Research Article

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Translation Competence in Translator Training Programs at Saudi Universities: Empirical Study

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Abstract: This study aims to investigate the manifestations of instrumental translation competence (ITC) in translator training programs in six Saudi universities. It explores students' knowledge and skills in ITC in terms of training and translation courses, translation tools, and usage patterns, drawing on the PACTE group of translation competence. In this empirical study, the data were collected from the documents of program and course specifications at translation programs in six Saudi universities, utilizing a checklist to analyze the manifestations of ITC in the targeted programs. Further, an open-ended questionnaire was utilized to identify translation students' perceptions of ITC in such programs. While the open questions were analyzed using thematic analysis, the closed questions were analyzed quantitatively. The study found that the translation training programs include translation technology courses, albeit to a lesser extent, including only one or two translation technology courses within the entire 4-year program. The main emerging themes from the students' responses are enhancement, level of experience, and utilization of ITC. The analysis also revealed a lack of training in translation technology, a lack of knowledge of advanced translation tools, their awareness of the impact of translation tools on translation quality, and inappropriate use of translation tools.

Keywords: PACTE translation, Saudi universities, translation competence, translation programs, translator training

1 Introduction

In today's globally networked landscape, the significance of precise and impactful translation is more pronounced than ever. Translators, serving as channels between diverse languages and cultures, are integral in propelling international dialogue across various domains including commerce, diplomacy, literature, and technology. This has propelled the training and evaluation of translation competence to the forefront, marking it as a critical domain within both academic research and professional realms. The translation field needs to cope with the advances in communication technology to enhance the quality and accuracy of translated texts. Translation programs need to update their training programs (Sañudo, 2024) and more specifically instrumental translation competence (ITC) (Albir et al., 2020; Al-Batineh & Al Tenaijy, 2024; Alzamil, 2024; Fernando Prieto Ramos, 2024a,b; PACTE, 2003).

This study ventures into the pivotal realm of evaluating ITC within educational frameworks for translators (Albir et al., 2020; PACTE, 2003), a fundamental process in ensuring the delivery of top-tier translation services, focusing on ITC. Translation skills transcend mere linguistic proficiency, encompassing a wider array of competencies such as cultural, strategic competence, and instrumental competence, among others (Pym, 2011). Thus, the potency and relevance of translation training programs are therefore contingent on their capacity to effectively incorporate these multifaceted competencies in theory and practice.

Nowadays, neural machine translation is significantly reshaping translation assessment (Fernando Prieto Ramos, 2024a,b). With advancements in AI and deep learning, systems of machine translation have achieved unprecedented levels of accuracy and fluency, challenging traditional methods of evaluating translation quality. Unlike earlier translation technologies, machine translation can produce more contextually appropriate and coherent translations, which necessitates a shift in training subcompetences. This evolution in technology prompts a reassessment of subcompetencies required from students (Al-Batineh & Al Tenaijy, 2024; Alzamil, 2024).

However, the task of assessing translation competence is fraught with challenges. The intrinsic diversity of languages and the cultural nuances they embody often elude quantification. Moreover, the subjective nature of assessing translation quality adds another dimension of complexity.

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Translation is not merely about theoretical knowledge; it requires practical, real-world skills. Achieving a balance between these elements within assessment frameworks is a persistent challenge that translation training programs face (Colina, 2008).

In the face of these challenges, the methodologies for assessing translation competence are continually evolving. Traditional approaches are progressively being augmented or replaced by innovative practices, frequently leveraging technology advancements. The integration of computer-assisted translation (CAT) tools, for example, is reshaping the landscape of translation assessment. Yet, the quest for more objective, comprehensive, and practical assessment methodologies remains an active and vibrant area of research and discussion (Austermühl, 2001). Due to the complexity of assessing translation competence (EMT, 2022), our focus in this study is on the assessment of ITC.

In the Saudi context, Al-Rumaih (2021) identified the state of CAT tool integration and usage in translator-training programs. However, the study was limited to the use of CAT tools among students. Exploring other instruments could provide valuable insights for designing strategies to enhance integration and encourage broader use among students. In addition, investigating the manifestations of ITC could offer further insights into tailoring training programs to better meet their requirements and improve their preparedness for the job market (Alzamil, 2024).

2 Research Objectives

This study investigates the ITC in translation programs at six Saudi universities. It specifically aims

(1) to find out the available manifestations of ITC in the translation programs at six Saudi universities;
(2) to highlight the missing elements of ITC in these programs; and
(3) to explore the translation students' knowledge and skills in ITC in terms of training or courses, translation tools, and usage patterns.

