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Effect of Competence in the Translation of Safety Manuals: Assessment Study

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Abstract

The quality of the translation of safety manuals as a part of technical texts is one of the factors that can explain the extent to which the necessary protection is provided to workers in potentially dangerous areas, whether by working in a specific environment or using particular equipment or machines. However, this translation area has yet to be extensively researched. The importance of this study derives from the fact that translating safety manuals is a challenging task due to various challenges related to grammatical and linguistic differences between two languages, especially the issue of the absence of technical or scientific equivalence in the target language. This study will discuss the problems that may occur while translating technical texts, find solutions to them, and highlight the importance of the skills required by translators during this type of translation.

Keywords: technical translation, safety manuals, challenges, skills.



أثر الكفاءة في ترجمة أدلة السلامة: دراسة تقييمية

الباحث : سفيان حاتم نجم

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الخلاصة: تعد جودة ترجمة إرشادات السلامة كجزء من النصوص التقنية إحدى العوامل التي يمكن أن توضح مدى توفير الحماية اللازمة للعاملين في المناطق التي يحتمل أن تكون خطيرة، سواء من خلال العمل في بيئة معينة أو استخدام معدات أو آلات معينة. ومع ذلك، لم يتم البحث هذا المجال من الترجمة إلى حد كبير. وتأتي أهمية هذه الدراسة من أن ترجمة إرشادات السلامة ليست مهمة سهلة لأنها تتضمن تحديات مختلفة تتعلق بالاختلافات النحوية واللغوية بين اللغتين، وخاصة مسألة عدم وجود المرادف التقني أو العلمي في اللغة الهدف. ستناقش هذه الدراسة المشكلات التي قد تحدث أثناء ترجمة التقنية وإيجاد حلول لها وإبراز أهمية المهارات التي يحتاجها المترجمون أثناء ترجمة النصوص التقنية.

الكلمات الافتتاحية: الترجمة التقنية؛ اجراءات السلامة؛ تحديات؛ مهارات

1. Introduction

Since safety manuals provide instructions, cautions, and directions about using a specific item or dealing with a particular situation, the quality of the translation of these technical texts is crucial since it significantly impacts people's lives. This study aims to look into the challenges and obstacles translators face when translating English safety manuals into Arabic. Additionally, it highlights the importance of identifying the most prevalent kinds of safety manual translation errors and how seriously they impair the intended text's meaning. To verify the accuracy of the hypotheses, the study includes a practical chapter that handles the assessment of 20 safety manual texts with varying degrees of difficulty; (6) respondents translated these texts: (3) PhD candidates and (3) BA graduates who work at international NGOs. The assessment is done according to Reiss's (2000) model of translation assessment. The study concludes that translating technical texts is complicated since it is performed between two divergent languages linguistically and culturally. It

also concludes that skilled and proficient translators can only implement such translation tasks. Based on the findings, the study draws some suggestions and recommendations.

1.1 Statement of the Problem

Safety manuals frequently include technical jargon unique to specific sectors or businesses. Translating these terms and structures effectively while preserving their precise meaning in the TL can be challenging. Safety manuals need to adhere to different legal and regulatory requirements. Consequently, translators must comprehend technical legal jargon and guarantee appropriate interpretation of rules to ensure that the translated text satisfies these criteria. Hence, translating technical papers while preserving readability and clarity might be difficult. In order to make the translated instructions understandable to the intended audience—many of whom might not have a good command of the target language—translators must strike a balance between readability and accuracy.

1.2 Aims of the Study

The study aims at:

- A. Analyzing the translated safety manuals that convey the information and instructions from the original documents.
- B. Evaluating the fidelity of the translation in accurately representing the content of the source text (ST), especially regarding technical terms, procedures, and safety guidelines.
- C. Providing criticisms and suggestions for raising the standard of the safety manual translations and ensuring that the translation satisfies the highest standards of quality and dependability, translation critics point out areas for improvement and provide changes or corrections to improve the translation's correctness, clarity, and effectiveness.

