

Current Japanese Spelling-Correction Software and Its Applicability in the Training Program at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam

Authors Details

Tran Tuan Kiet, MA^{1*}

Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.

Nguyen Thi Hong Hanh, MA²

Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.

ABSTRACT: In the context of digital transformation and the rapid development of artificial intelligence (AI), spelling-correction software and Japanese writing-support tools are playing an increasingly important role in foreign-language teaching and learning. This study examines several tools currently used to detect and correct errors in Japanese writing and discusses their applicability in the training program of the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam. The research focuses on Microsoft Editor, Google Japanese Input, Shodo, Yahoo! Japan Kousei Shien, ChatGPT, DeepL Write, and LanguageTool.

Preliminary survey results indicate that these tools can support learners in detecting spelling errors, grammar problems, word-choice issues, and stylistic weaknesses. Among them, AI-based tools such as Shodo and ChatGPT show strong potential in explaining errors, suggesting more natural expressions, and supporting learner autonomy. However, these tools should not replace the role of lecturers; rather, they should be integrated into Japanese-language courses with clear pedagogical guidance and academic-integrity regulations.

Keywords: *Japanese language, spelling correction, artificial intelligence, AI, educational technology, Nguyen Tat Thanh University.*

1. Introduction

According to Solis, Zarkovacki, Ly, and Atyabi (2023), Japanese is one of the languages with a highly complex writing system because it combines Hiragana, Katakana, and Kanji. For Vietnamese learners, the accurate use of these scripts is a major challenge, especially when writing academic texts, emails, reports, and professional documents in Japanese. Errors in Japanese writing are not limited to misspelled words; they also include inappropriate script choice, incorrect Kanji conversion, particle errors, honorific misuse, and unnatural style.

In recent years, advances in natural language processing (NLP) and artificial intelligence (AI) have led to the emergence of various tools for detecting and correcting Japanese writing errors. These tools not only help learners identify surface-level spelling mistakes but also provide suggestions for grammar, word choice, style, and contextual appropriateness. In higher education, such tools can contribute to learner autonomy, reduce the burden of repetitive correction for lecturers, and improve the quality of written output.

For the Faculty of Foreign Languages at Nguyen Tat Thanh University, studying and applying Japanese spelling-correction software is necessary in order to improve training quality, respond to students' learning needs, and prepare learners for academic and professional communication in an international environment.

2. Theoretical Background

2.1. Concept of Japanese Orthographic Errors

Orthographic errors refer to mistakes related to the use of the writing system of a language. In Japanese, the concept of orthographic errors is not limited to misspelled words, as in English or Vietnamese, but also includes errors arising from the simultaneous use of several writing systems, including Hiragana (ひらがな), Katakana (カタカナ), Kanji (漢字), and the Latin alphabet or Romanized script (ローマ字).

According to Solis et al. (2023), Japanese is regarded as one of the languages with the most complex writing systems in the world. Learners are required not only to master the correct written form of each character but also to understand the rules governing the use of each script in different contexts. Therefore, orthographic errors made by students at Nguyen Tat Thanh University are often closely associated with grammatical, lexical, and expressive errors.

From the perspective of applied linguistics, Japanese orthographic errors can be understood as deviations between the written forms produced by learners and the standard forms accepted by the native-speaking community. These deviations may affect the transmission of information, reduce the accuracy of written texts, and cause misunderstandings in communication.

Unlike languages that use a single alphabetic writing system, Japanese orthographic errors have several distinctive characteristics.

First, Japanese has a multi-script writing system. Learners must select appropriately among Hiragana, Katakana, and Kanji. For example, ねこ in Hiragana, ネコ in Katakana, and 猫 in Kanji all mean “cat”; however, each form is used in different contexts. If students choose an inappropriate written form, it may be regarded as an orthographic error or a stylistic error.

Second, Japanese contains a large number of homophones, which may lead learners to select incorrect Kanji. For example, 会う “to meet”, 合う “to fit” or “to match”, and 遭う “to encounter something unfortunate” are all pronounced 「あう」 (*au*), but they have completely different meanings. The incorrect use of Kanji may therefore change the meaning of an entire sentence.

Third, Japanese orthographic errors are highly context-dependent. Many errors can only be identified by examining the whole sentence or paragraph. For example, 日本語を勉強しています。 is an appropriate polite form. If a learner writes 日本語を勉強している。 , the sentence may be grammatically correct; however, in a

report or academic essay, this expression may not be suitable for a writing style that requires a higher level of politeness and formality.

2.2. Classification of Japanese Orthographic Errors

Based on studies on Japanese as a Foreign Language (JFL), orthographic errors in Japanese writing can be classified into the following categories:

a. Hiragana and Katakana Errors

This type of error is commonly found among beginner-level learners. For example:

Incorrect: コンにちは

Correct: こんにちは

The main cause of this error is that learners have not accurately memorized the Japanese syllabaries or may confuse characters with similar shapes during the initial stage of learning Japanese.

b. Kanji Errors

Kanji errors are among the most common types of errors among Vietnamese students in general and students at Nguyen Tat Thanh University in particular. For example:

Incorrect: 私は日本語を**強強**しています。

Correct: 私は日本語を**勉強**しています。

This type of error results from learners' confusion about the visual forms of Kanji characters, as well as misunderstanding of the on'yomi and kun'yomi readings of Kanji. In addition, learners may not fully understand the meanings of Kanji characters. Since Japanese has a large number of Kanji, including more than 2,000 commonly used characters, Kanji acquisition remains a significant challenge for learners of Japanese.

c. Long-Vowel and Geminate-Consonant Errors

Japanese clearly distinguishes vowel length and consonant doubling, and these differences may change the meaning of a word. For example:

Incorrect in the context of referring to “grandmother”: おばさん

Correct: おばあさん

The addition of only one long vowel can change the meaning of the word. Similarly, きて means “come”, while きてて means “postage stamp”. The difference lies in the geminate consonant, known in Japanese as (促音).

d. Kanji Conversion Errors during Digital Input

As the use of computers and smartphones has become common in learning among students at Nguyen Tat Thanh University and other universities, orthographic errors during Kanji conversion have become increasingly frequent. For example, a learner may intend to write 会社, meaning “company”, but mistakenly select 会者 due to the input system suggesting several homophonous or visually similar options.

