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**| RESEARCH ARTICLE**

**Corpus Tools in Translation Pedagogy: Instructors' Knowledge, Barriers, Practices, Effectiveness, and Enablers in Saudi Universities**

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**| ABSTRACT**

The integration of technology in translation pedagogy continues to evolve, yet the utilization of corpus tools remains limited, particularly among translation instructors in Saudi universities. This quantitative study explores the knowledge, barriers, practices, effectiveness, and enablers of corpus tool implementation in translation teaching. Through a comprehensive questionnaire administered to 30 translation instructors across Saudi universities, the research examined five key constructs: knowledge, barriers, practices, effectiveness, and enablers of corpus tool usage. Employing the Technological Pedagogical Content Knowledge (TPACK) framework proposed by Koehler and Mishra (2006), the study assessed instructors' technological, pedagogical, and content competencies. Findings indicated that instructors possess basic but limited knowledge of corpus tools, which affects their confidence in applying them pedagogically. Several significant barriers emerged, including insufficient training, technical difficulties, and a lack of institutional support. Correspondingly, actual classroom practices involving corpus tools were modest. Nevertheless, instructors reflected positive attitudes regarding the effectiveness of corpus tools and demonstrated high motivation and favorable enabling conditions for future adoption, contingent upon adequate support. The study highlights the need for enhanced professional development, improved institutional infrastructure, and curriculum refinement to support the meaningful integration of corpus tools in translation pedagogy.

**| KEYWORDS**

Corpus tools; translation pedagogy; translation instructors; Saudi universities; TPACK framework

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**1. Introduction**

A corpus is a large collection of written texts or other language data that provides foreign language learners with authentic linguistic documentation taken from naturally occurring language and chosen to represent a specific state or variety of the

language (Sinclair, 1991). Corpora are increasingly recognized as a key instrument in teaching translation courses at the undergraduate level. Corpus tools and resources represent major areas of interest within language pedagogy. It has been argued that a corpus can be used in linguistic classes to facilitate a more profound understanding of inherent semantics. Rudneva (2020) demonstrates that using a corpus in a classroom helps students understand professional text and delve into the details of structure and meaning. By reaching this level of understanding of text features, both teachers' and students' language skills are inevitably developed. Incorporating corpus resources into translation activities not only improves learners' linguistic skills but also fosters self-confidence and autonomy. Additionally, corpora enhance translation accuracy and consequently develop learners' abilities to satisfy the demands of the translation market (Yu, 2020).

Moreover, it has long been held that translation instructors do not need to be native speakers of the students' target language, since the teacher's role is to remain proficient in using resources, posing questions, and evaluating findings (Zanettin, 2009). However, research has consistently shown that translation instructors at the undergraduate level lack sufficient proficiency in corpus utilization despite their awareness that corpus tools are available and can be used to support their teaching. Such evidence indicates a need to understand the current state of incorporating corpora in translation teaching. The aim of this paper is to investigate how translation instructors use corpus tools in their classes at the undergraduate level. The study seeks to examine five elements: knowledge of utilizing corpus resources in translation tasks, barriers to incorporating corpora in the translation classroom, actual practices in using corpora, perceived effectiveness, and enablers of corpus use. Specifically, the research addresses the following question: how do Saudi university translation instructors use corpus tools in translation teaching, and what factors influence their integration?

## **2. Literature Review**

The increasing use of technology in translation has significantly changed the way translation professionals work and, consequently, how translation is taught in educational settings. Gil and Pym (2006), in *Technology and Translation: A Pedagogical Overview*, stated that today's translators rely more heavily on technical tools, and therefore, translator education must also reflect the changing professional needs of translators. The authors noted that integrating technology into the curriculum is pedagogically imperative, as it enables translation educators to prepare students for the actual demands of the translation industry.

### **2.1 Technological Pedagogical Content Knowledge Framework**

The integration of technological tools has become essential in translation training and contemporary translation studies. One of the most influential theoretical models on technology integration in the classroom is the Technological Pedagogical Content Knowledge (TPACK) framework developed by Mishra and Koehler (2006). They stressed that effective teaching with technology requires a combination of Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK), rather than standalone proficiency in one domain. This framework is relevant to the present study because it examines how university translation instructors in Saudi Arabia utilize corpus tools. TPACK offers a reliable theoretical basis to explore how instructors' deep understanding of translation theories (CK), their teaching methodologies for translation (PK), and their proficiency in using corpus tools (TK) interact to influence the enablers, barriers, and educational implications related to the integration of corpus-based methods into translation classrooms.

Subsequently, Koehler, Mishra, Kereluik, Shin, and Graham (2013) expanded upon the TPACK model and demonstrated that it could be applied across different types of educational settings and professional development programs. They further illustrated that incorporating technology into teaching is not a static skill but an ongoing process requiring teachers to continually develop new pedagogical practices in response to changing technology. In the context of translation pedagogy, the TPACK model provides an interpretive framework to examine how technology-based tools are integrated into instructors' instructional practices.

In the current study, the model is examined in the context of translation education. Technological knowledge refers to instructors' proficiency in and application of corpus tools; pedagogical knowledge relates to instructors' structuring of translation tasks; and content knowledge represents their understanding of translation theory and practice. The model's representation of the interdependence of these domains provides the theoretical basis for examining how translation instructors' competencies affect the adoption of corpus-based translation instruction approaches, the obstacles they may encounter, and the pedagogical implications for developing technology-enhanced translation training in Saudi universities.