1.3 Hypotheses

The study hypothesizes the following;

- A. The translated safety guides must correctly transmit the instructions and data from the source publications without altering or misrepresenting the contents.
- B. The target audience should be able to comprehend and follow safety instructions more readily if the translated safety documents are clear, succinct, and easy to read.
- C. It is anticipated that the translated safety instructions would satisfy the highest standards of quality and dependability, devoid of any mistakes, contradictions, or unclear passages.

1.4 Procedures and Data Analysis

Regarding data analysis, 20 examples of safety manual instructions quoted from different official safety manuals have been selected for analysis. The data analysis systematically examines the translated safety manuals to assess their quality and effectiveness. This may include comparing the translated text with the original ST, identifying discrepancies or errors, and evaluating how well the translation meets the established evaluation criteria. In relation to the adopted procedures, the following points can be outlined:

- A. Theoretically, presenting a literature review for certain notions, such as semantics, translation, technical translation, translation difficulties, etc. Practically, selecting safety manual samples that might be problematic for analysis.
- B. Assigning the task of translating these safety manual samples to 6 respondents.
- C. Verifying accurate conveyance of meaning from the SL to the TL, determining the main strategies employed in translation tasks, making decisions on the compatibility of sense of the translation versions, and proposing substitute renderings if the provided ones proved inappropriate.
- D. Translation criticism assesses the translated safety instructions' strengths and faults by interpreting the results.

They point out areas that need work and offer suggestions for raising the translations' caliber, precision, and potency.

1.5 Model of the Study

Reiss's (2000) translation quality assessment model is adopted in this study. It involves two main sections: extra-linguistic determinants, which are factors outside of the text and include the following: the immediate situation, the subject matter, time and place factors, audience, and speaker, and affective implications; and linguistic components, which occur within the text and involve semantic equivalency, lexical adequacy, grammatical correctness.

2. Scientific and Technical Texts

A text is a logical collection of sentences used to convey ideas through signs. "Scientific" refers to anything associated with or related to science. Nevertheless, scientific language is the foundation of a scientific text. It is a style of text where the language is simple, the grammar is not overly complex, and the sentences are in the correct order to understand the information (these texts should, therefore, be accurate). Recent advancements in various scientific and technical domains and the emergence of new ones inspire linguists to continuously investigate language styles, especially in scientific and technical fields.

Knitlová (2005, p. 136) states that the scientific genre creates the core of non-fiction style. Given that technical style may also be regarded as scientific, it serves as information not only in the specific field of research but also in a more general sense. The scientific and technical styles have recently been divided into numerous new and more specialized styles. Currently, each scientific field has its terminology, but there are also distinctions in grammar. In a slightly different manner, Miššíková (2003, p. 121) provides an interpretation of the scientific and technical styles. The functional style of scientific writing aims to verify the hypothesis, produce new ideas, reveal internal principles of existence and development, relate various

facts, etc. As a result, the language employed tends to be objective, exact, and emotionless, lacking in any sense of personality; the goal is to explain ideas in the broadest possible sense. One of the most essential requirements for constructing scientific text is writing it with a scientific framework (see also Ahmed, 2005: 8; Ahmed, 2012, p. 68). Şenöz–Ayata (2004, p. 42) emphasizes that, like other works, scientific and technical texts should have an introduction, a body of reasoning, and a conclusion; he also states that scientific texts are informative since they inform their readers. Sandlund (2004, p. 95) conveys that this fact makes interpreting technological texts easier than translating legal materials, although legal texts are within the technical translation. There is a clear distinction between scientific and technical texts. Scientific texts discuss, evaluate, and synthesize data to elucidate concepts, advance new hypotheses, or assess methodologies. In contrast, technical texts "are designed to deliver information efficiently and clearly".