This type of orthographic error can be effectively supported by tools such as Google Japanese Input or Microsoft IME, which assist learners in selecting more appropriate Kanji during digital input.

e. Particle Errors

Although particles belong to the domain of grammar, many studies still classify particle errors as a common type of written-language error. For example:

Incorrect: 学校に行きますを。

Correct: 学校に行きます。

Or:

Incorrect: 日本へ勉強します。

Correct: 日本で勉強します。

Particle errors directly affect sentence meaning and frequently occur among beginner- and intermediate-level learners.

f. Expression and Style Errors

This type of error usually appears at higher proficiency levels. For example:

この研究はとてもいいです。

Although the sentence above is not grammatically incorrect, it is not appropriate for academic writing. A more suitable expression would be:
本研究は高い有用性を有している。

This type of error is often detected more effectively by modern AI-based systems such as ChatGPT or Shodo than by traditional spelling-checking software.

2.3. Causes of Japanese Orthographic Errors among Students at Nguyen Tat Thanh University, Vietnam

Studies on Japanese-language education in Vietnam indicate that students' orthographic errors may result from several factors.

First, the influence of the mother tongue is a major factor. Vietnamese uses the Latin alphabet, whereas Japanese requires learners to master a multi-script writing system consisting of Hiragana, Katakana, Kanji, and Romanized forms. This difference makes it difficult for Vietnamese learners to become familiar with the Japanese writing system.

Second, language transfer also contributes to writing errors. Learners tend to apply Vietnamese linguistic patterns and ways of thinking to Japanese, which may lead to inappropriate word choice, incorrect sentence structures, and unnatural expressions.

Third, students' limited vocabulary and Kanji knowledge remain significant challenges. The large number of Kanji characters makes long-term memorization difficult, and learners may easily confuse characters with similar forms or meanings.

Fourth, dependence on digital input technology may also increase orthographic errors. Modern Japanese input systems help learners type quickly; however, they may reduce students' ability to memorize Kanji forms accurately. As a result, learners may encounter

difficulties when writing by hand or when selecting the correct word among homophones during digital input.

2.4. Significance of Detecting and Correcting Orthographic Errors

According to this study, the detection and correction of orthographic errors play an important role in Japanese-language training at Nguyen Tat Thanh University for several reasons.

First, they help improve the accuracy of Japanese written texts. Second, they contribute to enhancing students' ability to express ideas in Japanese. Third, they support students in developing self-study skills and taking greater control of their learning process. Fourth, they assist lecturers in checking, correcting, and assessing students' language competence. Finally, they improve the effectiveness of students' academic communication and professional development.

In the current context of digital transformation, AI-based spelling-correction software functions not only as a language-checking and translation-support tool but also as a teaching and learning assistant. Such tools enable learners to identify, analyze, and correct their errors more actively and systematically. This provides an important foundation for improving the quality of Japanese-language education at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam, in the digital era.

2.5. The Role of AI Technology in Contemporary Foreign-Language Teaching and Learning

2.5.1. Overview of AI Technology in Foreign-Language Education

Artificial intelligence (AI) is a field of computer science that focuses on developing systems capable of simulating human intellectual activities such as learning, reasoning, language recognition, and problem solving. In education, AI is regarded as one of the core technologies of the Fourth Industrial Revolution, contributing to digital transformation and the innovation of teaching methodologies.

In foreign-language education, AI is applied through various technologies, including *Natural Language Processing (NLP)*, *Machine Learning*, *Speech Recognition*, *Text-to-Speech*, and *Large Language Models (LLMs)*. These technologies enable systems to

understand, analyze, and generate language in ways similar to human communication, thereby providing effective support for both learners and lecturers.

At present, the emergence of platforms such as *ChatGPT*, *Duolingo Max*, *Google Gemini*, *DeepL*, *QuillBot*, *Grammarly*, and Japanese-learning support tools such as *Shodo* has created significant changes in foreign-language teaching and learning worldwide.

2.5.2. The Role of AI for Foreign-Language Learners

a. Supporting Personalized Learning

One of the most notable advantages of AI is its ability to personalize learning content according to each learner's proficiency level, needs, and learning pace. In traditional classroom models, lecturers often face difficulties in responding to the diverse needs of students. By contrast, AI systems can:

- Assess each learner's language proficiency;
- Identify strengths and weaknesses;
- Recommend suitable learning content;
- Adjust the difficulty of exercises according to individual ability.

For example, students who have difficulty memorizing Kanji may be provided with additional Kanji practice by an AI system, while students with weak writing skills may receive more sentence-rewriting and expression exercises. As a result, the learning process becomes more flexible and effective than uniform teaching methods.

b. Providing Immediate Feedback

In foreign-language learning, timely feedback plays an important role in error correction and language competence development. AI tools are capable of:

- Detecting spelling errors;
- Checking grammatical errors;
- Analyzing word usage;
- Evaluating the naturalness of sentences.

Learners can receive feedback immediately after entering a text or completing an exercise, without waiting for lecturers to mark their work. For example, when a student writes

“日本へ勉強します。”, an AI system can detect the particle error and suggest “日本で勉強します.”. It can also explain why the particle 「で」 should be used instead of 「へ」. Immediate feedback helps learners remember errors more effectively and reduces the likelihood of repeating the same mistakes.

c. Improving Foreign-Language Writing Skills

Writing is often considered one of the most difficult skills for foreign-language learners in general and Japanese-language learners in particular. Current AI tools can support learners in:

- Checking spelling;
- Correcting grammar;
- Suggesting appropriate vocabulary;
- Adjusting academic style;
- Providing guidance on writing structure.

In particular, new-generation AI models such as ChatGPT can explain the causes of errors in detail instead of merely providing correct answers. This helps learners develop self-editing ability and linguistic thinking rather than depending entirely on teachers.

d. Supporting Listening and Speaking Skills

The combination of AI and speech-recognition technology has expanded the application of AI in pronunciation and foreign-language communication practice. AI systems can support learners by:

- Analyzing learners’ pronunciation;
- Comparing pronunciation with native-speaker standards;
- Identifying phonetic errors;
- Evaluating speaking fluency.

For example, in the process of learning Japanese, AI can help students recognize the difference between:

おばさん — aunt / middle-aged woman おばあさん — grandmother / elderly woman

This distinction can be identified through the analysis of sound length.

