Navigating the Digital Shift: Challenges and Solutions in Translator and Interpreter Training in Algeria

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Abstract

The Fourth Industrial Revolution has remarkably transformed the translation and interpreting education field. It has introduced newer and more advanced technologies that have affected translator and interpreter training strategies, bringing in more innovative technological tools, artificial intelligence, and digital learning platforms. This research paper investigates the integration of translation and interpreting technologies in academic training at the High Arab Institute of Translation in Algiers. It uses a mixed-methods approach, combining quantitative data from a questionnaire and qualitative information from verbal reports. The sample consisted of 24 students and alumni from the institute who completed the questionnaire, while the researchers collected verbal reports from other students and teachers as a complementary method. The results indicate that participants are aware of the benefits of technology in their field. However, insufficient practical training, flawed technological infrastructure, and insufficient exposure to advanced tools affected their experiences. As many expressed skepticism towards using Artificial Intelligence (AI) to generate translations, others voiced doubts concerning using technological aids in simultaneous interpreting. These findings underscore a need for curriculum enhancements to align Algerian training programs with industry standards and prepare students for a technology-driven job market. Finally, the study emphasizes the need to find solutions to prepare today's translators and interpreters by equipping them with technological and digital skills, enabling them to manage the vast amount of data and succeed in the ever-evolving digital market.

Keywords: Artificial Intelligence; Technological Tools; Academic Training; Practical Training; Job market

أنساق
في الآداب والعلوم الإنسانية

الطفرة الرقمية وتأهيل المترجم والترجمان بالجزائر: تحديات وحلول

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ملخص

تتناول الدراسة وصفًا عمليًا لأثر الثورة الصناعية الرابعة ببرامجها الحاسوبية الذكية وتكنولوجياتها في تغيير وسائل العمل الترجمي وعملياته، ومن أهم عناصرها المنهجية بعد التأسيس النظري التوجه إلى التدقيق في عرض استراتيجية تأهيل المترجم وتحسين كفاءاته بمساعدة الأدوات التكنولوجية والذكاء الاصطناعي ومنصات التعليم الرقمي. تسعى البحث إلى استكشاف طبيعة اعتماد التكنولوجيات الحديثة في إطار التكوين الأكاديمي الترجمي التحريري والشفوي بالمعهد العالي العربي للترجمة بالجزائر العاصمة؛ إذْ اعتمدت على منهج البحث المتضافر، وذلك بالجمع بين البيانات الكمية المحصلة من الاستبيان، والنوعية التي جُمعت من خلال تقارير شفوية. وقد شملت العينة 24 فردًا من طلاب المعهد وخريجيه الذين شاركوا في الاستبانة، إضافة إلى التقارير الشفوية التي قدمها طلاب وأساتذة آخرون كأداة متممة. أظهرت النتائج أن أفراد العينة يدركون مزايا التكنولوجيا في ميدانهم، غير أنَّ تحدياتٍ، من قبيل محدودية التكوين التطبيقي وضعف البنية التحتية التكنولوجية وعدم تدربهم على استعمال الأدوات الأكثر تطورًا، قد أثرت على تجربتهم. ففي الوقت الذي عبَّر فيه العديد عن شكوكهم حول استخدام الذكاء الاصطناعي لتوليد الترجمات، أعرب آخرون عن تشكيكهم في فاعلية استخدام الأدوات التكنولوجية في الترجمة الفورية. وتُظهر هذه النتائج أنَّ هنالك حاجة ملحة لتطويع المناهج الدراسية الترجمية بما يتماشى مع المعايير العالمية، والتركيز على تهيئة الطلبة لسوق العمل الذي صارت مناصب العمل فيه مرهونة بإتقان الأدوات التكنولوجية. أخيرًا، تؤكد الدراسة على ضرورة إيجاد حل لتأهيل مترجم وترجمان اليوم من خلال الحرص على تلقينه المهارات التكنولوجية والرقمية ليتحكم في كم المدونات الكبير ويربح رهان السوق في ظل التطورات والتحديثات الرقمية المستمرة.

الكلمات المفتاحية: الذكاء الاصطناعي، الأدوات التكنولوجية، التكوين الأكاديمي، التكوين التطبيقي، سوق العمل

1. Introduction

In today's technology-driven world, translators and interpreters are aware of the plethora of technologies available in their field. These tools are now a core requirement for addressing the increasingly complex challenges of modern translation or interpreting tasks, rather than just a seamless accessory. Wulansari and Arvianti explored the significance of utilizing technology in teaching students (1). Teachers must equip them with the skills required for the job market. They also clarify that online dictionaries, computer-assisted translation software, and virtual learning environments are essential to enhancing their learning experience. However, a persistent gap often exists between the technological demands of the professional market and the training provided by universities, with institutional limitations that can further hinder the integration of advanced tools into translation curricula (Sánchez-Castany 22). For example, in Australia, universities have incorporated technological tools into translator training. Dianati et al. mentioned the need to assess their application by these universities since that may guarantee that future professionals are ready for the challenges of this ongoing digital revolution (50).

