Integrating Machine Translation into Media Translation Academic Training: ChatGPT as an Example ♦

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Abstract

Media translation plays a key role in communication between cultures and in transmitting information worldwide. In media translator training, there remains a gap between what is taught and what is required in the translation workflow, especially regarding technological advancements, as media translation requires the efficiency and speed provided by machine translation and other tools. This study examines how integrating machine translation, particularly ChatGPT, into media translation academic training affects the quality of student translators' outputs. A mixed methods approach was used to analyze the journalistic translations of 20 participants with and without the assistance of ChatGPT to determine, based on an adapted Multidimensional Quality Metric (MQM) framework, the errors committed in each translation and the quality of these translations, and how ChatGPT affected them. The findings suggest the importance of integrating machine translation and other technologies into translation training, especially media translation.

Keywords: Machine Translation, media translation, journalistic translation, MQM, error analysis, ChatGPT, translator training

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دمج الترجمة الآلية في التدريب الأكاديمي للترجمة الإعلامية: تشات جي بي تي (ChatGPT) أنموذجاً ♦

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المستخلص

تؤدي الترجمة الاعلامية دوراً رئيسياً في التواصل بين الثقافات وفي نقل المعلومات حول العالم. ضمن برامج تدريب الترجمة الاعلامية، ما زال هنالك فجوة بين ما يتم تعليمه وبين ما يتطلبه سوق العمل وخصوصاً فيما يتعلق بالتطورات التكنولوجية. تتناول هذه الدراسة تأثير دمج الترجمة الآلية وخصوصاً برنامج ChatGPT في التدريب الأكاديمي للترجمة الإعلامية على جودة ترجمة طلبة طلبة اقسام الترجمة في الجامعات العراقية. و قد تم استخدام نهج متعدد الاساليب لتحليل الترجمات الصحفية لعشرين مشتركاً تمت بمساعدة وبدون مساعدة ChatGPT لتحديد الاخطاء المرتكبة وجودة الترجمة و الاثر الذي حققه استخدام ChatGPT عليهم. وقدم تم هذا التحليل باستخدام مقاييس الجودة متعددة الابعاد والتي تعرف إختصاراً ب MQM. وقد توصلت الدراسة الى اهمية دمج الترجمة الالية في تدريب الترجمة وخصوصاً الترجمة الإعلامية من اجل زيادة جودة الترجمة لدى الطلاب وتهيئتهم لسوق العمل المتأثر بالتكنولوجيا.

كلمات مفتاحية: **الترجمة الالية، الترجمة الإعلامية، الترجمة الصحفية، مقاييس الجودة متعددة الابعاد، تحليل الأخطاء، ChatGPT، تدريب المترجمين.**

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1.Introduction

Translation plays a key role in mediating different cultures and in transmitting information worldwide. As media is the means to broadcast such information, therefore, translation in the media is of crucial importance to transmit such information to different linguistic communities. However, media - especially the news- can transfer delicate and politically charged events, which requires extra careful translation with very high quality in terms of accuracy of the source language intent and fluency of the target language (Yessenova et. al., 2018).

To achieve such quality, media translation is included within translator training programs. However, there is still a gap between the requirements in the translation workflow, especially in technological advancements, as this kind of translation requires the efficiency and speed provided by machine translation (Salamah, 2021). This study, therefore, focuses on understanding how the integration of machine translation, and particularly ChatGPT, into media translation academic training can affect student translators' outputs. The research questions that the researchers try to answer are: 1. What types of translation errors do Iraqi student translators commit when rendering journalistic texts without and with the help of ChatGPT? 2. What types of errors does the integration of ChatGPT as a feedback tool eliminate? 3. Can a teacher-administered merged classroom training enhance Iraqi students' translation quality?

2. The Theoretical Framework

2.1 Translation Quality

Translation quality refers to the degree to which the source and target texts correspond. This correspondence should be in content, effect on the reader, and appropriateness for a particular purpose. It is the criterion that determines whether (or not) a specific translation meets the intended purpose. It is not static but rather dynamic, context-dependent, and thus difficult to objectively measure (Han et al., 2021). For the production of

high-quality translations, translation accuracy and fluency should be considered.

Translation accuracy, which refers to the extent to which translation conveys the meaning of the source text (ST), is a fundamental condition for cross-linguistic communication, as an inaccurate translation can falsify facts and divert the author's intentions, or even totally destroy meaning (He et al., 2020). On the other hand, translation fluency refers to the extent to which a particular translation seems as if it were originally written in the target language (TL). This property of translation is measured from the point of view of a target text reader, who does not know that this text is translated, to identify to what extent the translation suits the target language style, grammar, and connotations (Rao Idapalapati, 2011). In this case, the translator should retain the ideas of the ST while using words and expressions natural to the target language and readable for the target-language reader.

2.2 Self-Revision

Revision is the process of reading the translation product to assess its quality and make the necessary changes. Self-revision, on the other hand, is the process by which translators review their own translations, and it is crucial when revision by separate experts is not available. In self-revision, the translation as a whole should be revised, but certain aspects take priority, such as linguistic accuracy, faithfulness, pragmatic factors, and naturalness. Although it is highly beneficial for translation quality, specific errors may sometimes be overlooked, which makes it helpful for the revisor to use assistance tools (Borg, 2018).

Some challenges can arise in self-revisions; they are conducted by the same person. These challenges include, first, some errors may not be detected, as the translator may sometimes is unable to identify all his/her own errors (Borg, 2018). Second, bias cannot always be avoided. To solve these challenges, the translator can follow different paths, such as reliance on feedback or use of technologies (Marín Lacarta & Vargas-Urpi, 2018).

