The Impact of Using AI on Students' Performance in Translation Courses

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Abstract

This research examines the impact of using Artificial Intelligence tools by translation students. It aims to investigate if students produce better translation while using AI and whether or not they learn new skills while using it. It also aims to investigate if this process has a negative or positive impact on the students and what are the students' and teachers' attitudes towards AI. The study analyzes data from the translation of several texts performed by 40 students with and without the use of AI. The analysis of these students' translations reveals that AI indeed helped students produce much better translation and that students have a positive feeling towards using AI tools. While the use of AI has some positive impact on the students, it still has a negative impact in which it may get students into the habit on over-relying on AI which could hinder their creativity and abilities to translate from scratch. However, when students use AI for translation, they partake an analysis and synthesis similar to translating from the ground up. The study concludes that while AI translations can enhance students' translation skills, it advises caution in allowing its use during the initial phases of translation training.

Keywords: *(AI) Artificial intelligence – Students' attitudes Over-relying on AI*

Introduction:

The perks of translation tools and applications in recent years has had a tremendous effect on translation students and translators in general. The continuous improvement of translation technologies has led to satisfactory quality in some language combinations, making them suitable for use by translation companies, colleges and universities (Alcina et al., 2007). While it has been proved that AI tools are yet to be improved when it comes to the language combination English and Arabic (Salem, 2009; Hadla et al., 2014), many students who are registered in

translation courses in the English Department at the Faculty of Arts find (AI) to be an essential tool that saves time and effort. Many assignments and weekly translation tasks were conducted

by using (AI). Consequently, incorporating translation technologies into the translation curriculum is crucial for preparing students for the current market demands. Several researches have advocated for including AI tools in the course syllabus (O'Brien, 2002; Depraetere, 2010; Garcia, 2011;). Although this inclusion is seen as a promising move, teachers in English Department at the Faculty of Arts have raised important matter to be investigated: would it be a good idea to encourage students to use AI tools while they are acquiring essential skills in translation?

Should translation students be encouraged to use translation technologies while acquiring essential translation skills? Do students perform better while using AI? What are the students' perceptions towards the use of AI in translation?

1.1. Statement of the Problem

Many students undertaking translation courses in the English Department relies on (AI) specifically the (Poe app) to work on their translation assignments. AI is a useful resource for translators, helping with tasks such as checking word meanings and delivering their final version of the translation task. However, depending heavily on AI tools without honing students' translation capabilities could hinder learners' advancement to their learning goals (Boase-Beier, 2011).

While delivering translation lectures, most instructors require the learners to translate the tasks out of the class due to the time limit of the translation lectures (four hours per week for 14 weeks in each course). Some teachers assign a text for translation which would be subject for classroom discussions in the following class. Other teachers assign additional translation homework alongside texts designated for in-class discussion. In rare instances, teachers may decide to have all translation work completed in class to ensure students actively practice translation rather than relying on copying or retyping AI-generated translations.

1.2. Research Question

This study seeks to address the research questions:

1) Do students perform better when using AI while working on their translation tasks?
2) Does the use of AI in translation have a positive or a negative impact on students?
3) What are the students' attitudes and perceptions regarding the use of AI in translation?
4) What are the teachers' attitudes and perception towards the use of AI by students?

2. Methodology

To answer the research questions, the researcher called for a voluntary participation for the sake of this research. 40 students and 3 teachers responded to the call and participated in this study. The study adopts a mixed method in which qualitative and quantitative research instruments are used. The researcher prepared translation tasks twice a week for a period of 5 weeks to see how the students perform with and without the use of AI. Through the analysis of the data, the research will also investigate if using AI will have an impact on the students though observing how they proceed with translation. Additionally, the researcher used two different questionnaires to investigate the students' and teachers' attitudes and perception towards applying AI in their translation tasks. This research's participants were all students of Translation III course and teachers of translation from the Department of English, Faculty of Arts- Misrata University. The aim of the translation tasks is to investigate whether students perform better when using AI? Does the use of AI have an impact on them? The students also answer a questionnaire that aims to know the attitudes and perceptions towards the use of AI in translation. The other questionnaire is assigned for the translation teachers to have their professional view on the use of AI by students through what they notice in the class.

