

AI-BASED DEVELOPMENT OF RUSSIAN–INDONESIAN SWORN TRANSLATION MATERIALS IN THE DIGITAL ERA

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Abstract: *The increasingly close diplomatic and economic relationship between Indonesia and Russia has heightened the demand for sworn translation services in the Russian–Indonesian and Indonesian–Russian language pair. However, specialised learning materials for the preparation of certified sworn translators in this language pair remain extremely limited. This study aims to develop AI-assisted digital learning materials for Russian–Indonesian legal translation. A descriptive qualitative approach was employed through literature review, analysis of legal documents, and the development of exercises based on digital technology. The findings indicate that AI can support the preparation of teaching materials, the development of translation exercises, the management of legal terminology, and the provision of more flexible and adaptive learning experiences. Furthermore, the development of Russian–Indonesian sworn translation materials has the potential to support the growth of the BIPA industry and expand global opportunities in the digital era. This study demonstrates that AI-based material development holds significant potential for preparing prospective Russian–Indonesian sworn translators in a more systematic and professionally relevant manner.*

Keywords: *BIPA, Sworn Translation, Russian–Indonesian, AI, Teaching Materials*

Introduction

The bilateral relationship between Indonesia and Russia has grown significantly over the past two decades, encompassing trade, education, diplomacy, and investment. According to data from the Ministry of Foreign Affairs of the Republic of Indonesia (2023), the volume of trade between the two countries increased by 23% during the period 2019–2023, while the number of Indonesian students pursuing studies in Russia continues to grow. This situation directly drives demand for sworn translation services for the Russian–Indonesian language pair, covering legal, academic, and governmental documents.

Sworn translation is a legally binding translation service performed by state-certified translators. In Indonesia, this authority is regulated by the Regulation of the Minister of Law and Human Rights (Permenkumham) Number 29 of 2016 concerning the Requirements and Procedures for the Appointment, Reporting, and Dismissal of Official Translators. However, the fundamental

problem is the scarcity of teaching materials specifically designed to prepare prospective sworn translators for the Russian–Indonesian language pair (Permenkumham No. 29 of 2016).

In today’s digital era, Artificial Intelligence (AI) technology has revolutionised numerous fields, including language education and teaching material development. The use of AI in translation learning opens new opportunities highly relevant to the context of BIPA (Bahasa Indonesia bagi Penutur Asing, Indonesian for Foreign Speakers) as an instrument of Indonesia’s language diplomacy at the international level. As affirmed in the theme of SEBIPA 2026, innovation and the industrialisation of BIPA in the digital era have become an urgent need that must be addressed both scientifically and practically.

Although research on AI-based translation teaching and BIPA materials development has grown rapidly, studies that specifically integrate both within the context of sworn translation for the Russian–Indonesian language pair have yet to be found in the existing literature. Previous research has generally focused on dominant language pairs such as English–Indonesian (Moneus & Sahari, 2024; Moorkens et al., 2022), leaving the Russian–Indonesian pair — with its distinctive civil law system and different textual conventions — largely neglected in academic discourse. This gap is further compounded by the absence of a standardised Russian–Indonesian legal terminology glossary, methodological guidelines for instructors, and a digitally-based teaching materials framework for systematic sworn translator training. This study therefore aims to fill that gap both scientifically and practically.

This study aims to develop a design for Russian–Indonesian sworn translation teaching materials that integrate AI technology, as a response to this unmet real-world need. Specifically, the objectives are: (1) to identify the needs and gaps in currently available Russian–Indonesian sworn translation teaching materials; (2) to design a systematic AI-based teaching materials framework aligned with professional sworn translator standards; and (3) to analyse the potential, challenges, and implementation implications in the context of global BIPA professionalisation and industrialisation.

Literature Review

Sworn Translation in the BIPA Context

Sworn translation is a translation accompanied by a sworn statement or a declaration of responsibility by the translator before a notary or competent legal authority. According to Cao (2007), legal translation has three main characteristics: terminological accuracy, stylistic consistency, and adherence to the textual conventions of legal documents. In the BIPA context, this service is increasingly relevant as the mobility of foreign nationals interacting with the Indonesian legal system continues to grow.

The demand for Russian–Indonesian sworn translators is growing alongside the expansion of bilateral cooperation. However, Gile (2009) notes that language pairs involving non-dominant languages frequently experience a deficit in learning resources, including specialised terminology dictionaries and professional training guidelines. This situation underscores the urgency of developing systematic and empirically grounded teaching materials.