2.3 Media Translation

One of the most specialized forms of media translation is news translation, which is sometimes considered a subject in its own right, different from media translation as a whole. It refers to the transfer of journalistic texts from one language into another. These texts can be found in newspapers, news magazines, news websites, news broadcasts, or reports on television, radio, or the Internet (Chen 2010). It is used in newspapers, television and radio stations, and online platforms to produce and disseminate news in different languages to the public. It plays a critical role, especially in politically sensitive settings as it shapes images and opinions in different countries; consequently, professionalism and a highly specialized form of written and spoken translation are required. News translation, as a specialized type of translation, faces some challenges, including time constraints and the need to translate according to the style of the original text (Shi 2014).

Quality is critical in media translation; it directly affects the news texts, the news channel, and the origin country's credibility in political news. Several obstacles can compromise the quality of news translation, including misrepresentation of cultural nuances in the original text, improper handling of specialised terminology, and adherence to strict translation deadlines (Svoboda et al., 2017).

Good news, according to Autila (2024), must answer the fundamental questions of What, Who, When, Where, Why, and How, and therefore, the good translation of such news should recreate the answers to the same questions. Maintaining accuracy in transmitting the information from the source text and writing it in a way that resonates with the target language and target audience expectations leads to higher-quality translations (Nabilla & Fatimah, 2025). As a result, evaluating the quality of news translations is essential.

The importance of high-quality translations has increased in the globalized media, especially for outlets working in multiple languages, such as the BBC, which seeks to reach people from diverse linguistic and

cultural backgrounds. If these outlets produce low-quality news, their readership and reputations will decrease (Gomaa, 2024).

2.4 Error Analysis

Error analysis in translation studies primarily focuses on grouping and classifying errors. The qualitative method is used to assess errors and their causes, while the quantitative method is used to count errors of each type to identify recurring error types. The mixed-methods framework combines these two previous methods to acquire more detailed data. It can also be used in translation quality assessment to analyze the quality of certain translations (Pym, 1992). One of the frameworks of error analysis used in translation quality assessment is the MQM.

The MQM framework was introduced in the early 2010s as part of the EU-funded QTLaunchPad project to make a standardized yet flexible framework to describe, classify, and measure translation quality across both human and machine translation outputs (Mariana, Cox, & Melby, 2015; Lommel, Gladkoff, & Melby, 2024). The MQM structure is hierarchical, meaning it starts with broad top-level categories and branches into specific error types. According to Burchardt, Lommel, and Uszkoreit (2013), the error categories in this framework are fluency, accuracy, verity, design, and internationalization. These categories can be adapted into the researcher's needs, with specific categories used while leaving are excluded.

2.5 LLMs in Translation

Technology has become an indispensable part of translator training due to the rapid technological advancements in the translation profession. Technological competence is now crucial in translator training, and the ethics of using it should also be understood (Kelly, 2005). One of the technologies that affected the translation profession is Large Language Models (LLMs), which changed the phrase-based statistical models and neural sequence-to-sequence frameworks. This change led to a dramatic improvement in translation quality (Zhang et al., 2025). However, such quality “exhibits substantial variation, contingent upon language direction, system type, and evaluation methodology” (Al-Mahmood, 2025, p. 117). ChatGPT is one of the LLMs tools used in translation. It

can be integrated into translation in several contexts, including professional translation practice, translation teaching and training, and translation evaluation. In translation teaching and training, research shows that translation students and instructors are increasingly using ChatGPT as a tool for draft translations, error-checking, and stylistic suggestions (Wang, Xu, & Liu, 2024). It can also be brought into self-revision as a conversational checker as translators ask for problem detection, style adjustments, and alternatives (Mossop, 2020).

2.6 The Integration of Artificial Intelligence into Translator Training

First of all, there are various worldwide studies on integrating machine translation and Artificial Intelligence (AI) into translator training, driven by advances in these technologies within the translation workflow. For instrance, Özmat and Akkoyunlu (2024), Zaghlool and Khasawneh (2024), Humanika and Radjaban's (2024), and Sayaheen et al (2025) studied the integration of machine translation and AI into translator training. All of these studies concluded that it was necessary to update teaching modes and integrate machine translation and post-editing, and advocated for a curriculum reform.

Other studies, such as Kanglang and Afzaal (2021), Campbell (2024), Hartono (2024), and Bououden & Kohil (2025), studied the transformation in translator training caused by AI and MT technologies. They aimed to explore pedagogical implications, assess current challenges, and propose strategies for effectively integrating AI into translator training. The authors concluded that because the translation profession is evolving with the development of AI technology, translation training must shift towards AI-integrated curricula, emphasizing post-editing, data literacy, and critical digital competence. This can improve translation accuracy and speed.

On the other hand, there are some studies conducted to identify the potential of utilizing AI as a feedback tool to help students in the post-editing and self-revision processes. For instance, Mohammed and Aljanabi (2024), Cao and Zhong (2023), and Xu, Su, and Liu (2024) explored integrating AI models into translation quality assessment (TQA) systems to provide real-time feedback. They tried to evaluate the

technical feasibility, advantages, challenges, and ethical implications of using AI-driven feedback mechanisms to improve translation accuracy, efficiency, and cost-effectiveness. They found that AI models enable real-time feedback, reducing turnaround time and minimizing human oversight errors.