3 Literature Review

3.1 Translator Training

In the realm of translation studies, there is a marked emphasis on theoretical aspects across various disciplines such as linguistics, sociology, literature, and psychology, often overshadowing the practical facets of translation. Although translator training programs have been institutionalized since the early 1930s in numerous Western and Eastern European countries and the United States, offering a range of undergraduate and graduate degrees as well as certificates and vocational diplomas (Al-Batineh & Bilali, 2017), the field of translator training has not received adequate attention at both local and international levels (Al-Batineh & Al Tenaijy, 2024; Al-Batineh & Bilali, 2017; Alzamil, 2024; Fernando Prieto Ramos, 2024a,b; Orlando, 2019).

A scrutiny of literature in translation studies reveals that gaps in translation training programs are a recurrent theme (Al-Batineh & Bilali, 2017; Al-Batineh & Al Tenaijy, 2024; Alzamil, 2024; Calvo, 2011; Orlando, 2019), and there is scant literature on translation competence, particularly in the Arab world (Al-Batineh & Bilali, 2017; Al-Batineh & Al Tenaijy, 2024; Alzamil, 2024; Salamah, 2021). While there is a growing body of literature on translation competence at an international level, it calls for specific attention to instrumental sub-competence, especially with the advent of artificial intelligence (Fernando Prieto Ramos, 2024a,b; Orlando, 2019). In two recent publications, for example, Fernando Prieto Ramos (2024a,b) revisited the recent influence of AI and machine translation on legal translation practices. The author revealed variations in perceptions of the importance of sub-competences for ensuring translation quality. Professionals with a stronger focus on legal translation or more experience in institutional translation recognized the relevance of all sub-competences. Yet, instrumental competence was more highly valued by less-experienced translators compared to strategic and thematic competencies. However, its relevance was similar among the most experienced translators.

Many translation programs in the Arab world follow theory-based curricula even though they may not state that on paper. It seems that there is a wide gap between theory and practice in many translation programs. Al-Batineh and Al Tenaijy (2024) examined the technology-related skills needed in the Arabic translation market and the alignment between these needs and the skills taught in translator training programs. Analyzing job ads and documentary evidence, the study found that CAT and software skills are increasingly in demand where a few programs offer such courses, something that suggests a dire need for improvement in such programs. The study recommended a comprehensive approach that pays specific attention to the technology-driven nature of the industry. In Saudi Arabia, Alzamil (2024) argued that translator training programs must continuously adapt to meet market requirements. The study investigated how well undergraduates in Arabic/English translation programs in Saudi Arabia

perceive their training in acquiring translation sub-competences needed in the Saudi market. Using a convergent parallel mixed methods approach, the study revealed a need to understand why students found their programs "not effective enough." Long time ago, Calvo (2011) and Jonnaert, Masciotra, Barrette, Morel, and Mane (2007) found that many translation programs include practice as a learning goal on paper, but the actual situation of practice is very limited. In theory-based curricula, the programs function as a "menu for learning," taking the form of an organized body of subject matters or modules. The theory-based curriculum appears in the form of a list of subjects and separated curricular elements leading to a loose picture of the course (Mane, 2007).

Indeed, such curriculum exhibits knowledge fragmentation, lack of integrated approaches, and absence of real interdisciplinarity. Due to the emergence and influence of the revolution of technology and socially driven market forces, newer curriculum paradigms have been defined, where the focus is on translation competence. Besides, curriculum development has been given priority over curriculum design in the sense that curriculum development is a permanent process that needs to be checked and developed, not as an abstract product or a program on paper (Kiraly, 1995). In such a new curriculum development, translation program, and training courses, teachers and students have a new and efficient role.

3.2 Instrumental Translation Competence

There is a widely acknowledged consensus that the primary objective of translator training is the development of translation competence (TC), which is defined as the comprehensive system of knowledge, skills, and attitudes essential for proficient translation (Flores, 2021). Several models for TC have emerged, focusing on different aspects of translation competence, including the standards set by the International Organization for Standardization (ISO), the European Master's in Translation (EMT). The ISO standards, specifically ISO 17100:2015 and its updated version ISO 17100:2017 + A1:2017, emphasize maintaining high-quality translation services by focusing on core processes, resources, and other essential aspects to ensure translations meet clients' needs (International Organization for Standards, 2015, 2017, 2024). The recently published ISO 5060:2024 further emphasizes the evaluation of translation output, providing guidelines for assessing various types of translations and detailing the qualifications needed for evaluators (Behr, 2018; Bulgaru, 2020).

The EMT (2022) outlines essential skills and knowledge for successful translator careers, placing significant emphasis on technological competence aligned with information and communication technologies (ICT) (Froeliger et al., 2023; Torres-Simón & Pym, 2019). This framework highlights the importance of translation tools and software, such as CAT tools, machine translation (MT) engines, and terminology management systems, as well as the need to adapt to evolving technologies to maintain a competitive edge. Complementing these frameworks, PACTE's longitudinal studies take an empirical approach to tracing the development of TC from enrollment in a translation program to graduation, accurately operationalizing each element of TC and emphasizing the progression from beginner to professional translator. This comprehensive approach contrasts with previous models, which focus primarily on professional translators (2000, 2003, 2011, 2017).

