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USING TRANSLATION TOOLS TO IMPROVE STUDENTS' TRANSLATION SKILL FROM TETUM TO THE ENGLISH LANGUAGE

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A R T I C L E I N F O

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A B S T R A C T

The objective of this study was to determine whether the use of Tetun Google Translate (Tetun.org) could enhance students' ability to accurately and effectively translate from Tetum into English. This research utilizes a quantitative descriptive design. The population consisted of 26 samples through purposive sampling. The data were collected through pre- and post-tests that measured students' translation performance before and after the implementation of translation tools. The findings showed that the t-calculated value (44.80) was greater than the t-table value (2.06) at the 0.05 significance level, indicating a significant difference between the pre-test and post-test. This means that using translation tools significantly improved students' translation achievement. Students showed greater accuracy, better word choice, and improved sentence construction after using translation technology. The study found that translation tools are effective in improving translation learning outcomes. Using helps students develop not only translation accuracy but also confidence and motivation in learning.

INTRODUCTION

In recent years, translation has become an essential skill in multilingual societies, especially in countries like Timor-Leste, where Tetum serves as one of the official languages alongside Portuguese and English (Hull & Kaolin, 1999).

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Translation supports both academic success and professional purposes, helping students to access wider knowledge sources and communicate effectively across languages. The ability to translate effectively between Tetum and English is crucial for students in higher education, particularly those in the English Language for Education Department, as it supports both their academic success and future career opportunities (Hatim & Munday, 2004; Catford, 1965).

For fifth-semester students at the Institute Superior Cristal in Dili, this skill is not only a linguistic requirement but also a professional competency expected in teaching, research, and cross-cultural communication. Translation from Tetum to English presents unique challenges due to structural, lexical, and cultural differences between the two languages (Larson, 1998; Garcia, 2010). Tetum has limited formalized grammar compared to English, and many expressions are deeply rooted in local culture, making direct translations often inadequate (Hull & Kalin, 1999). Students must navigate these linguistic gaps while maintaining accuracy, coherence, and natural flow in English. This process demands both linguistic knowledge and the ability to adapt culturally specific concepts into understandable English forms without distorting meaning. Traditional methods of teaching translation in Timor-Leste often rely on printed dictionaries, teacher-led corrections, and peer discussion. While these approaches can be effective in developing foundational knowledge, they may not provide the speed, accuracy, and exposure to authentic language use required in today's fast-paced academic and professional environments. Nida and Taber (1982) emphasize that translation is not merely about word substitution but the transfer of meaning across linguistic and cultural boundaries. The rapid advancement of translation technology, including online dictionaries, machine translation systems, and computer-assisted translation (CAT) tools, offers new opportunities to enhance the learning process.

According to Browker and Fisher (2010), translation tools such as Google Translate, DeepL, and SDL Trados have transformed how individuals approach translation tasks. These tools can provide immediate suggestions, alternative word choices, and contextual examples that help students improve both their vocabulary and sentence structure. However, these tools also have limitations, especially when dealing with idiomatic expressions, culturally specific terms, and context-sensitive meanings. Therefore, students need training not only in how to use these tools but

also in evaluating and refining their output critically. The use of translation tools can also foster learner autonomy, enabling students to practice independently outside the classroom.

In many cases, students may have limited exposure to English outside of academic settings, which slows their language development. Translation technology can provide continuous learning opportunities by allowing students to engage with English in real time, experiment with different phrasings, and check their understanding instantly. This immediacy can help reinforce learning and increase confidence (Nurhayati,2021; Alosaimi, 2024).

The integration of translation tools into the translation teaching process also aligns with global trends in language education, where technology-enhanced learning has become a norm. (sabate,2000; O'Hagan & Ashworth,2002). Various universities worldwide have adopted blended learning approaches that combine traditional instruction with digital tools to maximize learning outcomes. Introducing such approaches in Timor-Leste can prepare students for international communication standards and for professional translation work, which often requires familiarity with digital tools.

The fifth-semester students at the Institute Superior Cristal represent a particularly relevant focus group for this study because they are transitioning from basic language acquisition to advanced application. They have had sufficient exposure to both Tetum and English to understand the complexities of translation, yet they are still developing the sophistication needed for high-quality output. This makes them ideal candidates for investigating how translation tools can enhance their skills. Previous studies in other contexts have shown that translation tools, when integrated with proper pedagogical strategies, can significantly improve translation accuracy, expand vocabulary, and boost learner confidence. (Bowker & Barlow,2008). However, little research has been conducted in the specific context of Tetum-English translation, particularly within Timor-Leste's higher education institutions. This gap underscores the need for localized research that accounts for the specific linguistic and cultural challenges faced by Timorese students.