Although the previously mentioned studies are extremely valuable for evaluating the integration of machine translation and AI into translator training programs, they focus solely on general translator training and do not address a specific field. Also, they do not compare the quality of students' outputs with AI-supported machine translation, such as ChatGPT, during self-revision processes, nor do they examine the effect of this method on students' translation quality without any technology. This study seeks to bridge these gaps by examining the integration of machine translation and AI into translator training programs, with a particular focus on ChatGPT.

3. Research Methodology

The present study adopts a mixed-method approach. Data collection was carried out using a test that was conducted on the randomly selected 20 fourth-stage students from the Department of Translation at the College of Arts at the University of Basrah of the academic year (2024-2025). First, the participants were presented with the test directions. After reading them, they are presented with the source text (ST), which is a news text from the BBC News website (See Appendix 1). After that, they began their test, which consisted of three steps.

The first step is to translate the ST from English into Arabic using only traditional paper dictionaries. The second is to use ChatGPT to review their translations by copying and pasting them into ChatGPT, then directing this program to identify translation errors and provide recommendations for improvement. The third is to post-edit (self-revise) their translations to see how ChatGPT's recommendations affected their translation quality.

In the data analysis, the MQM was used to discover the error typology and translation quality. However, the MQM error classification will not be fully used in this study, as the focus is only on accuracy and fluency errors. The framework was adapted to include only the errors required

for this study, as shown in **Figure 1**. It is noted that it is not expected from the user of the framework to use all of the error types but to choose the types relevant for the study to be conducted (Lommel, et al, 2014).

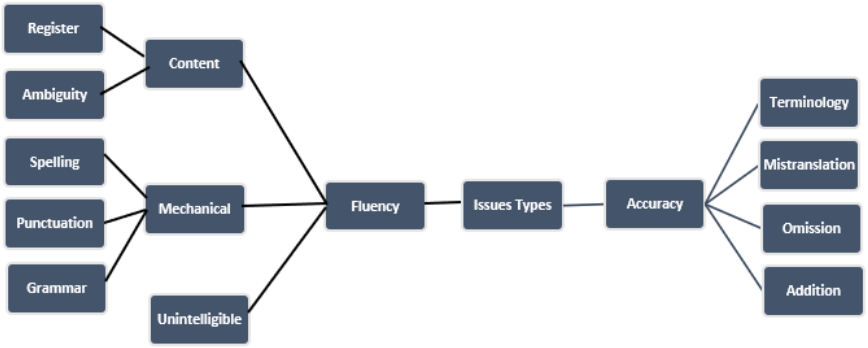

Figure 1: *Adapted MQM framework*

Note: Adapted from *Multidimensional Quality Metrics: A Flexible System for Assessing Translation Quality*, by A. R. Lommel, A. Burchardt, & H. Uszkoreit.

After the test, the participants' answers were collected for analysis. The first and post-edited versions of each participant's translation were analyzed qualitatively by identifying which parts include translation errors then these errors are categorized in terms of the adopted framework. After gathering the errors in each translation, these errors are counted and compared across the two versions for each participant to identify the decrease in each type of error. The percentage of decline is used to determine which type of error the assistance of ChatGPT was most beneficial in.

Subsequent to completing the first part of the analysis, the second part involves measuring each participant's and overall's quality improvement. To do that, each error in each version was labelled with a severity level (minor, major or critical) based on its effect on the translated text. Then these severity levels are assigned weighted points: 1 for each minor error, 5 for each major error, and 25 for each critical error. Some equations from Lommel et al. (2024) are used to count the quality of the translations, as follows:

1) APT = Σ Error Count × Severity Multiplier × Error Type Weight

2) PWPT = APT / EWC

3) RQS = 100 − (PWPT × 100)

- (APT) refers to the Absolute Penalty Total.
- (Error Count) refers to the number of errors identified in the translation.
- (Severity Multiplier) refers to the severity numbers mentioned above.
- (Error Type Weight) refers to the weights assigned to each error based on its type, and in this study, it will be (1) for every type.
- (PWPT) refers to Per-Word Penalty Total.
- (EWC) refers to Evaluation Word Count.
- (RQS) refers to Raw Quality Score.

These steps were conducted for the first version and the post-edited version of translation for each participant; the values were then compared between the two versions to determine the effect of this translation and post-editing method on translation quality, specifically in media translation.

4. Data Analysis

Participants committed different types and numbers of errors throughout the first and the post-edited versions of translation, as shown in **Tables 1** and **2**.

Table 1:*The total number of errors committed by each participant in the first version of the translation*

	Accuracy				Fluency						
Participant	**Terminology**	**Mistranslation**	**Omission**	**Addition**	**Content: Register**	**Content: Ambiguity**	**Mechanical: Spelling**	**Mechanical: Punctuation**	**Mechanical: Grammar**	**Unintelligible**	**Total**
1	1	11	14	2	1	0	4	2	2	3	40
2	0	18	14	1	0	0	0	8	1	2	44
3	2	9	13	3	3	0	2	8	3	4	47
4	1	14	17	2	0	0	1	2	0	0	37
5	0	12	8	3	0	0	1	2	2	0	28
6	0	8	10	1	1	1	1	4	2	0	28
7	2	13	16	2	3	0	1	6	3	1	47
8	2	16	6	4	1	0	2	3	3	1	38

