# ENHANCING TRANSLATION EDUCATION WITH RATPRO: A CAT **TOOLS-BASED LEARNING MODEL**

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Received: 27-02-2024 Accepted: 28-04-2024 Published: 30-06-2024 Abstract: A creative translation model that can help translators produce good translations with equivalence in meaning and good grammar is essential, considering that the translation process is not just a change of language but a process of transferring meaning from the source language to the target language (Indonesian-English). This research aims to develop a RATPro translation model based on Computer Assisted Translation (CAT) Tools that are creative and innovative in translating scientific articles by students. The research model used is Research and Development (RnD), where research data is analyzed critically and validated to obtain valid and reliable results. This study found that the RATPro (Read, Analyze, Transfer, Produce) Translation Model that is based on Computer Assisted Translation (CAT) Tools can be used as a creative and innovative translation model that can help translation students transfer the language of scientific article manuscripts from the source language to the target language while maintaining the equivalence of meaning and naturalness of the language through excellent and correct grammar. RATPro (Read, Analyze, Transfer, Produce) Translation Model based on Computer Assisted Translation (CAT) Tools can also make it easier for students to translate because it is based on digital recording. Furthermore, this translation model may also be well used to translate authentic manuscripts in different fields. Keywords: Computer Assisted Translation Tools; scientific articles; RATPro translation model.

### **INTRODUCTION**

The role of translation in bridging communication across diverse languages has become pivotal in the era of globalization. While technology has penetrated various communication fields. including translation. Now, translating is very easy with the presence of digital dictionaries available on the internet (Wang, 2019). In addition to dictionaries, translation devices (translation tools) or what is known as Computer Assisted Translation (CAT) Tools like Trados Studio, MemoQ, Termex, Smartcat, and others can be accessed and are felt to simplify the translation process (Akgün & Mercan, 2023). However, using CAT Tools for translation completely, without being accompanied by an indepth analysis of the meaning, actually results in equivalent meaning but also natural language

the incommensurability of meaning in the translation results, so that the translation results deviate from the source text or original text (Xiumin et al., 2023).

Translation consists of reproducing the text into the target language and reproducing the closest meaning equivalent of the source language message (Ginting, 2022). In this case, the translator needs to realize the importance of maintaining the meaning of the source text in the translated text so that the information contained in the source text can be conveyed well (Daminov, 2022). The preservation of the meaning and information of the source language is supported by excellent and natural grammar in the translated texts so that the translated text has not only

patterns. A good translation is a translation that of translating. Indeed, translation process with good results will not be obtained if the translator

Translators need to go through a translation process that includes exploring the meaning of the source text and transferring the meaning into the target language in order to maintain equivalent meaning in a translated text with natural sentence patterns (Mardani, 2023). Moreover, translators are faced with specific terminologies that make it difficult to find equivalents in translation (Sunardi et al., 2022). Translating the texts is an obstacle for students learning to translate, which results in students needing more interest in translation (Sah & Sinha, 2022).

Teaching translation theory and practice in classical languages education can enhance understanding and appreciation of students' translation as а cultural transfer and transformation (Praet and Verhelst, 2020). Translation exercises in foreign language teaching at university level are beneficial for students, enhancing both language competence and translation competence (Piletić, 2019). However today's advance in technology should get along with classical language education in order to enhance students understanding.

A new translation teaching model based on computer network technology enables selfcontrol, independent learning, creativity, and individuality, while combining individualized and collaborative methods (Ren, 2020). In line with this, the existence of computer-based translation tool should be introduced in teaching translation. One of beneficial translation tools is CAT Tools. CAT Tools can provide translation memory, which is stored in a database that is useful for the next translation project, making the translation process easier (Zappatore, 2024). Additionally, some CAT Tools come with terminology management features, which makes it easier for translators to find terminology automatically in a stored database (Aldossary, 2023). A grammar checker is also present in CAT Tools, which helps translators minimize grammar errors. These features in CAT Tools will help students process translation studies to produce better translations in an easier and more enjoyable process (Zappatore, 2024).