1.1. Background

Translation and interpreting education has experienced significant changes. The last few years witnessed an unprecedented emphasis on the integration of electronic aids into academic training programs with the end goal of providing students with the required assets to meet the demands of the evolving job market. This shift is apparent as training institutions integrate these technologies into their instructional frameworks (Tian et al. 1-2). In his study, Kornacki argues that the evolving field of translation technology requires a curriculum incorporating these advancements to prepare students for the industry effectively (40).

Several studies have focused on the perceptions of technology users in academic settings, mainly students and teachers. González Pastor looked into the opinions of Spanish undergraduate students regarding the utilization of machine translation (MT) tools (52). The study showed that students acknowledged the pros of MT systems and noted their limitations. However, the students changed their negative views after participating in training sessions dedicated to MT post-editing, emphasizing the significance of this type of training. In addition, Andriani et al. argue that multimedia tools are a defining factor in changing students' perception of translation technology training in Indonesia (338). The researchers also clarified that the students embrace technology depending on its degree of practicality. In addition, the study of Tian et al. reveals that Chinese MTI students generally exhibit slightly positive attitudes towards translation technology (12). These studies indicate that translation students generally have favorable attitudes towards technology in academic environments.

As for teachers, Sánchez-Castany conducted a study on the perceptions of translation trainers in Spanish universities concerning integrating technological tools in practical translation sessions, in which they expressed a negative attitude towards MT despite acknowledging its significance in the industry (1). The paper also revealed that integrating translation technologies into translation modules is limited due to factors beyond trainers' control, such as insufficient funding, lack of software licenses, and inadequately equipped classrooms. Most academics in Dianati et al.'s study (Australia) used these technologies regularly. They praised the tools for their usefulness, indicating that they are easy to use,

provide many advantages, and elevate the students' skills (62). Thus, these studies show that teachers possess a positive attitude towards technology. The only issue remaining is the lack of availability and limited access. In his study about improving translation education in Libyan universities, Al-Darraji points out that insufficient access to technological resources can impede the quality of translation education, and solid technological infrastructure is essential for effective learning (84). These challenges can be related to several factors, such as a lack of investment in the technological side of training or ignoring its potential.

Algerian translation and interpreting institutions are still trying to digitize their workflow. Universities have recently started adapting their curricula to these technological shifts despite the scarcity of resources and balanced training strategies. Studies in this area are also scarce, providing limited information about the interaction between technology and academic practices in Algeria. For instance, in the High Arab Institute of Translation (HAIT), the teachers' limited technological training and lack of access to necessary state-of-the-art tools were identified as notable hurdles (Bououden et al. 109). Although the study was limited to a single institute, it provided some context for what to expect in similar local settings. In another relevant study, Bouguesmia found that while instructors are familiar with AI tools and comfortable utilizing them for basic translation tasks, they are hesitant to contribute to their improvement, with concerns about AI's impact on the profession (101). Despite tackling a rarely discussed topic, participants in Bouguesmia's study were a small sample of English teachers and one computer science teacher, rather than translators or translation academics, causing it to lack depth and specialized expertise in translation practices. Bounaas surveyed 78 professional translators (76). His study showed that most use essential tools like electronic dictionaries instead of more advanced technologies, yet participants are conscious of technology's role in translation.

1.2. Research Problem

This study focuses on the students and alumni of the HAIT in Algiers. It examines the integration of technology in their academic training, particularly within the Translation Technology course and the simultaneous interpreting lab. The study analyses the course's content and practical applications alongside data collected through a survey, which was part of a broader field study. Thus, it aims to answer the following questions:

- To what extent are technological tools integrated during training?
- Are they utilized effectively or inadequately?

2. Research Hypotheses

In Algeria, the use of translation and interpreting technologies in higher education is still relatively unexplored and in early stages. The adoption and perception of these tools among academics and students remain unclear. Research on their implementation in Algerian universities is scarce, with even fewer studies documenting the experiences of trainers and trainees who integrate these technologies into their courses. Multiple factors link academic training and job market readiness in translation and interpreting: institutional support, trainer expertise, and student exposure to technological tools and solutions. Many institutions have outdated infrastructure and insufficient funding, which limits access

to essential technological tools. Some teachers' effectiveness in instruction is still far from ideal due to a lack of technological skills and knowledge. Moreover, undergraduates and graduates may hesitate to fully embrace AI and machine translation tools, fearing for the integrity of their basic linguistic and cognitive skills. As a result, a persistent gap exists because training programs often prioritize traditional methods over updating their curricula and adapting to this inevitable technological shift.