## **2.2 Translation Pedagogy Barriers to Corpus Use**

Extant research has investigated the barriers to pedagogical corpus use. For instance, Zhang and Huang (2025) investigated factors affecting the use of corpora by translation instructors in Chinese universities. Through semi-structured interviews with four instructors, they found that while instructors expressed positive attitudes toward corpora, they often chose to forgo their use for several reasons. Poor accessibility, such as unstable internet connections and a lack of training support, limited corpus use. More importantly, instructors lacked sufficient literacy to work with corpus tools despite their positive proactive attitudes toward utilization. The study highlighted that although corpora offer significant benefits in translation classrooms, their practical viability is constrained by shortages in corpus affordance regarding linguistic diversity. This research also aligns with broader discussions in translation studies about the gap between adopting new technologies and effectively applying them in the classroom.

Another study exploring corpus translation barriers is Mikhailov (2021), who provided a broad investigation of the integration of language corpora in translator training programs worldwide. A review of 91 translator training programs across 38 countries indicated that although corpora are increasingly viewed as beneficial, their practical integration into courses remains limited. Corpora are often used in theoretical courses or postgraduate research tasks, rather than being properly integrated into translation training programs. A significant finding is that barriers to corpus integration are mainly institutional or pedagogical rather than technical. Many instructors reported inadequate training in corpus methodology and limited IT proficiency, while institutions frequently failed to highlight corpus pedagogy in their curricula. Consequently, corpus tools often occupy an inferior position compared to other translation techniques, including CAT tools and machine translation. Mikhailov's research served as a foundational reference for the present study, highlighting unequal implementation of corpora worldwide and strengthening the case for exploring whether similar barriers are present in Saudi universities.

Likewise, Shawaqfeh and Khasawneh (2023) investigated the perception and use of corpus tools by lecturers and PhD students in translation studies. Through a questionnaire, they found that participants recognized the pedagogical value of corpus tools, although their levels of competence varied. Participants were familiar with tools such as AntConc and online corpora, but showed limited knowledge of advanced platforms such as Sketch Engine and WordSmith. The study identified multiple barriers to corpus use, including insufficient institutional support, lack of translation training, and time-related constraints. The authors noted that instructors who received corpus training were more likely to include corpus-based tasks in their teaching, indicating that education is an essential enabler of corpus integration. This study is particularly relevant to the Saudi context because it highlighted instructors' training needs and the role of institutional support.

## **2.3 Pedagogical Benefits of Corpus-Based Teaching**

Kübler and Mestivier (2018) note the importance of using corpus linguistics in training specialized translation. The researchers studied MA students in specialized translation over 15 years at Paris Diderot University. This project involved two tasks each year: the first used a self-compiled specialized corpus (SP-TRANS2), and the second was performed using dictionaries and termbases without corpus use (SP-TRANS1). A controlled experimental task combined with error analysis was used to assess outcomes. Comparing the two subcorpora, a noticeable improvement in translation quality was observed for SP-TRANS2, with minimal errors in terminology, collocation, and complex noun phrases.

Similarly, Akkoyunlu and Kilimci (2017), in a study examining the use of the data-driven learning (DDL) method in ELT translation courses, found that this method helps learners develop greater awareness of verb-noun collocations. Evaluated through a pre-test, a post-test, and a survey, learners showed improved understanding of collocations related to specific expressions. Survey results indicated that most learners considered corpus application in translation courses useful as a learning tool, though a few expressed challenges stemming from unfamiliar vocabulary and the limited number of examples in the collocation output.

Lu and Xu (2023) examined corpus-based translation education from the perspective of student learning, demonstrating how corpora can enhance idiomaticity, phraseology, and grammatical awareness by providing students with authentic language input from various genres. Their study indicated that corpus-based methods improve students' ability to provide accurate and authentic translations, enhancing contextual sensitivity and cultural awareness. The study also highlighted challenges: teachers need specialized training to build effective corpus-based tasks and must balance corpus methods with traditional approaches. Insufficient training and support may hinder instructors from using corpus resources effectively.

## **2.4 Corpora Use in the Arab Region**

Alhassan et al. (2021) proposed corpus-informed pedagogical strategies to help Omani undergraduate students better address translation challenges when translating from Arabic into English. The participants included 30 native Arabic-speaking Omani BA

students in their third year, majoring in translation, with intermediate to upper-intermediate English proficiency. Both corpus and qualitative methods were employed to investigate the potential of corpus use in training and teaching translation. Students were provided with selected Arabic texts to translate into English, and their translations were compared with professional parallel corpus translations. Subsequent open-ended written interviews revealed several translation problems classified based on Baker's (2018) model of translation equivalence, including lexical and grammatical challenges. The study concluded that while corpora may have many potential benefits, the main challenges identified were a lack of awareness about corpus tools, user-unfriendly interfaces, and inadequate integration into teaching methods.

### **2.5 Synthesis**

While all of the studies reviewed found that corpora have positive effects on translation competence — improving collocation accuracy, idiomaticity, and contextual sensitivity — the effective incorporation of corpora into the classroom is consistently hindered by institutional, pedagogical, and technical barriers. Successful integration requires instructors to develop not only their technological knowledge but also their institutions' training programs and curricula. The present study extends this body of research into the Saudi context, utilizing the TPACK model to investigate how translation instructors balance their technological, pedagogical, and content knowledge when developing corpus-based teaching strategies.

## **3. Methodology**

### **3.1 Research Design**

To date, various methods have been used to measure utilizing corpora in translation pedagogy. Zhang and Huang (2025) conducted a study that explored the teachers' unwillingness to use corpora in translation teaching and adapted semi-structured interviews to analyze EFL teachers' perceptions. In this paper, a quantitative survey design method is employed to investigate using corpora in the context of teaching translation students in Saudi universities. As it allows for quick data collection from a large population, a questionnaire was selected as the main method. The design of the questionnaire aimed to provide both descriptive and comparative insights into five sections: knowledge, barriers, practices, effectiveness, and enablers.