This study builds upon the PACTE (2017) model of translation competence and Albir et al. (2020), renowned as one of the most influential frameworks in the field. It has conducted a series of studies exploring the multifaceted nature of translation competence and offering profound insights into the development and application of translation skills in both academic and professional contexts. The PACTE group conceptualizes translation competence as a multicomponential and dynamic construct, comprising several sub-competencies and psychophysiological components interacting during the translation process. They classify the components of translation competence into bilingual sub-competence, extra-linguistic sub-competence, knowledge about translation, instrumental sub-competence, strategic sub-competence, and psychophysiological components.

This comprehensive model has been progressively refined through empirical studies conducted over two decades (2000, 2003, 2011, 2017) and by Albir et al. (2020), each enhancing our understanding of the complex nature of translation competence. These investigations delve into the pedagogical and professional dimensions of translation skill development and application, examining the progression of translation competence among graduate students. Utilizing methods like think-aloud protocols and keylogging, these studies capture the evolution of students' competencies from a heavy reliance on linguistic skills to a more balanced integration of linguistic, cultural, and strategic competencies. They also employ various quantitative (e.g., keylogging, eye-tracking, questionnaires) and qualitative methods to study the acquisition of translation competence, revealing that professional translators strategically blend their instrumental sub-competence with other competencies.

Our focus in this study is on instrumental sub-competence, defined by Albir et al. (2020) as follows:

> procedural knowledge related to the use of documentation resources and information and communication technologies applied to translation and translation technologies: dictionaries of all kinds, encyclopedias, grammars, style books, parallel texts, electronic corpora, search engines, assisted translation software, machine translation software, terminology database management software, post-editing software, etc. (p. 103)

The development of ITC reflects the broader shifts in the translation industry, moving from reliance on paper-based resources to the integration of sophisticated digital tools. This conception of ITC emphasizes the procedural knowledge as well as the skills necessary for utilizing various documentation resources and ICTs in the context of translation and translation technologies.

3.3 Previous Studies on ITC

PACTE has conducted rigorous studies on translation competence acquisition, yet there is a lack of extensive research on ITC. The application of such competence in translation training programs has not received due attention. Among the studies in this area are those by Bowker and Marshman (2009), Kuznik and Olalla-Soler (2018), Massey and Ehrensberger-Dow (2011), O'Brien (2011), Qassem (2021, 2020), and Qassem and Al Thowaini (2024).

As for the management of the translation process, Qassem (2021, 2020) and Qassem and Al Thowaini (2024) investigated the trainees' management of the translation process from different angles. Qassem and Al Thowaini (2024) conducted a study on the effect of the translation training program on the trainee translators' process and product behaviors. They found no effect on the trainee's management of the translation process, which was ascribed to the program's focus on the translation product rather than the process. Qassem (2020) investigated the relationship between translation quality and translation unit, segmentation of sentences of the text during production. They found that source text reading and target text revision were not given the attention they deserve in the translation process. Qassem (2021) studied translation strategies (process strategies) and translation procedures (linguistic shifts) when translating culture-based texts from English to Arabic, finding that the trainees' random use of translation strategies (use of online resources, search engines, -re-reading, etc.), which was attributed to the lack of training in the use of such translation strategies.

Aiello and Latorraca (2023) assessed the perceived impact of the professionalizing seminar on future translators' knowledge and identity. It may benefit from further investigation into specific areas of perceived training deficiencies and competency gaps. Identifying these areas in more detail could offer insights into potential curriculum improvements or supplementary training methods to address these shortcomings effectively.

Kuznik and Olalla-Soler (2018) investigated the acquisition of instrumental sub-competence, emphasizing the use of electronic resources in translation, based on empirical-experimental research by the PACTE group. They track the evolution of this sub-competence in 130 translation and interpreting students from their academic inception through their professional integration, contrasting these findings with data from 35 professional translators from a prior PACTE study (2005–2006). A methodology resembling a longitudinal study scrutinizes five indicators: resource utilization, search duration, stage-specific search times, search count and variety, and their correlation with the acceptability of the translation outcome. The results delineate the growth trajectory of the students' instrumental sub-competence, highlighting how their proficiency in using electronic resources impacts the quality of translation. Ultimately, the research provides insight into the developmental phases of translation students and establishes a relationship between electronic resource usage and the quality of translation, setting benchmarks for translation acceptability.

Massey and Ehrensberger-Dow (2011) investigated the technical and informational behaviors of students and professional translators in the workplace, aiming to uncover how ergonomic issues in user interfaces and standardized translation aids, such as online dictionaries, can affect translation efficiency and quality. Employing introspective methods like think-aloud protocols and screen recording, the study aligns with the PACTE Group's broader empirical–experimental approach to understanding translation competence. The results reveal that ITC is not merely about tool usage but involves a strategic grasp of when and why to use specific resources within the translation workflow. The research emphasizes that while poorly designed interfaces and inadequate tool familiarity can hinder translation, targeted instruction and enhanced technological awareness can significantly improve translators' ergonomic interaction with their tools, thereby optimizing the translation process and enhancing the quality of the translated product.