Practical training with modern tools may help students feel more capable and skilled. However, challenges like limited funding and inadequate technological equipment could slow down this process. To better align academic training with industry needs, the study suggests updating curricula, investing in technology, and providing specialized training for instructors. The study aims to evaluate the role of technology in HAIT's Translation Technology course and interpreting lab, assess participants' perceptions of technological integration, and identify the main barriers preventing its full adoption. There is a need for further research to understand this topic better in the Algerian context.

3. Research Methodology

This research is part of a field study.[1] The researchers employed a mixed-methods approach. They collected quantitative data from students and alumni of the institute using a questionnaire. Then, they opted for verbal reports as a secondary means to build upon the questionnaire answers using quantitative data collected from several students and teachers. Verbal reports from students and teachers strengthened these insights as they expanded on the arguments of the primary sample.

3.1. Participants

The High Arab Institute of Translation is an academic institution that teaches translation, interpreting, and languages. It offers master's programs in translation, interpreting, and translation technology. Its curriculum emphasizes practical training, combining foundational translation and language skills with technological applications, including MT and CAT tools. According to its official website, the institute removed the Translation Technology Master's specialization from the curriculum.

The sample included individuals who answered the questionnaire. It consisted of 24 translation and interpreting students and alumni from the institute. The researchers selected this group due to its exposure to the Translation Technology course and practicing simultaneous interpreting in the interpreting lab, the main areas where technology is present at the institute. The participants were selected based on a voluntary response sampling approach, where they chose to participate based on their willingness and availability. The institute's interpreting laboratory comprises only six students, while translation students are divided into two modest-sized groups. This means a sample of 24 participants represents a substantial fraction of the target population. This provides meaningful insights into training practices. The study's aim is not large-scale generalization but rather an in-depth exploration of training practices within a specific educational setting. Most academic translation institutions in Algeria do not have interpreting laboratories or computerized classrooms dedicated to translation technology training (see

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1 IRB approval was granted in January 2024 by the High Arab Institute of Translation. Data collection and surveying were conducted from February to March 2024.

Bououden et al. 109). Thus, the findings are necessary to identify patterns, challenges, and attitudes toward translation technologies. Moreover, students' perceptions are shaped by their direct exposure to these tools within academic courses, as well as by external influences such as self-learning, internships, and professional expectations.

3.2. Data Collection

3.2.1. Online Questionnaire

The online questionnaire is the primary research tool. It was designed using Google Forms and included 31 questions divided into five sections. This method helped collect both qualitative and quantitative answers. These sections covered demographic information, familiarity with translation technologies, the effectiveness of the Translation Technology course, the ups and downs of utilizing technology, and participants' knowledge of interpreting technologies. The researchers distributed the questionnaire over a week through email and social media websites like Facebook and LinkedIn. They aimed to ensure accessibility among the target participants and to evaluate in two steps. First, three translation teachers from other institutes assessed the content to guarantee its clarity and relevance. After that, a pilot study was carried out with a small group of master's students unrelated to the primary sample, resulting in additional modifications.

3.2.2. Verbal Reports

The researchers also relied on verbal reports. They were used as a secondary qualitative data collection tool to investigate the participants' experiences. These reports provided valuable perspectives on the practical application of translation technologies and the use of the simultaneous interpreting lab. It is worth mentioning that the researchers gathered them during unstructured conversations and interviews with other students and teachers via phone or online. According to Saldanha and O'Brien, verbal reports are informal accounts of information or ideas shared by participants during unstructured conversations, often collected spontaneously in field interactions, providing valuable insights when appropriately consented and documented (220-221). With the participants' consent, the researchers recorded the conversations and transcribed them to facilitate the data analysis process.

3.3. Data Analysis

The questionnaire's quantitative data was analyzed using SPSS (V 25) for statistical evaluation. Excel was then used to represent the data obtained through charts and graphs visually. To analyze the qualitative data, the researchers used thematic analysis to study the open-ended answers from the questionnaire and the verbal reports. They summarized and synthesized the obtained responses about several themes, including the Translation Technology course, the simultaneous interpreting laboratory, and general educational experiences. Concerning verbal reports, the study applied data condensation as a way to highlight essential information and used thematic analysis to identify recurring patterns. The former involved focusing on and simplifying the participants' relevant claims and views and eliminating any redundant or irrelevant information. The latter helped the researchers identify the main recurring themes to understand the targeted research issues.