### **3.2 Participants and Sampling**

The target participants were translation instructors at Saudi universities. The study employed convenience sampling by distributing the questionnaire via WhatsApp groups and direct contact. A total of 30 instructors completed the questionnaire. Participants included both male and female instructors with varying academic ranks and years of experience.

### **3.3 Instrument: Questionnaire Structure**

The questionnaire consists of five sections. The first section covers demographic information to provide a clear background of the participants. The second section investigates the instructors' knowledge of corpus tools. The third and fourth sections focus on barriers and actual practices, respectively. The fifth section examines perceived effectiveness of corpus use. The study employed a five-point Likert scale to measure respondents' level of agreement (1 = strongly disagree to 5 = strongly agree).

### **3.4 Validity and Reliability**

To ensure content validity, the questionnaire was reviewed by an expert in linguistics and translation pedagogy before distribution. The researchers conducted a pilot test with eight instructors, and Cronbach's alpha results ranged from 0.75 to 0.95, indicating satisfactory internal consistency across all sections. Data were collected online via Google Forms during September 2025.

A Cronbach's alpha analysis was conducted for each of the five main sections to ensure internal consistency and reliability. A high level of reliability was achieved across all sections, with alpha coefficients ranging from 0.75 to 0.95, well above the generally accepted minimum threshold of 0.70 for social science research (Nunnally & Bernstein, 1994). Table 1 presents the results.

**Table 1**  
*Internal Consistency of Questionnaire Sections (Cronbach's Alpha)*

Section	Number of Items	Cronbach's Alpha
Knowledge	5	.90
Barriers	5	.75
Practices	5	.88
Effectiveness	5	.95
Enablers	5	.87

Note. Cronbach's alpha values above .70 are generally considered acceptable for exploratory studies, indicating satisfactory to excellent internal consistency (Nunnally & Bernstein, 1994).

### 3.5 Data Analysis

Data collected from 30 university-level translation instructors in Saudi Arabia were analyzed using descriptive statistics (frequencies, percentages, and means) to summarize demographic information and responses across the five sections. Microsoft Excel was used to code and organize responses, and Python scripts were used to calculate Cronbach's alpha coefficients to confirm the reliability of each section. The analysis is guided by the TPACK model (Koehler & Mishra, 2006), which integrates technological, pedagogical, and content knowledge in the examination of instructors' corpus tool practices.

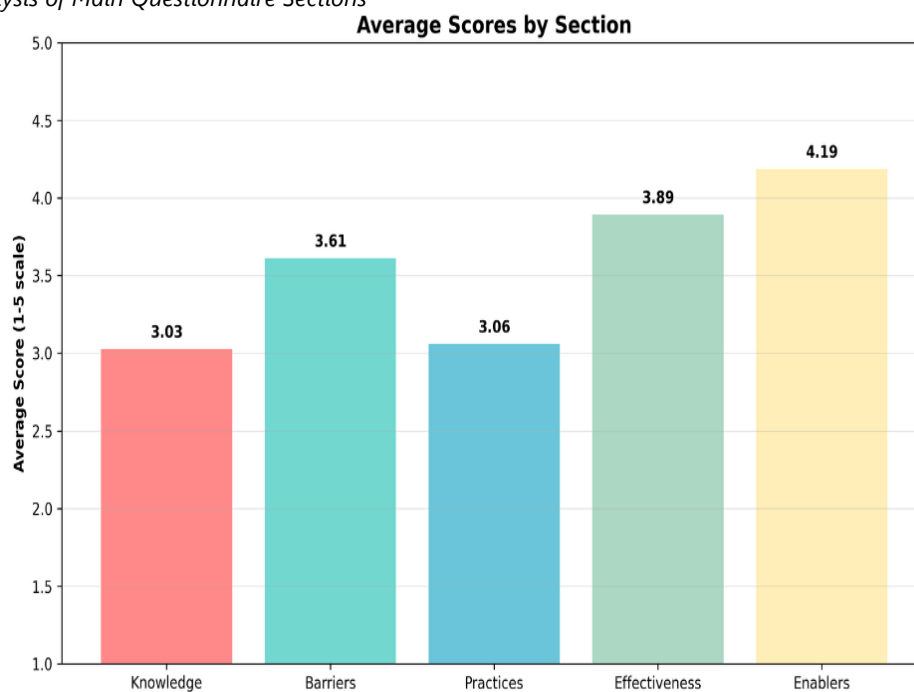
## 4. Results

The results of this study provide an overview of instructors' demographic characteristics and present key findings across the five constructs examined. The majority of participants were female (93.3%). Lecturers accounted for 70% of the sample, while the remainder included assistant and associate professors and teaching assistants. Regarding teaching experience, 36.7% of participants had 6–10 years of experience, and 23.3% had more than 16 years. General Translation was the most commonly taught course (90%), followed by Technical/Scientific Translation (36.7%) and Legal Translation (26.7%). Most participants (50%) taught classes of 35–50 students, or 20–35 students (43.3%). Self-rated digital proficiency was evenly divided, with half rating themselves as strong and half as moderate.

As illustrated in Figure 1, the main questionnaire sections were analyzed to provide an overview of participants' knowledge, barriers, practices, effectiveness, and enablers.