In addition, AI chatbots can act as virtual conversation partners, allowing Japanese-language learners to practice communication anytime and anywhere without depending on native speakers.

e. Enhancing Learning Motivation

At present, Japanese-learning platforms integrated with AI often apply mechanisms such as:

- Tracking learning progress;
- Evaluating results in real time;
- Awarding badges or rewards;
- Creating interactive learning environments.

These elements help maintain learners' interest and encourage them to participate more actively in foreign-language practice in general and Japanese-language learning in particular.

2.5.3. The Role of AI for Foreign-Language Lecturers

a. Supporting the Development of Teaching Materials

AI tools can generate various types of teaching materials to support lecturers, including:

- Reading-comprehension texts;
- Dialogues by topic and proficiency level;
- Vocabulary exercises;
- Review questions after each lesson;
- Mock tests.

Instead of spending many hours preparing materials, Japanese-language lecturers can use AI tools to generate initial drafts and then adjust them according to the teaching objectives of the training program.

b. Supporting Assessment and Marking

In foreign-language classes with large numbers of students, marking written assignments often requires considerable time and effort. AI systems can support lecturers by:

- Detecting spelling errors;
- Classifying grammatical errors;
- Evaluating vocabulary richness;
- Analyzing sentence structures.

As a result, lecturers can reduce the workload related to technical correction and have more time to focus on in-depth guidance and feedback.

c. Analyzing Learning Data

AI tools are capable of collecting and processing large amounts of data from students' learning processes. Through such data, lecturers can:

- Identify common errors;
- Evaluate students' progress;
- Adjust teaching content;
- Develop personalized support strategies.

This forms an important foundation for data-driven education.

2.5.4. The Role of AI in Japanese-Language Training at University

For the Japanese Studies program at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam, AI tools offer particular benefits due to the complexity of the Japanese language. Specifically, AI can support training activities in the Faculty in the following areas:

- Kanji checking
- Detecting Kanji writing errors;
- Suggesting appropriate Kanji;
- Distinguishing homophones with different meanings.
- Grammar checking

- Detecting particle errors;
- Checking honorific expressions;
- Analyzing sentence structures.
- Translation support
- Comparing translation options;
- Explaining semantic nuances;
- Supporting the translation of specialized texts.
- Conversation practice
- Simulating communicative situations;
- Practicing job interviews in Japanese;
- Practicing business communication.

Through these functions, AI helps Japanese-language learners overcome many difficulties that have traditionally existed in conventional learning methods.

2.5.5. Challenges in Applying AI to Foreign-Language Teaching and Learning

Despite its considerable benefits, the application of AI also presents several challenges.

First, there is a risk of technological dependence. Learners may become overly dependent on automatic correction tools, which may reduce their ability to think independently and detect errors by themselves.

Second, AI accuracy is not absolute. Although AI technology is developing rapidly, AI systems may still:

- Misunderstand context;
- Provide inappropriate suggestions;
- Generate inaccurate information.
- Third, ai raises issues related to academic ethics. The use of ai to generate complete assignments may lead to:
 - Content copying;
 - Academic dishonesty;
 - Reduced learner creativity.

Fourth, the application of AI requires digital competence. To use AI effectively, both lecturers and students need to be equipped with technological skills and the ability to critically evaluate AI-generated information.

2.5.6. Proposed Directions for the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam

In the context of digital transformation in higher education, the Faculty of Foreign Languages should develop an AI application strategy that supports, rather than replaces, teaching and learning activities. According to the authors, several directions may be implemented as follows:

- Integrating AI tools into Japanese listening, speaking, reading, and writing courses;
- Developing regulations on the use of AI in learning and research;
- Organizing seminars and training workshops for lecturers and students on effective AI use;
- Combining traditional assessment methods with AI-supported assessment;
- Developing a digital learning environment that applies artificial intelligence to foreign-language education at Nguyen Tat Thanh University.

The appropriate application of AI will contribute to improving the quality of Japanese-language training, strengthening students' self-learning capacity, and meeting the demand for high-quality human resources in the digital era.

2.6. Research Methodology

The authors employed the following research methods:

2.6.1. Documentary Research

Documentary research was the primary method used in this study. Accordingly, the authors collected and synthesized reliable sources related to the following issues:

- Theories of Japanese orthographic errors;
- Studies on the application of artificial intelligence in foreign-language teaching and learning;
- Research on Natural Language Processing (NLP);

- Reports and user manuals of Japanese error-correction software;
- Domestic and international studies on digital transformation in higher education.

The sources were obtained from specialized journals in linguistics and education, international scientific databases such as Scopus, Web of Science, and Google Scholar, materials from Japanese universities and educational organizations, and technical documents from developers of learning-support software.

Documentary research enabled the authors to establish the theoretical foundation of the study and provided objective criteria for evaluating the software tools examined in this research.

2.6.2. Survey Method

To strengthen the practical dimension of the study, the authors conducted a survey among students and lecturers in the Japanese Studies program under the Oriental Studies major at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam. The survey focused on the current use of Japanese orthographic-error correction software in teaching and learning. The questionnaire was designed using a five-point Likert scale, ranging from “strongly disagree” to “strongly agree”.

The survey content focused on four main areas: the current situation of students’ Japanese writing errors, the extent to which correction software is used, the effectiveness of AI-supported tools, and the feasibility of integrating these tools into the training program.

The survey participants included students studying Japanese at the Faculty of Foreign Languages and lecturers teaching Japanese-related courses at Nguyen Tat Thanh University. Data collected from the questionnaires were synthesized, statistically processed, and analyzed in order to evaluate users’ needs, acceptance levels, and the necessary conditions for applying Japanese orthographic-error correction software in higher education, based on the questionnaires presented in Appendix 1 and Appendix 2.

In addition, the authors examined several Japanese correction tools and platforms that are currently used by students and lecturers at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam, including:

- Microsoft editor;
- Google japanese input;
- Shodo;
- Yahoo! Japan kousei shien;
- Chatgpt;
- Deepl write;
- Languagetool, japanese-supported version.

These tools were selected based on the following criteria:

- Popularity;
- Japanese-language support;
- Usability in higher education;
- Accessibility for vietnamese students.

During the survey process, the research team entered Japanese texts containing different types of errors in order to evaluate each tool's effectiveness in detecting and correcting errors.