9	1	7	12	1	2	0	0	3	1	0	27
10	0	14	11	3	1	0	0	0	1	1	31
11	1	5	3	7	1	0	0	5	0	4	26
12	0	11	16	4	0	0	3	3	1	1	39
13	1	11	20	3	1	0	2	7	2	2	49
14	1	4	4	5	2	0	0	3	1	2	22
15	2	1	11	2	2	0	0	7	2	1	28
16	0	6	7	1	3	0	2	5	1	0	25
17	4	6	5	1	1	0	2	3	2	1	25
18	1	16	20	2	2	0	3	9	2	3	58
19	3	5	18	1	0	0	1	5	2	4	39
20	2	15	16	1	1	0	0	3	0	1	39
Total	24	202	241	49	25	1	25	88	31	31	717
	516				201						

***Table 2**: The total number of errors committed by each participant in the post-edited version of the translation.*

	Accuracy				**Fluency**						**Total**
Participant	**Terminology**	**Mistranslation**	**Omission**	**Addition**	**Content: Register**	**Content: Ambiguity**	**Mechanical: Spelling**	**Mechanical: Punctuation**	**Mechanical: Grammar**	**Unintelligible**	
1	0	3	1	2	1	0	0	1	1	0	9
2	0	2	10	0	0	0	0	7	0	0	19
3	1	2	9	2	1	0	0	7	0	0	22
4	0	3	12	1	0	0	0	2	0	0	18
5	0	6	5	3	0	0	0	3	1	0	18
6	0	3	9	1	0	0	0	2	1	0	16
7	0	0	12	1	1	0	0	4	0	0	18
8	2	6	3	2	1	0	1	2	2	0	19
9	0	1	9	1	0	0	0	1	1	0	13
10	0	6	7	2	1	0	0	0	0	0	16
11	0	3	0	5	1	0	0	5	0	1	15
12	0	0	10	2	0	0	1	2	0	0	15
13	0	3	9	2	1	0	0	2	0	0	17
14	0	2	2	1	0	0	0	2	0	0	7
15	2	0	15	0	1	0	0	3	1	0	22
16	0	1	7	1	2	0	0	5	1	0	17

17	1	4	2	1	0	0	1	2	1	0	12
18	0	0	17	1	2	0	0	2	1	0	23
19	0	0	8	0	0	0	0	1	0	0	9
20	0	4	9	1	0	0	0	1	0	0	15
Total	6	49	156	29	12	0	3	54	10	1	320
	240				80						

4.1 Accuracy Errors

Errors of this type are subdivided into categories, which are as follows:

4.1.1 Terminology

As shown in **Table 1**, some participants committed terminology errors, totaling 24 errors. For instance, Participant 17 committed most of them, which are four. This participant translates the third sentence of the selected text (Families who had been forced to flee because of the war did not wait to see if the ceasefire between Israel and Hezbollah would hold.) as (لم تنتظر العوائل المجبرة على الفرار بسبب الحرب لترى إذا كان سيتوقف إطلاق النار بين الاعتداء الصهيوني وحزب الله.). The error here is to render (Israel) as (الاعتداء الصهيوني), which is unacceptable and could be translated as (اسرائيل). In the post-editing version, the participant has corrected this error.

4.1.2 Mistranslation

All the participants committed this type of error. The total number of these errors is 202. Most of these, totaling 18, were committed by Participant 2. Examples of these errors by this participant are in rendering the second sentence (Early in the morning they grabbed what they could – bags with clothes, blankets, and mattresses – and headed south.) as (في الصباح الباكر التقطوا ما يطلقون عليه -حقائب ثياب وبطانيات ووسائد واتجهوا شمالاً.). The mistranslations in this sentence are in the translation of (what they could) as (ما يطلقون عليه), (mattresses) as (وسائد), and (south) as (شمالاً). A more acceptable translation could be (في وقتٍ مبكرٍ من الصباح، أخذوا ما استطاعوا حمله من حقائب تحتوي على الملابس، البطانيات، والفرش، وتوجّهوا جنوبًا.). The participant has corrected this sentence in the post-edited version.

4.1.3 Omission

Omission errors were committed by all participants, but in varying numbers. Two participants, who are 13 and 18, committed the most

omission errors (20 omission errors each). An example of such errors is committed by Participant 13 is in the omission of (additional) in the translation of the twelfth sentence (The Lebanese army said it was already strengthening its presence there, as part of the deployment of an additional 5,000 soldiers under the deal.) as (النازحون اللبنانيون يتجهون إلى منازلهم مع استمرار الهدنة الهشة). In the post-edited version, this participant amended the previously omitted word as (اضافي).

4.1.4 Addition

The total number of addition errors committed by the participants in their translations is 49**.** Seven addition errors were committed by Participant 11 alone, which represents the highest number. One of these is in the eighth sentence ("May God have mercy on our martyrs. The resistance is a source of honour and pride for us. Without its existence, there would be no homeland, no south, nothing.") because he transforms into (رحم الله شهدائنا. المقاومة الإسلامية هي مصدر فخر وشرف لنا. بدون وجودها. لن يكون هنالك أي انتصار واي وطن ولا جنوب ولا أي شيء يذكر.). The error is in the addition of (الإسلامية), which is not available in the ST. In the post-edited version, this error has been rectified.

4.2 Fluency Errors

Errors of this type are subdivided into six categories:

4.2.1 Content: Register

Only 25 errors were committed across the translations of all the participants, with Participants 3, 7 and 16 in the lead as they have 3 errors each. Examples of this type of are done by Participant 3 in the fourth sentence (Just hours after it came into effect they were driving back home on the main road from Beirut.) as s/he writes it as (بعد ساعات فقط من التنفيذ كانوا يسوقون السيارات الخاصة بهم يرجعون الى المنزل على الطريق الرئيسي لبيروت.). The error is in using (يسوقون), which is not a standard Arabic word, so it should be better translated to (يقودون). This error was amended in the post-edited version.