Potential limitations may include the participants giving socially desirable answers and the risk of self-selection bias since participation was voluntary. However, using both questionnaires and verbal reports helps balance these issues by cross-checking the findings for a more logical view of participants' attitudes toward translation and interpreting technologies. Other limitations include the small sample size, which does not allow for the generalization of the findings.

4. Results

4.1. Translation Technology Module

The Translation Technology course is one of the key courses in the HAIT program. It is offered for both specialties in the first semester and only for translation students during the second semester. Its significance lies in providing a space for students to learn about the most relevant applications and software in their field. This also includes learning to use well-known CAT tools, MT systems, and other electronic resources. In this module, students learned about CAT tools, the development and types of MT systems, and audiovisual translation (AVT) tools (e.g., subtitling and dubbing). Teachers also provided students with additional learning resources, including handouts, training documents, and a glossary of key terms in translation technology.

In the practical sessions, students learned how to use well-known CAT tools like Trados and MemoQ. The process also included building translation memories, managing terminology with MultiTerm, and organizing resources effectively. In addition, students were introduced to subtitling and localization software. They worked on subtitling, transcribing, and localizing different audiovisual materials.

However, instructors and students at the institute reported some notable challenges. The institute lacked digitally enhanced classrooms. While teachers relied on their laptops and projection devices, learners, in turn, used their smart devices to follow and participate. This setting meant that both used devices with different operating systems and settings. Such inconsistencies often caused technical issues that consumed time and hindered the students' understanding. For instance, some students said their classmates had outdated or incompatible systems. The institute must upgrade its infrastructure to solve this, mainly by providing newer and better computer devices. During COVID-19, sessions were held online via Istazeed, Zoom, and Google Meet. The teachers also opted for online forms to send and receive student assignments. These solutions may seem practical, but having a bad internet connection for some students and teachers was a major challenge.

4.2. Simultaneous Interpreting Laboratory

The simultaneous interpreting lab serves as an important asset for the institute's interpreting program since it offers a ground for basic interpreting skills training. The lab has six interpreting booths containing headphones, microphones, and control panels connected to sound receivers and transmitters. Students received consistent training in the laboratory, with most equipment functioning reliably to varying degrees. One interpreting student remarked that the tools rarely malfunctioned or interrupted the sessions. Participants also mentioned that there were enough simultaneous interpreting booths (6 booths).

Despite these advantages, the researchers noticed some limitations. Some students pointed out that earlier cohorts were trained in a more advanced lab, which included features for recording and reviewing interpretations, a functionality no longer available in the current lab. Furthermore, the current booths were not soundproof, leading to distractions from external noise and audio leakage between booths. Consecutive interpreting training relied on simpler setups. Instructors utilized their laptops, while students relied on their devices (laptops and smartphones) for listening to speeches. The dependence on e-learning websites proved fruitful for the participants. This method allowed them to overcome the quarantine phase and practice interpreting. It also opened many doors for new career paths. Some students even started volunteering or working from home, delivering remote interpreting services.

4.3. Questionnaire Results

4.3.1. Participants' Profile

Table 1: Participants' demographic data

Demographic Variables	Frequency	Percentage (%)
Gender		
Male	4	16.7
Female	20	83.3
Age		
From 20 to 24	7	29.2
From 25 to 30	4	16.7
From 31 to 35	4	16.7
More than 36	9	37.5
Level		
First-year	0	0
Second year	8	33.3
Graduate (Alumni)	16	66.7

The study's participants included 24 students and alumni of the HAIT. The sample consisted mainly of female respondents (83.3%), with males making up 16.7%. A significant portion of the participants was over 35 (37.5%), while the remainder were between 20 and 35 (Table 1). Regarding educational level, most participants (66.7%) had already graduated, while 33.3% were second-year students. Notably, none of the participants were first-year students. The study does not focus on these factors as primary variables. They are included for transparency and to allow for potential observations regarding trends in technology adoption across different demographic groups.

The majority (66.7%) currently study or have studied translation, while the remainder (33.3%) specialize in interpreting. Participants enrolling at the institute came from diverse academic backgrounds, including bachelor's degrees in English, Turkish, German, and French. Some held degrees in non-language fields such as law, economics, Islamic studies, and medicine. Concerning the participants' current professional engagements, many reported working as freelance translators or certified translators and interpreters in translation offices, with some specializing in conference interpreting or general

translation. While second-year students noted that they had not yet started working professionally, some graduates said that they work as translators and, at the same time, work part-time jobs as language or college instructors.