2.6.3. Case Study Method

To evaluate practical applicability, the study developed several hypothetical cases based on common errors made by students majoring in Japanese Studies at Nguyen Tat Thanh University. These cases included:

- Kanji errors;
- Particle errors;
- Hiragana and Katakana spelling errors;
- Honorific errors;
- Academic expression errors.

For example, a student may write:

私は日本語を強強しています。

Or:

日本へ勉強します。

These sentences were entered into each software tool to evaluate its ability to:

- Detect errors;
- Suggest corrections;
- Explain the causes of errors;
- Support learners in self-correction.

The case study method helped simulate real learning situations and provided direct data for analysis.

2.6.4. Data Analysis Methods

a. Content Analysis

After collecting data from documents and software survey results, the authors conducted content analysis to identify:

- The main functions of each software tool;
- The level of support for Japanese writing skills;
- The applicability of each tool in university-level training.

This method made it possible to identify both the strengths and limitations of each tool.

b. Comparative Analysis

To provide a comprehensive evaluation, the software tools were compared according to the following criteria:

Criteria	Evaluation Content
Ability to detect orthographic errors	Recognition of Hiragana, Katakana, and Kanji errors
Grammar-checking ability	Detection of particle errors and sentence-structure errors
Expression support	Suggestions for natural and academic writing
Error-explanation ability	Level of feedback provided to learners
User-friendliness	Interface and ease of use
Cost	Free or paid access
Educational applicability	Suitability for Japanese-language teaching

The comparison results served as the basis for identifying the most suitable tools for the training environment at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.

c. Synthesis and Evaluation

After analysis and comparison, the authors synthesized the results in order to:

- Identify the advantages and limitations of each software tool;
- Evaluate trends in the application of ai in japanese-language teaching and learning;
- Propose solutions for implementation in the training program.

The synthesis process was conducted on the basis of objectivity, scientific validity, and practical applicability.

2.6.5. Evaluation Criteria for Japanese Orthographic-Error Correction Software

Within the scope of this study, in order to ensure objectivity, the authors developed a set of evaluation criteria based on three main groups of competencies.

a. Linguistic Criteria

- Ability to identify orthographic errors;
- Ability to detect kanji errors;
- Ability to detect grammatical errors;
- Ability to detect honorific errors;
- Ability to detect stylistic errors.

b. Technological Criteria

- Processing speed;
- Accuracy of results;
- Ability to learn from context;
- Level of artificial intelligence application.

c. Educational Criteria

- Support for self-study;

- Ability to provide feedback;
- Support for lecturers in assessing written assignments;
- Ability to integrate into online training systems.

These criteria allowed the authors to evaluate the software tools not only from a technical perspective but also from a pedagogical perspective.

2.6.6. Reliability and Scientific Validity of the Study

To ensure the reliability of the research results, the authors applied data triangulation from multiple sources, including:

- Data from published scientific studies;
- Data from the software survey process;
- Data from simulated Japanese error cases.

The combination of multiple data sources helped reduce bias and improve the accuracy of the research findings. In addition, the evaluation criteria were developed based on international Japanese-language proficiency standards, such as the Japanese Language Proficiency Test (JLPT), and the writing-skill requirements of university training programs.

2.6.7. Proposed Research Framework

Within the scope of this study, the authors implemented the research process in five steps:

- Step 1: Collect theoretical materials on Japanese orthographic errors and the application of AI in education.
- Step 2: Select representative Japanese error-correction software tools.
- Step 3: Design test cases based on actual errors made by students at the Faculty of Foreign Languages.
- Step 4: Test, evaluate, and compare the software tools according to the criteria proposed by the authors.

- Step 5: Propose a model for applying these tools in the Japanese-language training program at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.

The above research methodology helps ensure the systematic, objective, and practical nature of the study. It also provides a scientific basis for proposing the application of AI technology to Japanese-language teaching and learning in the context of digital transformation in modern education.

3. Research Findings

3.1. Commonly Used Japanese Orthographic-Error Correction Tools at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.

3.1.1. *Microsoft Editor*: Microsoft Editor is integrated into Microsoft Word and Microsoft 365.

Advantages:

- Automatically checks spelling errors.
- Detects basic grammatical errors.
- Supports academic texts.
- Is easy to use in educational settings.

Limitations:

- Does not process Japanese semantic nuances effectively.
- Some advanced errors may not be detected.

3.1.2. *Google Japanese Input*: Google Japanese Input is a Japanese input method editor integrated with word-prediction technology.

Advantages:

- Suggests appropriate Kanji.
- Reduces character-conversion errors.
- Is free of charge.

Limitations:

- Mainly supports text input.
- Does not provide in-depth grammar checking.

3.1.3. *Shodo*: Shodo is an online platform for checking and supporting Japanese writing.

Advantages:

- Checks spelling and grammar.
- Suggests natural expressions.
- Supports academic writing.

Limitations:

- Some features require payment.
- It is not yet widely used in Vietnam.

3.1.4. *Yahoo! Japan Kousei Shien*: Yahoo! Japan Kousei Shien is an online Japanese text-checking tool.

Advantages:

- Quickly detects orthographic errors.
- Checks expression-related errors.
- Has a simple interface.

Limitations:

- Does not provide detailed explanations of error causes.

3.1.5. *ChatGPT*: ChatGPT is an application based on a Large Language Model (LLM).

Advantages:

- Provides in-depth contextual analysis.
- Corrects spelling, grammar, and style errors.
- Explains the causes of errors.
- Supports academic writing, correspondence, and conversation.

Limitations:

- Results depend on users’ prompts.
- It may provide suggestions that are not fully accurate in some specialized contexts.
- Full access to all functions may require a paid subscription.

3.2. Comparative Analysis of Japanese Orthographic-Error Correction Tools

Table 1. *Comparison of Japanese Orthographic-Error Correction Tools*

Tool	Spelling	Grammar	Style	AI	Cost
Microsoft Editor	Good	Fairly good	Fairly good	Yes	Paid
Google Japanese Input	Good	Low	No	Yes	Free
Shodo	Good	Good	Good	Yes	Freemium
Yahoo!校正支援	Fairly good	Fairly good	Moderate	Limited	Free
ChatGPT	Very good	Very good	Very good	Strong AI	Freemium

3.2.1. Preliminary Survey Results on Students’ Needs for Japanese Error-Correction Software

To provide practical data for the tool analysis, this study conducted a preliminary survey with 92 valid responses, including 84 students studying Japanese and 8 lecturers teaching Japanese-related courses. The questionnaire used a five-point Likert scale, in which 1 indicated “strongly disagree” and 5 indicated “strongly agree”.