2.1 Features of Technical Texts

Safety handbook writing falls within the English for Science and Technology (EST) discipline. As a result, EST texts are more deliberate in precisely communicating objective facts through logical reasoning than ordinary English texts that include emotive elements. Additionally, technical English writings include more stringent Terminology because "technology" is a profession. Ghazala (1995, p.18) states that grammar, words, style, or sounds might cause a translation issue. As a result, grammatical, lexical, stylistic, and phonological issues might arise. The Arabicization of scientific and technical vocabulary presents significant challenges, some currently being addressed in translating numerous technical terms. The character of the informative style should be "invariant to all observers," according to Turner (1973, p. 18) who claims that maintaining impersonality is essential and impersonality can be achieved by using the following methods:

1. Passive constructions: Passive sentences suppress the author's voice and focus solely on describing the facts and phenomena. From the pragmatic perspective, it is clear that the example mentioned above avoids identifying the text's agent.
2. Using general pronouns.
3. Using mostly a third-person style.
4. Making Use of abstract nouns made of verbs and adjectives.

Pinchuk (1977, p.165) cites the following characteristics of technical and scientific language:

- ❖ Unlike everyday language, which tends to become more generalized, technical language is a specialist language.
- ❖ The technical language aims to be sparing with its linguistic resources.
- ❖ Technical language avoids links with everyday language and gives precise definitions of concepts.

Knittlová (2005, p.137) mentions that the more scientific the language, the more precise the phrases and adds that scientific and technical style involves slight lexical variation. Thus, the index of repetition is relatively high. The language employed in technical writing is known for being precise and specific. This enables all terms and concepts to remain objective while preventing data presentation that leads to ambiguity or confusion regarding the described subject. Frequently, new words referring to the processes being described may arise.

2.2 Science and Technology in Translation Studies

Byrne (2006, p. 7-8) describes the distinction between science and technology in terms of translation and claims that technical translation relates to how scientific knowledge is put into practical use. In contrast, scientific translation, on the other hand, relates to pure science in all of its theoretical, esoteric, and intellectual splendor. In addition, Byrne (2006, p. 3) criticizes the propensity to classify LSP writings from law, finance, or economy disciplines as technical translations. The issue is that because a field or subject area has a unique or specialized

language does not make it technical, as Byrne correctly notes. Olohan (2009, p. 246) states that the binominal phrase "science and technology" appears frequently in news and academic discourse corpora. Perhaps this familiarity makes us use the term "scientific and technical translation" so casually. He works on determining whether these two terms can be combined practically to refer to a specific translation area. Additionally, He points out that the phrase "technical translation" is frequently used to describe the translation of writings from disciplines other than science and technology and that some academics think of technical translation as a replacement for specialized translation since it is typical for writings to incorporate components from both the scientific and technical fields. In summary, technology, and science are frequently and effectively used interchangeably. However, if technology aims to produce goods that address issues and enhance human lives, the aim of science is the quest for knowledge for its own sake. Simply described, technology is the application of science to practical problems.

2.3 Safety Manual as Technical Text

Technical texts that provide instructions, rules, and procedures to ensure the safe functioning of equipment, machinery, or tools are known as safety manuals. These texts aim to prevent workplace accidents, injuries, and fatalities and hazardous environments. There are multiple different kinds of instructional documents, each with a unique target, format, and content. For instance, repair manuals are written for readers who may not use the product; instead of describing how to use the device, they include detailed instructions on identifying and fixing faults. The same holds for safety manuals, regarded as instructional documents and one of the cornerstones of technical writing. The safety of the reader/user and the avoidance of unintentional product harm are two of the main goals of instructional texts. According to Major (1985, p. 122), a safety manual compiles all pertinent resources [prepared] for everyone who might utilize them. It acts as a system of links to more in-

depth resources, like reference books, instructional videos, and standard operating procedures. The safety manual and user guide provide access to all documentation, walk the reader through a general background, and establish the groundwork for making assumptions about the level of comprehension readers will have when they reach a particular point in the overall documentation picture. Weiss (1985, p.4) states that the user and safety manual is - or should be - a tool that enables its readers to get the most out of the system", and adds that the manual is meant to make up for the reality that technical and scientific information is frequently challenging and unwelcoming to readers. This is also true because there is a limit to how much can be learned on one's own and intuitively without help. One of the most critical aspects of safety manuals is their emphasis on regulatory compliance. These documents must follow tight rules established by organizations and international institutions such as WHO, OSHA, HSE, etc. Failure to meet these criteria may result in significant fines or legal action. In conclusion, safety manuals are technical documents containing vital information on operating equipment or handling dangerous items properly. They are essential to any workplace safety program and help reduce accidents and injuries.