As there are many challenges in translation process, translation studies also meet challenges in order to make students have good ability both in translating and employing technology in translating to support translation quality. Students today rely much on translation machine translation and do not pay attention on the process

good results will not be obtained if the translator only relies on the translation results from CAT Tools like Google Translation (Awadh, 2023). The usage of Google Translation arises because translators find it difficult to find the meaning of the source language and find equivalent words in the target language (Ikrimah et al., 2024). Previous studies found that a creative and innovative translation model integrated with translation tools is needed to help translators produce equivalent translations and solve difficulties finding equivalent words in the source text (Badawi, 2023). As implied by Stepanyan (2022), translation in foreign language teaching improves students' translation skills and enhances cross-cultural and cross-linguistic communication through appropriate didactic approaches and efficient use of translation. Therefore, developing a creative translation learning model combined with translation device is essential to develop students' ability in translating and produce translation texts more natural and accurately.

RATPro (Read Analyze Transfer Produce) is newly developed in this study. It is a creative translation learning model based on computerassisted translation (CAT) tools which was developed to assist students in learning translation and produce naturalness and accuracy in translating text. This translation learning model can help student more critically discover the meaning of the original text in order to produce the closest natural equivalence in the target text. Students also can improve their linguistic competence to increase the accuracy of the translated text and the use of natural language patterns. Apart from that, this translation model can simplify the translation process because it is based on CAT Tools, which has linguistic features. This translation learning model applies not only to Indonesian-English translation but also translation into other languages. This to translation learning model is also perfect for beginner translators because it can direct students to explore figurative meanings in source language texts stored in the CAT Tools database.

There is a lot of research on translation. Still, most of these studies focus on translation phenomena such as shifts in meaning, methods used, and other linguistic phenomena in translated texts. Research on translation studies have also been done by many researchers, however the reasearches did not involved technology yet in the learning process while technology has been widespread used by many profesional translators to support their translation product. These studies have yet to provide creative, innovative, and sophisticated translation learning models as contribution to translation studies, considering that the translation process greatly influences good translation results. Therefore, it is time to develop a creative and innovative translation learning model based on CAT Tools, which can assist students in learning translation, improve their critical thinking, and produce translated texts that are equivalent to the source text and have natural language patterns with an easy and enjoyable translation process.

This study introduces the RATPro model, a novel educational framework that incorporates CAT technologies into all facets of the translation process-reading, analyzing, transferring, and producing-with the goal of enhancing both the efficiency and quality of student translations. By addressing gaps in existing methodologies, this research aims to validate the effectiveness of RATPro, potentially shaping future approaches to translation education. A creative translation process is essential to product good-quality translations. namely having meaning commensurate with the source language and having a natural language structure. The CAT Tools-based RATPro translation learning model can provide solutions for students in translation studies and in translating scientific articles. The problems formulated in this research are (1) the Steps in the RATPro (Read, Analyze, Transfer, Produce) Translation model that is based on CAT Tools that students can apply in translating scientific articles, (2) the Effectiveness of the RATPro (Read, Analyze, Transfer, Produce) Translation model that is based on CAT Tools in improving the quality of student translations.

### METHOD

The research design used is the development of a RATPro (Read, Analyze, Transfer, Produce) creative translation model with a Research and Development (RnD) model. The model used is ADDIE (Analysis, Design, Development, Implementation, According Evaluation). to (Branch, 2009), "ADDIE is an acronym for Analyze, Design, Develop, Implement, and Evaluate". The research design can be drawn as the following picture.



Figure 1. *RATPro translation learning development model* 

The research was conducted in three stages, namely: (1) Theoretical exploration and review of experts and interested parties (2) Empirical testing, which aims to empirically validate the resulting product, namely the RATPro Translation learning model and its supporting features. (3) Implementation stage, which aims to implement the model, determine the effectiveness of the model, and obtain a learning model that has been tested.

The purpose of the testing is to evaluate the applicability of the learning model, as well as the readability of its supporting elements, including the lesson plans, teaching materials, and learning scenarios, as well as the features of the translation device's application on the learning task. Furthermore, to ascertain the duration required to finish every learning topic. As a result, model teachers and test developers are able to determine how long and how much of a text to translate should take.