The results were synthesized in terms of percentages and mean scores in order to identify students’ learning needs, the level of tool usage, and lecturers’ perceptions of the feasibility of integrating correction software into the training program.

Table 2. *Summary of Student Survey Results on the Use of Japanese Error-Correction Software*
(*n* = 84)

Survey item	Result	Evaluation
Have used at least one Japanese correction/checking support tool	71	84.5%
Often have difficulty selecting appropriate Kanji	Mean score: 4.18/5	High
Often make particle errors in Japanese writing	Mean score: 4.05/5	High
Have difficulty writing natural Japanese sentences appropriate to context	Mean score: 4.21/5	High
Believe that software helps detect errors more quickly	Mean score: 4.32/5	High
Believe that AI tools such as ChatGPT provide good support for sentence revision	Mean score: 4.28/5	High
Feel more confident when writing Japanese after using support tools	Mean score: 3.88/5	Fairly high
Want to receive guidance on using software/AI in the curriculum	Mean score: 4.56/5	Very high

The results in Table 2 show that students have a clear need for Japanese error-correction tools. The fact that 84.5% of students have used at least one support tool indicates that the application of technology in learning Japanese writing is no longer an individual need but has become a common learning behavior. Among the difficulties reported, the highest mean scores were related to writing natural expressions appropriate to context (4.21/5), selecting appropriate Kanji (4.18/5), and using particles correctly (4.05/5). This is consistent with the characteristics of Japanese-language errors among learners in Vietnam, where errors are not limited to surface-level spelling but are also related to word choice, sentence structure, and expressive nuance.

Notably, the level of agreement with the statement that “software helps detect errors more quickly” reached 4.32/5, while the statement that “AI tools such as ChatGPT provide good support for sentence revision” reached 4.28/5. These two indicators support the view that

AI tools are valuable in the post-writing stage, particularly when students need explanations of errors, suggestions for more natural expressions, and support in revising their drafts before submission. However, students' confidence after using support tools reached only 3.88/5, suggesting that such tools are most effective when students are guided in how to use them, rather than being left to experiment with them in a fragmented manner.

Table 3. *Frequency of Students' Selection of Japanese Writing and Error-Correction Support Tools*
(*n* = 84, multiple responses allowed)

Tool	Number of selections	Percentage
ChatGPT	68	81.0%
Google Japanese Input	56	66.7%
Microsoft Editor	37	44.0%
DeepL Write	21	25.0%
Shodo	19	22.6%
Yahoo! Japan Kousei Shien	15	17.9%
LanguageTool	9	10.7%

The data in Table 3 show that ChatGPT and Google Japanese Input are the two tools most frequently selected by students. ChatGPT was selected by 81.0% of students, reflecting the advantage of conversational AI in explaining errors, proposing multiple expression options, and supporting learners in self-correction. Google Japanese Input reached 66.7%, which is consistent with its role as an input method that supports Kanji conversion and phrase suggestions during text entry. By contrast, Shodo and Yahoo! Japan Kousei Shien had lower selection rates. This does not necessarily indicate lower effectiveness; rather, it mainly suggests that Vietnamese students in general and students at the Faculty of Foreign Languages in particular have limited awareness of specialized Japanese platforms. This finding provides a basis for the Faculty to consider organizing practical tool-use guidance in accordance with specific course requirements.

Table 4. *Summary of Lecturers' Opinions on the Applicability of Japanese Error-Correction Software (n = 8)*

Survey item for lecturers	Number of agreeing responses	Percentage
Students often make Kanji errors, particle errors, and unnatural expression errors	7/8	87.5%
Software helps students detect errors more quickly before submission	7/8	87.5%
AI can support lecturers in identifying common error patterns	6/8	75.0%
AI correction results need to be verified by lecturers	8/8	100%
Clear regulations on the use of AI in Japanese writing are necessary	8/8	100%
The Faculty should organize training/guidance on tool use for students	7/8	87.5%

The lecturer survey results in Table 4 provide an additional basis for comparison with students' responses. A total of 87.5% of lecturers agreed that students often make Kanji errors, particle errors, and unnatural expression errors. In addition, 100% of lecturers agreed that AI-generated corrections need to be verified and that clear regulations on the use of AI in Japanese writing are necessary. This indicates that the integration of correction software into training should not stop at introducing tools; rather, it should be linked to an academic process in which students use tools to identify errors, record common errors, explain their revision choices, and take responsibility for their final drafts.

Based on the above data, the authors argue that integrating Japanese error-correction software into the training program at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam, is both necessary and feasible. However, implementation should follow an approach that combines multiple tools. Google Japanese Input is suitable for the input stage and for reducing Kanji conversion errors. Microsoft Editor and Yahoo! Japan Kousei Shien are suitable for reviewing basic errors. Shodo and

ChatGPT are suitable for error analysis, style improvement, and the development of students' self-editing competence. This approach strengthens the persuasiveness of the research findings because the conclusions are supported not only by descriptions of software functions but also by data from both learners and lecturers.

The comparative results show that each tool has its own strengths and limitations, depending on the intended purpose in Japanese-language teaching and learning. In general, tools such as *Microsoft Editor* and *Google Japanese Input* are suitable for supporting learners during text entry and basic error checking. Meanwhile, *Shodo* and *ChatGPT* demonstrate more comprehensive support, particularly for errors related to grammar, style, and academic expression.

Microsoft Editor has an advantage in university learning environments because it is integrated into Microsoft Word, a program widely used by both students and lecturers. This tool can detect certain spelling and basic grammatical errors, helping students reduce mistakes during text composition. However, for Japanese, *Microsoft Editor* is not yet highly effective in analyzing semantic nuances, honorific errors, or context-dependent expression errors.

Google Japanese Input is mainly effective during the input stage. This tool supports learners in selecting appropriate Kanji through word and phrase suggestions. For Vietnamese students, this is an important function because Kanji conversion errors are among the common errors that occur when writing Japanese on computers or smartphones. However, because it is essentially an input method editor, *Google Japanese Input* cannot replace specialized grammar-checking and style-revision tools.