Bowker and Marshman (2009) contributed significantly to the field by dissecting the evolving translation technology landscape. They stress the importance of translators not just being passive users but also critical evaluators of technology, pushing for a sophisticated adaptation and customization of translation tools to suit specific tasks and workflows. Risku (2010) took an interdisciplinary route in cognitive translatology, shedding light on the cognitive aspects embedded in translation. Her research merges cognitive science, ethnography, and

translation studies to demonstrate how translators' instrumental competence is deeply embedded in their cognitive and socio-cultural milieu, emphasizing the contextual nature of translation where tool usage is deeply interwoven with the translator's cognitive functions.

Finally, O'Brien (2011) employed empirical methods like eye-tracking and keylogging to explore the dynamics between translators and translation technologies. She focused on the complex implications of tools such as machine translation and translation memory systems, revealing their profound but nuanced influence on the translation process. O'Brien's work underlines that while these technologies present significant advantages, they also pose intricate challenges, advocating for translators to develop a sophisticated and critical understanding of these tools to integrate them effectively.

One existing gap in these studies is the integration of ITC into translation training programs. While studies such as those conducted by Kuznik and Olalla-Soler (2018) and Massey and Ehrensberger-Dow (2011) have examined various aspects of ITC acquisition and application, there is a lack of extensive research that links theory and practice in the Saudi context. In translation training programs, theory can be reflected in programs' visions, mission, and learning outcomes, and practice refers to the actual skills that students gain in such programs.

4 Method

This study employs a descriptive research design, with a questionnaire to explore the student's knowledge and skills of ICT and a checklist to determine the extent to which ICT is incorporated into the learning outcomes of the translation training programs. This design aims to provide a comprehensive and nuanced analysis of the ITC by triangulating quantitative and qualitative data, ensuring validity, flexibility, and reliability (Figure 1).

4.1 Instruments

This study utilizes a two-phase approach of data collection with two datasets: documents and an open-ended questionnaire. The first set is a kind of document that evaluates the incorporation of technological tools within the mission, objectives, and learning outcomes of academic programs and course specifications of six Saudi universities. The authors meticulously analyzed the plans of the translation training programs, focusing on their objectives, mission, learning outcomes, and courses, as well as relevant course specifications, utilizing information available on the universities' websites.

The second dataset is collected through a questionnaire designed by the authors, informed by the PACTE group's methodology (Albir et al., 2020). This questionnaire is designed to obtain both quantitative and qualitative data, aiming to examine participants' perceptions, experiences, knowledge, and skills regarding technological tools and training. Before data collection, the questionnaire was approved by the research ethics committee of the authors' university with the code number (202402-076-018337-041415) on February 13, 2024. The questionnaire takes the form of open and closed questions. It seeks to collect information about the students in the translation training programs.

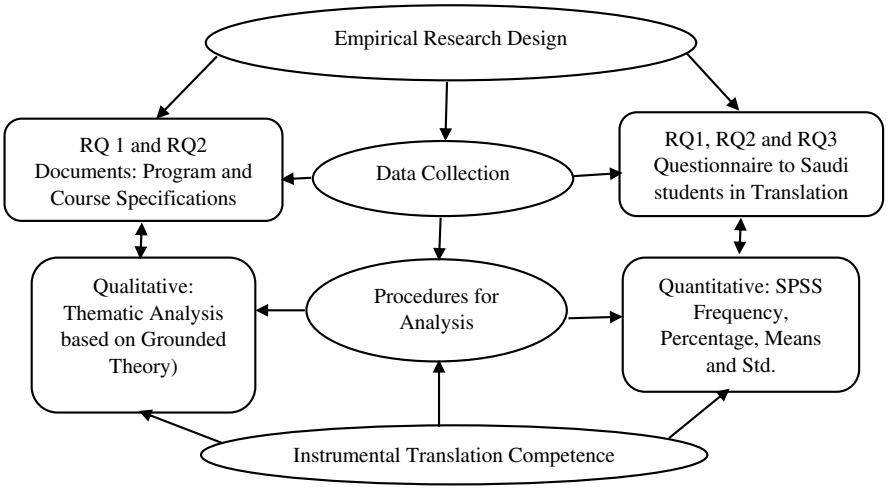

Figure 1: Empirical research design for ITC.

4.2 Participants

The study sample included male and female students in the Colleges of Languages and Translation (n = 44, 8 male and 36 female students, age, M = 24.4, SD = 5.23) in six Saudi universities. Most participants described themselves as Arabic-English bilingual students. The translation programs acquainted students with a broad spectrum of translation fields, including scientific, legal, journalistic, military, medical, technological, and literary, among others. In addition, they offered courses aimed at enhancing their language skills.