Given these considerations, this study seeks to explore the role of translation tools in improving the Tetum-to-English translation skills of fifth-semester students in the English Language for Education Department at the Institute Superior Cristal

during the 2025 academic year. By examining the benefits and challenges of integrating technology into translation instruction, the research aims to provide evidence-based recommendations to enhance translation pedagogy in Timor-Leste. The goal is to ensure that students graduate with the linguistic, cultural, and technological competencies necessary to excel in academic, professional, and intercultural communication contexts.

Using Translation Tools Improved Translation Skills.

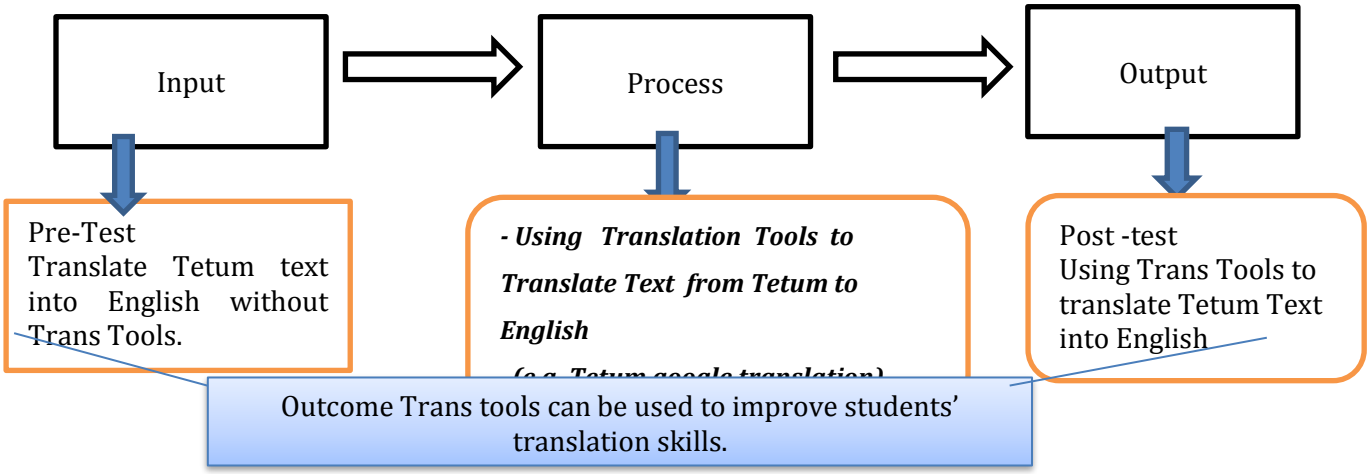

Figure 1.7.1 Conceptual framework

Diagram of Conceptual Framework

1. Input: The researcher will administer the pre –test without intervention.
2. Process: Here, the researcher will introduce students to how to use the trans tools to translate documents or text from Tetum to English.
3. Output: Here, the researcher will administer the post-test by allowing the students to use the trans tools to translate the text from Tetum Language to English.
4. Outcomes: In this phase, the researcher will compare the results of pre pre–test and post–test to determine whether the trans tools can be used to improve students' translation skills.

REVIEW OF RELATED LITERATURE AND STUDIES

Several scholars have defined translation as a process of transferring meaning from one language to another while preserving accuracy and naturalness. Catford (1965), in his influential book A Linguistic Theory of Translation, defines translation as "the replacement of textual material in one language (source language) by equivalent

textual material in another language (target language).” This definition highlights the linguistic aspect of translation, emphasizing the importance of equivalence between the source and target texts.

Translation tools, often referred to as “trans tools” in applied linguistics, are digital resources designed to assist in translation. These include Machine Translation (MT) tools such as Google Translate and Microsoft Translator, Computer-Assisted Translation (CAT) tools like SDL Trados Studio and MemoQ, and corpus-based resources such as bilingual concordancers and parallel text databases (Bowker & Barlow, 2008). The primary goal of these tools is to enhance translation speed, accuracy, and consistency while providing translators with contextual and terminological support. Yudiarti (2019), in her undergraduate thesis titled "The Analysis of Microsoft Translator Quality in Translating Complex Sentences from Indonesian into English" (State Institute of Islamic Studies Ponorogo), found that although Microsoft Translator produced quick drafts, human post-editing remained necessary to achieve acceptable accuracy and naturalness. This finding aligns with the concept of “post-editing competence” (O’Brien, 2012) in which students learn to evaluate and refine machine-generated translations critically.