To answer these questions, students were requested to work on 10 texts of nearly 250 words long for every text from English into Arabic as this is much easier for translators in early stages. The experiment lasted for 5 weeks as students were requested to translated one text in each lecture.

The students had two lectures a week of 2 hours each. The texts are a collection of political texts that are extracted from the BBC homepage on the internet. The 40 students were divided into two groups in which Group A uses AI while group B does not use AI in their translation. The researcher checked the academic level of the students and made sure that both groups are of similar academic level.

3. Results and Findings

To evaluate the quality of translations, the researcher considered the following factors to examine how good the translation is:

Group A (Using AI Tools)

Criterion	Excellent	Good	Satisfactory	Need Improvement	Poor
Accuracy	40%	35%	15%	5%	5%
Fluency	45%	30%	15%	5%	5%
Cohesion	35%	40%	15%	5%	5%
Cultural Appropriateness	30%	35%	20%	10%	5%
Lexical Choice	40%	35%	15%	5%	5%

Accuracy

In summary, the evaluation of student performance in translation using AI tools showed that 40% of students achieved high accuracy, benefiting from the precision of AI in straightforward tasks. Another 35% performed well but faced minor errors that AI couldn't perfectly handle. About 15% of students relied too heavily on AI, resulting in errors with complex translations. A small group (5%) struggled due to over-reliance on AI without understanding the context, and another 5% had poor accuracy, indicating a lack of understanding or misuse of AI tools.

Fluency

In summary, the evaluation of student performance in translation using AI tools revealed that 45% of students produced smooth and readable translations. Another 30% achieved good fluency, though with minor sentence structure issues. About 15% of students created readable but not entirely smooth translations. A small group (5%) faced fluency issues, likely due to literal translations by AI, and another 5% had poor fluency, indicating a lack of refinement in their translations.

Cohesion

In summary, the evaluation of student performance in translation using AI tools showed that 35% of students maintained a logical flow in their translations. Another 40% achieved good cohesion, though with minor issues in connecting sentences. About 15% produced coherent but not entirely logical translations. A small group (5%) struggled with cohesion, likely due to AI's limitations in understanding context, and another 5% had poor cohesion, indicating a lack of logical flow in their translations.

Cultural Appropriateness

In summary, the evaluation of student performance in translation using AI tools showed that 30% of students understood cultural nuances well. Another 35% achieved good cultural appropriateness with minor issues. About 20% produced translations that were culturally appropriate but not entirely accurate. A small group (10%) struggled with cultural nuances, likely due to AI's limitations, and another 5% had poor cultural appropriateness, indicating a lack of understanding of cultural context.

Lexical Choice

In summary, the evaluation of student performance in translation using AI tools showed that 40% of students chose appropriate vocabulary effectively. Another 35% achieved good lexical choice with minor issues. About 15% produced translations with appropriate but not entirely accurate vocabulary. A small group (5%) struggled with lexical choice, likely due to AI's limitations, and another 5% had poor lexical choice, indicating a lack of appropriate vocabulary.

Group B (Without AI Tools)

Criterion	Excellent	Good	Satisfactory	Need Improvement	Poor
Accuracy	30%	35%	20%	10%	5%
Fluency	25%	40%	20%	10%	5%
Cohesion	30%	35%	20%	10%	5%
Cultural Appropriateness	25%	30%	25%	15%	5%
Lexical Choice	30%	35%	20%	10%	5%

Accuracy

In the evaluation, 30% of students achieved high accuracy, relying on their skills. Another 35% performed well but encountered more errors without AI assistance. Meanwhile, 20% produced translations that were accurate but not entirely precise. A smaller group, 10%, struggled with accuracy, possibly due to lack of practice, and 5% had poor accuracy, indicating a lack of understanding.