**Figure 1**

Comprehensive Analysis of Main Questionnaire Sections

**4.1 Knowledge**

The knowledge construct yielded the lowest average among the five constructs ( $M = 3.03$  out of 5; see Table 2), indicating a clear gap in translation instructors' familiarity with and confidence in using corpus tools. Although instructors demonstrated moderate knowledge of the various types of corpora ( $M = 3.17$ ), their confidence in applying these tools in practice was noticeably lower. Their capability to design translation tasks incorporating corpus resources scored lowest ( $M = 2.93$ ), while their understanding of how to use corpus tools effectively received a mean of 2.90.

**Table 2**

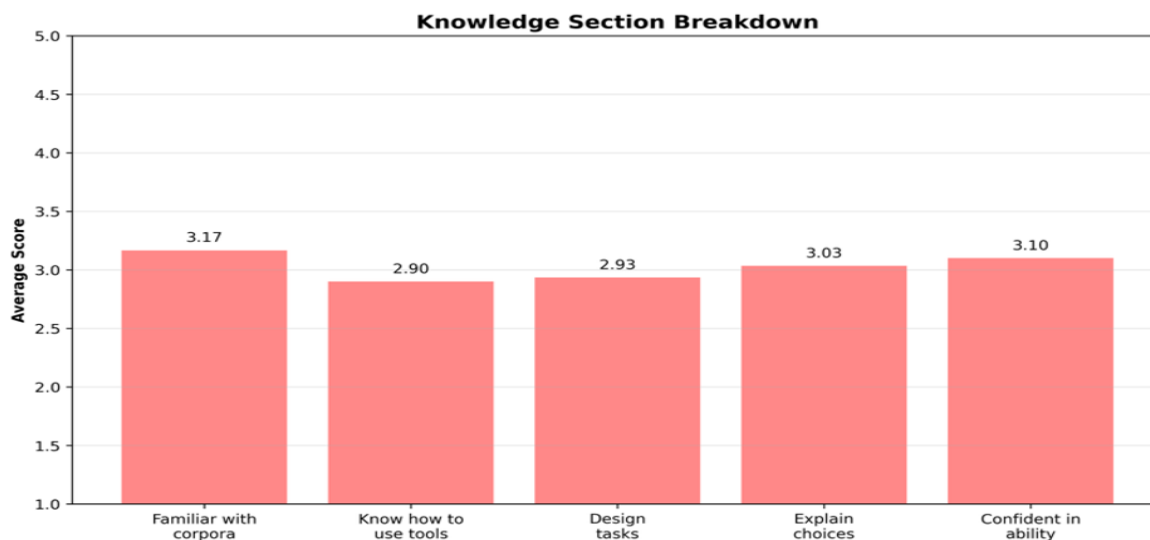
Item-Level Response Patterns for the Knowledge Construct

No.	Statement	SA n(%)	A n(%)	N n(%)	D n(%)	SD n(%)	Combined Agree (SA+A)	Mean	SD
1	I am familiar with different types of corpora.	3 (10.0%)	10 (33.3%)	8 (26.7%)	7 (23.3%)	2 (6.7%)	43.3%	3.17	1.12
2	I know how to use corpus tools effectively in teaching translation.	3 (10.0%)	6 (20.0%)	8 (26.7%)	11 (36.7%)	2 (6.7%)	30.0%	2.90	1.12
3	I can design translation tasks that integrate corpus resources.	4 (13.3%)	9 (30.0%)	2 (6.7%)	11 (36.7%)	4 (13.3%)	43.3%	2.93	1.34
4	My knowledge of corpus linguistics helps me explain translation choices.	3 (10.0%)	11 (36.7%)	3 (10.0%)	10 (33.3%)	3 (10.0%)	46.7%	3.03	1.25

5	I feel confident in my ability to use corpus tools in teaching translation.	4 (13.3%)	9 (30.0%)	7 (23.3%)	6 (20.0%)	4 (13.3%)	43.3%	3.10	1.27
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**Figure 2**

Item-Level Mean Scores for the Knowledge Construct



#### 4.2 Barriers

Instructors identified multiple organizational and practical obstacles impeding the integration of corpus tools into translation pedagogy. These barriers revealed an overall average score of 3.61 (see Table 3), indicating widespread recognition of implementation challenges. Instructors identified students' lack of training as the most significant external barrier ( $M = 4.07$ ). Other barriers included limited access to corpus tools ( $M = 3.60$ ), inadequate institutional support ( $M = 3.53$ ), technical challenges ( $M = 3.47$ ), and time limitations ( $M = 3.40$ ).