Alwazna (2024) investigated the use of translation technology by translation students at Saudi universities. He found that participants employed MT and CAT tools at multiple stages of the translation process—pre-translation analysis, drafting, and post-editing—which led to increased efficiency, accuracy, and consistency when combined with adequate training (Alwazna, 2024). Similarly, Nurhayati (2021) examined the effect of Google Translate on students’ translation quality at Universitas Negeri Semarang. Her findings showed that students who used the tool with explicit teacher feedback produced translations with fewer grammatical errors and greater lexical variety than those who did not use the tool. These studies align with O’Hagan and Ashworth’s (2002) assertion that technology, when appropriately integrated, can support both the linguistic and strategic dimensions of translation competence. For fifth-semester English Education students, this suggests that structured use of trans tools can enhance their ability to manage terminology, maintain consistency, and produce translations that meet communicative needs.

One advantage of translation tools is their ability to save time and increase productivity. Somers (2003), in Machine Translation in the Classroom, argues that machine translation systems can provide students with immediate access to

translations, allowing them to focus more on analysis and correction rather than spending excessive time on basic decoding. This suggests that translation tools can support learning by providing a starting point for students to improve their linguistic competence. Garcia (2010), in her article Can Machine Translation Help the Language Learner?" also points out that overreliance on translation tools may hinder the development of independent language skills. She explains that students may use tools as a crutch, reducing their engagement with the cognitive process of learning vocabulary, grammar, and syntax. Stanovsky, Smith, and Zettlemoyer (2019) further demonstrated that machine translation systems perpetuate gender bias, producing culturally misleading and inequitable results. Bowker (2020) and Ramírez-Polo and Vargas-Sierra (2023) also cautioned that translation tools raise serious ethical concerns, particularly when students or professionals insert confidential information without considering privacy risks. Vieira (2023) reinforced this by showing that everyday users of online translation are often unaware that their texts may be stored and reused, raising issues of transparency and data protection.

In light of those theories, it can be concluded that translation tools offer significant pedagogical advantages. However, they also present disadvantages, particularly when students become overly dependent on them or when tools fail to capture linguistic and cultural nuances. For this study, which focuses on improving students' translation skills from Tetum to English, acknowledging both the benefits and drawbacks of translation tools is essential to ensuring they are used as supportive aids rather than as replacements for genuine language learning and critical thinking. Without explicit guidance and policies, translation tools can compromise academic integrity, linguistic growth, and ethical standards in education.

METHOD

The research method used was classroom action research. This method was selected to implement specific teaching techniques in the class to address classroom problems and enhance both the teaching and learning of English translation using translation tools. The study's population comprised 26 students from the English Department. These students were chosen because they had already completed basic translation courses and had begun applying translation tools in their coursework, making them appropriate participants for this study. A quantitative descriptive design requires data from participants who share the

research focus's relevant characteristics. The total population of 26 students was selected as the study's sample.

The instruments of this study consisted of two translation tasks, namely a Pre-test and a Post-test. Both tests used the same narrative text based on the Tetum legend *"Lafaek ne'ebe sai fali rai Timor"*, which was prepared by the researcher in Tetum. The text was selected because it was culturally meaningful and appropriate for the students' language level. In the pre-test, the students were asked to manually translate the story from Tetum into English without using any translation tools. This task was designed to measure their baseline translation competence, including accuracy, grammar, vocabulary choice, and coherence. In the post-test, the students were asked to translate the same story again, but this time with the support of translation tools. This task was intended to examine the extent to which translation tools influenced the students' performance in terms of accuracy, grammar, vocabulary choice, and coherence. Both tests were administered to fifth-semester students in the English Education Department at ISC during the School Year 2025.

The procedures of classroom Action research took several steps. Kemmis (2011) has developed a simple model of the cyclical nature of the typical action research process, and each cycle has four steps: planning, action, observation, and reflection.

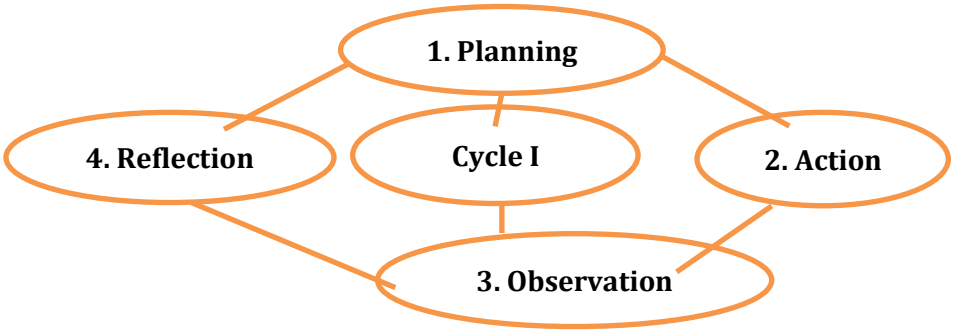

Figure 1: The steps of Classroom Action Research based on Kemmis's (2011)