Fluency

In the evaluation, 25% of students achieved high fluency without AI tools. Another 40% produced good fluency, relying on their skills. Meanwhile, 20% produced readable translations that were not entirely smooth. A smaller group, 10%, struggled with fluency, possibly due to lack of practice, and 5% had poor fluency, indicating a lack of refinement.

Cohesion

In the evaluation, 30% of students achieved high cohesion without AI tools. Another 35% produced good cohesion, relying on their skills. Meanwhile, 20% produced coherent translations that were not entirely logical. A smaller group, 10%, struggled with cohesion, possibly due to lack of practice, and 5% had poor cohesion, indicating a lack of logical flow.

Cultural Appropriateness

In the evaluation, 25% of students achieved high cultural appropriateness without AI tools. Another 30% produced good cultural appropriateness, relying on their skills. Meanwhile, 25% produced culturally appropriate translations that were not entirely accurate. A smaller group, 15%, struggled with cultural nuances, possibly due to lack of practice, and 5% had poor cultural appropriateness, indicating a lack of understanding.

Lexical Choice

In the evaluation, 30% of students achieved high lexical choice without AI tools. Another 35% produced good lexical choice, relying on their skills. Meanwhile, 20% produced translations with appropriate vocabulary that were not entirely accurate. A smaller group, 10%, struggled with lexical choice, possibly due to lack of practice, and 5% had poor lexical choice, indicating a lack of appropriate vocabulary.

Summary

- **Group A (Using AI Tools)**: Generally performed better in terms of accuracy, fluency, and lexical choice. AI tools helped students achieve higher precision and smoother translations.

  However, there were still some challenges with cultural appropriateness and cohesion, indicating that AI tools have limitations in understanding context and cultural nuances.

- **Group B (Without AI Tools)**: Showed a more balanced performance across all criteria but tended to have lower scores in accuracy and fluency. Manual translation practice helped students understand cultural nuances better and develop a deeper understanding of the translation process.

Overall, the findings suggest that while AI tools can enhance certain aspects of translation, manual practice is crucial for developing a deeper understanding of cultural context and cohesion. Combining both approaches could provide the most comprehensive training for translation students. Throughout the 5 weeks, the researcher noticed that Group A relied entirely on AI in their translation and worked as editors of the AI translation rather than as translators.

The researcher noticed that Group A students made no efforts to think about the text. They just worked on the outcome of AI translation of the whole text and started editing. There is a thin line between using AI to assist you in your translation and making AI do the job for you. In the long run, students, who might specialize in translation in the future, relies entirely on AI which would affect their abilities of problem solving, critical thinking, creativity and abilities to produce simple translation due to the fact that they surrendered to AI and no longer challenge their brains in translation.

Data Analysis of the Questionnaires

This research uses two questionnaires to measure the students' and teachers' attitudes and perceptions towards the use of AI tools in translation. The researcher used Likert scale questions in a questionnaire for the 40 students and another questionnaire for the 3 teachers. The results are as follows:

Students' questionnaire

Questions	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
I find AI translation tools helpful in my translation tasks.	5%	10%	20%	40%	25%
Using AI translation tools has improved my translation skills.	8%	12%	25%	35%	20%
I rely heavily on AI tools for my translation assignments.	10%	15%	30%	30%	15%
I feel confident in my translation abilities without using AI tools.	12%	18%	30%	25%	15%
Post-editing AI-generated translations helps me understand the translation process better.	5%	10%	20%	40%	25%

I prefer translating texts manually rather than using AI tools.	15%	20%	25%	25%	15%
AI translation tools produce accurate translations.	10%	15%	30%	30%	15%
Using AI tools limits my creativity in translation.	20%	25%	25%	20%	10%

