Consider example 10 below.

*“His position is morally inexcusable. You know that. Joe Biden has shamefully betrayed America’s youth and he is cruelly keeping our children locked in their homes,*

*no reason for it whatsoever, they want to get out. They're cheating the next generation of Americans out of the future that they deserve”.*

Experts:

موقفه اخلاقيا غير مسموح به بايدن خان الشباب الامريكي انه يقي اطفالنا حبيسي المنازل انهم يريدون ان يخرجوا ليتعلموا انهم يحرمون الجيل الجديد من المستقبل الذي يستحقونه

Students:

موقعه هو اخلاقيا لا يمكن الاعتذار اليه هل تعلم ان جو بايدن اه اه دمر الشباب وهو يجب ان يخرج الاطفال... يريدون الهروب وهم يغشون الجيل الامريكي حاضرا ومستقبلا

*“His status is moral and can't be excused do you know that Joe Biden ah ah destroyed the youth.... and he likes the children to go out they want to scape and they cheat the new American generation at present and in future” (back translation).*

Table 1 explains the differences between experts and students in the main cognitive processes involved during the SI task

No.	Cognitive process	Variables	Experts	Students
1.	Comprehension	Ability to comprehend and deal with complex and highly detailed interactions and connections between various stimuli	√	x
2.	Comprehension	Ability to provide adequate rendering for the lexical elements such as numbers and names	√	x
3.	Comprehension	Ability to distinguish essential information from the secondary one	√	x
4.	Translation	Ability to segment the source speech into short simple segments	√	x
5.	Translation	Ability to merge two or more chunks into one chunk	√	x
6.	Translation	Ability to be more concerned with semantic processing rather than following the source message literally	√	x
7.	Production	Ability to provide accurate interpretations with coherent meaningful segments even when working under time pressure and sever cognitive load	√	x
8.	Production	Ability to rely on using coping strategies that help interpreters to solve the problems and reduce the cognitive load	√	x

## Conclusions

This study shows that expertise plays a crucial role in providing adequate interpretation during all the three cognitive processes. Expertise in interpreting is essential for achieving efficient and rapid comprehension of complex source messages. Expert interpreters use their experience and skills to identify the most informative elements while filtering out unnecessary details, streamlining the interpretation process. It

also helps reduce the cognitive load on interpreters, enabling them to allocate their mental resources effectively. Ultimately, expert interpreters provide not only linguistic accuracy but also a deeper understanding of the source content, making their role indispensable in bridging language and cultural gaps during interpretation. In translation process, expertise significantly shapes how experienced interpreters approach the source speech, as they deftly segment and merge chunks of information to facilitate a seamless transfer of meaning. The intricate process of identifying equivalent expressions in the target language lies at the core of their craft, demanding not only linguistic mastery but also cultural sensitivity. Furthermore, during the production process, expertise is regarded as a key factor in ensuring accurate, meaningful, and coherent delivery of interpretations. It maintains a consistent and steady pace that effectively balance interpreter's attention between comprehending the source message and producing the target message. More importantly, expertise leads to employ various strategies that are intended to solve or avoid interpreting problems, such as quicker access to lexical information, selective processing, using larger segments as translation units, and focusing less on their own output.

#### CONFLICT OF INTERESTS

There are no conflicts of interest

#### References

- [1] K. Ericsson, (2006). The Influence of Experience and Deliberate Practice on the Development of Superior Expert Performance. In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 683–703). Cambridge University Press. <https://doi.org/10.1017/CBO9780511816796.038>
- [2] E. Tiselius, (2015). Expertise. In: Pöchhacker, Franz. (ed.) *Routledge Encyclopedia of Interpreting Studies*.
- [3] M. Chi, (2006). Two Approaches to the Study of Experts' Characteristics. In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 21–30). Cambridge University Press. <https://doi.org/10.1017/CBO9780511816796.002>.
- [4] P., Padilla, M. T., Bajo, J.J., and F. Padilla, (1995). "Cognitive processes of memory in simultaneous Interpretation." In *Topics in Interpreting Research*, J. Tömmola (ed.), 61–71. Turku.
- [5] B., Englund Dimitrova, (2005). *Expertise and Explicitation in the Translation Process*. Amsterdam: John Benjamins.
- [6] G., Matthews, (1997). Intelligence, personality and information processing: An adaptive perspective . In W. Tomic & J. Kingsma (eds) *Advances in Cognition and Educational Practice*, vol. 4: Reflections on the Concept of Intelligence. Greenwich, CT : JAI Press , 475 – 492 .