A. Planning

The planning stage involved five preparatory activities, namely:

1. Preparing the teaching materials and lesson plan.
2. Preparing the student attendance list.
3. Preparing teaching resources, such as markers, an eraser, a phone, and a laptop.
4. Preparing observation sheets for classroom observation.
5. Preparing the test, which used the exact narrative text based on the Tetum legend *"Lafaek ne'ebe sai fali rai Timor"* (*The Crocodile that Became Timor Island*).

B. Action

The action stage was conducted through the following activities:

1. The teacher administered the pre-test and, after the teaching process, the post-test.
2. The teacher taught the students about translation using translation tools.
3. The teacher provided opportunities for the students to ask questions and discuss difficulties or problems related to translation.
4. The teacher guided the students in addressing these difficulties and encouraged active participation.
5. The teacher administered the post-test during the final meeting.

C. Observation

Observation was one of the instruments used to collect data as part of the scientific method. In this step, classroom action research was systematically applied to observe and record phenomena, including students' feelings, thoughts, and perceptions, during the teaching and learning process of Tetum translation. The researcher observed all classroom activities, maintained a conducive learning atmosphere, and collaborated with the local English teacher to explore teaching possibilities. The purpose of this stage was to enhance student motivation in learning through classroom action research. All processes and activities were recorded using observation sheets to ensure accurate documentation of the learning activities.

No	**Activities**	**Distribution**		
1	**Pre – teaching**	Excellent	Good	Fair
	a. Opening/greeting			
	Q: Good morning, A: Morning Madam		✓	
			✓	
	Asking condition: Q How are you today? A: We are fine		✓	
	Attendance: Q; Listen your name, A; yes teacher			
	b. Introduction (Introduction of the topic)	✓		
	c. Motivation	✓		
2	**While Teaching**			
	a. Explanation	✓		
	1. Translation skills in using translation tools	✓		
	2. Introduce the definition of Translation tools and Translation.	✓		

	3. Provide some examples of translation tools with translation narratives.	✓		
3	**Evaluation:** Checking the student's understanding of translation tools		✓	
4	**Reinforcement:** Ask one of the cleverest students among the other students to re-explain the definition and example of Translation tools to the class.	✓		

Table 1: presents the classroom observation

D. Reflection

Reflection was an activity in which the teacher expressed and evaluated her own experiences as a form of self-evaluation. The teacher conducted an evaluation based on observation data to identify weaknesses in the activities carried out using translation tools as a strategy to teach translation skills. Identified weaknesses and differences were refined in subsequent cycles so that the researcher could determine how effective translation tools were as a teaching strategy for fifth-semester English Education Department students of ISC in the School Year 2025.

The researcher analyzed the pre-test and post-test results and compared them to assess the intervention's impact. In addition, the researcher evaluated the teaching–learning process during the implementation of the action by examining the field notes taken throughout the lessons. The pre-test was administered at the beginning of Cycle I, while the post-test was administered at the end of the first action cycle. Based on the combined evidence from observation sheets, field notes, and the pre-/post-test comparison, the researcher carried out a self-reflection to inform improvements for subsequent cycles.

Data Analysis: A descriptive technique was used to determine the extent to which translation tools affected the teaching and learning of English–Tetum translation. Data were collected from two sources:

1. **Non-test data (observational data)** The researcher observed the teaching–learning activities and recorded them using the classroom observation sheet (Table 3.1). Field notes and observation sheets were analyzed qualitatively to identify patterns in student participation, motivation, difficulties, classroom interactions, and the overall classroom atmosphere. These qualitative data were summarized and used to support and explain the quantitative findings.
2. **Evaluate data (pre-test and post-test).** The pre-test and post-test scores were tabulated and subjected to descriptive and inferential analysis. Descriptive statistics

(meaning, standard deviation, minimum, and maximum) were computed for both pre-test and post-test scores and presented in tabular form. The primary inferential test was a paired-samples *t*-test to determine whether there was a statistically significant difference in students' translation performance before and after using translation tools.

a. Mean

The mean is the average score obtained by dividing the total sum of students' scores by the number of respondents. The following formula was applied:

$$\overline{X} = \frac{\Sigma X}{N}$$

$\overline{X}$ = Mean (average score of students)

$\sum X$ = Summation (the total of all students' scores)