**Table 3**

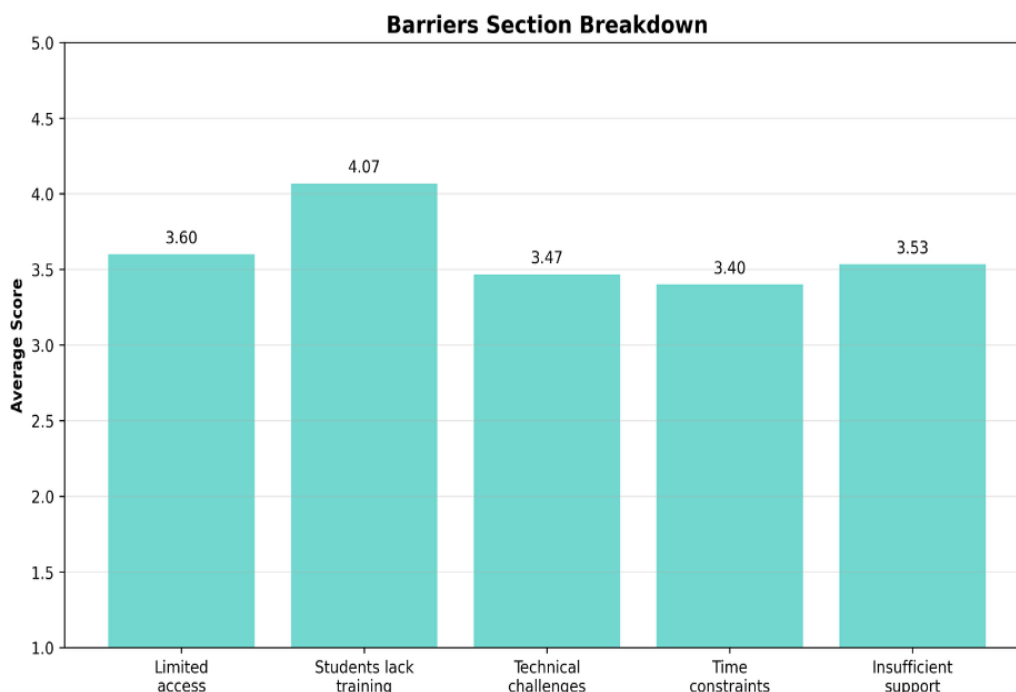
Item-Level Response Patterns for the Barriers Construct

No.	Statement	SA n(%)	A n(%)	N n(%)	D n(%)	SD n(%)	Combined Agree (SA+A)	Mean	SD
6	Limited access to corpus tools restricts my use.	6 (20.0%)	12 (40.0%)	7 (23.3%)	4 (13.3%)	1 (3.3%)	60.0%	3.60	1.07
7	Students lack training to use corpora effectively.	10 (33.3%)	16 (53.3%)	1 (3.3%)	2 (6.7%)	1 (3.3%)	86.7%	4.07	0.98
8	Technical challenges hinder corpus integration.	5 (16.7%)	11 (36.7%)	8 (26.7%)	5 (16.7%)	1 (3.3%)	53.3%	3.47	1.07
9	Time constraints prevent corpus activities.	6 (20.0%)	8 (26.7%)	9 (30.0%)	6 (20.0%)	1 (3.3%)	46.7%	3.40	1.13

10	My institution does not provide sufficient funding/IT support.	8 (26.7%)	7 (23.3%)	9 (30.0%)	5 (16.7%)	1 (3.3%)	50.0%	3.53	1.17
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**Figure 3**

*Item-Level Mean Scores for the Barriers Construct*



**4.3 Practices**

The practices construct revealed instructors’ actual implementation of corpus-based teaching strategies in their translation classrooms. This section achieved a moderate average of 3.06 (see Table 4), reflecting inconsistent application of corpus-based teaching methods. Instructors reported using corpora primarily to highlight cultural or pragmatic aspects (M = 3.17) and to illustrate translation equivalents (M = 3.03). Students’ engagement with corpus-related learning strategies also showed moderate levels, such as encouraging students to consult corpora for assignments (M = 3.00) and integrating corpus-based activities in class (M = 3.07).

**Table 4**

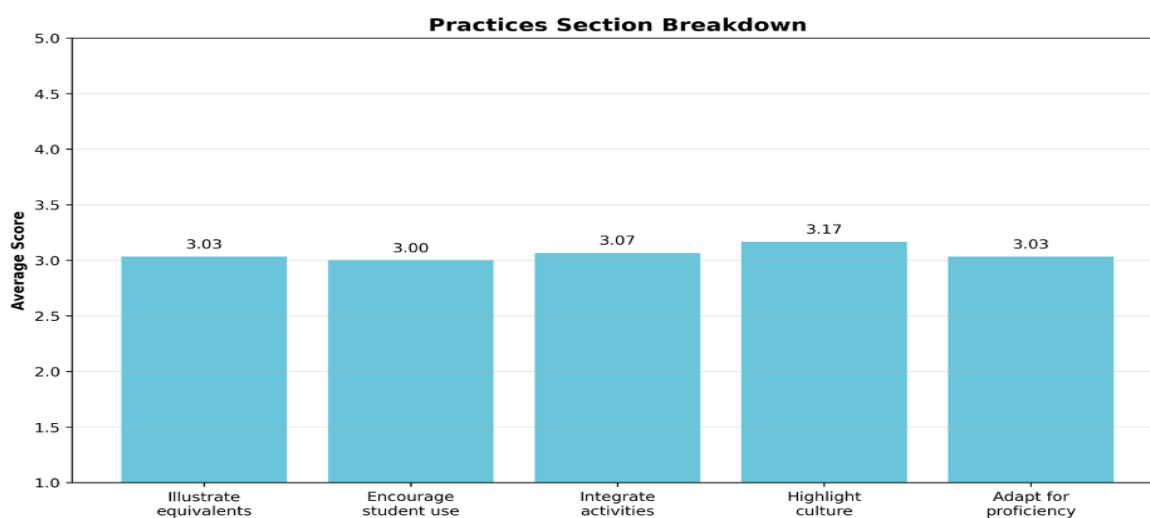
*Item-Level Response Patterns for the Practices Construct*