Product development testing was carried out in two stages, namely individual tests and field tests. Individual test: the first was conducted by experts and lectures in the field of study. Second, it was applied to two lecturers and several students (30 students). The field test was conducted in 5 model classes (80-100 students). The individual test subjects were 1 experts and 3 lecturers, while the limited field test subjects were several students. The field test subjects were 86 students of English Education Study Program, FKIP Unmas Denpasar. The sampling technique for the field test subjects was purposive and cluster sampling.

Data from product trials can be classified as either qualitative or quantitative. Expert advice collected through questionnaire completion constitutes qualitative data. Student answers to exams given to them, or their scores, represent quantitative data. Tests, observation sheets, and questionnaires were the instruments employed in this research. In order to ascertain the validity of the produced product, a questionnaire was distributed to lecturers and students. It asked questions on the readability of learning scenarios, the appropriateness of assessments with learning objectives, and the suitability of materials with regard to students development. Observation sheets to determine the practicality of the product, includes the implementation of the learning model, and teacher and student responses. The twas used to examine the model's test implementation effectiveness findings. The

descriptive percentage was used to analyse the model's practicality.

If development satisfies the following success criteria, it is considered successful. The criteria is as follows:

The average validator score on the learning device product's is >4. indicating the legitimacy. Instructional materials fall under the easy-to-understand moderate-to-high or readability group. Evaluation tools have a reliability coefficient (r)  $\geq 0.7$ ), proportional difficulty levels ranging from easy, medium to difficult (0.0 - 1.0) and good differentiation ( $\geq$ 0.3).

When interest, activity, and learning results rise, the model is considered effective. An average learning outcome of at least 75 and 85% for classical completeness serve as indicators of this. If the character demonstrates the behavioral characteristics listed in the indicator and begins to be consistent, then at least they fall into the category of starting to develop.

The model is declared practical, if the average opinion of lecturers and students stated that the model was easy and practical to use, and students found the learning model fun.

# **RESULTS AND DISCUSSION**

Translation studies focused have on understanding translation theories so far, but they still experience obstacles in practice. Obstacles in translation studies cause students' translation abilities not to reach their maximum, as a result students translations do not have accurate meaning. А translational teaching model 6 (goals, assessments, involving variables teachers, students, textbooks, and teaching methods) can effectively integrate behaviorism, cognitivist/constructivism, and humanism in translation education (Guey, 2019). Involving translation technology in translation teaching method is esential, nevertheless such methods should still prioritize students' linguistic abilities rather than relying on translation technology alone. Artificial intelligence-based translation technology can enhance English teaching in college by cultivating students' comprehensive English ability and preparing them for practical problems in life (Kong, 2022). In line with this, Zhao (2023) adds that effective translation instruction requires a comprehensive strategy that combines academic understanding, practical expertise, and critical thinking skills for effective instruction.

Therefore, in this research, the RATPro (Read Analyze Transfer Produce) translation studies model was developed based on the CAT Tool. This learning model was developed by integrating translation device (CAT Tools) in the translation studies. Researchers believe that with today's innovations, electronic media is being used by all people as a necessity and has even started to become attractive. Students are among those who use electronic media, such as laptops and cellphones. Rather than reading books, the majority of students use their electronic gadgets for social media and game play. Therefore, combine translation technology researchers involving electronic media to implement the RATPro translation studies model.

The learning model developed is to integrate CAT Tools-based translation components into the translation model. Integrating CAT Tools into the learning stage is carried out at the 'produce' stage. Students carry out activities using CAT tools, either Smart CAT or Memoq, in the translation studies process. Throughout the learning process, the material provided is modified to meet the learning objectives. Learning steps with the RATPro model can be seen in the following chart:





The product produced in this research is a RATPro (Read, Analyze, Transfer, Produce) Learning Model based on CAT tools that can be used in translation studies. Several stages were carried out in developing this learning model, including analysis, design, development, implementation, and evaluation (ADDIE).