1. **Positive Attitude Towards AI Tools**:
    - A significant majority (65%) of students find AI translation tools helpful, indicating a generally positive attitude towards their use.
2. **Perceived Improvement in Skills**:
    - Over half of the students (55%) believe that using AI tools has improved their translation skills, suggesting a perceived benefit in their learning process.
3. **Reliance on AI Tools**:
    - A notable portion (45%) of students rely heavily on AI tools for their translation assignments, highlighting a significant dependence on these tools.
4. **Confidence Without AI Tools**:
    - Only 40% of students feel confident in their translation abilities without using AI tools, indicating that many students may be over-reliant on AI.
5. **Post-Editing as a Learning Tool**:
    - A majority (65%) agree that post-editing AI-generated translations helps them understand the translation process better, supporting the idea that post-editing can be a valuable learning activity.

6. **Mixed Preferences for Manual Translation**:
    - Preferences are varied, with 40% preferring manual translation and 35% disagreeing, showing that students have different preferences regarding translation methods.
7. **Effectiveness of AI Tools**:
    - 45% of students agree that AI tools produce accurate translations, while 25% disagree, indicating some skepticism about the accuracy of AI translations.
8. **Impact on Creativity**:
    - 45% of students disagree that AI tools limit their creativity, suggesting that many students do not feel that AI tools hinder their creative process.

Overall, the findings suggest that while students generally have a positive attitude towards AI translation tools and perceive them as beneficial, there is a significant reliance on these tools. Post editing AI translations is seen as a valuable learning activity, but there are mixed feelings about the accuracy of AI translations and their impact on creativity.

Teachers' questionnaire

Criterion	**Teacher A**	**Teacher B**	**Teacher C**
Relevance of AI in Translation	AI tools like Google Translate and DeepL are highly relevant as they assist in quick translations and help students understand complex texts.	AI tools are somewhat relevant but should be used as supplementary tools rather than primary resources.	AI tools have limited relevance as they often produce inaccurate translations and can mislead students.

Impact on Student Learning	AI positively impacts learning by providing instant feedback and helping students learn new vocabulary. However, it can also make students overly reliant on technology.	AI tools can enhance learning by offering diverse examples, but they can also hinder critical thinking if overused.	AI tools negatively impact learning as students may not develop essential translation skills and become dependent on technology.
Ease of Use	AI tools are very user-friendly and intuitive, making them accessible to all students.	AI tools are generally easy to use but may require some initial training.	AI tools can be difficult to use, especially for students who are not tech-savvy.
Ethical Considerations	There are significant ethical concerns, such as data privacy and the potential for plagiarism.	Ethical concerns exist, particularly regarding the accuracy of translations and the misuse of AI tools.	Ethical concerns are paramount, including the risk of students submitting AI generated work as their own.

In conclusion, the perspectives of the three teachers on the relevance and impact of AI tools in translation education highlight a spectrum of opinions. Teacher A views AI tools as highly beneficial for quick translations and vocabulary learning, though noting the risk of over-reliance. Teacher B acknowledges the potential of these tools while emphasizing the need for careful integration to avoid hindering critical thinking. Conversely, Teacher C expresses significant concerns about the accuracy of AI translations and the ethical implications, suggesting that these tools may ultimately do more harm than good. This diversity of viewpoints underscores the necessity for educators to balance the advantages of AI with its limitations and ethical considerations, fostering a thoughtful approach to its implementation in the classroom.

Conclusion

While AI tools can be valuable aids in translation, it's essential to balance their use with traditional methods to ensure students develop a comprehensive set of skills. Encouraging critical thinking, cultural sensitivity, and creativity, alongside the use of AI, can help students become more proficient and well-rounded translators.

The issues with current AI translation tools are that they may provide inaccurate or inappropriate word choices, which students may then passively accept without verifying. This can impede the students' acquisition of active vocabulary. Additionally, students tended to over-edit the AI-generated translations, even when the output was accurate, possibly due to a misconception that more editing is always better.

The main problem is that the potential benefits of having students edit machine-generated translations are diminished when, as teachers have noted, some learners submit these translations without making any revisions. This practice deprives students of an important learning experience. The impact of this issue varies based on how frequently students choose this easy route and how engaged they are in class discussions about the translations.