Shodo offers several advantages for developing Japanese writing skills. It can detect spelling errors, grammatical errors, and expression errors, while also providing revision suggestions suitable for Japanese texts. In particular, *Shodo* is appropriate for academic writing, reports, emails, and texts that require a high degree of naturalness in expression. Its limitations are that some advanced features require payment and that it is not yet widely known in Vietnam. Therefore, students need specific guidance before using it.

Yahoo! Japan Kousei Shien is easy to use, free of charge, and capable of quickly detecting certain errors in Japanese texts. This tool is suitable for beginner- and intermediate-level

students who need to check spelling errors or basic expression errors quickly. However, it does not provide detailed explanations of error causes; therefore, its effectiveness in supporting self-study remains limited without guidance from lecturers.

ChatGPT shows considerable potential in supporting Japanese-language learners, especially in contextual analysis, error explanation, and the suggestion of multiple expression options. Unlike traditional spelling-checking tools, ChatGPT can not only identify errors but also explain why a certain usage is inappropriate and suggest more natural or more academic alternatives. This is an important advantage for students majoring in Japanese Studies under Oriental Studies when practicing writing, translation, email writing, report writing, or presentation preparation. However, ChatGPT-generated results still need to be verified, as the tool may provide inappropriate suggestions in certain specialized contexts or when users provide unclear prompts.

From the comparative results, it can be observed that no single software tool can fully meet all the Japanese-language learning and teaching needs of students and lecturers at the Faculty of Foreign Languages. Therefore, the application of Japanese orthographic-error correction software in training should be implemented through a combination of tools. Google Japanese Input can be used during the input stage; Microsoft Editor and Yahoo! Japan Kousei Shien can support basic error checking; and Shodo and ChatGPT can be used for revision, error analysis, and improving the quality of expression.

3.3. Discussion

The findings of this study indicate that the application of Japanese orthographic-error correction software has not only technical significance but also pedagogical value in foreign-language training. For Vietnamese students learning Japanese, the difficulty lies not only in memorizing written characters but also in selecting appropriate Kanji, using particles correctly, producing natural sentences, and adjusting writing style according to different communicative situations.

Traditional spelling-correction tools are often effective in detecting surface-level errors such as incorrect characters, spelling mistakes, or input errors. However, for more complex errors such as particle errors, honorific errors, context-based word-choice errors, or academic-style errors, AI-based tools demonstrate clearer advantages. This suggests a

current shift in foreign-language education from “error checking” to “writing competence development”.

A noteworthy point is that immediate feedback from software can help students form the habit of checking and revising their writing before submitting it to lecturers. This is an important competence in higher education, as learners are expected not only to receive knowledge from lecturers but also to actively identify, analyze, and improve their own errors. When used appropriately, AI tools can function as learning assistants that help students improve their self-learning capacity and reduce dependence on lecturers.

However, the use of these tools also raises several issues that require attention. If students depend too heavily on automatic correction tools, their linguistic thinking and ability to detect errors independently may decline. In addition, some AI tools may provide suggestions that are grammatically correct but not fully appropriate for the communicative purpose or academic requirements of the text. Therefore, lecturers continue to play a central role in guiding, verifying, and orienting the use of technology.

3.4. Proposed Model for Application in the Japanese-Language Training Program at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam

Based on the survey results, the authors propose a model for applying Japanese orthographic-error correction software in three stages: before writing, during writing, and after writing.

In the pre-writing stage, lecturers guide students in identifying the purpose of the writing task, the text type, the target readers, and style requirements. Students may use ChatGPT to consult outlines, topic-related vocabulary, or ways to develop ideas. However, lecturers should emphasize that AI serves only as a support tool and does not replace learners’ thinking and creativity.

In the while-writing stage, students use Google Japanese Input to reduce Kanji conversion errors and input errors. At the same time, students may combine Microsoft Editor or Yahoo! Japan Kousei Shien to check basic orthographic errors. Checking during the writing process helps learners identify errors early and make timely adjustments.

In the post-writing stage, students use Shodo or ChatGPT to review grammatical errors, expression errors, and writing style. After receiving revision suggestions, students need to record common errors in a learning journal. Lecturers may require students to submit the original draft, the revised version, and a self-reflection on their errors. This approach makes it possible to assess the learning process rather than only the final product.

This model can be implemented in courses such as Japanese Reading and Writing, Japanese Grammar, Translation, Interpretation, Business Japanese, and Japanese Language Teaching Methodology. The integration of AI tools into these courses should be carried out gradually, with specific guidance and clear regulations on usage limits in order to ensure academic integrity.

3.5. Pedagogical Implications

According to the authors, the application of AI-based Japanese orthographic-error correction software in higher education offers several important pedagogical implications.

First, lecturers need to shift their role from directly correcting errors to guiding students in analyzing and self-correcting errors. Instead of merely marking errors in students' writing, lecturers may require students to use AI tools to identify errors first and then discuss the causes and solutions in class.

Second, the Faculty of Foreign Languages needs to develop clear evaluation criteria for the use of AI in Japanese writing. Students should know which parts of the writing process may involve support tools, which parts must be completed independently, and how to cite or note the use of AI. This helps limit the misuse of technology and ensures academic ethics.

Third, the use of correction software should be linked to the long-term development of language competence. AI tools should not be used merely to produce more accurate written texts; rather, they should serve as a means for helping students understand errors, remember them, and avoid repeating them in future writing tasks.

Fourth, the Faculty of Foreign Languages may develop a database of common Japanese errors made by students across academic cohorts. Such data can be collected from students' written assignments, software correction results, and lecturers' comments. On this basis,

the Faculty can design error-correction exercises, learning materials, and writing-practice activities that better reflect the actual needs of learners at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.

3.6. Limitations of the Study

Although this study examined several commonly used Japanese orthographic-error correction tools, certain limitations remain. First, the study mainly relied on document analysis, tool surveys, and simulated cases, and it has not yet conducted experiments with a large number of students. Therefore, the findings primarily reflect the potential application of AI tools at the Faculty of Foreign Languages and have not fully measured their actual impact on Japanese learners' writing competence on a broader scale.

Second, AI tools and orthographic-error correction software are frequently updated. Therefore, the evaluation results in this study may change over time as developers improve algorithms, expand functions, or modify usage policies.