4.2.2 Content: Ambiguity

Ambiguity errors were committed only once by one participant who is

Participant 6. This one error is in the third sentence (Families who had been forced to flee because of the war did not wait to see if the ceasefire between Israel and Hezbollah would hold.) as it is rendered into (العوائل التي فرت بسبب الحرب لم ينتظروا حتى يروا ان الهدنة بين إسرائيل وحزب الله ستبقى صامدة.). The error lies in the ambiguous phrasing of (ان الهدنة ... ستبقى صامدة), which should be translated to (ان كانت الهدنة ... ستبقى صامدة). This sentence was corrected in the post-edited version and translated as (العائلات التي فرت قسراً بسبب الحرب لم ينتظروا حتى يروا ما إذا كانت الهدنة بين إسرائيل وحزب الله ستستمر.).

4.2.3 Mechanical: Spelling

In the spelling type, only 25 errors were committed by all the participants. These were done four times by Participant 1. One of these four errors is in the translation of the sixth sentence (For many this was a moment of celebration.) because it is transformed into (للكثير كانت هذه لحظة احتفلا.). In this sentence, (احتفلا) should be changed into (احتفال). This correction was implemented in the post-edited version.

4.2.4 Mechanical: Punctuation

Punctuation errors were committed 88 times across the translations of all participants. Participant 18 done the highest number, which is 9. An example of the errors committed by this participant is the eighth sentence ("May God have mercy on our martyrs. The resistance is a source of honour and pride for us. Without its existence, there would be no homeland, no south, nothing.") as s/he translates it into (وقال ايضاً رحم الله الشهداء. المقاومة مصدر الشرف والفخر لنا من دونها لن يكون وطن ولا جنوب ولا شيء اخر.). The errors here are in using brackets instead of quotation marks in the quote (ما وقع كان حميداً هذا نصر للمقاومة) and in not adding a full stop or a comma after (ما وقع كان حميداً). This participant corrected these errors in the post-edited version.

4.2.5 Mechanical: Grammar

It is clear in the above table that 31 grammar errors were committed by

all the participants. The highest number is three, which is committed by Participants 3, 7 and 8. For example, Participant 3 did a grammatical error in the translation of the fifth sentence (Some waved the yellow and green flag of Hezbollah, others carried posters with images of the group's former leader Hassan Nasrallah, killed in an Israeli air strike two months ago.) as s/he transfers into (يلوحون بعضهم براية حزب الله الأصفر والاخضر وبعضهم يحملون ملصقات تحمل صور الزعيم السابق حسن نصر الله الذي استشهد في غارة جوية من إسرائيل قبل شهرين.). This participant used (الأصفر والاخضر), which does not agree with the gender of (راية). Instead, (الصفراء والخضراء) should be used. This error has been modified in the post-edited version.

4.2.6 Unintelligible

Unintelligible errors were committed by most participants 31 times in total. Some participants had the highest number, such as Participant 19. This participant committed an error in the sixth sentence (For many this was a moment of celebration.) as s/he renders into (لكثير من هذه كانت اللحظة للاحتفال.). A more acceptable alternative would be (للكثير، كانت هذه لحظة احتفال). This sence was amended in the post-edited version.

5. Results

In this part, the results will be organized according to the two variables: error typology and translation quality.

5.1 Error Typology

Here, an examination of the total number of each type of error committed by all the participants in the first version of translation will be carried out. Then, the numbers in the post-edited version will also be tackled to explore the effect that ChatGPT has on the number and types of errors. The total number will be derived from **Tables 1** and **2.**

As far as accuracy is concerned, it can be noticed that in the first versions of the translation, terminology errors totaled 24, whereas in the post-edited versions, they are only 6. This signals a decrease of 75% when using ChatGPT to help in post-editing. Also, mistranslation errors have dropped from 202 to 49, which is a 75.74% decrease. Omission errors totaled 241 in the first version of translation, then they declined to

156, thus making a 35.27% decrease. Furthermore, the reduction in addition errors was from 49 to 29, which is 40.82%. These results indicate that there is a decrease in mistranslation, omission, addition, and terminology errors among translations assisted with ChatGPT. This decrease underlines the benefit of using ChatGPT in media translation training to minimize accuracy errors in general. As shown in **Figure 2**, all the four types of accuracy errors show a significant decrease. However, ChatGPT was most beneficial in mistranslation and terminology errors, followed by addition, and finally terminology errors.