- [7] M., Liu, D. L. Schallert, and P. J., Carroll, (2004). "Working memory and expertise in simultaneous interpreting." *Interpreting* 6 (1): 19–42.
- [8] M., Liu, (2008). How do experts interpret? Implications from research in Interpreting Studies and cognitive science. 10.1075/btl.80.14liu.
- [9] M., Bajo, F., Padilla, and P., Padilla, (2000). "Comprehension processes in simultaneous interpreting." In *Translation in Context: Selected Papers from the EST Congress, Granada, 1998*, A. Chesterman, N. Gallardo San Salvador and Y. Gambier (eds), 127–142. Amsterdam/Philadelphia: John Benjamins.
- [10] M., Dillinger, (1989). Component processes of simultaneous interpreting. Unpublished doctoral dissertation, McGill University, Montreal
- [11] F., Goldman-Eisler, (1972). "Segmentation of input in simultaneous translation." *Journal of Psycholinguistic Research* 1 (2): 127–140.
- [12] H., Barik, (1975). "Simultaneous interpretation: Qualitative and linguistic data." *Language and Speech* 18 (2): 272–297. Centre for Translation and Interpreting, University of Turku.
- [13] H., Liu, R., Hudson, Z., Feng, (2009). Using a Chinese treebank to measure dependency distance. *Corpus Linguist. Linguist. Theory* 5, 161–175. 10.1515/CLLT.
- [14] H., Kirchhoff, (1976/2002). "Simultaneous interpreting: Interdependence of variables in the interpreting process, interpreting models and interpreting strategies." In *The Interpreting Studies Reader*, F. Pöchhacker and M. Shlesinger (eds), 111–119. London: Routledge.
- [15] P., Oléron, and H., Nanpon, (1965/2002). "Research into simultaneous translation." In *The Interpreting Studies Reader*, F. Pöchhacker and M. Shlesinger (eds), 43–50. London: Routledge.
- [16] A., Cheung, (2001). "Code mixing and simultaneous interpretation training." *The Interpreters' Newsletter* 11: 57–62.
- [17] J., McDonald, and P., Carpenter, (1981). "Simultaneous translation: Idiom interpretation and parsing heuristics." *Journal of Verbal Learning and Verbal Behavior* 20: 231–247.
- [18] M., Sunnari, (1995). "Processing strategies in simultaneous interpreting: 'Saying it all' versus synthesis." In *Topics in Interpreting Research*, J. Tammola (ed.), 109–119. Turku: Centre for Translation and Interpreting, University of Turku.
- [19] D., Gile, (2009). *Basic Concepts and Models for Interpreter and Translator Training* (revised edition). Amsterdam/Philadelphia: John Benjamins.
- [20] M., Liu, (2001). *Expertise in Simultaneous Interpreting: A Working Memory Analysis*. Unpublished doctoral dissertation, the University of Texas at Austin.
- [21] M., Aal-Hajiahmed, (2022). "Cognitive Processes in Simultaneous Interpreting From English Into Arabic and From Arabic Into English. A Study of Problems and

- Interpreter Strategies”, [Unpublished PhD Thesis, Universidad Autonoma De Barcelona].
- [22] G., Chernov, (1979). “Semantic aspects of psycholinguistic research in simultaneous interpretation.” *Language and Speech* 22: 277–295
- [23] S., Schlesinger, (2003). ‘Effects of Presentation Rate on Working Memory in Simultaneous Interpreting’, *The Interpreters’ Newsletter* 12: 37–49.
- [24] N., Cowan, (2001). “The magical number 4 in short-term memory: A reconsideration of mental storage capacity.” *Behavioral and Brain Sciences* 24: 87–185.