4.3.2. Participants' Understanding and Utilization of Technological Tools

The researchers asked participants to define the term "Translation Technology." Responses demonstrated a clear awareness of its meaning. Most described it as tools, software, apps, and online platforms designed to assist translators in performing their tasks with greater accuracy, efficiency, and quality. Some participants mentioned some tools, including CAT tools, MT systems, and AI-driven applications for both translation and interpreting tasks. One student claimed that translation technology implies "using tools such as computer software, electronic corpora, and e-dictionaries to make the translator's life easier."
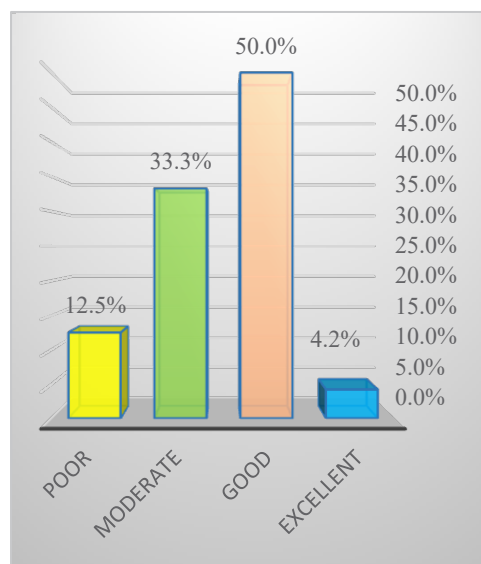

Fig. 1: Participants' self-assessed skill level

Figure 1 shows participants' self-assessment of their prior skills in using translation technologies. Half of the respondents rated their skills as "Good," while 33.3% considered them "Moderate," 12.5% rated them as "Poor," and only one participant (4.2%) rated their skills as "Excellent." Interestingly, 95.8% of participants reported no prior training or certification in translation technology before enrolling at the institute, with only one respondent indicating involvement in such training.

Regarding their use of technological tools during translation sessions and assignments, 79.2% of respondents confirmed using them regularly, while 20.8% said they avoid them. Frequently used tools included CAT software like Trados and MemoQ, machine translation systems like Google Translate and Systran, and terminology management resources like the UN Term Database. Participants preferred the use of context-based machine translation engines like Reverso. However, most teachers had a different opinion concerning this matter. Some students said that a few teachers encouraged them to use technology as it has many benefits. Others claimed that most teachers supported relying on traditional

training methods as they fostered the students' skills and stimulated innovation, unlike total reliance on technology, which does the opposite. By way of example, 75% of those surveyed were leaning towards using electronic tools, while 25% favored the conventional approach of training that concentrated on the previously described factors.

4.3.3. Translation Technology Module: Participants' Impressions

Participants shared the names of different instruments they learned to use during the course. These included CAT tools like Trados and MemoQ, terminology management tools like MultiTerm, AVT software (Subtitle Edit), and alignment tools like LF Aligner. MT systems (Google Translate, Systran) and resources like Reverso were also mentioned. Nevertheless, responses indicated varied experiences with the module, as some talked about insufficient emphasis on the significance of the module. The researcher inquired about the balance between theoretical and practical sessions in the module. 45.8% believed the module was balanced, while 54.2% felt it leaned more toward theoretical instruction. This difference in perceptions can be justified by the approaches and methodologies employed by various teachers teaching the module.

Table 2: Perceived Benefits of the Translation Technology Module

Statement	Yes (%)	Moderately (%)	No (%)
Improved my skills in using translation technologies	25	45.8	29.2
I now know the importance of CAT tools	75	16.7	8.3
Gained knowledge of translation technologies	29.2	58,3	12.5
Practical sessions were helpful	37.5	29.2	33.3
Tools increased productivity and efficiency	79.2	16.7	4.2
Motivated to use technology in translation tasks	66.7	16.7	16.7