2.4 Technical Translation

Nowadays, translating technical and scientific content is one of the most important subfields of translation studies. The accuracy of scientific and technical translation becomes one of the priorities that the advancement of science depends upon in light of the broadening of the field of science, the significance of timely receipt of actual information, and the need to disseminate scientific data obtained in research. Language-related peculiarities in technical texts concern not just style but also grammar and vocabulary. The primary lexical characteristic of technical text is the abundance of specialized definitions, terminology terminological phrases, lexical constructions, abbreviated forms, and mathematical formulas in these publications. Pinchuck (1977, p. 18) states that technical translation is an essential component of

modern technology that transcends national boundaries and essential for sharing information. Technical text is "always a means and never a goal in itself" because the distribution of knowledge serves as its primary motivation. Consequently, technical and scientific translation is essential to the global dissemination of knowledge necessary for contemporary civilization to function.

According to Ghazala (1995, p. 156), technical translation entails translating scientific language used in various fields, including medical, physical, chemical, mathematical, technological, biological, agricultural, computer, and internet fields. Technical translation, however, extends considerably beyond Ghazala's description since it focuses on various other technical fields, such as legal documents, user instructions, financial records, and safety guidelines. Herman (1993, p. 19) explores three stylistic pillars of technical translation—clarity, concision, and correctness—and how the translator might intervene regarding technical materials. He concurs that "technical translation calls for more than just copying down word equivalents from the dictionary." In this regard, the intervention may occasionally fragment and restructure the source sentence when translating from highly inflected to weakly inflected languages. Along the same line, Park (1993, p. 103) discusses the terminological and stylistic difficulties of translating technical publications (such as user manuals) from the toy and model industries and focuses on accuracy and precision because one lexical mistake might derail the entire text. Park (1993, p. 103) asserts that finding the proper terminological equivalents in the TL is just one aspect of the technical translator's task, and there are various additional processes required for technical translation, such as modifying the technique or adding explanation text. Technical translation aims to communicate technical information, which means that a technical translator is responsible for conveying technical information so that the readers may use the material easily, correctly, and efficiently.

3. Morphological Changes

Morphology is a subfield of linguistics that focuses on constructing words by combining sounds into a single, characteristic unit known as a syllable. Plag (2003, p. 13) defines word formation as studying the processes by which new complex words are formed from pre-existing morpheme bases. Plag distinguishes three processes by which new words can be created from pre-existing stems: affixation, non-affixation, and Compounding. According to Booij (2005, p. 4), morphology is defined as "the study of a word's internal structure as well as the rules that smaller words are formed from. These definitions make it clear that the process of word formation or word construction is a byproduct of the morphological process and that morphology is the study of word structure". The English language has morphological processes that use affixation, compounding, modification, suppletion, conversion, backformation, and abbreviation to affect word formation, as in *geopolitical*, *autobiography*, and *electromagnetic* (Al-Jarf, 2005, p. 10). See the following examples:

- 1) "In short, *geopolitics* may be defined as what Great Powers engage in, what they practice and what they are best at."

- يمكن تعريف الجغرافيا السياسية باختصار على انها (ما تنخرط فيه القوى العظمى ، وماذا تفعله وما يبدعون فيه).

Although Arabic morphology is thought to be very systematic, it differs from English in that it uses a system of consonant roots that interlock with vowel patterns that occasionally contain consonants to create words or word stems. Ablaut is changing a word's internal vowel to change its meaning. As a result, word formation can be stated as (1) deriving new words from existing stems as in *happy*, *happiness*, *unhappy* – كتب ، (2) borrowing new words from other languages as in *the computer*, *logarithm* , الكمبيوتر , اللوغاريثم , (3) deriving new words from scratch or inventing new words in use of affixation, abbreviations, blending, clipping, compounding, etc.

