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Evaluating AI-Based Translation Accuracy in Social and Natural Sciences Journal Articles: Towards Developing Learning Materials for the Translation and Interpreting Course in the English Education Program

ABSTRACT
The rapid advancement of information and communication technology (ICT) includes the rise of automated translation systems, particularly AI-powered tools, which are gaining significant traction among students and academics. While neural machine translation (NMT) systems like Google Translate (GT) have long dominated the field, newer AI-driven systems, such as ChatGPT (Generative Pre-Trained Transformer), offer more sophisticated capabilities. ChatGPT, as an AI chatbot, goes beyond simple text translation by understanding human language, including idioms and colloquialisms, and performing tasks like summarization, paraphrasing, and content generation based on user prompts. Within just two months of its release, ChatGPT attracted 100 million users, with millions from the U.S. (VOA, 2023) and 52% from Indonesia (Tempo, 2023). With the growing use of AI translation tools, questions arise about their accuracy, particularly in academic journal translations. Preliminary studies using Snover's HTER (2006) on limited samples suggest that NMT translation tools demonstrate 82%-90% accuracy, with social science texts (e.g., history) showing better accuracy than natural science texts (e.g., biology). However, these findings are based on small samples and may not fully capture the true accuracy or readability, highlighting the need for more extensive research with larger, more diverse datasets. This research is timely for several reasons: the novelty of AI translation since its surge in popularity in 2022, the research gap in AI translation studies, especially in Indonesian, and the increasing interest among students in AI and ICT-related thesis topics. Additionally, integrating AI translation tools into translation courses is crucial for enhancing educational quality. Expanding research with broader samples and collaborative efforts is therefore essential.

Keywords: AI-based Translation; ChatGPT; Neural Machine Translation; Translation Accuracy; Translation for Language Teaching

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