Table 2 highlights participants' responses regarding their perceived benefits from the module. Notably, 79.2% agreed that translation technologies improved their productivity and efficiency, while 66.7% stated that the module encouraged them to use such tools in translation tasks. However, opinions on practical sessions were divided; only 37.5% said they were invaluable. 33.3% said they had limited benefits. Half of the respondents reported having many challenges throughout training, even though many reported having the best possible learning experience. Among the major problems were network and connectivity issues, restricted practical sessions, inadequate equipment, and trouble activating some applications. Others mentioned how difficult it is to modify file formats or create translation memory. Many participants emphasized that to learn these technologies correctly, more practice time and video lessons are necessary. Both students and alumni suggested a set of tools they see fit to be added to the curriculum, including terminology management systems, more AVT tools, AI models, and localization software. While participants acknowledged the module's role in introducing translation technologies, 79.2% felt the training did not prepare them for the job market. They mentioned the lack of equipped classrooms as a major drawback. Others stressed the need to add different technological courses to other semesters, including AI and post-editing, as many job offers include these tasks.
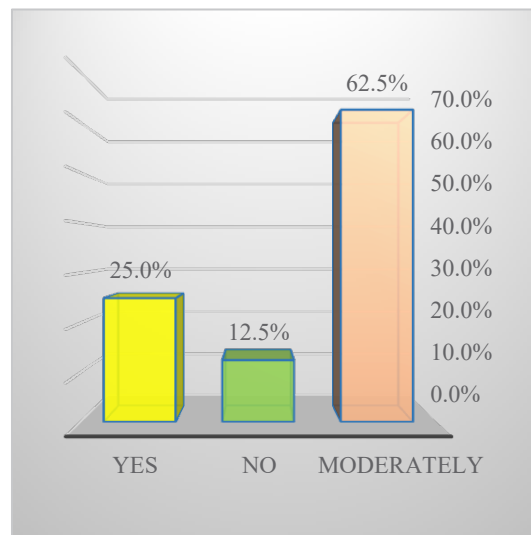
Fig. 2: Satisfaction Levels

According to Figure 2, 12.5% of respondents were unhappy with the module, 62.5% were somewhat satisfied, and 25% were satisfied. They offered several recommendations to enhance the experience:

- Focusing more on the practical side of the module.
- Providing well-equipped classrooms with reliable internet access.
- Increasing the module's sessions and ensuring its presence across semesters.
- Workshops and specialized training courses.

4.3.4. Perceptions of Technological Tools

Students and alumni are aware that electronic aids are a double-edged sword. The many advantages of technology that they talked about were justified. At the same time, the researchers noticed their awareness and skepticism towards unthinkingly exploiting them. On the one hand, many said the tools offer considerable advantages, including greater productivity, time and effort saving, improved translation quality, and cost efficiency. Mindfulness is key when utilizing these tools. Their effect on the act and the product is significant because translators and interpreters can manage their resources successfully. This helps them avoid the daunting process of doing such tasks manually.

On the other hand, several respondents clarified that ignoring these tools doubles the workload and wastes much time, as many organizations now set proficiency in translation technologies as a prerequisite for employment. Some said that neglecting these tools increases translation costs and damages competitiveness in a job market increasingly dominated by technology-driven practices. In contrast, over-reliance on electronic tools hampers human innovation. Many said that they prefer to keep the technological effect minimal to conserve their natural skills and abilities. One respondent said, "Total reliance on technology can remove the translator's human touch. Machines cannot grasp context like humans, often leading to errors in conveying meaning across languages." Above all, regarding the impact of technological proficiency on employment opportunities, 70.8% stated that a lack of technological proficiency negatively affects job opportunities, while 29.2% believed it has no significant effect.
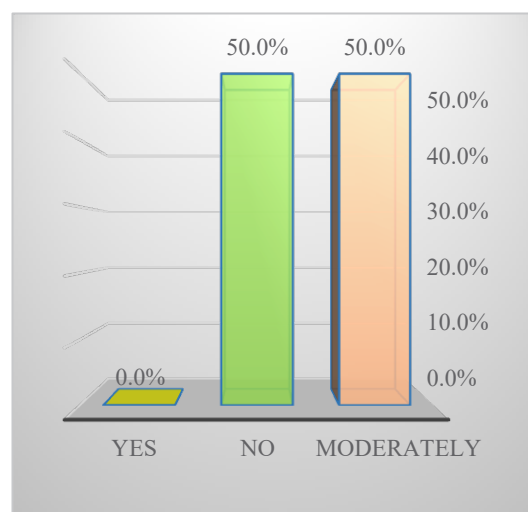
Fig. 3: AI tool's reliability in translation

When asked about their use of AI tools during translation, 66.7% of participants reported using such tools, while 33.3% did not. However, opinions vary regarding the reliability of AI for producing accurate translations. As shown in Figure 3, half of the respondents believed AI tools could be reliable, provided that human post-editing is applied. Some of them shared their experiences using AI in translation tasks. A recently graduated student mentioned: "Whenever I use AI tools, I rephrase sentences considerably to create a somewhat intelligible text." Others also talked about linguistic and textual issues, mainly when translating from and into Arabic. This is because AI models provide syntactically correct translations but are stylistically unpolished. Participants suggested approaches for better utilizing translation technologies. Many agree that combining technology with human expertise is the most important step. Others suggested using AI for the initial translation phase, followed by meticulous post-editing. One participant summarized, "These tools are best used as aids, not alternatives for human translators."