Third, the study has not deeply analyzed differences in software effectiveness among students with different levels of Japanese proficiency. In practice, beginner-, intermediate-, and advanced-level students have different correction needs. Beginner-level students often require support with scripts, Kanji, and basic particles, whereas advanced-level students need more support with style, naturalness, and academic expression.

Fourth, the study has not fully considered factors such as students' digital competence, lecturers' attitudes toward AI, infrastructure conditions, and institutional policies on AI use. These factors directly affect the effectiveness of technology implementation in the training program.

3.7. Directions for Further Research

In future studies, the authors should conduct experiments with students learning Japanese at other educational institutions and universities in order to evaluate more specifically the impact of orthographic-error correction software on learners' current Japanese writing competence. The research may divide students into an experimental group and a control group. The experimental group would receive guidance on using AI tools during the writing process, while the control group would study using traditional methods. Pre- and

post-experiment results would help determine the degree of improvement in spelling, grammar, Kanji use, style, and self-correction ability.

In addition, it is necessary to develop a dataset of Japanese errors made by Vietnamese students in general and by students at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam, in particular. This dataset could support error analysis and the design of appropriate teaching materials. It may include Kanji errors, particle errors, long-vowel errors, geminate-consonant errors, honorific errors, and academic-expression errors. This would provide an important foundation for developing teaching materials, error-correction exercises, and Japanese-learning support systems suitable for Vietnamese learners.

Furthermore, future studies may expand the scope of comparison to other tools such as *Google Gemini*, *DeepL Write*, *LanguageTool*, or AI-integrated Japanese-learning platforms. Comparing a wider range of tools would help identify more clearly the strengths, limitations, and appropriate conditions for using each software tool in higher education.

4. Conclusion

The authors surveyed and analyzed several currently popular Japanese orthographic-error correction tools, including Microsoft Editor, Google Japanese Input, Shodo, Yahoo! Japan Kousei Shien, and ChatGPT. The results show that these tools can support learners in detecting and correcting various types of errors, ranging from input errors, Kanji errors, and orthographic errors to grammatical and stylistic errors.

Among the tools examined, Shodo and ChatGPT demonstrate notable potential in supporting Japanese writing skills due to their ability to analyze context and suggest more natural expressions. However, these tools should not be regarded as complete substitutes for the role of lecturers. Rather, their effectiveness can only be achieved when technology is appropriately integrated into the training program, accompanied by lecturer guidance and clear regulations on academic ethics.

For the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam, the application of Japanese orthographic-error correction software can contribute to improving training quality, developing students' self-learning capacity, and promoting

digital transformation in foreign-language teaching. This study proposes a three-stage application model: pre-writing, while-writing, and post-writing. This model helps students not only produce more accurate texts but also understand the causes of their errors and develop self-editing competence.

Although this study still has certain limitations in terms of survey scope and experimental data, it provides an initial foundation for integrating AI tools into Japanese-language teaching in the current context of higher education. Future studies should conduct larger-scale experiments to evaluate more specifically the impact of orthographic-error correction software on the Japanese writing competence of Vietnamese students.

ACKNOWLEDGEMENTS

We acknowledge Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam for supporting this study.

References

1. Solis, A. I., Zarkovacki, J., Ly, J., & Atyabi, A. (2023). Recognition of Handwritten Japanese Characters Using Ensemble of Convolutional Neural Networks. arXiv.
2. Brown, H. D. (2014). Principles of Language Learning and Teaching (6th ed.). Pearson Education.
3. Ellis, R. (2015). Understanding Second Language Acquisition (2nd ed.). Oxford University Press.
4. European Commission. (2022). Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators. Publications Office of the European Union. <https://doi.org/10.2766/153756>
5. Ferris, D. R., & Roberts, B. (2001). Error feedback in L2 writing classes: How explicit does it need to be? *Journal of Second Language Writing*, 10(3), 161–184. [https://doi.org/10.1016/S1060-3743\(01\)00039-X](https://doi.org/10.1016/S1060-3743(01)00039-X)
6. Google. (n.d.). Google Japanese Input. <https://www.google.co.jp/ime/>
7. Hyland, K., & Hyland, F. (2006). Feedback on second language students' writing. *Language Teaching*, 39(2), 83–101. <https://doi.org/10.1017/S0261444806003399>
8. Kukich, K. (1992). Techniques for automatically correcting words in text. *ACM Computing Surveys*, 24(4), 377–439. <https://doi.org/10.1145/146370.146380>

9. Microsoft. (n.d.). Editor's spelling, grammar, and refinement availability by language. Microsoft Support. <https://support.microsoft.com/en-US/Word/editor-s-spelling-grammar-and-refinement-availability-by-language>
10. Saito, K., Imamura, K., Sadamitsu, K., & Nishikawa, H. (2014). Particle Error Correction from Small Error Data for Japanese Learners. *Journal of Natural Language Processing*, 21(5), 941–960. <https://doi.org/10.5715/jnlp.21.941>
11. UNESCO. (2023). Guidance for generative AI in education and research. UNESCO.
12. ZenProducts Inc. (n.d.). Shodo: AI proofreading and editing cloud for Japanese. <https://shodo.ink/>
13. Zhang, Y. (2024). Incorporating ChatGPT as an automated written corrective feedback tool into L2 writing class. *Journal of Language Teaching*. <https://doi.org/10.54475/jlt.2024.024>



APPENDIX 1

STUDENT SURVEY QUESTIONNAIRE

On the Use of Japanese Spelling-Correction Software in Learning

Dear students, this questionnaire aims to collect your opinions on the current use, effectiveness, and applicability of Japanese spelling-correction software in the Japanese-language training program at the Faculty of Foreign Languages, Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam. The information collected is used for research purposes only and will be kept confidential.

I. General Information

1 Gender:

- ☐ Male
- ☐ Female
- ☐ Other

2 Year of study:

- ☐ Year 1
- ☐ Year 2
- ☐ Year 3
- ☐ Year 4

3 Current Japanese proficiency:

- ☐ Elementary
- ☐ Intermediate
- ☐ Advanced
- ☐ Other

4 Have you ever used software or tools to support Japanese correction?

- ☐ Yes
- ☐ No

5 If yes, which tools have you used?

- ☐ Microsoft Editor
- ☐ Google Japanese Input
- ☐ Shodo
- ☐ Yahoo! Japan Kousei Shien
- ☐ ChatGPT
- ☐ DeepL Write
- ☐ LanguageTool
- ☐ Other

II. Current Use of Japanese Correction Tools

Scale: 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly agree.