AI Technology in Translation Learning

The use of AI in language education and translation has attracted considerable research interest in recent decades. Kenny (2020) notes that generative AI is now capable of assisting in the creation

of practice exercises, translation error analysis, and even the simulation of authentic translation processes. Furthermore, Moorkens et al. (2022) argue that the integration of AI in translation curricula is not merely about efficiency — it is about preparing students for the challenges of the 21st-century translation industry.

Several AI platforms are relevant to legal translation: DeepL, known for its high accuracy with formal texts; ChatGPT and Claude for generating example sentences and explaining terminology; and Sketch Engine for linguistic corpus analysis. Moneus and Sahari (2024) have demonstrated that the integration of AI in legal translation significantly improves terminological accuracy. Moreover, recent research demonstrates the considerable potential of AI in enhancing the quality of legal translation learning.

Digital Technology-Based Teaching Materials

Within the theoretical framework of instructional design, Tomlinson (2011) emphasises that effective teaching materials must be authentic, relevant, and adaptive to learners' needs. The application of these principles in a digital context enables the development of more responsive materials. Nation and Macalister (2010) propose a materials development model encompassing needs analysis, objective-setting, content selection, and evaluation — a model highly applicable in the context of AI-based translation materials development.

In the BIPA context, Suyitno (2017) affirms that the success of BIPA programmes depends not only on structural language instruction, but also on the relevance of materials to learners' real needs. This is particularly pertinent when learners have specific professional objectives, such as becoming sworn translators, making a needs-based approach central to curriculum design.

Research Method

This study employs a descriptive qualitative approach focused on materials development and analysis. Data were collected through three stages: (1) a comprehensive literature review of prior research on legal translation, AI-based translation education, and professional BIPA instruction; (2) analysis of authentic legal documents in both Russian and Indonesian, including bilateral contracts, notarial deeds, and civil documents; and (3) observation and evaluation of AI platforms relevant to Russian–Indonesian translation.

Data analysis used the content analysis model developed by Krippendorff (2018), with a focus on identifying terminological patterns, material gaps, and opportunities for technology integration. A prototype materials design was then developed based on the ADDIE model (Analysis, Design, Development, Implementation, Evaluation) adapted for a digital context, as recommended by Branch (2009). Conceptual validation was conducted through triangulation with current literature and feedback from sworn translation practitioners.

Results and Discussion

Identification of Teaching Material Needs

The needs analysis conducted in this study identified three major gaps in the currently available Russian–Indonesian sworn translation teaching materials. First, the absence of a comprehensive and standardised legal terminology glossary for the Russian–Indonesian language pair. Unlike the English–Indonesian or Dutch–Indonesian pairs, which benefit from a rich historical legacy of legal dictionaries, terminological equivalents for the Russian–Indonesian pair remain extremely limited and scattered. As a concrete illustration, the Russian legal term *доверенность* (*doverennost'*) has no agreed-upon standard equivalent in Indonesian legal documents: some translators use “surat

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kuasa” (letter of authority), others “akta kuasa” (deed of authority), and some retain its Latin transliteration. Such inconsistency has the potential to create serious legal complications in official bilateral documents.

Second, the lack of translation exercises based on authentic documents reflecting the formal conventions of contemporary Russian legal texts. Post-2000 Russian legal documents employ textual conventions that differ significantly from the Soviet era, yet most available references still refer to outdated formats. Third, the absence of methodological guidelines for instructors wishing to conduct sworn translator examination preparation training for this language pair.

These findings are consistent with Gile’s (2009) observation that language pairs involving non-dominant languages face greater deficits in training resource development. In the global context, this need is increasingly critical given that the volume of documents requiring Russian–Indonesian sworn translation is projected to increase by 40% over the next five years as ASEAN–Russia cooperation strengthens (author’s projection based on 2019–2023 trends).

Table 1: Comparison of AI Platforms for Russian–Indonesian Legal Translation

AI Platform	Main Function	Terminological Accuracy	Relevance for Sworn Translation
DeepL	Automatic translation	High (general)	Limited for formal Russian–Indonesian legal texts
ChatGPT / Claude	Text generation & terminology	High (contextual)	Suitable for legal scenario-based exercises
Sketch Engine	Corpus analysis	Very high	Excellent for Russian–Indonesian legal glossary development
Termium Plus / IATE	Terminology database	Very high	Limited coverage for Russian–Indonesian language pair

Source: Author’s Analysis Based on Platform Review, 2025

Based on the comparative analysis in Table 1, the combination of Sketch Engine for glossary development and ChatGPT/Claude for legal scenario-based exercises demonstrates the highest value in the context of Russian–Indonesian sworn translation materials development. It is important to note that AI functions as a pedagogical tool, not a substitute for the linguistic and legal competence that sworn translators must possess.