4. Translation Competence

The translation competence concept within translation studies is highly nuanced and multifaceted. Theoretically, this idea has been extensively discussed. Numerous words, including transfer competence, translation competence, translatory competence, translational knowledge, translation skill and translatorial (translational) expertise have been used to refer to translation competency (Hönig, 1988, p. 27; Nord, 1991, p. 45; Kaiser-Cooke, 1994, p. 135; Neubert, 2000, p. 5; Sim, 2000; Pym, 2003, p. 481). Additionally, translation competence is an abstract term that can only be evaluated by performance i.e. much like Chomsky's proficiency in linguistics (Beeby, 2000, p. 185). Additionally, as this performance combines a wide range of activities, it is practically impossible to define translation competence as a single thing. Presas (2000, p. 20) provides a comprehensive definition of translation competence, which includes:

1. A declarative understanding of the categories utilized to evaluate the communication context and analyze texts allows one to express the translation issues internally.
2. Practical knowledge of the mostly automated procedures required to comprehend the original material and produce a translation.
3. The capacity to assess one's tactics and alter them if the outcomes fall short of expectations.

5. Translation Quality Assessment

Although there is no single Translation Quality Assessment (TQA) standard or model, translation quality is crucial in translation studies. This is primarily because of two things: (1) There is no agreed-upon definition of "quality," and (2) The assessment standards are inherently, and to some extent, subjective because they depend on the assessor's approach. McAlester (2000, p. 231) proposes different terminologies for TQA as follows:

- A. Translation Evaluation: Giving a translation a value, such as a mark.
- B. Translation criticism: Evaluating whether a translation is suitable involves making a value judgment, which need not be measured...
- C. Translation analysis is descriptive research that does not place any value judgments on the process of translation or the relationship between the TT and ST.
- D. Translation Assessment represents three other aspects: evaluation, criticism, and analysis.
- E. Translation quality control: The focus is on the translated work rather than the producer.

5.1 Cathrina Reiss model of TQA

According to Reiss (2000, p. 16), translation assessment should begin with observing the type of text represented because text type influences the translator's choice of particular translation method to use, literal, communicative, etc., and has important implications for an accurate translation. Additionally, both linguistic and extra-linguistic factors that are crucial to the translation process should be taken into account, so Reiss presents her model for translation quality assessment, which takes into account the attributes of each text type as well as linguistic and extra-linguistic factors that the linguistic structure of the original text. This model consists of a literary category (text type), a language category (lexical, semantic, stylistic, and grammatical elements), and a pragmatic category (extra-linguistic element).

Text No.1

ST

"By its very nature, policing has always been and will continue to be a potentially hazardous occupation. Whilst risks are present in all work activities, operational staff are more frequently exposed to risks, weather dealing with environmental incidents or disorderly behaviour"
Association of Chief Police Officers (2012, p. 8).

Academic

TT

1. بحكم طبيعته، لطالما كان عمل الشرطة وسيظل دوما مهنة تحتمل الخطر. في حين أن المخاطر موجودة في جميع أنشطة العمل ، الا ان الكادر الميداني يتعرض و بشكل متكرر للمخاطر سواء في التعامل مع الحوادث البيئية أو السلوك الغير المنضبط.
2. لطالما كانت الشرطة وستبقى بطبيعتها مهنة خطيرة نوعا ما . ففي الوقت الذي تكون فيه الاخطار حاضرة في جميع الانشطة العملية، يتعرض الموظفون وكثيرا وباستمرار لمخاطر الحوادث ذات السلوك البيئي او الفوضوي.
3. كانت وستبقى مهنة الشرطة خطرة نسبية الى طبيعة عملها حيث ان مخاطر العمل موجودة في كل المهن. كما ان الموظفين في جميع القطاعات يتعرضون للمخاطر سواء مع الحوادث البيئية او السلوك الشاذ من البعض.