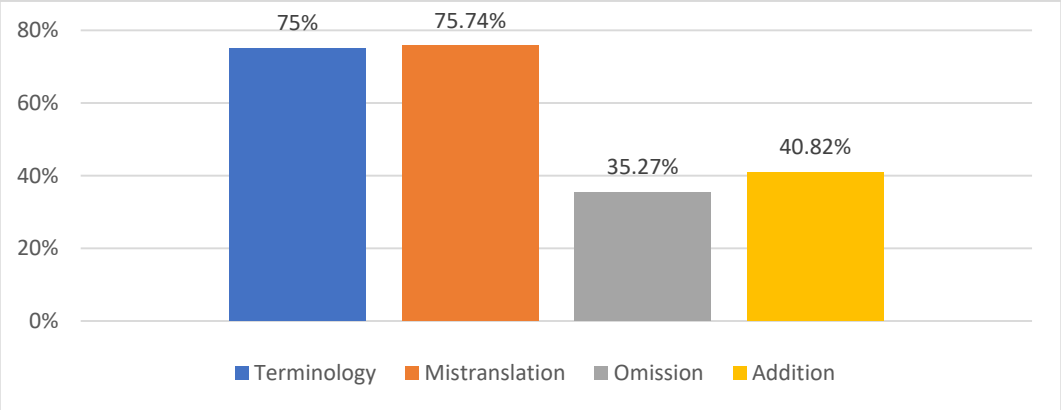

***Figure 2**: Decrease in accuracy errors*

In fluency errors, on the other hand, register errors decreased 52%, i.e., from 25 errors to 12 errors. Also, only one ambiguity error was committed in the pre-edited version. This was corrected in the post-edited version, so the percentage of decrease is 100%. Moreover, spelling errors were 25 and became 3 in the post-edited version, resulting in an 88% decrease. Furthermore, for punctuation errors, the percentage of decrease is 38.64%, as there was a drop from 88 errors to 54 errors. Additionally, grammar errors were 31 and decreased to 10 in the post-edited version, resulting in a 67.74% decline. Finally, unintelligible errors decreased by 96.77% from 31 errors to only one error. Consequently, there is a decrease in mechanical; spelling, mechanical; grammar, mechanical: punctuation, content: register, content: ambiguity and unintelligible errors. This decrease shows the value of using ChatGPT in media translation training especially in decreasing fluency errors in general. Nevertheless, **Figure 3** shows that the most decreased fluency error type is ambiguity and unintelligible errors. Followed by

spelling errors, then grammar and register errors. At the end, there were punctuation errors with the least benefit.

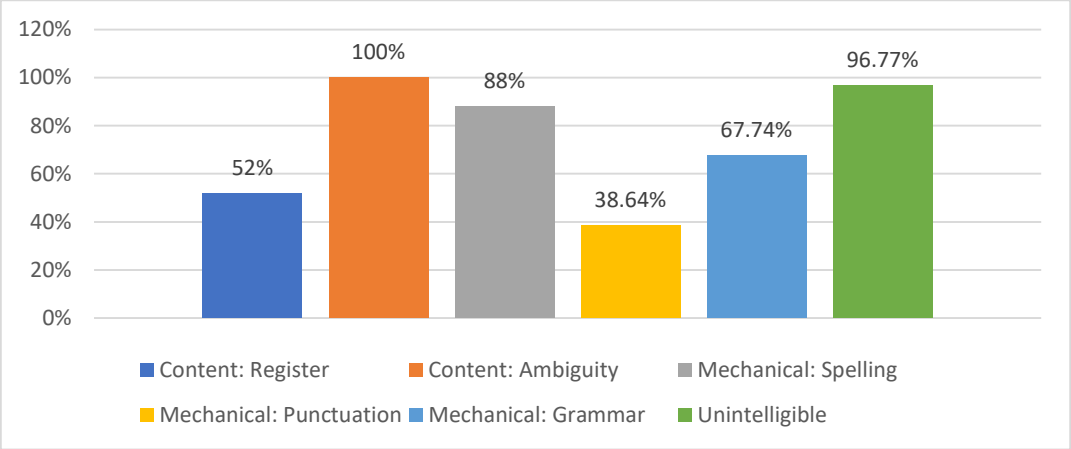

***Figure 3**: Decrease in fluency errors*

Overall, the results indicate a decrease in both accuracy and fluency errors. However, fluency errors (60.2% reduction) decreased more than accuracy errors (53.49% reduction) across translations assisted by ChatGPT, indicating that ChatGPT is more effective in correcting fluency than accuracy errors, as illustrated in **Figure 4**.

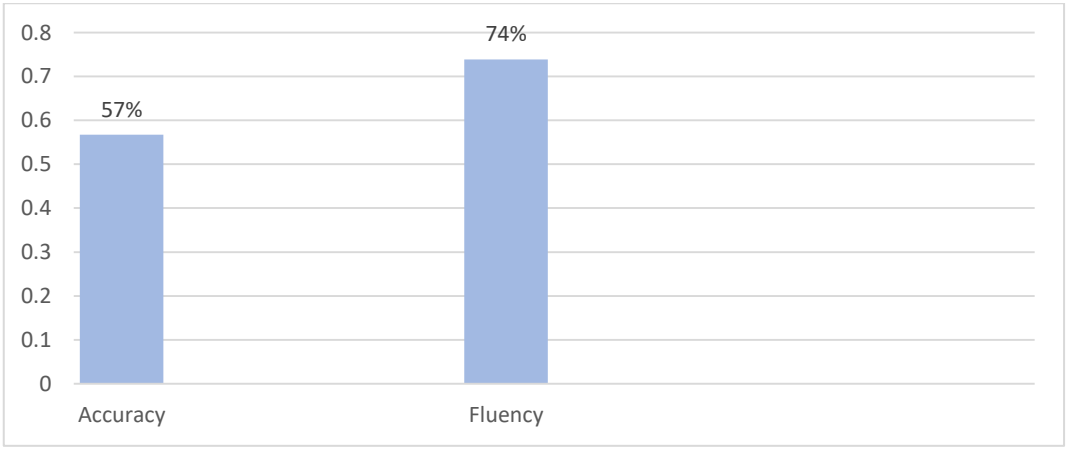

***Figure 4**: Decrease in accuracy Vs. fluency errors*

5.2 Translation Quality

According to the results in **Table 3** and by looking at **Figure 5**, we notice the improvement in the quality of translation in the first version to the

post-edited version. The average quality of the first versions of all translations is 15.66%, while the average quality of the post-edited versions of all translations is 62.19%. This improvement has taken place after using ChatGPT to help in post-editing the outputs.