4.3.5. Interpreting Technologies

Participants demonstrated varying degrees of familiarity with interpreting technologies. When asked about technologies related to the interpreting field, the most recognized tool was the simultaneous interpreting lab. In contrast, tools such as automated and computer-assisted interpreting systems were less familiar among them. Some of them emphasized other technologies, such as remote interpreting platforms and mobile interpreting apps. However, most of the responses highlight that the participants do not use technologies when doing interpreting tasks, except for the interpreting booth equipment, as most see other newer tools as irrelevant.

31.3% gave their experience an average rating, 25% found it unfulfilling, and 18.8% gave the highest rating of 5/5. 12.5% rated it 4/5, and 12.5% gave it a 2/5. In addition, the questionnaire revealed that 82.4% of participants lacked proficiency in remote simultaneous interpreting platforms, while only 17.6% reported using or being proficient in such platforms. Nevertheless, 76.5% recognized the need to develop remote interpreting abilities, particularly given the greater need for remote interpreters in the post-pandemic era. Participants emphasized how expertise in such technologies might improve interpreters' employability and flexibility in the current employment market.

One of the most frequently asked questions in the interpreting scene is whether interpreters need technological tools to assist them. 58.8% see that interpreters need more technological tools to improve efficiency and reduce cognitive load. They recommend tools like note-taking using smart devices and AI-based assistance. However, 41.2% argued that traditional equipment is more than enough. To defend this claim, some said that the limited time during simultaneous interpreting prevents interpreters from even thinking about using them.

4.3.6. Final Thoughts

The researchers dedicated the last section of the questionnaire to participants' suggestions. They were asked to recommend any possible solutions to address the mentioned challenges:

- Offering practical seminars and technology workshops led by industry specialists.
- Concentrate on technology-driven education in the translation and interpreting fields.
- Customizing academic curriculum to current industrial developments.
- Establish collaborations with major technology companies that offer licenses for CAT tools and other technologies.
- Many are still present in the context of Algerian academic translation and interpreting training.

Institutions are still far from being technologically optimized. The training programs still lag behind the technological boom worldwide, and the alignment between academia and the job market is barely noticeable. Many of these issues are apparent, as participants indicated their desire to participate in more dedicated workshops organized by professional institutions. Agencies and companies now set technological savviness as a prerequisite for translators and interpreters. This point should also be generalized in academic institutions to push people in charge to invest more in this area.

5. Discussion

Based on the obtained results, the participants know the importance of the technologies related to their field. The majority of them praised these tools and emphasized using them accordingly. Both students and alumni appreciated the variety of available tools in the market. They also shared their potential advantages and disadvantages in higher education institutions. Concerning the nature of their training, participants preferred practical to theoretical ones. However, it is important to note that a more optimal approach is to balance technology and essential linguistic and translation skills. The Translation Technology module helped the students become acquainted with key technologies essential for the modern translation workflow. The majority of the participants perceived the lessons positively. They recognized their role in the translation industry and motivated them to use these tools in the future. This positive reception among students towards these tools is consistent with the observations of related studies. For instance, the results of a study conducted on several translation students in Yemen show that students view translation technologies and resources as essential because of their many benefits (Abdulkareem 73). A group of Indonesian students stated that translation technology is user-friendly, offers instant suggestions, speeds up work, and boosts their confidence (Omolu and Mappewali 360). They added that it struggles with idioms, word classification, and may lead to over-reliance. This highlights the double-edged nature of technology in shaping translator training and skill development.

They also identified some flaws. Many emphasized the importance of licensed software, longer class durations, and entirely computerized classrooms with internet connections to guarantee an effective educational environment. This study's results align with the findings of Alotaibi, as participants showed a favorable attitude towards technological tools while stressing the need for more training hours (72). Additionally, participants identified legal, economic, and technical texts as areas where those tools perform better and underscored the benefits of specialized dictionaries for domain-specific content. However, their drawback of over-reliance on technology included literal translations, loss of context, and deteriorating linguistic creativity. Most of these findings reinforce observations from Mahfouz, where participants mentioned that CAT tools performed well when translating legal and financial texts, emphasizing using them rationally and their importance in the job market (79).

It should be noted that the simultaneous interpreting lab equipment was the only resource that interpreting students and alumni were exposed to. This case is evident, as it is the most popular tool interpreters need during international conferences and events. While its equipment facilitated training, some participants noted limitations, such as a lack of exposure to remote interpreting platforms, particularly relevant in the post-pandemic era, where remote interpreting has become cost-effective and time-efficient. Several studies have explored students' perceptions of online interpreting education outside Algeria during the COVID-19 pandemic. The study of Han, Wang, and Li revealed that despite initial concerns, the transition to e-learning environments did not have a major effect on teaching quality or learning effectiveness, and students were satisfied with different aspects of online interpreting training, such as instructor efficiency, technologies, and learning outcomes (15). Furthermore, Collaborative learning was critical in adopting virtual learning environments for translator training, as it promoted positive interdependence and interaction between learners and educators (Castillo-Chumpitaz et al. 7). Thus, Algerian translation and interpreting institutions should consider incorporating this interpreting mode into their curricula, given its growing importance and the significant popularity it has gained in the industry over the past four years.