The first stage is analysis. At this stage, the analysis focuses on analyzing lecturers' methods or strategies in translation studies. Through this stage, input is also obtained regarding the strengths and weaknesses of the learning model or strategy used. Data collection for this analysis was carried out by distributing questionnaires online to lecturers in translation courses, where the results were used as input and consideration in developing the CAT Tools-based RATPro learning model.

The performance analysis shows that the learning model applied in translation studies is conventional and does not involve translation technology. Meanwhile, developments have contributed significantly to translation technology, processes, and products. The second stage is the design stage. At this stage, the researcher is creating a CAT Tools-based RATPro learning media design based on the analysis stage that has been prepared so that the researcher gets the information needed to develop the media that will be prepared. Apart from creating the appearance of learning media, researchers also prepare material for the learning media.

The development stage is the third phase. At this stage, researchers validated the RATPro learning model. Expert lecturers and practitioners validated the RATPro model developed in translation. The validated characteristic aspects of learning model, include aspects the of syntagmatic, social system, reaction principle, instructional impact, and complemantary impact. Data were gathered at this stage in both quantitative qualitative and forms. А questionnaire is used to collect quantitative data, and general critique and recommendations that will be taken into account to enhance the learning model are included in the qualitative data. Quantitative data was analyzed by calculating the average score from the questionnaire using a rating scale of 1, 2, 3, 4, 5. To calculate a score, the average scores from the validators were applied to each facet and indicator. This value is then referred to in the interval for determining the level of validity of the developed product so that validator criteria for the CAT Tools-based RATPro learning model are obtained.

There are multiple steps involved in validating the established learning model: expert validation, limited trials, and wide-scale trials.

Expert validation, validation of the developed to assess the questionnaire's results. Based on the RATPro Translation Learning model was conducted by a translation material expert (freelance translator) and a lecturer who taught translation class in Faculty of Foreign Language Unmas Denpasar. The model generated was deemed appropriate based on the validation results to foster student critical thinking in comprehending original message of source RATPro Translation analysis of the questionnaire's results. Based on the analysis of the questionaire, it is known that 36.05% of respondents answered strongly agree (SA), 56.64% answered agree (A), 7.12% answered doubt (D), 0.17% answered disagree (DS), and 0% strongly disagreed (SDS). Through the description of the average value of students' translation skills before and after applying the RATPro Learning Model and the results of

language text and translation ability. The developed model has integrated translation device (CAT Tools), and practiced during the connection step. The syntagmatic developed is good (average score 4.5), but still needs improvement. The suggestions given by the validator include adding details of post-translation activities, such as editing, proofreading, or annotation. After revalidation, the improvement's results were deemed valid for usage because the validators' average score was  $\geq 4.0$ .

Limited trials was conducted to 2 translation 30 students. The RATPro lecturers and Translation Learning model that has been validated by experts and practitioners is then socialized to two translation lecturers of FKIP Unmas Denpasars, in order to enable them to effectively implement it when instructing in a classroom. The results of the assessment of the developed model showed that lecturers could integrate CAT Tools with RATPro Translation learning model developed. The RATPro Translation learning model was then tested on 30 students, to determine the feasibility level of the translation process and the effectivenes of CAT tools in translation studies. The results showed that the learning model had a moderate level of feasibility and the implementation of CAT Tools in the translation process needed improvement.

Wide-scale trial was conducted in 5 model classes. The field test subjects were 86 students of English Education Study Program, FKIP Unmas Denpasar. Through product trials, the effectiveness of the product can be determined. The effectiveness of using the RATPro Learning Model can be seen by comparing student learning outcomes before and after the application of the RATPro learning method in translation learning, as well as by sending out questionnaires to find out how the approach was used and how the students responded. To find out the student's response to the application of translation learning with the RATPro learning model, the researcher distributed a questionnaire containing 10 questions related to the application of the RATPro learning model. A Likert scale of 1 to 5 was used to assess the questionnaire's results. Based on the analysis of the questionaire, it is known that 36.05% of respondents answered strongly agree (SA), 56.64% answered agree (A), 7.12% answered doubt (D), 0.17% answered disagree (DS), and 0% strongly disagreed (SDS). Through the description of the average value of students' translation skills before and after applying the

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student responses to the application of the model, the context of the text and produce an acceptable it is known that the RATPro Learning Model is very effective in learning Translation. This is evident from the increase in the average score of students as well as the response given to the application of the model where 56.64% responded strongly agree.