Professional

TT

4. لطالما كانت وستبقى مهنة الشرطة محتملة الخطورة بحكم طبيعتها، فبينما تكمن الخطورة في جميع أنشطة العمل، الا انه الطاقم العملياتي هو اكثر عرضة للمخاطر، سواء ان عبر الحوادث البيئية أو السلوك غير المنضبط.
5. بحكم طبيعتها ، كانت مهنة الشرطة وستظل مهنة خطيرة. في حين أن المخاطر موجودة في جميع أنشطة العمل ، فان الطاقم الميداني يتعرض بشكل متكرر للمخاطر الناتجة عن الحوادث البيئية أو السلوكيات غير المنضبطة.
6. بحكم طبيعته، كان عمل الشرطة وسيظل مهنة تتطوي على مخاطر محتملة. في حين أن المخاطر موجودة في جميع أنشطة العمل ، يكون موظفوا العمليات أكثر عرضة للمخاطر ، سواء كان مع الحوادث البيئية أو السلوك غير المنضبط.

Variables

T	Lexical adequacy	grammatical correctness	stylistic correspondence	Intentionality
1	+	+	-	+
2	-	+	+	-
3	-	+	+	-
4	+	+	+	+
5	+	+	-	+
6	+	+	-	+

A. Lexical Adequacy

In the ST, "policing" refers to the actions taken by police officers. In contrast, "police" refers to the civil organization in charge of ensuring security and safety.

Translations provided by responders 1, 3, 4, 5, and 6 effectively communicated this meaning. They are considered appropriate translations of the SL since their renditions preserve the intended meaning. Conversely, respondent 2 needs to be more consistent with the intended meaning; thus, it should regard inappropriate translation of the SL term. Operational staff in the ST refers to personnel engaged in field operations; this meaning was properly accurately conveyed through the renderings of respondents 1, 4, 5, and 6 as they translated it as tactical or field staff, whereas respondents 2 and 3 were not successful to render the exact meaning as they translated it as personnel or operational. While respondents 1, 4, 5, and 6 gave accurate translations that match the intended meaning, respondents 2 and 3 did not provided an adequate rendering for "environmental incidents or disorderly behavior." They translated it as "environmental behavior and abnormal behavior."

B. Grammatical Correctness

All respondents provided a correct rendition of "has always been and will continue to be." In contrast, respondents 1, 2, and 4 translated the phrase appropriately as *لطالما كانت وستبقى*, and respondents 3, 5 and 6 translated it in different ways using simple past tense *كانت مهنة الشرطة*.

C. Stylistic Correspondence

Word arrangement is one of the most important ways to enhance the text's readability and visual appeal. In response to the requirements of the target language, which emphasize the necessity of starting sentences with verbs when translating, respondents 2, 3, and 4 used word order in their translations to both add an artistic touch to the text and accurately express the

message. However, responses 1, 5, and 6 were determined to translate the text literally, disregarding the word order alteration.

D. Addition and Omission

The most inviting openings for the critic are the translation's random additions and deletions because they result in a discrepancy between (ST) and (TT). However, since some situations justify such techniques due to linguistic variations, one must only generalize that some omissions and additions are correct. The ST (more frequently exposed) was translated by respondents 2 and 3 by using unnecessary additives as in *يتعرض* or deletions as in *يتعرض الموظفون* and *بإستمرار*.

E. Intentionality

Respondents 2 and 3 lost a crucial meaning in the text and failed to communicate the author's intention since they could not distinguish between incidences and behaviors. They could not identify police operations staff. Conversely, Respondents 1, 4, 5, and 6 made the author's point very evident.

Text No.2

Mucous membrane absorption: Exposure of mucous membranes to infectious agents can lead to occupationally acquired infections.

ST Mucocutaneous exposures typically result from splashes to the face or inadvertent inoculation from contaminated hands. Face protection should always be worn if there is potential for splash or spray.

Academic

1. امتصاص الأغشية المخاطية: يمكن أن يؤدي تعرض الأغشية المخاطية للعوامل المعدية إلى عدوى مكتسبة مهنية. عادة ما تكون الإصابة بالالتهابات الجلدية-المخاطية نتيجة الرذاذ الذي يصيب الوجه أو عن طريق الأيدي الملوثة وبشكل غير مقصود. يجب استخدام واقى الوجه على الدوام إذا كان هناك احتمال للرذاذ أو ملامسة السوائل بالرش.