Participant	First	edited
Participant 1	7.40%	84.90%
Participant 2	0%	67.50%
Participant 3	30.30%	64.80%
Participant 4	0%	52.90%
Participant 5	0%	47.90%
Participant 6	40.30%	72.20%
Participant 7	0%	28.60%
Participant 8	0%	40.20%
Participant 9	22.00%	65.80%
Participant 10	0%	54.90%
Participant 11	71.40%	89.20%
Participant 12	0%	52.90%
Participant 13	6.80%	71.50%
Participant 14	66.10%	89.70%
Participant 15	23.40%	43.90%
Participant 16	10.50%	55%
Participant 17	19.80%	58.70%
Participant 18	0%	45.20%
Participant 19	0%	81.60%
Participant 20	5.90%	76.30%
Average	15.66%	62.19%

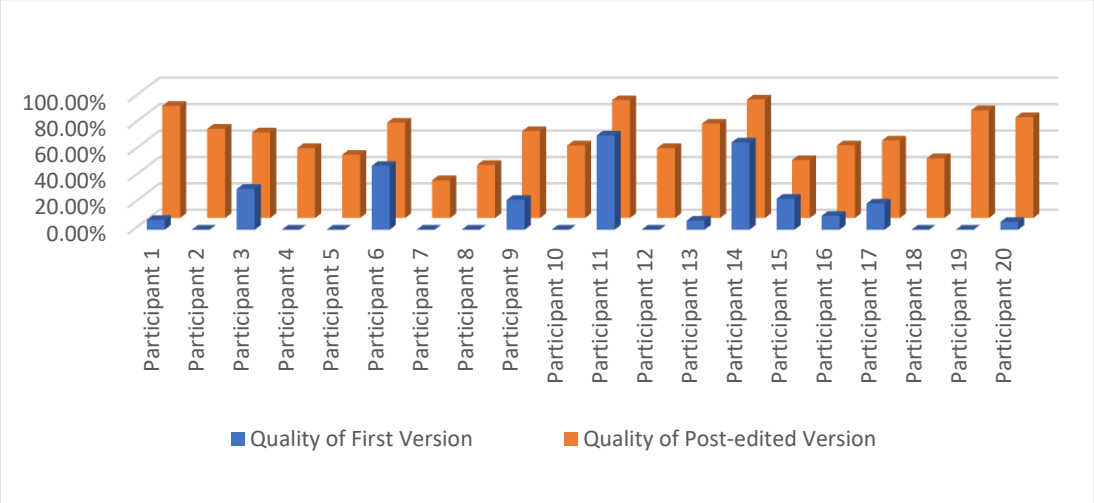

***Figure 5**: Translation Quality Improvement*

6. Discussion

As stated earlier, the purpose of this study is to evaluate the benefits of using MT in media translation training. It primarily focuses on using ChatGPT as a machine translation tool in this context. This section

interprets these results in relation to the research questions (RQ).

RQ1: What types of translation errors do Iraqi student translators commit when rendering journalistic texts without and with the help of ChatGPT?

The results showed that the Iraqi student translators committed various errors when rendering journalistic texts without ChatGPT's help. These errors are terminology, mistranslation, omission, and addition (accuracy), and register, ambiguity, spelling, punctuation, grammar, and unintelligible (fluency). They have different frequencies. The participants mostly commit omission and mistranslation errors, followed by punctuation and addition errors, and then the remaining error types. However, the ambiguity error type can hardly ever be committed.

When utilizing the assistance of ChatGPT, the types of errors committed are also of the types: terminology, mistranslation, omission, and addition (accuracy), and register, spelling, punctuation, grammar, and unintelligible (fluency). They have different frequencies as well. The participants mostly commit omission errors, followed by punctuation and mistranslation errors, then other types of errors, with no ambiguity errors.

RQ2: What types of errors does the integration of ChatGPT as a feedback tool eliminate?

The results indicate that using ChatGPT helped in eliminating many errors. The types eliminated vary among participants. 74% of fluency errors were eliminated, which is more than the accuracy errors that scored 57% only. Within the fluency errors, ambiguity errors were the most corrected (100%), followed by unintelligible errors (96.77%), spelling errors (88%), grammar errors (67.74%), register errors (52%), and punctuation errors (38.64%). Within accuracy errors, the most corrected type is mistranslation errors (75.74%), followed by terminology errors (75%), addition errors (40.82%), and omission errors (35.27%).

RQ3: Can a teacher-administered merged classroom training

enhance Iraqi students' translation quality?

According to the results, the teacher-administered merged classroom training has indeed enhanced Iraqi students' translation quality. The average quality of all translations increased from 15.66% to 62.19%. This advancement in translation quality ensures the benefits of using merged classroom training for the student translators' outputs.

7. Conclusion

The findings of this study can contribute to media translation training by showing the necessity to integrate ChatGPT into it to help graduate students align with the translation workflow requirements and to help maximize the quality of the translations while minimizing errors. They also contribute to the translation pedagogy literature by focusing on the benefits of integrating machine translation into media translation training.

Overall, the study concludes the following:

1. Student translators make many errors when translating news texts from English into Arabic. These errors are of various types and severity levels. Some of these errors are in the accuracy, while others are in the fluency. The accuracy errors include: terminology errors (committed 24 times), mistranslation errors (202 times), omission errors (241 times), and addition errors (49 times). The fluency errors include: register error (25 times), ambiguity errors (1 time), spelling errors (25 times), punctuation errors (88 times), grammar errors (31 times), and unintelligible errors (31 times).