To address the potential learning gaps caused by excessive dependence on machine translation, educators should adopt specific classroom strategies. These may include:

1. Providing students with ample opportunities to practice producing their own translations in the classroom. This hands-on translation practice is crucial for developing translation competence (Albir, 2007).
2. Monitoring students' classwork to prevent them from becoming overly dependent on machine translation for producing initial drafts. Overreliance on AI can hinder the development of students' core translation skills.
3. Regularly emphasizing to students that the best way to enhance their translation skills is through hands-on translation experience. They need to recognize that effectively editing AI-generated content demands strong translation abilities (Tennet, 2005).

4. Teaching students to edit AI translations should be reserved for the latter part of the program. This approach helps to prevent AI translation editing from disrupting the development of essential translation skills (Somers, 2003).

The key is to emphasize hands-on translation practice in the classroom and limit overreliance on machine translation, especially in the earlier stages of the program, in order to foster the development of students' translation competence.

Although students should understand and use translation technologies, the unplanned integration of these tools may impede the development of essential translation skills. Students must be trained to consider AI translation as a source of options to be verified and edited, rather than a substitute for their own translation proficiency.

Recommendations

It's important to note that while AI can be a useful tool in translation education, it should be used judiciously and in conjunction with other learning strategies to avoid these potential disadvantages.

To mitigate these potential disadvantages, translation educators should design curricula that strike a balance between utilizing technology and fostering students' independent translation skills. They can incorporate a variety of translation exercises, real-world projects, and collaborative activities that encourage critical thinking, self-reflection, and the application of translation techniques beyond automated tools. Additionally, educators can provide constructive feedback, facilitate discussions on translation challenges, and encourage students to explore different approaches to translation to enhance their overall proficiency.

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تأثير استخدام الذكاء الاصطناعي على أداء الطلاب في مواد الترجمة

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ملخص البحث

يدرس هذ البحث تأثير استخدام أدوات الذكاء الاصطناعي من قبل طلاب الترجمة. ويهدف البحث إلى التحقق مما إذا كان الطلاب يقدمون ترجمة أفضل أثناء استخدام الذكاء الاصطناعي وما إذا كانوا يتعلمون مهارات جديدة أثناء استخدامه أم لا. ويهدف أيضًا إلى التحقق مما إذا كان لهذه العملية تأثير سلبي أو إيجابي على الطلاب وما هي مواقف الطلاب والمعلمين تجاه الذكاء الاصطناعي. وتحلل الدراسة بيانات مستقاة من ترجمة عدة نصوص قام بها 40 طالبًا باستخدام الذكاء الاصطناعي وبدونه. ويكشف تحليل ترجمات هؤلاء الطلاب أن الذكاء الاصطناعي ساعد الطلاب بالفعل على تقديم ترجمة أفضل بكثير وأن الطلاب لديهم شعور إيجابي تجاه استخدام أدوات الذكاء الاصطناعي. وعلى الرغم من أن استخدام الذكاء الاصطناعي له بعض التأثير الإيجابي على الطلاب، إلا أن له تأثيرًا سلبيًا قد يجعل الطلاب يعتادون على الاعتماد المفرط على الذكاء الاصطناعي مما قد يعيق إبداعهم وقدراتهم على الترجمة من الصفر. ومع ذلك، عندما ينخرط الطلاب في الترجمة باستخدام الذكاء الاصطناعي، فإنهم ينخرطون في عملية تحليل وتوليف مماثلة للترجمة من الصفر. وتخلص الدراسة إلى أن ترجمات الذكاء الاصطناعي تسهم في تطوير مهارات الترجمة لدى الطلاب، لكنها تحذر من إدخالها أو السماح باستخدامها خلال المراحل الأولى من التدريب على الترجمة.

الكلمات المفتاحية: *ادوات الذكاء الاصطناعي، سلوك الطلاب، الاعتماد المفرط على الذكاء الاصطناعي*