No.	Statement	SA n(%)	A n(%)	N n(%)	D n(%)	SD n(%)	Combined Agree (SA+A)	Mean	SD
11	I regularly use corpora to illustrate translation equivalents.	1 (3.3%)	13 (43.3%)	5 (16.7%)	8 (26.7%)	3 (10.0%)	46.7%	3.03	1.13
12	I encourage students to consult corpora for assignments.	1 (3.3%)	12 (40.0%)	5 (16.7%)	10 (33.3%)	2 (6.7%)	43.3%	3.00	1.08
13	I integrate corpus-based	2	10	8	8	2	40.0%	3.07	1.08

	activities in class.	(6.7%)	(33.3%)	(26.7%)	(26.7%)	(6.7%)			
14	I use corpus data to highlight cultural/pragmatic aspects.	4 (13.3%)	10 (33.3%)	4 (13.3%)	11 (36.7%)	1 (3.3%)	46.7%	3.17	1.18
15	I adapt corpus-based tasks to different proficiency levels.	2 (6.7%)	9 (30.0%)	9 (30.0%)	8 (26.7%)	2 (6.7%)	36.7%	3.03	1.07

**Figure 4**

Item-Level Mean Scores for the Practices Construct



#### 4.4 Effectiveness

The effectiveness construct demonstrated instructors' recognition of corpus tools' positive impact on student learning outcomes. This section received a relatively higher score ( $M = 3.89$  out of 5; see Table 5), reflecting instructors' awareness of the pedagogical value of corpus tools. All effectiveness indicators scored consistently high, with instructors agreeing that corpus use enhances students' awareness of language patterns ( $M = 3.93$ ), improves lexical accuracy ( $M = 3.93$ ), and supports stronger translation outcomes ( $M = 3.90$ ).

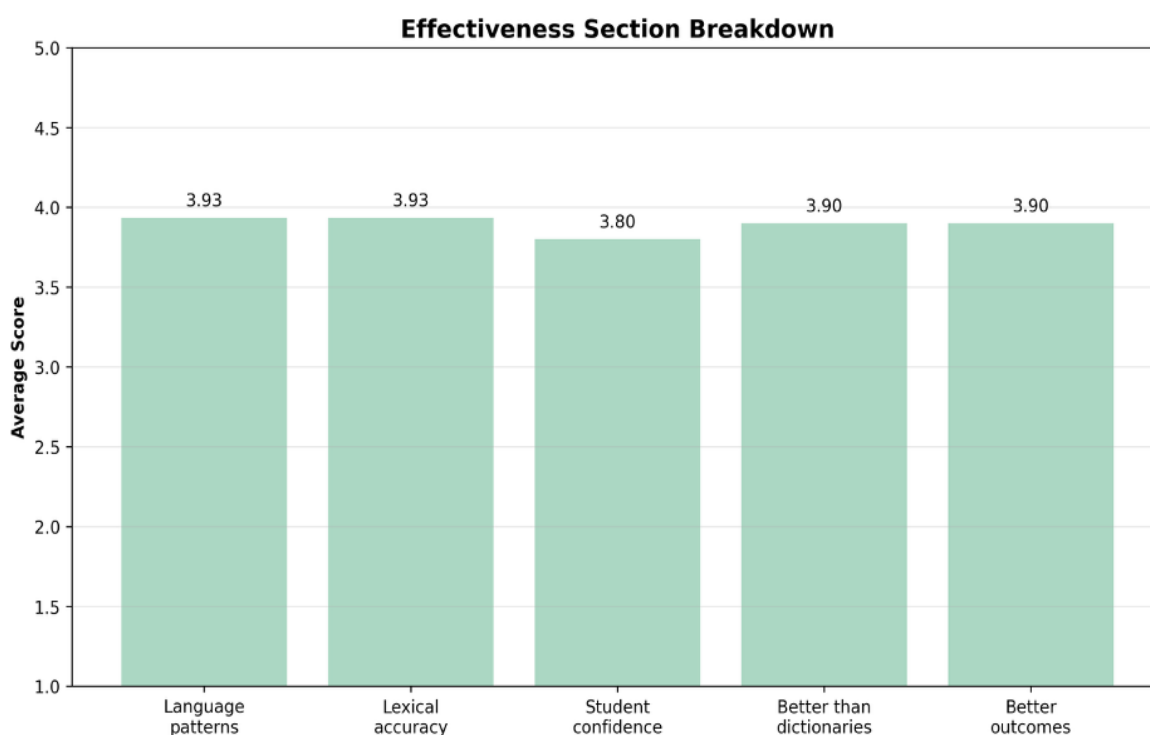
**Table 5**

Item-Level Response Patterns for the Effectiveness Construct

No.	Statement	SA n(%)	A n(%)	N n(%)	D n(%)	SD n(%)	Combined Agree (SA+A)	Mean	SD
16	Corpus use enhances students' awareness of language patterns.	5 (16.7%)	20 (66.7%)	4 (13.3%)	0 (0.0%)	1 (3.3%)	83.3%	3.93	0.78
17	Corpora improve students' accuracy in lexical choice.	6 (20.0%)	18 (60.0%)	5 (16.7%)	0 (0.0%)	1 (3.3%)	80.0%	3.93	0.83

18	Corpus-based teaching increases students' confidence.	5 (16.7%)	16 (53.3%)	8 (26.7%)	0 (0.0%)	1 (3.3%)	70.0%	3.80	0.85
19	Students benefit more from corpora than from dictionaries alone.	8 (26.7%)	13 (43.3%)	8 (26.7%)	0 (0.0%)	1 (3.3%)	70.0%	3.90	0.92
20	Corpus use helps students achieve better translation outcomes.	8 (26.7%)	13 (43.3%)	8 (26.7%)	0 (0.0%)	1 (3.3%)	70.0%	3.90	0.92