N = The total number of students

b. Standard Deviation formula

$$SD = \sqrt{\frac{\Sigma (X - \dot{X})^2}{N-1}}$$

SD = Standard Deviation

X = Each score

$\bar{X}$ = Mean score

N = Total Number

c. T – test dependent means

The formula t–test dependent means are;

$$SD = \sqrt{\frac{\Sigma D^2 - \frac{(\Sigma D)^2}{N}}{N-1}}$$

Explanation

- D = difference between paired scores
- ($D_i = X_i^{(post)} - X_i^{(pre)}$)
- N = number of pairs (students)
- $\sum D$ = sum of all differences
- $\sum D^2$ = sum of the differences

RESULT AND DISCUSSIONS

Finding

In this chapter, the writer would like to present and analyse the results of the research conducted to improve the English Department Students 'Translation Skill from Tetum to English Language, using translation tools.

The data presented in this chapter were obtained from the pre-test and post-test administered to the Fifth-Semester students of the English Education Study program of Cristal Balide Institute Dili in the academic school year 2025.

The scoring of the students' translation performance was based on four main criteria: **Accuracy, Grammar, Vocabulary, and Coherence.**

To help interpret the numerical results, the following score range classification was used:

Score	Performance Level	Description
81-100	Excellent	Translation is accurate, well-structured, uses strong vocabulary, and flows smoothly (incredibly good master of the aspect)
61-80	Good	Mostly accurate with minor errors; grammar and vocabulary are mostly appropriate. (clear understanding with a few errors)
41-60	Fair	Understandable, but with noticeable errors in one or more areas. (understanding but frequent errors)
21-40	Poor	errors; hard to follow in grammar, word choice, or flow. (limited understanding)
0-20	Extremely poor	Incredibly low mastery.

Table 2. Score Range Classification Score Range per Criterion (1–100)

Each is scored **1–25**, so the **maximum total score = 100**. The pre-test was administered to 26 students from the research class. The data presented the students' pre-test score, mean score, and standard deviation (Using Translation Tools to Improve English Department Students' Translation Skill from Tetum to English Language.

N0	Student Initial	Accuracy	Grammar	Vocabulary	Coherence	Total Score	Mean score
1	M M	10	10	15	10	45	11.25
2	I D C D C	10	10	10	15	45	11.25
3	E G	15	10	10	10	45	11.25
4	L N D G P G	10	8	12	12	42	10.5
5	E P X	12	8	10	10	40	10
6	V T	17	13	13	15	58	14.5
7	S N J M	13	12	10	10	45	11.25
8	M J D S G	12	8	10	12	42	10.5
9	F I A B	13	9	8	12	42	10.5
10	G M D J S	14	11	12	18	55	13.75
11	L F D S	10	10	10	10	40	10
12	S D S	14	8	9	12	43	10.75
13	J M G	16	13	16	15	60	15
14	E D C S L	11	9	9	14	43	10.75
15	R S H P	12	10	10	10	40	10
16	V H V X	12	8	10	13	43	10.75
17	Z D C M	13	12	12	11	48	12

18	J R D S	15	11	13	13	52	13
19	S S	12	8	10	10	40	10
20	A D S A	14	10	10	12	46	11.5
21	O M	10	10	8	12	40	10
22	J D S	12	8	10	12	42	10.5
23	L D C	15	11	14	12	52	13
24	G N T	10	10	10	10	40	10
25	R P	18	13	15	14	60	15
26	N P C	12	8	8	12	40	10
	Total score					1188	297

Table 3: The mean score translation of Pre-Tests

a. Calculate the mean translation for the pre-test.

To determine the students' mean score, the total score of all the students was divided by the number of participants using the following formula:

$$\overline{X} = \frac{\Sigma X}{N}$$

Where: $\overline{X}$ = Mean score

$\sum X$ = Total score

N = Number of students

$$\overline{X} = \frac{1188}{26}$$

$\overline{X} =$ 45.69. So, the mean score for pre-test is = 45.69

b. Standard Deviation formula for pre-test

X	**X - X̄**	**(X - X̄)²**
45	-0.69	0.48
45	-0.69	0.48
45	-0.69	0.48
42	-3.69	13.61
40	-5.69	32.47
58	12.31	151.5
45	-0.69	0.48
42	-3.69	13.61
42	-3.69	13.61
55	9.31	86.67
40	-5.69	32.47
43	-2.69	7.236
60	14.31	204.7
43	-2.69	7.236
40	-5.69	32.47
43	-2.69	7.236
48	2.31	5.336
52	6.31	39.81
40	-5.69	32.47
46	0.31	0.096
40	-5.69	32.47
42	-3.69	13.61
52	6.31	39.81
40	-5.69	32.47

60	14.31	204.7
40	-5.69	32.47
Total score		1037.98

Table 3: Table of Standard Deviation (DF) for each student's pre-test

$$SD = \sqrt{\frac{\Sigma\,(X-\dot{X})^2}{N-1}}$$

Where : SD : Standard deviation

X : Each score

$\overline{X}$: Means score.