The issue of whether interpreters need technology or not persists. Technology has always proved useful in other modes like consecutive and sight interpreting. Interpreters in such modes often use smart devices and term extraction apps or software while interpreting. The case is different during simultaneous interpreting since they do not have enough time to act outside the interpreting act to use these helpful gadgets. Participants in the current study attributed their refusal to use technology in simultaneous interpreting to the demanding nature of the job and the limited time given to act. The same argument was provided in a study conducted by Corpas Pastor, as participants claimed that time constraints and pressure that interpreters experience in the booth limit their need for interpreting technologies (159). Nevertheless, the use of technology depends on the mode of interpreting, pressure, and time constraints since these factors may turn technology from a golden opportunity into a missed chance.

Indeed, technological competence, as a key aspect of translation competence, enhances efficiency and expands the translator's service capabilities beyond what manual methods allow (Li, Gao, and Liao 1236). The benefits that technological tools provide to translators and interpreters are apparent from the participants' responses. Li et al.'s paper suggests six essential elements of this type of competence, including "machine translation, post-editing, information literacy, terminology management, translation

memory, and computer-aided translation" (1236). Therefore, according to Marczak, technological competence involves the effective use of CAT tools and other relevant software to support translation, editing, and research tasks (7). He also emphasizes the importance of students learning to manage term bases, glossaries, and various file formats throughout the translation process during the translation course. However, the technological competence issue is not given enough attention in the current training environment examined in this study. Thus, more attention to technological competence and its elements should be a priority for translation institutes in Algeria.

The findings also suggest that students recognize the benefits of these tools in improving efficiency. This reinforces the argument that technological integration is not merely an accessory but an essential component of modern translation education. However, as Martínez notes that the effectiveness of technology integration is dependent on continuous skill improvement and keeping pace with technological advancements (324). Without proper training and curriculum updates, students may struggle to take advantage of these tools. Nevertheless, the researchers in the current study were optimistic that the participants were aware of the negative side of technological tools (see the results section). In the study of Zhang that involved translation students from a Chinese university, the researcher was concerned that participants did not point out any possible negative effects of MT on their language skills or translation competence in the survey (9). Instructors are therefore obliged to inform their learners about the potential downsides of overreliance on MT or similar tools and their effects on other skills and competences.

6. Conclusion

Understanding how students and professionals in translation and interpreting view technologies in their field is necessary. This process can aid academics in understanding the peculiarities of adapting course design and content to job market requirements. This paper tried to look into incorporating translation and interpreting technologies during training at the HAIT in Algeria. The results were achieved by analyzing the perceptions of students and alumni alongside the teachers' points of view. Students and graduates appreciate using technology during their translation and interpreting training at the institute. Most of them regard it as a positive step towards catching up with the continuous developments of the industry. Nevertheless, integrating technology in academic settings in Algeria still lags behind those advancements. The scarcity of digital resources, limited training, and the equilibrium between theory and practice are major contributing factors.

Both students and alumni know the benefits of CAT software, machine translation systems, and terminology management tools. They mentioned several benefits that could take the process into new horizons. At the same time, they reported issues in the institute, such as the lack of practical training, insufficient translation technology sessions, limited access to well-equipped classrooms, and the absence of training in advanced tools like AI-based. In the context of interpreting, the simultaneous interpreting lab was considered a valuable asset in developing basic interpreting skills. Nevertheless, the limited integration of remote simultaneous interpreting platforms reflects a missed opportunity; interpreting services providers focus more on this mode due to its efficiency in saving time and money, particularly in the post-pandemic era.

It is recommended that researchers in translation and interpreting studies focus more on adopting new teaching strategies. This step should be executed in parallel with the emerging global trends in technology and AI, both academically and professionally. Organizing specialized workshops in universities is also a practical idea. Teachers and students can take advantage of experienced colleagues from other fields, which can motivate them to focus more on personal technological development. Moreover, to further advance the understanding of translation and interpreting technologies in academic training, future research could explore:

- AI and machine learning impact on translation education.
- Longitudinal studies examining the effectiveness of technologically integrated curricula.
- Collaborative analyses of different institutions to evaluate best practices in translation and interpreting education in Algeria.

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