4.3 Procedures for Data Analysis

The study explored the integration of technological tools in translation training programs at universities, employing a mixed-method approach of data analysis: quantitative and qualitative and an open-ended questionnaire. In the quantitative analysis, a checklist, developed by the authors, assessed the inclusion of technological tools in program specifications, including vision, mission, objectives, and learning outcomes, by reviewing documents and websites of targeted universities. Concurrently, a questionnaire based on the PACTE group (Albir et al., 2020) collected quantitative and qualitative data on participants' experiences with technological tools in training. The analysis involved evaluating checklist data for translation technology integration and applying descriptive analysis to questionnaire responses.

Qualitative responses in the questionnaire were analyzed thematically to gain insights into the participants' experiences. Generating subthemes and themes in qualitative research involves a systematic process of analyzing and organizing data to identify patterns, relationships, and key concepts within the dataset. To familiarize themselves with the data, the authors conducted close reading using a Word file with bolded highlights. Then they used open coding in which the data were broken down into small segments, which were organized into broader subthemes and themes. The data were compared and refined until the saturation point. After that, the subthemes and themes were identified, reviewed, and validated before reporting them in the form of a table. In this way, the authors systematically generated subthemes and themes by providing valuable insights into the manifestations of ITC among the respondents.

The data were cleaned and some Arabic responses were translated into English using Microsoft 365 Excel translator. The open questions of the questionnaire were analyzed qualitatively in the form of a thematic analysis based on the grounded theory. In the open coding phase, preliminary subthemes emerged. Then we established a more refined understanding of the themes and subthemes relating to ITC. This includes axial coding, where we explore the relationships between subthemes and selective coding, focusing on synthesizing these findings into cohesive themes. In this close reading, the first author revealed sub-themes that were verified by the second author, something that makes interrater reliability. To report some examples of these sub-themes, a labeling system was created, which consists of the letter (R) for respondent and sequence numbers from 1 to 44 (e.g., R1–R44). These labels were used in reporting a subtheme.

5 Data Analysis

In line with the research objectives, the analysis is presented. In response to the first objective, ITC is manifested in most of the translation program specifications in the six Saudi universities. These programs show inclusion and awareness about technological competence for translation as indicated in their visions, missions, program objectives, outcomes, courses, and assessments.

The analysis of the checklist shows that the inclusion of ITC in translation training programs across six Saudi universities reveals a clear landscape of how higher education institutions are adapting to the technological demands of the translation industry. The analysis shows a broad spectrum of integration, with some universities leading the way and others identifying areas for enhancement.

In terms of alignment with programs' missions and visions, approximately 83.33% of the universities incorporate a comprehensive understanding of translation instrumental competence into their programs, with 66.67% emphasizing its importance in their program's mission. This indicates a strong awareness of the need to prepare students for the technological aspects of the translation profession.

When examining alignment with program objectives, all universities demonstrate a commitment to outlining expected proficiency in translation tools, with 83.33% aligning their objectives with industry standards and the latest technological developments. This unanimous acknowledgment highlights the perceived importance of keeping pace with evolving professional requirements.

The curriculum content, particularly translation courses, and specifications show that 66.67% of universities cover a broad range of translation technologies, with 83.33% incorporating practical exercises and real-life translation projects.

This practical approach is essential for equipping students with hands-on experience in using translation technologies, preparing them for real-world challenges.

Learning outcomes and assessments further reflect the integration of technological competencies, with 66.67% of programs explicitly including the ability to use translation technology and assessing these competencies through practical projects. Feedback mechanisms for continuous improvement are present in an equal proportion of programs, suggesting a commitment to evolving and enhancing educational offerings based on industry feedback and technological advancements.

The analysis of the open questions in the questionnaire revealed three main themes about enhancement, experience level, and use of ITC (Table 1).

The participants showed that instrumental translation tools enhance translation speed, quality, and interpretation. For example, they speed up the processes of translation as is evident in the following excerpt.

> [They] speed up the process. (R2)
> [They] shorten my time in reading (R19)
>
> It saves time and effort and gives a more comprehensive view and perspective that helps the translator and inspires him with more creative translations (R22)
>
> save time (R25)
> They really speed up the process and ensure consistency. (R33)

The translation tools in general save time for translation during the reading process with consistent translation.

Quality of translation is another manifestation of enhancement when using translation tools as it is evident in this excerpt.

> [They] help me translate well. (R3)
> Confidence in the quality of translation and vocabulary correctness. (R7)
>
> It can be helpful because it leads you to the correct meaning. (R12).
> To make sure that I have done my work perfectly. (R14)
> enhance the translation quality (R25)
> Verify that the information is correct (R39)

Quality of translation is shown in words such as "well," "quality," "correctness," and "perfectly." The respondents agree that using translation tools enhances the quality of the translated texts.