N : Number of students

$$SD = \sqrt{\frac{1037.98)}{26-1}} = \sqrt{\frac{(1037.98)}{25}}$$

$$= \sqrt{41.52}$$

$$= 6.44$$

The pre-test standard deviation was 6.44.

Students' Pre-Test Analysis.

Based on the results above, the total score of the **26** students in the pre-test was **1,188**, with a mean score of 45.69 and a standard deviation of 6.44. These results indicate that most of the students' translation scores in the pre-test were still low and varied moderately around the mean. The students scored between **40 and 60**, indicating difficulties in expressing accurate meanings, applying correct grammar, and using suitable vocabulary. The students' translation ability was not yet consistent- some students performed slightly better, while others were still below average.

Table 4 presents the students' post-test scores for the Fifth-Semester English for Education Department Students of ISC in the School year 2025 after the implementation of Using Translation Tools to Improve English Department Students' Translation Skill from Tetum to English Language.

N0	Student Initial	Accuracy	Grammar	Vocabulary	Coherence	Total	Score
1	M M	24	25	24	25	98	24.5
2	I D C D C	24	25	24	25	98	24.5
3	E G	24	25	24	25	98	24.5
4	L N D G P G	24	24	24	25	97	24.25
5	E P X	24	24	23	25	96	24
6	V T	24	24	23	25	96	24
7	S N J M	24	24	24	24	96	24
8	M J D S G	24	24	24	24	96	24
9	F I A B	24	24	24	24	96	24
10	G M D J S	24	25	23	25	97	24.25

11	L F D S	24	24	24	24	96	24
12	S D S	24	24	24	24	96	24
13	J M G	25	25	25	25	100	25
14	E D C S L	24	24	24	24	96	24
15	R S H P	24	24	24	24	96	24
16	V H V X	24	24	24	24	96	24
17	Z D C M	25	25	24	25	99	24.75
18	J R D S	24	24	24	24	96	24
19	S S	24	24	24	24	96	24
20	A D S A	24	24	24	24	96	24
21	O M	24	24	24	24	96	24
22	J D S	24	24	24	24	96	24
23	L D C	24	24	25	24	97	24.25
24	GNT	24	24	24	24	96	24
25	R P	25	24	25	25	99	24.75
26	N P C	24	24	24	24	96	24
	TOTAL SCORE					2515	628.75
	MEAN						

Table 4. The mean score translation of post-tests

Calculate the mean translation for the post-test.

Formula for mean:

$$\overline{X} = \frac{\Sigma}{N}$$

$$\overline{X} = \frac{2515}{26}$$

$$\overline{X} = 96.73$$

So, the mean score for the post-test is = 96.73

b. Standard Deviation formula for post-test

X	**X - $\bar{X}$ (96.73)**	**$(X - \bar{X})^2$**
98	1.27	1.61
98	1.27	1.61
98	1.27	1.61
97	0.27	0.07
96	-0.73	0.53
96	-0.73	0.53
96	-0.73	0.53
96	-0.73	0.53
96	-0.73	0.53
97	0.27	0.07
96	-0.73	0.53
96	-0.73	0.53
100	3.27	10.69
96	-0.73	0.53
96	-0.73	0.53
96	-0.73	0.53
99	2.27	5.15
96	-0.73	0.53
96	-0.73	0.53
96	-0.73	0.53

96	-0.73	0.53
96	-0.73	0.53
97	0.27	0.07
96	-0.73	0.53
99	2.27	5.15
96	-0.73	0.53
Total score		35.04

Table 5: Standard deviation (SD) for each student for the post-test

$$SD = \sqrt{\frac{\Sigma\,(X-\dot{X})^2}{N-1}}$$

Where :

SD : Standard deviation

X : Each score

$\overline{X}$: Means score.

N : Number of students

$$SD = \sqrt{\frac{35.04)}{26-1}} \qquad = \sqrt{\frac{(35.04)}{25}}$$

$$=\sqrt{1.40}$$

$$= 1.18$$

The post-test standard deviation was 1.18.