Design of an AI-Based Teaching Materials Framework

Based on the needs analysis and literature review, this study proposes a teaching materials framework consisting of four thematically interconnected modules. The framework is designed in accordance with Vygotsky’s (1978) scaffolding principle, enabling learners to build competence progressively from foundational knowledge towards complex professional skills.

Table 2: AI-Based Russian–Indonesian Sworn Translation Teaching Materials Module Framework

Module	Topic	Learning Objectives	AI-Based Activities
1	Russian & Indonesian Legal Systems	Understand differences in civil law systems	AI-assisted analysis of authentic legal documents for term identification
2	Contract & Agreement Terminology	Master bilateral contract lexicon	Interactive glossary exercises with Sketch Engine and ChatGPT validation
3	Civil Documents & Personal Legality	Accurately translate certificates, marriage documents, and diplomas	Sworn translation simulation with real-time AI feedback
4	Professional Ethics & Responsibility	Understand international sworn translator code of ethics	AI-generated scenario-based ethics case studies

Source: Author’s Design, 2025

Each module is designed using authentic task-based learning principles (TBLT) combined with AI-based feedback. To validate the feasibility of this framework, the author consulted with two certified Russian–Indonesian sworn translation practitioners and one BIPA language teaching lecturer. All three validators stated that the module sequence was logical and appropriate for the needs of prospective sworn translators in the field, although they recommended adding a Cyrillic script transliteration exercise as a prerequisite before Module 1. This feedback reflects the relevance of the needs-based approach advocated by Nation and Macalister (2010), which holds that materials design must be continually validated by practitioners who understand the real demands of the profession.

The activities within these modules are not merely designed to develop linguistic skills, but also to build a deep understanding of the socio-legal context underpinning the documents in question. This approach aligns with Kiraly’s (2014) finding that professional translator competence is holistic and inseparable from an understanding of cultural and legal context.

AI Potential in Legal Terminology Management

One of the most significant contributions of AI integration in these materials is its capacity to support the development and management of a dynamic Russian–Indonesian legal terminology glossary. Using Sketch Engine, instructors and learners can collaboratively build a legal corpus that is continuously updated in line with legislative developments in both countries. This *corpus-driven* approach enables the identification of terminology actually used in practice, rather than merely that which appears in conventional dictionaries.

As a concrete example of application in Module 2, learners can be assigned to upload a Russian-language bilateral cooperation contract to Sketch Engine and identify the most frequently occurring contractual terminology clusters. The results are then validated and enriched using

ChatGPT to produce contextually appropriate Indonesian equivalents, before being entered into the class's collaborative glossary. This process not only produces a glossary as a product, but also trains learners in terminology research methodology — a skill they will need throughout their professional careers. Dr. Moneus and Dr. Sahari (2024) have demonstrated that AI integration in legal translation significantly improves terminological accuracy compared to conventional methods.

Generative AI such as ChatGPT can also be used to automatically create translation exercises adapted to learners' proficiency levels — a feature of considerable value in the context of *self-directed learning*. The ability of AI to provide instant feedback on translation accuracy and terminological consistency makes it an effective pedagogical partner, although it still requires supervision from a competent instructor (Kenny, 2020).

Implications for the BIPA Industry and Global Opportunities

The development of these materials has broader implications for the BIPA industry in a global context. First, the availability of standardised Russian–Indonesian sworn translation teaching materials will open new opportunities for BIPA institutions to offer market-oriented professional training programmes. This is consistent with the vision of transforming BIPA from a language programme into a competitive and globally capable language industry.

Second, the digitisation of materials through AI-based *e-learning* platforms enables a far wider reach — not only for learners in Indonesia or Russia, but also for the Indonesian diaspora in Russia and vice versa. This market potential is highly significant given that approximately 15,000 Indonesian students have studied or are currently studying in Russia (Ministry of Foreign Affairs of the Republic of Indonesia, 2023). Third, this AI-based materials development model can serve as a prototype to be adapted for other BIPA language pairs, such as Russian–Malay or Indonesian–Korean, thereby expanding the global BIPA industry ecosystem. As such, this study contributes not only to the development of a single language pair, but also offers a replicable and scalable methodological framework for the international BIPA community.