Moving to the second research objective, the checklist report shows a lack of instrumental competence-based courses in some programs. The analysis of the checklist items related to the number of instrumental competency-based courses and their specifics show a lack of incorporation of instrumental competency-based courses. This gap indicates an area for further exploration and potential development within university programs to ensure a comprehensive offering that meets all aspects of translation instrumental competence.

The performance of individual universities varies, with Effat University leading at a 75% "Yes" rate, followed by Najran University and Saudi Electronic University at 66.67%, Princess Nourah University at 58.33%, Majmaah University at 41.67%, and King Khaled University at 33.33%. This range reflects different levels of integration and commitment to embedding translation technology into the curriculum, with Effat University standing out for its comprehensive approach. The results suggest that while some institutions are closely aligned with industry standards, others may benefit from revisiting their curriculums to further integrate translation technological competencies.

The overall analysis of the programs underscores the importance of continuous curriculum development and the integration of practical, technological skills to prepare students effectively for the translation market. For universities lagging, the analysis serves as a call to action to enhance their programs, ensuring graduates are well

Table 1: Manifestations of ITC

Main theme	Subtheme	Details
Enhancement of ITC	Speed up the process	Instrumental resources make the translation process faster and more efficient
	Translation quality	Translation tools improve accuracy, word choice, and grammar in translations
	Understanding and interpretation	Instrumental resources enhance understanding of complex texts or specialized terminology
Experience level and tasks	Beginners	Basic tools for simple translations, seeking straightforward assistance
	Intermediate	More complex projects with a broader range of tools for specific needs
	Advanced	Specialized or technical translations using advanced software features
Utilization stage	Reading phase	Online resources for understanding text, terminology lookup
	Drafting phase	Tools for terminologies, style, consistency, and drafting translations
	Reviewing phase	Resources for proofreading, error checking, and refining translations

equipped to navigate the technologically driven landscape of the profession. This approach not only benefits students but also contributes to the advancement of the translation field, aligning educational outcomes with professional and technological advancements.

The analysis of the open questions in the questionnaire revealed three main themes about learning desires, support for training, and areas for improvement (Table 2).

The analysis shows that the participants are interested in updated software and in learning specialized tools for legal and medical translation. To support their learning, they need training resources such as workshops and training courses. They want to share their ITC with their peers and the community at large. In general, the analysis shows three areas for improvement. They need better resources for handling specialized texts. They also want to improve their skills with specific translation software. An important area that needs further exploration is "cultural" competence. Translation instruments still need to be sensitive to cultural issues. The participants show that cultural translation lacks accuracy when using translation instruments.

The participants show a need to be trained in some tools for specialized translation:

> MemoQ (R2,R23, R33, R40), SDL Trados (R6, R16, R25, R33, R36, R41), ChatGPT endnote google bard (R8, R20, R21), CAT tools (R9, R11), corpus analysis tools (R18, R20, R29, R34), Wordfast and OpenL (R23), program of across (R27), program of matecat (R28), DeepL(R33), and Arabic corpora (R34). I want to learn CAT and not the history of CAT, I have to translate using a computer for the job in the future. (R39)

These responses indicate that the participants have some theoretical knowledge about the names of some translation software; however, they are in dire need of training in these programs. Respondent (R39) stated clearly that there is a need to move from theory to practice.

Moving to the third research objective, students' knowledge and skills in ITC have been explored quantitatively in terms of training courses, translation tools, and usage patterns. As for the students' completion of courses in translation technology, the analysis revealed that of the 44 respondents, 13 individuals (approximately 30%) affirmed that they have completed training courses in translation technology. In contrast, 31 respondents (about 70 %) indicated that they have not engaged in any training in this area.

As for the students' familiarity with translation tools, the analysis presents an insightful reflection of current trends and preferences in translation technology (Table 3).

At the forefront, online dictionaries and thesauri emerge as the most familiar tools among students, with 42 (95%) students reporting familiarity. This prominence is likely attributed to the accessibility, user-friendly interface, and immediate assistance that these tools provide for quick word or phrase lookups, catering to the immediate needs of students across various disciplines.

Closely following are machine translation platforms, such as Google Translate and DeepL, with 41 (93%) students familiar with these services. Their popularity underscores the growing reliance on technology for overcoming language barriers, facilitated by the convenience and increasingly accurate translations these platforms offer. This result suggests a significant shift towards digital solutions that provide immediate linguistic assistance.