The post-test standard deviation was 1.18. This small value indicates that most of the students' scores were close to the mean (96.73)

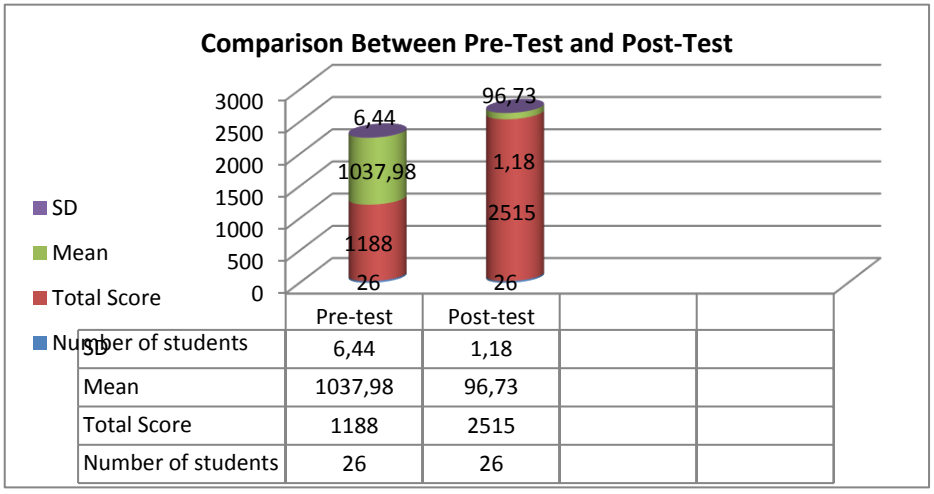

Figure 2 Design Bar Chart for Pre-test and Post-test

Post-test Analysis

The comparison clearly shows that the students' translation scores improved significantly after the treatment was implemented. The mean score increased by 51.04 points, while the standard deviation decreased by 5.26 points, indicating that the treatment not only improved students' performance but also made their scores more variable. In other words, after the treatment, the students' translation abilities improve and become more consistent.

4.3. This section aims to determine whether there is a significant difference in the students' translation achievement before and after the treatment. To evaluate the hypothesis, a paired sample t-test was used because the same group of students took both the pre-test and post-test.

a. Table of differences for each student

N0	Student Initial	Pre-Test	Post-test	D^1	D^2
1	M M	45	98	53	2809
2	I D C D C	45	98	53	2809
3	E G	45	98	53	2809
4	L N D G P G	42	97	55	3025
5	E P X	40	96	56	3136
6	V T	58	96	38	1444
7	S N J M	45	96	51	2601
8	M J D S G	42	96	54	2916
9	F I A B	42	96	54	2916
10	G M D J S	55	97	42	1764
11	L F D S	40	96	56	3136
12	S D S	43	96	53	2809
13	J M G	60	100	40	1600
14	E D C S L	43	96	53	2809
15	R S H P	40	96	56	3136
16	V H V X	43	96	53	2809
17	Z D C M	48	99	51	2601
18	J R D S	52	96	44	1936
19	S S	40	96	56	3136
20	A D S A	46	96	50	2500
21	O M	40	96	56	3136
22	J D S	42	96	54	2916
23	L D C	52	97	45	2025
24	GNT	40	96	56	3136
25	R P	60	99	39	1521
26	N P C	40	96	56	3136
	TOTAL SCORE	**X_1 = 1188**	**X_2 = 2515**	**ΣD = 1327**	**$ΣD^2$ 68571**
	MEAN SCORE	**$Σ_1$ = 45. 69**	**$Σ_2$ = 96.73**		

Table 6. Presents the differences in scores between the pre-test and Post-test

formula of the t-test

The t-test formula for paired samples is: $t = \frac{D}{\text{SD } /\sqrt{N}}$

Where: $\overline{D}$ = mean of the differences between pre-test and post-test

S_D = Standard deviation of the differences

N = Number of Students (26)

b. Find the mean difference.

$\overline{D} = \frac{\Sigma D}{N}$ = $\frac{1327}{26}$

$\overline{D}$ = 51.038 $jadi$ $\overline{D}$ = 51.04

c. Standard deviation (SD)

Formula:

$$SD = \sqrt{\frac{\Sigma D^2 - \frac{(\Sigma D)^2}{N}}{N-1}}$$

$$= \sqrt{\frac{68571 - \frac{(1327)^2}{26}}{25}}$$

$= 1327^2$ = 1,760,929

$= \frac{1,760,929}{26}$ = 67,728.04

= 68, 571 - 67,728.04 = 842,96

$= \frac{842,96}{25}$ = 33.7184

$= \sqrt{33.7184}$ = 5.81

SD = 5.81

d. The t-test score

$t = \frac{D}{SD\ /\sqrt{N}}$ $t = \frac{51.04}{5.81\ /\sqrt{26}}$

$= \sqrt{26}$ = 5.099 = 5.81/5.099 = 1.139

$= \frac{51.04}{1.139}$ = 44.80, so the score of the t-test is 44.80

e. Freedom (df)

df = N-1

= 26-1 = 25

Variable	Symbols	Formula	Result
Number of students	N		26
Sum of the differences	ΣD		1327
Sum of squared differences	ΣD^2		68571
Mean of differences	$\overline{D}$	$\overline{D} = \frac{\Sigma D}{N}$	1327 / 26 = 51.04