2. Using ChatGPT as an assistance tool in conjunction with human translation skills in media translation advances the translation quality. Student translators, before using ChatGPT, mainly produced low-quality translations, with an average quality of only 15.66%. After using ChatGPT in conjunction with human translation skills, they all produced higher-quality translations, with the average quality increasing to 62.19%, which is a significant increase. This advancement happened because of the decrease in accuracy errors from 516 errors to 240 errors for all the participants. All the accuracy errors subtypes decreased: terminology errors decreased from 24 to 6, mistranslation errors from 202 to 49, omission errors from 241 to 156, and addition errors from 49

to 29. On the other hand, there is parallel advancement represented in the decrease in fluency errors from 201 to 80. All the fluency errors subtypes decreased: register errors decreased from 25 to 12, ambiguity errors from 1 to 0, spelling errors from 25 to 3, punctuation errors from 88 to 54, grammar errors from 31 to 10, and unintelligible errors from 31 to 1.

3. The MQM framework is found to be beneficial in assessing the quality of media translations. The MQM framework provides a vast typology of errors, with various types and subtypes, and is designed to be flexible and adaptable to the user's needs. This means the researcher or assessor can choose the error types they need, while leaving the unnecessary ones. This allows for a more purposeful assessment that focuses on the essential aspects of the assessed text. This framework also presents several equations for measuring translation quality, which can be selected based on text length or the assessor's focus. Furthermore, this framework is designed to provide a unified framework for assessing both human and machine translations.

4. Teacher-administered merged-classroom assignment helps in improving the students' outputs on three different levels:

First, it assisted in developing the students' post-editing strategies. Students in this assignment post-edited their outputs using the feedback obtained from ChatGPT which, in turn, gave them a suitable practice in post-editing or self-revision. Also, the recommendations presented by ChatGPT helped the students gain knowledge on what to edit in the post-editing process and what parts are considered errors to be corrected which developed their full post-editing skills.

Second, it enabled the students gain knowledge on the possibility of using ChatGPT as a feedback tool to assist in post-editing. Before the assignment, most participants said that they only used ChatGPT as an MT tool to translate the whole text, but during the assignment, they learned to use it as a feedback tool to review translations, and thus helping in the post-editing process made by the students.

Third, it contributed to developing the students' translation competence. This happened when ChatGPT identified the errors committed by each student, allowing the students to know where they made errors and then

presented recommendations on how to solve these errors, giving the students a clear vision of how to translate correctly.

5. Using ChatGPT decreases the time and effort needed by the students to post-edit their translations. Without using ChatGPT, students would require time and effort to think of errors and the ways to fix. In contrast, with the assistance of ChatGPT, this process required less time and effort, only to review the errors and recommendations provided by ChatGPT and choose what they see fit.

Ultimately, through this study, it is proven that integrating machine translation and particularly ChatGPT into media translation Academic training is beneficial in improving the quality of students' translations and in reducing the errors committed.

8. Recommendations

According to the findings, translation educators are recommended to:

- Allow using MT tools in classroom practice in conjunction with human skills, not as substitutes.
- Incorporate ChatGPT or other LLMs tools as feedback tools to help students in revising their translations.
- Teach the students the strengths and weaknesses of MT and AI.
- Teach the students to assess each other's translation quality to develop their translation competence by discovering their errors and how to correct them.

Student translators, on the other hand, are recommended to:

- Use ChatGPT to explore alternative phrasings, terminology, and stylistic nuances, but always verify the tips provided.
- Not to limit the use of ChatGPT or other LLMs tools only to translate the whole text, but to explore new ways, such as using them as a feedback tool.
- Use the MQM framework in translation quality assessment.
- Read more news to learn more about how to write and translate them, and to memorize the terminology used in this type of language.

3. Curriculum designers are recommended to introduce AI literacy and MT modules in translation programs.

Finally, the following gaps are suggested for future researchers to:

- Investigate long-term learning effects of ChatGPT-assisted translation.
- Examine the benefits of integrating MT into other types of translation academic training (such as legal translation or scientific translation).
- Compare ChatGPT with other MT engines (e.g., DeepL, Google Translate) in educational settings.
- Explore differences in using ChatGPT to translate the whole text or as a feedback tool in revising translations.
- Use the MQM framework to assess the quality of human and machine translations in other fields.

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Appendix 1: The Source Text

1. Displaced Lebanese head for homes as fragile truce appears to hold

2. Early in the morning they grabbed what they could – bags with clothes, blankets, and mattresses – and headed south.

3. Families who had been forced to flee because of the war did not wait to see if the ceasefire between Israel and Hezbollah would hold.

4. Just hours after it came into effect they were driving back home on the main road from Beirut.

5. Some waved the yellow and green flag of Hezbollah, others carried posters with images of the group's former leader Hassan Nasrallah, killed in an Israeli air strike two months ago.

6. For many this was a moment of celebration.

7. "What happened is very good. This is a victory for the resistance," said Abu Ali, referring to the ceasefire that had been brokered by the US and France.

8. "May God have mercy on our martyrs. The resistance is a source of honour and pride for us. Without its existence, there would be no homeland, no south, nothing."

9. His plan was to return to the village Houla, right next to the border. But Israeli troops were still there, he said.

10. "We don't know whether our house is still standing or has been destroyed," Ali said. "But we'll go there."

11. The 60-day ceasefire will see the gradual withdrawal of the Israeli military, and of Hezbollah fighters and weapons, from Lebanon's south.

12. The Lebanese army said it was already strengthening its presence there, as part of the deployment of an additional 5,000 soldiers under the deal.