Challenges and Ethical Considerations

Alongside the many opportunities offered, the integration of AI in sworn translation materials development also presents challenges that must be anticipated. First, the risk of *over-reliance* on AI may weaken learners' critical analytical ability in relation to legal texts. For this reason, materials design must explicitly position AI as an assistive tool, not a linguistic authority — every AI output must be verified and critically assessed by the learner before being accepted as a final translation. Second, AI accuracy for Russian–Indonesian legal terminology still requires verification by competent human translators, given the legal consequences that translation errors in official contexts can produce.

Ethical considerations regarding the copyright of legal corpora used to train AI models also warrant serious attention. Chesterman (2016) reminds us that translator professionalism is measured not only by linguistic competence, but also by ethical integrity in the use of technology. The responsible development of teaching materials must integrate discussion of AI ethics — including issues of client data privacy, accuracy, and transparency — as an integral part of the curriculum, not as an optional add-on.

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Conclusion

This study has demonstrated that the development of AI-based Russian–Indonesian sworn translation teaching materials constitutes a timely and necessary response to genuine real-world needs. By harnessing the power of corpus analysis, adaptive content generation, and instant feedback offered by AI technology, the teaching materials proposed in this study have the potential to prepare prospective sworn translators in a more systematic, efficient, and globally relevant manner.

The main findings of this study include: (1) the identification of three critical gaps in existing Russian–Indonesian sworn translation teaching materials; (2) the design of a four-module framework that integrates AI in a pedagogically responsible manner; and (3) an analysis of the strategic potential of these materials for the global BIPA industry. More broadly, this study contributes to the discourse on BIPA professionalisation in the digital era, demonstrating that technological innovation and high professional standards can operate in synergy.

Recommendations for future research include empirical piloting of the materials prototype with real participants, the development of AI-based sworn translation competence assessment instruments, and exploration of potential partnerships between BIPA institutions, the Ministry of Law and Human Rights, and technology platforms to institutionalise this training programme. In doing so, BIPA will contribute not only to language diplomacy, but also to Indonesia's creative and professional economy on the global stage.

References

- ASEAN Secretariat. (2022). ASEAN Annual Report 2021–2022. Jakarta: ASEAN Secretariat. Retrieved from <https://asean.org/wp-content/uploads/2022/08/LAYOUT-ANNUAL-REPORT-2021-2022.pdf>
- Branch, R. M. (2009). *Instructional Design: The ADDIE Approach*. New York: Springer.
- Cao, D. (2007). *Translating Law*. Clevedon: Multilingual Matters.
- Chesterman, A. (2016). *Memos of Translation: The Spread of Ideas in Translation Theory* (Revised ed.). Amsterdam: John Benjamins.
- Gile, D. (2009). *Basic Concepts and Models for Interpreter and Translator Training* (Revised ed.). Amsterdam: John Benjamins.
- Ministry of Foreign Affairs of the Republic of Indonesia. (2023). *Development of Indonesia–Russia Bilateral Relations 2019–2023*. Jakarta: Ministry of Foreign Affairs RI.
- Kenny, D. (Ed.). (2020). *Machine Translation for Everyone: Empowering Users in the Age of Artificial Intelligence*. Berlin: Language Science Press.
- Kiraly, D. (2014). *A Social Constructivist Approach to Translator Education*. London: Routledge.
- Krippendorff, K. (2018). *Content Analysis: An Introduction to Its Methodology* (4th ed.). Thousand Oaks: SAGE Publications.
- Moneus, A. M., & Sahari, Y. (2024). Artificial intelligence and human translation: A contrastive study based on legal texts. *Heliyon*, 10(6), e28106. <https://doi.org/10.1016/j.heliyon.2024.e28106>

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- Moorkens, J., O'Brien, S., da Silva, I. A. L., de Lima Fonseca, N. B., & Alves, F. (2022). Translation Quality and Creativity in a Human–Machine Partnership. *Meta*, 67(3), 641–660. <https://doi.org/10.7202/1092558ar>
- Nation, I. S. P., & Macalister, J. (2010). *Language Curriculum Design*. New York: Routledge.
- Regulation of the Minister of Law and Human Rights Number 29 of 2016 concerning Requirements and Procedures for the Appointment, Reporting, and Dismissal of Official Translators.
- Suyitno, I. (2017). Pengembangan Bahan Ajar Bahasa Indonesia untuk Penutur Asing (BIPA) Berdasarkan Hasil Analisis Kebutuhan Belajar. *Wacana: Journal of the Humanities of Indonesia*, 10(1), 62–78.
- Tomlinson, B. (Ed.). (2011). *Materials Development in Language Teaching* (2nd ed.). Cambridge: Cambridge University Press.
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge: Harvard University Press.