Standard deviation of differences	SD	$\sqrt{\frac{\Sigma D^2 - \frac{(\Sigma D)^2}{N}}{N-1}}$	$\sqrt{\frac{6851 - \frac{(1327)^2}{26}}{25}} = 5.81$
t-value	t	$t = \frac{D}{\text{SD } /\sqrt{N}}$	$\frac{51.04}{5.81\ /\sqrt{26}} = 44.80$
Degree of freedom	Df	Df = N-1	26-1 = 25
t-table (α=0.05,df = 25)			

Table 7: The differences between Pre-test and Post-test scores

Hypothesis Testing

Testing procedure

To determine whether there was a significant difference in students' translation achievement before and after using translation tools, a paired-samples t-test was applied. The test compared the pre-test and post-test scores of twenty-six fifth-semester students from the English Department at the Institute Superior Cristal. After completing the calculation, the t-value obtained (t-calculated) was 44.80. t. table value (t-critical) at the 0.05 significance level and 25 degrees of freedom (df = N-1) is 2.06

DECISION RULE

1. If t-calculated $\leq$ t-table, then H_0 is accepted (no significant difference)
2. If t-calculated $\geq$ t-table, then H_0 is rejected and H_1 is accepted (significance difference)

C. Result of the Test

The computed result shows that t-calculated = 44.80 is much greater than t-table = 2.06. Therefore, the null Hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This means that there is a significant difference between the students' pre-test and post-test after using translation tools.

D. Interpretation.

The results of the hypothesis testing indicate that translation tools such as Tetun, Google Translate, and Tetun.org significantly enhanced students' translation performance. Students demonstrated improved accuracy, grammar, vocabulary, and coherence, as well as sentence construction, after using these tools during translation practice. The result aligns with Bowker & Fisher (2010) and Nurhayati (2021), who found that translation technology can increase translation accuracy and learner autonomy.

DISCUSSION

The findings of this study revealed a significant improvement in students' translation performance after using translation tools. The t-test results (t-calculated = 44.80 > t-table = 2.06) confirmed that there was a significant difference between the pre-test and post-test scores of the fifth-semester students. This result indicates that translation tools played an important role in enhancing students' ability to translate texts from Tetum into English with greater accuracy and effectiveness.

The improvement observed in students' post-test performance may be attributed to the effectiveness of translation tools in supporting learning. According to **Bowker and Fisher (2010)**, translation technologies can help learners identify linguistic patterns and enhance consistency in word choice and grammar. Similarly, **Nida and Taber (1982)** state that translation involves reproducing the meaning of the source text in the receptor language as naturally as possible, and tools such as Google Translate or DeepL can assist students in achieving this equivalence through immediate feedback and alternative word suggestions. Moreover, **Newmark (1988)** emphasizes that translation competence requires both linguistic knowledge and practical experience. By integrating translation tools into the learning process, students are exposed to real translation challenges and receive automated guidance that helps them improve their understanding of meaning transfer and stylistic appropriateness. These findings align with **Nurhayati's (2021) findings, which showe**d that using digital translation tools in the classroom increases students' confidence and motivation in language learning.

The results of this study, therefore, support previous research showing that technology integration can enhance students' translation skills and learning engagement. The use of translation tools does not replace teachers' roles; instead, it provides supplementary support that helps students understand complex linguistic structures and develop independent learning habits.

The discussion highlights that translation tools are effective pedagogical aids for improving translation quality. The positive impact observed in students' post-test performance demonstrates that, when used appropriately, translation tools can enhance students' comprehension, vocabulary, and grammatical accuracy, contributing significantly to their overall translation competence.

CONCLUSIONS

1. The results of the data analysis, particularly the t-test value (t-calculated = 44.80) compared with the t-table value (t-table = 2.06), revealed a significant difference between students' pre-test and post-test results. This means that the use of translation tools significantly improved students' translation skills.

2. The improvement was evident in students' accuracy, vocabulary choice, and sentence construction. Translation tools such as Google Translate (Tetun) and Tetun.org provided assistance that helped students understand word meanings, grammar structures, and sentence flow more effectively. Therefore, it can be concluded that translation tools have a positive impact on students' translation learning process, helping them produce better-quality translations from Tetum into English.

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