Table 3: Students' familiarity with translation tools

Translation tool category	No. of students	%
CAT Tools (e.g., SDL Trados, MemoQ)	31	70
Online dictionaries and thesauri	42	95
Machine translation platforms (e.g., Google Translate, DeepL)	41	93
Reference management software (e.g., EndNote, Zotero)	10	23
AI tools (e.g., ChatGPT, Google Bard)	32	73
Terminology databases (e.g., IATE, Termium)	11	25
Corpus analysis tools (e.g., Sketch Engine)	11	25

Table 2: Missing elements of ITC

Main theme	Subtheme	Details
Learning desires	Specialized tools	Interest in tools for specialized texts (legal, medical)
	Tool updates	Interest in updates and features of existing tools
Support for training	Training resources	Need for accessible training materials, workshops, or courses
	Community support	Interest in platforms for sharing experiences and learning from peers
Areas for improvement	Technical translations	Better resources or training for handling specialized texts
	Software proficiency	Improving skills with specific translation software
	Cultural competence	Enhancing translation accuracy for texts with cultural nuances

AI tools like ChatGPT and Google Bard also show considerable familiarity, with 32 (73%) students recognizing their utility. Beyond mere translation, these tools extend their functionality to include writing assistance and information retrieval, broadening their appeal and utility in academic contexts.

However, when it comes to CAT tools, such as SDL Trados and MemoQ, the familiarity levels dip to a moderate count of 31 (70%) students. This result indicates a more niche application of these professional-grade tools, which might not resonate with the broader student body, especially those whose academic or professional pursuits do not directly involve translation work. This result coincides with the findings reported in the second research objective about the need for more training in these tools.

On the lower end of the familiarity spectrum, reference management software, terminology databases, and corpus analysis tools are the least familiar among students, with each category being familiar to 11 (25%) students. This limited familiarity could be attributed to the niche applications of these tools, which are primarily valuable for specific academic or research-oriented tasks in translation and linguistics. Such tools might not only have a steeper learning curve but also a more limited scope of application, making them less relevant to the general student population.

In the area of students' level of experience with various translation-related tools (based on a scale from 0 (not familiar) to 5 (expert)), it is found that the respondents are most experienced with Online Dictionaries, reflecting a high mean experience level of 4.03 with a relatively lower standard deviation of 1.54 (Table 4).

This suggests a general familiarity and proficiency with these resources among the participants. AI Tools and MT platforms also show relatively high mean experience levels, indicating substantial familiarity among respondents.

Table 4: Students' level of experience with various translation-related tools

Tool	Mean experience level	Standard deviation
CAT tools	2.38	1.81
Terminology databases	1.82	1.78
Online dictionaries	4.03	1.54
Corpus analysis tools	1.30	1.65
Machine translation platforms	3.60	1.82
Reference management software	3.28	1.92
AI tools	3.88	1.68

Conversely, corpus analysis tools and terminology databases have lower mean experience levels, 1.30 and 1.82, respectively, suggesting less familiarity or expertise with these tools among the group. CAT Tools, while crucial for translation tasks, exhibit a moderate mean experience level of 2.38, indicating a wide range of familiarity levels.

The standard deviation values across different tools reflect varying degrees of consensus among respondents about their experience levels, with online dictionaries showing the most agreement (lowest standard deviation) and reference management software showing the least (highest standard deviation).

Regarding students' comfort with translation tools, 43 responded while two did not answer. Among the 44 respondents, nearly 75% feel "very comfortable" or "comfortable," indicating widespread acceptance and ease of use. A smaller fraction, 23.3%, is "somewhat comfortable," pointing to occasional challenges and room for improvement in usability or training. Only one student expressed discomfort, underscoring the tools' general effectiveness and the importance of addressing individual concerns for inclusivity and an enhanced user experience.

The students' responses on the impact of software and digital platforms on translation tasks revealed a generally positive perspective (Table 5).

Among 44 respondents, 20 considered these technologies "highly beneficial," enhancing their workflow significantly. Seventeen found them "moderately beneficial," recognizing advantages but also limitations. Six viewed the impact as "Slightly Beneficial," indicating minimal gains, while only one individual saw the technology as "Counterproductive," citing issues such as inefficiency or inaccuracies. Overall, the feedback highlighted an appreciation for digital tools in translation work, though experiences and satisfaction levels varied.

In a formal assessment of online resource utilization during various stages of the translation process among 44 respondents, a diverse array of usage patterns was observed. The data reveal a preference for employing online resources primarily during the drafting stage, as reported by 12 (27%)

Table 5: The impact of software and digital platforms on translation tasks

Rating	Frequencies	%
Highly beneficial	20	46
Moderately beneficial	17	39
Slightly beneficial	6	14
Counterproductive	1	2
Grand total	44	100

respondents. This particular emphasis not only underscores the significance of these tools for initial text creation but also suggests a tendency toward their arbitrary use. The notion that utilizing online tools in drafting reflects inappropriate use points to potential concerns regarding the reliance on digital aids without a strategic or disciplined approach.

Reading was identified by 10 (23%) respondents as a critical stage for employing online resources, emphasizing its role in ensuring a deep understanding of the source material. In addition, the integration of reading and drafting by eight (18%) respondents and the extension to reviewing by three (7%) respondents indicate a varied but comprehensive application of online tools throughout the translation process. The specific focus on reviewing, either alone with 5 (11%) respondents or in conjunction with drafting 6 (14%) respondents, highlights the application of online resources for refining.