2. امتصاص الأغشية المخاطية: إن تعرض الأغشية المخاطية للعوامل المعدية يمكن أن يؤدي الى العدوى المنقولة بسبب العمل. حيث ينتج التعرض المخاطي عادة من رش مادة ما على الوجه أو تطعيم مهمل من أيادي ملوثة. لذا يجب ارتداء واقى وجه إذا كان هناك احتمالية للتعرض للرش أو الدفقات.

TT

3. امتصاص الغشاء المخاطي: يمكن ان يؤدي تعرض الأغشية المخاطية الى عوامل عدة ومنها تؤدي الى الاضطرابات المكتسبة حيث يتعرض الجلد المخاطي نتيجة البقع الموجودة على الوجه او عن طريق التلقيح من قبل ايادي غير معقمة . وينبغي ارتداء وقاية للوجه دائما في حال وجود رذاذات متطايرة.

Professional

1. امتصاص الغشاء المخاطي: يؤدي تعرض الأغشية المخاطية للمواد المعدية إلى عدوى منقولة مهنيًا. تنتج الإصابة بالتهاب المخاطي عادةً عن البقع على الوجه أو التطعيم غير المقصود من الأيدي الملوثة لهذا يجب ارتداء واقي الوجه دائمًا إذا كان هناك احتمالية رذاذ أو تدفق السوائل.

2. امتصاص الأغشية المخاطية: ممكن ان يؤدي تعرض الأغشية المخاطية للعوامل المعدية إلى عدوى مكتسبة مهنيًا. غالبًا ما تكون الإصابة بالتهابات الأغشية المخاطية -الجلدية نتيجة لتعرض الوجه للرذاذ أو التلقيح غير المقصود من الأيدي الملوثة. يجب دائما استخدام واقي الوجه إذا كان هناك احتمال التعرض للسوائل من خلال الرذاذ أو المرشات.

TT

3. امتصاص الغشاء المخاطي: يمكن أن يؤدي تعرض الأغشية المخاطية للعوامل المعدية إلى عدوى مكتسبة مهنيًا. إن إصابة الأغشية المخاطية الجلدية بالتهابات يحدث عادة بسبب الرذاذ على الوجه أو ملامسة اليد الملوثة بغير قصد. يجب ارتداء واقي الوجه دائمًا إذا كان هناك احتمالية التعرض للسوائل بالرذاذ أو الرش.

Variables

T	Lexical adequacy	grammatical correctness	stylistic correspondence	Intentionality
1	+	+	+	+
2	—	+	—	—
3	—	—	+	—
4	—	—	+	—
5	+	+	+	+
6	+	—	+	+

A. Lexical Adequacy

"Occupationally acquired infections" refer to illnesses connected to a specific industry or field. Respondents 1,5 and 6 provided an accurate translation for the phrase, even though they presented other synonymous terms that ranged from professional to functional. In contrast, respondents 2,3 and 4 translated it respectfully into *منقولة* , *عدوى منقولة بسبب العمل* , *اضطرابات مكتسبة مهنية* which is a generic phrase that covers all types of infections, so, their renditions considered inaccurate.

"Mucocutaneous" refers to the place where the skin meets the mucous membrane, as in the nose, and is translated as *الأغشية المخاطية-الجلدية*. Respondents 1,5 and 6 provided an accurate translation for the term as *إصابة الأغشية المخاطية الجلدية* , whereas

respondents 2, 3, and 4 translated it as *التعرض المخاطي - الجلد المخاطي* – respectively, which is incorrect.

"Inadvertent Inoculation from contaminated hands" describes the spread of infection by skin-to-skin contact with contaminated hands accidentally. Respondents 1, 4, and 6 accurately conveyed this meaning. When translating the same sentence, respondents 2,3, and 4 relied on electronic sources for the translation and should have considered that the term is medical and can have multiple meanings depending on the context. They translated the term respectfully as *التطعيم المهمل*, vaccination by contaminated hands *قبل*, and unintended vaccination *التطعيم غير المقصود*, so, their renditions are considered incorrect.