**Figure 5**  
Item-Level Mean Scores for the Effectiveness Construct



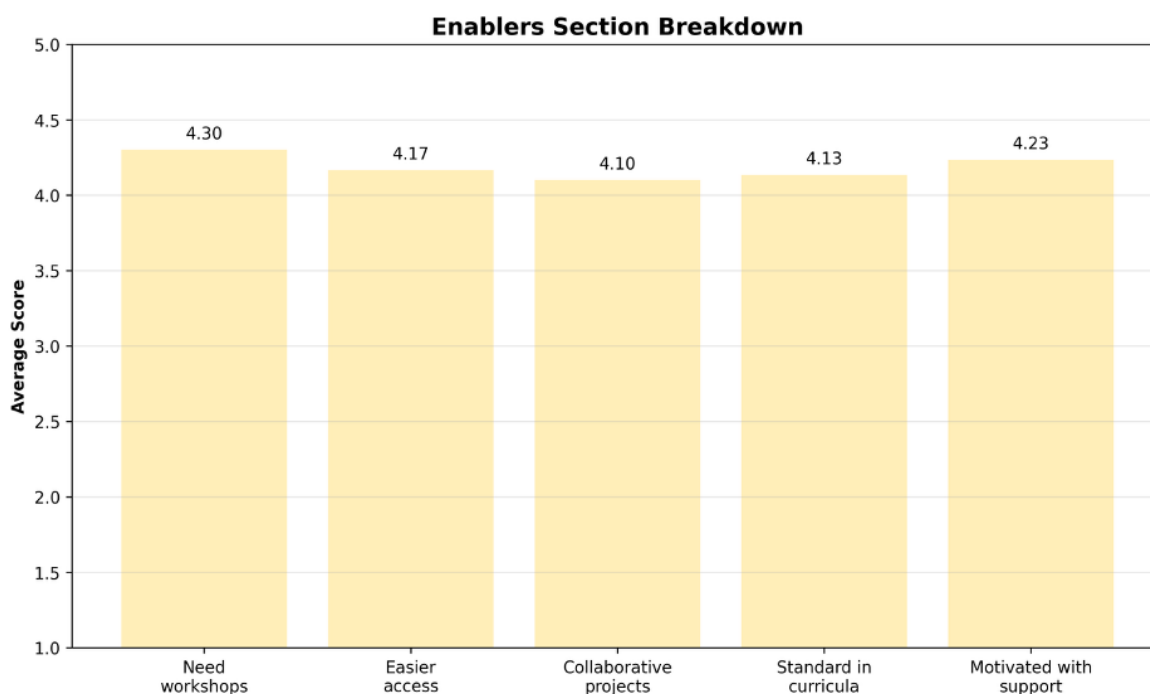
**4.5 Enablers**

The enablers construct reflected instructors' perceived need for institutional and professional support to facilitate wider adoption of corpus-based teaching. This section yielded a notably high score (M = 4.19; see Table 6), indicating strong instructor demand for institutional support and professional development. The need for student training and workshops on corpus use scored highest (M = 4.30), followed by motivation to explore corpus-based teaching with additional support (M = 4.23) and easier access to licensed corpus tools (M = 4.17).

**Table 6**  
Item-Level Response Patterns for the Enablers Construct

No.	Statement	SA n(%)	A n(%)	N n(%)	D n(%)	SD n(%)	Combined Agree (SA+A)	Mean	SD
21	More workshops are needed to train instructors on corpus use.	15 (50.0%)	13 (43.3%)	0 (0.0%)	0 (0.0%)	2 (6.7%)	93.3%	4.30	1.02
22	Universities should provide easier access to licensed corpus tools.	14 (46.7%)	11 (36.7%)	3 (10.0%)	0 (0.0%)	2 (6.7%)	83.3%	4.17	1.09
23	Collaborative projects can help share corpus-based teaching materials.	11 (36.7%)	15 (50.0%)	2 (6.7%)	0 (0.0%)	2 (6.7%)	86.7%	4.10	1.03
24	Corpus use should become standard in translation curricula.	11 (36.7%)	16 (53.3%)	1 (3.3%)	0 (0.0%)	2 (6.7%)	90.0%	4.13	1.01
25	I would be motivated to explore corpus-based teaching further if additional support were available.	14 (46.7%)	13 (43.3%)	1 (3.3%)	0 (0.0%)	2 (6.7%)	90.0%	4.23	1.04

**Figure 6**  
Item-Level Mean Scores for the Enablers Construct



## 5. Discussion

This study examined Saudi university translation instructors' knowledge, barriers, practices, and perceived effectiveness in integrating corpus tools, as well as the enablers that influence their use. The TPACK framework (Mishra & Koehler, 2006) was applied to highlight how TK, PK, and CK overlap in translation training. The findings indicate that although instructors possess strong academic and educational foundations, limited technological knowledge and institutional obstacles tend to restrict effective corpus use.

### 5.1 Technological Knowledge (TK)

The results showed that instructors demonstrated moderate technological knowledge in relation to corpus use in translation teaching. Instructors reported moderate confidence in their overall ability to use corpus tools effectively ( $M = 3.10$ ) and in designing corpus-based tasks ( $M = 2.93$ ), which contributed to the lowest mean score ( $M = 3.03$ ) in the knowledge section. Despite some familiarity with corpus types ( $M = 3.17$ ), this theoretical awareness did not translate into effective practice. These results align with previous findings showing that instructors value corpora but lack the technological proficiency required for effective application (Mikhailov, 2021; Zhang & Huang, 2025). Barriers such as limited access to corpus tools ( $M = 3.60$ ) and technical challenges ( $M = 3.47$ ) further hinder technological knowledge, underscoring the need to improve skills and institutional support.