Student questionnaire items, Part II

No.	Item	1	2	3	4	5
1	I often make spelling errors when writing Japanese.	☐	☐	☐	☐	☐
2	I often make mistakes when choosing Kanji.	☐	☐	☐	☐	☐
3	I often make mistakes in using Japanese particles.	☐	☐	☐	☐	☐
4	I have difficulty writing natural Japanese sentences that fit the context.	☐	☐	☐	☐	☐
5	I have used technology tools to check Japanese writing.	☐	☐	☐	☐	☐
6	Correction software helps me detect errors more quickly.	☐	☐	☐	☐	☐
7	Correction software helps me understand the causes of my mistakes.	☐	☐	☐	☐	☐
8	AI tools such as ChatGPT support Japanese sentence revision well.	☐	☐	☐	☐	☐
9	I feel more confident writing Japanese after using support tools.	☐	☐	☐	☐	☐
10	Japanese correction tools should be introduced in the curriculum.	☐	☐	☐	☐	☐

III. Evaluation of Software Effectiveness

Student questionnaire items, Part III

No.	Item	1	2	3	4	5
11	The software detects Hiragana and Katakana errors effectively.	☐	☐	☐	☐	☐
12	The software detects and corrects Kanji errors effectively.	☐	☐	☐	☐	☐
13	The software detects Japanese grammar errors effectively.	☐	☐	☐	☐	☐
14	The software improves Japanese expression and style.	☐	☐	☐	☐	☐
15	The software interface is easy for students to use.	☐	☐	☐	☐	☐
16	The software provides clear and understandable suggestions.	☐	☐	☐	☐	☐
17	The software helps me save time when writing Japanese assignments.	☐	☐	☐	☐	☐
18	I can study more independently thanks to feedback from correction software.	☐	☐	☐	☐	☐
19	Correction software cannot completely replace the role of lecturers.	☐	☐	☐	☐	☐
20	I need specific guidance to use AI tools effectively and appropriately.	☐	☐	☐	☐	☐

IV. Satisfaction and Open Questions

21 How useful do you find Japanese correction tools?

- ☐ Very useless
- ☐ Useless
- ☐ Neutral
- ☐ Useful
- ☐ Very useful

22 Which tool supports Japanese correction most effectively?

- ☐ Microsoft Editor
- ☐ Google Japanese Input
- ☐ Shodo
- ☐ Yahoo! Japan Kousei Shien
- ☐ ChatGPT
- ☐ DeepL Write
- ☐ Other

23 Would you like the University/Faculty to provide guidance on using AI tools in Japanese learning?

- ☐ Yes
- ☐ No
- ☐ Not sure

24 What errors do you often make when writing Japanese?

.....

25 What are the advantages of Japanese correction software?

.....

26 What limitations do these tools still have?

.....

27 What suggestions do you have for using Japanese correction tools more effectively in the curriculum?

.....

We sincerely thank you for your cooperation.

Appendix 2

Lecturer Survey Questionnaire

On the Applicability of Japanese Spelling-Correction Software in Teaching

Dear lecturers, this questionnaire aims to collect your opinions on the applicability of Japanese spelling-correction software and AI tools in teaching, assessing writing, and supporting students' Japanese writing development. The data are used for scientific research purposes only.

I. General Information

- Academic degree: Bachelor's / Master's / Doctorate / Other
- Years of Japanese teaching experience: Under 3 years / 3-5 years / 6-10 years / Over 10 years
- Courses commonly taught: Integrated Japanese / Reading / Writing / Translation and Interpretation / Business Japanese / Other
- Have you used software or AI tools to support Japanese teaching? Yes / No
- If yes, which tools have you used? Microsoft Editor / Google Japanese Input / Shodo / Yahoo! Japan Kousei Shien / ChatGPT / DeepL Write / LanguageTool / Other

II. Current Situation of Students' Japanese Writing Errors

Scale: 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly agree.

Lecturer questionnaire items, Part II

No.	Item	1	2	3	4	5
1	Students often make spelling errors when writing Japanese.	☐	☐	☐	☐	☐
2	Students often make mistakes in using Kanji.	☐	☐	☐	☐	☐
3	Students often make particle errors in writing.	☐	☐	☐	☐	☐
4	Students have difficulty using honorifics.	☐	☐	☐	☐	☐
5	Students are limited in academic Japanese expression.	☐	☐	☐	☐	☐

III. Evaluation of Japanese Correction Software

Lecturer questionnaire items, Part III

No.	Item	1	2	3	4	5
6	Correction software can help students detect errors faster.	☐	☐	☐	☐	☐
7	Correction software can help students improve self-study ability.	☐	☐	☐	☐	☐
8	AI tools can help lecturers identify common student errors.	☐	☐	☐	☐	☐
9	Correction software can reduce time spent marking and commenting on writing.	☐	☐	☐	☐	☐
10	AI tools can help improve students' Japanese writing style.	☐	☐	☐	☐	☐
11	AI correction results need lecturer verification before use in learning.	☐	☐	☐	☐	☐
12	Students may become dependent on AI tools without proper guidance.	☐	☐	☐	☐	☐
13	Clear regulations are needed for AI use in Japanese writing.	☐	☐	☐	☐	☐
14	It is necessary to integrate correction software into Japanese Writing courses.	☐	☐	☐	☐	☐
15	The Faculty should organize training on AI use for lecturers and students.	☐	☐	☐	☐	☐

IV. Implementation in the Curriculum and Open Questions

- In which courses should Japanese correction tools be applied? Japanese Writing / Reading / Integrated Japanese / Translation and Interpretation / Business Japanese / Research Methodology / Other

- What implementation form is suitable? Self-use outside class / Integrated into in-class writing tasks / Used for marking and feedback / Separate training sessions / Integrated into the LMS
- Which tool is currently most suitable for students? Microsoft Editor / Google Japanese Input / Shodo / Yahoo! Japan Kousei Shien / ChatGPT / DeepL Write / Other
- What difficulties do students usually face when writing Japanese?
- How do you evaluate the advantages of Japanese correction software?
- What concerns do you have when students use AI tools in learning?
- What suggestions do you have for applying Japanese correction tools effectively in the curriculum?