The RATPro model developed has been validated by experts and empirically through field trials. Validation results show that the CAT Tools-based RATPro learning model is valid. The results of trials on groups of students and lecturers found that the CAT Tools-based RATPro learning model had a good assessment, improved students' translation abilities, and got a good response when applied. Providing online media improves teaching translation methods, engaging students and enhancing problem-solving, compared to traditional methods (Hastuti, 2020). Media experts deemed the overall percentage of 88.44% to be very achievable based on their assessment. The material expert assessment results were deemed very practical, with a percentage of 89.55%. The language expert's assessment was declared very appropriate, with a percentage of 82.33%. The suggestions given by the validator adding details of post-translation include activities, such as editing, proofreading, or annotation.

A trial was carried out in translation classes conducted by two different lecturers to assess the efficacy of the RATPro learning model in translation studies. The trial was carried out by distributing a questionnaire in the form of 10 questions pertaining to the model's applicability and effectiveness in translation studies. The results of trials on a group of lecturers show that the CAT Tools-based RATPro learning model in translation classes is feasible and reasonable.

At this stage, the researcher evaluates the advantages and disadvantages of the model obtained through testing on teachers and students. This evaluation was carried out to obtain improvements to the learning model developed. From the evaluation results, it was found that several modifications are still needed in applying the RATPro learning model in translation studies, including the need for more time to carry out proofreading or annotation so that the translation results can be more natural and acceptable, exploration is needed in the analysis process so that the correct translation produced by students is accurate and acceptable. Adequate more brainstorming is needed so that students can find

translation.

Since translation technology is playing an indispensable role in translation practice, how to teach translation technology has become one of the key topics in translation studies (Tao and Wang, 2022). The growing reliance on translation technology in professional settings necessitates a shift in educational approaches to ensure that translators are proficient in the latest tools and methodologies. As bv Lin stated (2022).integrating multimedia technology into undergraduate English classroom teaching enhances students' comprehension and application skills, with 91.6% of students expressing a preference for using auxiliary teaching resources in translation instruction. Corresponding to this, this study confirmed that Computer Assisted Translation (CAT) is a tool that makes a significant difference for translators, especially in the language translation process (Vieira et al., 2023). This software is intended as a tool for translators to make their work easier. Every profession must be supported by its own software, and the CAT tool is the right choice, especially for translators (Rothwell, 2023).

Furthermore, this study confirmed that using the CAT tool to translate documents with large volumes and tight deadlines could be the right choice. With the help of a terminology list, translators can work on terms consistently because they do not need to remember so many terms (Summers et al., 2023). Additionally, CAT tools provide a much more effective interface to support the translation process (Pastor, 2021). Apart from making translations faster, translation quality can also be improved with the help of the CAT tool (Paradowska, 2021).

Modern ICT tools can greatly facilitate and enrich teaching translation and interpreting skills to students of language specialties, but their effectiveness depends on how they are used and teacher competence (Lu ans Streltsofa, 2023). This study, which dealt with developing the RATPro translation learning model, certainly enriches the development of the CAT as a translation tool. This RATPro translation learning model may also enrich translation classes' learning activities, making the learning activities more enjoyable for the students.

### **CONCLUSION**

The RATPro learning model was developed by integrating CAT Tools translation technology into the learning process. The validator declared this model valid and supported by empirical validation results from field trials. Based on the validation results obtained, this learning model is continued to the limited and wide-scale trial stages to see the model's effectiveness in translation studies. The results of trials with groups of teachers showed that the CAT Tools-based RATPro learning model in translation studies was suitable to apply even though several improvements were found in the evaluation stage. The results of trials on student groups show that this learning model can improve students' translation skills, and students respond positively to this learning model. Therefore, the CAT Tools-based RATPro Learning Model can be applied to translation studies.

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