### 5.2 Pedagogical Knowledge (PK)

The results showed that instructors hold a strong perception of how beneficial corpus-based approaches are to students; however, their actual practices remained modest. Instructors demonstrated clear awareness of the pedagogical value of corpus tools, as reflected in the effectiveness section ( $M = 3.89$ ), with strong agreement that corpora can improve students' language pattern awareness ( $M = 3.93$ ), enhance lexical accuracy ( $M = 3.93$ ), and improve overall translation quality ( $M = 3.90$ ). However, the practices section shows a moderate average ( $M = 3.06$ ). The disparity between awareness and actual integration of corpora indicates that although pedagogical knowledge is present, it does not align with technological knowledge. This gap underlines the need to develop Technological Pedagogical Knowledge (TPK) — the ability to design and deliver effective corpus-based learning experiences. Mikhailov (2021) and Shawaqfeh and Khasawneh (2023) observed that in the absence of training in corpus pedagogy, educators tend to use technology only occasionally rather than integrating it systematically into classroom practice.

### 5.3 Content Knowledge (CK)

Although the questionnaire did not directly address instructors' content knowledge — defined as knowledge of translation theories and linguistic structures — the results provided clear evidence that it is well established. The effectiveness section ( $M = 3.89$ ) shows that instructors strongly agreed that corpora can improve students' language patterns ( $M = 3.93$ ), enhance lexical accuracy ( $M = 3.93$ ), and improve overall translation quality ( $M = 3.90$ ). These findings suggest that instructors, informed by translation theories, are familiar with the benefits of corpora in enhancing translation quality and addressing specific linguistic challenges. This strong content knowledge motivates instructors to use corpus tools and helps them identify contexts in which these tools can be most effective. Lu and Xu (2023) highlighted that corpora enhance idiomaticity, phraseology, and grammatical awareness, thereby helping students produce accurate and natural translations. The challenge lies in connecting this CK more effectively with TK and PK to achieve appropriate corpus integration.

### 5.4 Intersections of TPACK

The findings emphasize the significance of the interactions among TPACK domains. In terms of Technological Content Knowledge (TCK), instructors acknowledged the value of corpora (CK) but lacked the technical skills (TK) to deploy them effectively. In terms of Pedagogical Content Knowledge (PCK), moderate practice scores showed that while instructors had the ability to teach translation, they did not incorporate corpus methodologies sufficiently. The broader challenge, therefore, lies in developing full Technological Pedagogical Content Knowledge (TPACK). The highest-rated barrier was students' lack of training ( $M = 4.07$ ), and the most strongly endorsed enabler was the demand for workshops ( $M = 4.30$ ). Both indicate that effective corpus pedagogy requires coordinated support for both instructors and learners rather than isolated improvements in TK alone.

### 5.5 Theoretical and Pedagogical Interpretation

This study demonstrates that while Saudi translation instructors exhibit strong pedagogical knowledge, their limited technological knowledge restricts the integration of corpus tools. These findings align with Zhang and Huang (2025), who linked insufficient corpus use with poor technological knowledge, and with Mikhailov (2021), who emphasized institutional and pedagogical barriers as major obstacles to corpus integration.

Although content knowledge was not directly assessed in the questionnaire, it can be inferred from instructors' awareness of the pedagogical benefits of corpora in enhancing translation outcomes. This reflects Lu and Xu (2023), who showed that corpora strengthen idiomaticity, phraseology, and grammatical awareness. Yet, as Akkoyunlu and Kilimci (2017) asserted, awareness of corpus benefits without pedagogical models does not guarantee systematic corpus integration.

It was also evident that instructors desired institutional support and emphasized the importance of student workshops, professional training, and licensed access to learning resources. This aligns with Shawaqfeh and Khasawneh (2023), who demonstrated that corpus training significantly enhances the integration of corpus tools in translation teaching.

In accordance with the TPACK framework, these findings show that developing TK alone is insufficient. Effective integration requires professional development that connects CK, PK, and TK in interactive ways. For Saudi universities, this means investing in training and organizational infrastructure so that corpus tools become integral to translation pedagogy rather than peripheral resources.

## 6. Conclusion, Implications, Limitations, and Recommendations

This study explored the knowledge, barriers, practices, effectiveness, and enablers of Saudi university translation instructors toward integrating corpus tools into translation pedagogy. Employing the TPACK framework, the paper examined how technological, pedagogical, and content knowledge interact to shape instructors' application of corpus-based tasks. The findings show that while Saudi translation instructors possess well-established pedagogical and content knowledge, their limited technological knowledge, combined with institutional and resource-related barriers, restricts the integration of corpus tools in translation training.

The results emphasize that instructors acknowledge corpus tools as effective pedagogical aids for improving students' lexical accuracy, awareness of language patterns, and overall translation quality. However, the gap between theoretical understanding and practical integration signals a high demand for institutional support. Professional development programs, student workshops, and licensed access to corpus platforms are therefore necessary to equip instructors with the technological and pedagogical skills required for corpus-based instruction.

The integration of corpus tools should be viewed not only as a technological development but also as a pedagogical progression that connects TK, PK, and CK in interactive ways. Universities need to invest in training programs and update their curricula to enable instructors and students to use corpus resources more efficiently and consistently. These efforts would enhance translation pedagogy in Saudi Arabia and align it with data-driven and technology-assisted translation education internationally.

Although this study provides significant contributions to the field, several limitations should be acknowledged. The limited sample size ( $n = 30$ ) restricts the generalizability of the findings. Moreover, reliance on self-reported questionnaire data may not fully capture the depth of instructors' real corpus-related use and experiences. Future research could employ mixed-method approaches to achieve a deeper understanding of how corpora are used in classrooms, and could incorporate students' perspectives to provide further insights into corpus integration.

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