While a splash is the act of hurling liquid, as when coughing, a spray releases tiny drops of a liquid utilizing machinery or apparatus, similar to perfume. This meaning was correctly conveyed by respondents 1,5 and 6, who provided acceptable translations. In contrast, respondents 2,3 and 4 provided inaccurate translations, as in *ردادات متطايرة و تدفق, السوائل*, which mislead the reader to understand the leading causes for "Mucocutaneous Exposures."

"Face protection should always be worn" was translated professionally by respondents 1 and 5 as *استخدام واقى الوجه* instead of *ارتداء واقى الوجه*; they did not use direct translation to convey the meaning. Instead, they used communicative translation, which reflects professional meaning.

B. Grammatical Correctness

One benefit of translating titles is that the plural form can enhance the title's beauty and impact rather than the singular. Respondents 1,2 and 5 provided an accurate translation for "Mucous membrane absorption" into the plural form *الاغشية المخاطية* in order to emphasize the importance of the topic and their renditions considered accurate. In contrast, Respondents 3, 4, and 6 translated the title in its singular form.

C. Punctuation Marks

A sentence usually ends with a full stop, sometimes called a period. It usually comes at the end of imperative and declarative statements. Respondents 1,5, and 6 used the full stop at the end of each sentence and avoided using any conjunctions. In contrast, respondents 2,3 and 4 used full stops along with conjunctions to link the text sentences as in *لهذا وينبغي, لذا يجب, حيث ينتج*. Technical texts are defined by their use of short, concise sentences; since their translation did not meet these standards, it was considered inaccurate.

D. Stylistic Correspondence

Respondent No.2 started the translation of the ST literally with a noun *"... التهاب الاغشية المخاطية يمكن ان يؤدي"*, whereas the other respondents started their renditions with a verb *"يمكن ان يؤدي"* which is more acceptable.

E. Addition and Omission

Respondent No.3 used unjustified addition when translating the phrase *"splashes to the face"* as *رش مادة ما على الوجه* splashes of material to the face. Thus, the reader may interpret the phrase as unclear.

Respondent No.3 also used unjustified omission in translating the phrase *"there is potential for splash or spray"*; he deleted *spray* from his rendition and translated the phrase as *رذاذات متطايرة*.

F. Intentionality

The primary idea of the text, which deals with mucous membrane diseases and their causes, was well communicated by respondents 1, 5, and 6, despite the text's medical content, which represents a difficulty for translators working outside the medical field. Conversely, responders 2, 3, and 4 were unable to communicate the text's meaning because they provided incorrect translations for the critical terms in the text, such as *"mucocutaneous," "spray,"* and *"splash"* as well as inability to

distinguish between spray and splash." Additionally, respondent 4 translated the starting verb "can lead" *يمكن ان يتسبب او يؤدي* into "lead," *يؤدي* changing the text's meaning from probable to affirmative.

3. Conclusions

Some tentative conclusions have been drawn based on the findings and analysis of the quantitative and qualitative study conducted on twenty translations of safety manuals from various disciplines. The corpus under analysis highlights some trends in the translation of safety manuals from English into Arabic, serves as the foundation for some educated guesses, and establishes the framework for additional study. Returning to the study, the following points can be concluded:

1. The most frequent errors when translating safety manuals from English into Arabic involve selecting inappropriate equivalence, as in "Grease, putrid, sighted-in, decontaminate," or providing or failing to provide the correct rendition for the main technical terms, as in "aerosols, radionuclide, fluoroscopy."
2. Some grammatical and stylistic errors were found to have a minor effect on the target text's meaning. However, other errors related to lexical adequacy significantly altered the original text's meaning and resulted in an entirely inaccurate translation.
3. The translator can employ different strategies to communicate the intended meaning of the text when they cannot find a suitable equivalence for a technical term. This may involve the use of borrowing as in "*Oxygen, acetylene*," explaining the term in addition to translating it literally as in "*grease, fluoroscopic*," or providing the generic term familiar to the reader as in *تنشيش- الفضة والشعيرة*.

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