6 Discussion

This study aims to investigate the inclusion of ITC in translation training programs at some Saudi universities, based on the students' perspectives and analysis of the study plans of these programs. It was found that the study plans include ITC with varying degrees of inclusion. However, when counting the courses specified for ITC, they were found to be scarce, ranging from one to two. According to the students' responses to the questionnaire, there is less training in translation technology. Regarding their experience and familiarity with tools, it was found that they have a basic level of experience with instrumental tools such as online resources, an acceptable experience with machine translation tools and AI tools, and less experience with CAT tools. It was also found that the participants used translation tools in all stages of translation, starting from reading to drafting and reviewing, emphasizing their role in improving efficiency and accuracy. The participants also emphasized how translation tools speed up the process, enhance translation quality, and ensure correctness and consistency. Below is a discussion of the main findings:

The use of translation tools by students during the drafting stage demonstrates a random application of these tools, aligning with findings by Qassem (2020), (2021), and Qassem and Al Thowaini (2024). These studies highlighted the translation students' inappropriate management of the translation process and their arbitrary use of online translation resources. Such inadequate utilization of translation tools may be attributed to a lack of training in using these tools, as reported by the students in this study.

The study also found a lack of incorporation of translation technology courses in the targeted programs, despite the declared objectives emphasizing the importance of technological tools in the training process. This finding aligns with Calvo (2011) and Jonnaert et al. (2007), who observed that many translation programs include practice as a learning goal on paper, but actual practice opportunities are very limited.

However, translation programs at some Saudi universities can improve in incorporating some aspects of ITC, including curriculum development, practical training, and addressing specific tools and specialized translation needs. There is a deficiency in the incorporation of instrumental competence-based courses within some programs, indicating a gap in addressing this aspect of translation education. The participants expressed interest in learning specialized tools for legal and medical translation and seeking updates and features of existing tools. There's a need for accessible training materials, workshops, or courses, as well as platforms for sharing experiences and learning from peers. The participants highlighted the need for better resources for handling specialized texts, improving skills with specific translation software, and enhancing cultural competence in translation, especially regarding accuracy with cultural nuances. The participants mentioned specific tools like MemoQ, SDL Trados, ChatGPT, CAT tools, corpus analysis tools, DeepL, and Arabic corpora, indicating a need for training in these programs to enhance their ITC. These findings coincide with Al-Rumaih (2021) who found that CAT tools have not been effectively incorporated into the translator-training programs of some Saudi universities. Similarly, Al-Batineh and Bilali (2017) found that there is a high demand for both professional and instrumental competence in the translation market in the MENA region.

An important emerging question: Is it enough to instill ITC among our students? As Ramírez-Polo and Vargas-Sierra (2023) highlight, it is of vital importance to enhance ethical competence among translators' trainers when using instrumental resources, especially with the advent of artificial intelligence. Another important issue with using these tools is critical thinking and cultural intelligence as reported by Li, Gao, and Liao (2023).

7 Conclusion

This study is an attempt to gauge the ITC in some translation training programs at some Saudi universities, using a survey and checklist. The study highlights significant gaps

in the integration of ITC within the translation training programs at the targeted Saudi universities. Despite the acknowledgment of ITC in the study plans, the actual allocation of dedicated courses is notably insufficient, with most programs offering only one to two specific courses. The students' reported experiences reveal a limited engagement with translation technology and basic familiarity with instrumental tools, including online resources, machine translation, and AI tools, and a particularly low exposure to CAT tools, corpus analysis tools, and reference management tools.

The observed random and sometimes inappropriate use of translation tools by students, as reported in their responses to the questionnaire suggests a broader systemic issue within translation training programs. This issue is not only about the scarcity of courses but also reflects on the need for a more structured and comprehensive approach to training in translation technology. The disparity between the stated objectives of these programs and the practical training provided undermines the development of essential skills in today's technology-driven translation industry. Furthermore, the alignment of these findings with previous research underscores a persistent challenge in translation education: the gap between theoretical objectives and practical implementation. This gap points to an urgent need for curriculum reform that better integrates translation technology, ensuring that students are not only familiar with but also proficient in the use of contemporary translation tools. Addressing these challenges is crucial for preparing translation students to meet the demands of the global translation market, emphasizing the role of technology in enhancing both the efficiency and quality of translation processes.

Among the limitations of the study is its reliance on surveys and checklists. The sample size of this study may be considered small given the inclusion of six universities, and this is indeed a limitation of our study. Future studies could focus on obtaining a larger sample size to enhance the robustness of the findings. They need to engage more students in translation tasks, recording their behaviors during the translation process using keylogging and eye-tracking data. This approach will reveal how students use translation tools at different stages of translation and to what extent these tools are utilized to achieve translation quality.

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