

Use of AI in Japanese Language Education

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A. Education and AI

1. Transformations in Language Learning

The way we learn languages is continuously changing. Traditionally, languages were learned in classrooms. However, as the Internet has become more widespread, more and more learners are learning languages through online courses. For example, about 500,000 learners from around the world have registered to study Japanese on “Minato” (<https://minato-jf.jp>), an online Japanese language learning platform provided by the Japan Foundation (JF). While languages have traditionally been learned from teachers, in recent years an increasing number of learners have been learning languages independently using websites or applications. The application “Duolingo” offers free courses in 42 languages and is said to have 500 million users worldwide. JF also offers learning applications such

as “Kanji Memory Hint” and “Challenge with Erin -Japanese Language Test-”, which users can learn Japanese through games or quizzes.

The environment in which learners use foreign languages in practice is also changing. Previously, they used a foreign language only in the classroom, but today they can communicate in the language with the native speakers or the other learners around the world anytime, anywhere through social networking services.

Under these circumstances, the role of teachers is also changing. Teachers have been used to supporting students, when students could not understand what they read/heard and when they could not write/say what they wanted to write/say. However, nowadays, with the development of AI, students rely less and less on teachers because AI tell them things that they do not know and write texts for them.

2. Role of Teachers

There are concerns about the introduction of AI, such as “AI may take away teachers' jobs?” or “AI may lower the quality of education.” Some teachers even fear losing their jobs. However, AI is not a substitute for teachers. Teachers and AI should have different roles and do different jobs.

People's negative reactions to AI seem similar to when microwave ovens were first introduced. The microwave oven was invented in the 1950s and then spread around the world. At that time, people said “cooking with a microwave oven does not taste good,” “cooking on a stove is better,” or “people will lose their cooking skills”. This concern was born out of the idea that microwave ovens are a substitute for stoves. The microwave oven is an excellent tool that can heat food from the inside out, which the stove cannot do. Therefore, the stove and microwave should have separate uses, and we should let the microwave do what the stove cannot. The same can be said about education. We should not let AI replace teachers, but rather

do what teachers cannot do or what is too difficult for them, so that AI will make education more efficient and lighten the workload of teachers.

B. AI in Japanese Language Education

What are the tasks that teachers cannot do or that are too difficult for them? What kind of tasks can we allow AI to do?

For example, when teachers want audio files, it is hard for them to create them themselves. The teacher can read the text aloud and record it, but that is a time-consuming task, especially for non-native teachers. In such cases, text-to-speech tools can be used. When you enter text into this tool, an audio file is automatically created. It is useful to make audio of textbooks, listening tests, model conversations, etc. In addition, teaching pronunciation is also difficult for non-native teachers. When a student decided to participate in a speech contest, it is hard for the teacher to check his/her pronunciation one by one. A text-to-speech tool can be used to create a model audio with native pronunciation. If students use

an AI tool for pronunciation practice, they can practice by themselves, and teachers do not have to deal with each student individually.

AI can also be used for conversation. Although a lot of practice is necessary to develop students' communication skills, it is difficult to give each student plenty of chances to speak in a classroom, especially when there are a large number of students. Using AI tools, students can practice conversations with it without teachers or classmates. Currently, with the development of speech recognition tools and generative AI, it is possible that AI and humans to carry on oral conversations.

Furthermore, creating tests would be one of the most difficult tasks for teachers. With AI, it would be easier to create grammar or reading comprehension tests. Also, evaluating each student's writing takes a lot of time, but it is possible to have AI check them. There are several writing evaluation tools that have been developed.

C. AI Tools for Japanese Language Education

Various AI that is useful for Japanese language education have been developed lately. Here are some tools that are free and easy to use.

1. Text-to-Speech Tool

A text-to-speech tool is a tool that can convert text an audio file. This is a rather basic technology for AI, and many tools have been available since before. In recent years, the speech produced has been developed to be more natural. “Ondoku-san” (<https://ondoku3.com>) converts text directly into audio when you type it into the text box. You can listen to the audio or download it as an mp3 file. It also allows us to choose the type of speaker and to change the speed and pitch. In recent years, AI has been developed that can put emotion into voice.

2. Prosody Tutor

The website OJAD (www.gavo.t.u-tokyo.ac.jp/ojad) has a tool called “Prosody Tutor Suzuki-kun” that visually provides accents and intonations of the text as you type. It is also possible to create audio so that students can practice their

accents and intonations while listening to the audio. This is a useful tool for students to practice their speeches and presentations.

3. Generative AI

AI is normally a system that searches for and presents appropriate answers from the information it has. Generative AI, on the other hand, thinks for itself and generates new data. ChatGPT (<https://chatgpt.com>), Copilot (<https://copilot.microsoft.com>), and Gemini (<https://gemini.google.com>) are typical examples of generative AI. In order to get appropriate answers, users need to give appropriate instructions, which is called “prompts” to the AI. It is a bit challenging for teachers, but if used properly, it can dramatically improve the efficiency of their work.

For example, if you give AI the prompt, “create a test to check this grammar,” AI will create several grammatical questions for you. If you input reading material and give the prompt, “create some questions to check comprehension of this text,” it will immediately create reading comprehension worksheets. In

addition, you can ask AI to check student's writing. If the generated AI is equipped with a voice recognition system, students can practice oral conversation with AI.

4. Assessment Tool

Tools for assessment are also being developed. GoodWriting Rater (<https://goodwriting.jp/rater>) automatically evaluates students' writing in three aspects: “purpose and content,” “structure and cohesiveness,” and “Japanese language.” In addition, jWriter (<https://jreadability.net/jwriter>) can assess a student's writing in five levels of achievement. If teachers use these tools effectively, they would improve the efficiency of their work and the quality of feedback to students.

D. Suggestions for the Future

AI will keep developing in the future. What can we teachers do to work with AI or how should we change with it? Here are some suggestions.

First, teachers need to change their attitude toward AI. Some teachers may be negative, but they need to trust AI and have the courage

to let AI do what AI can do. However, as mentioned earlier, AI is not a substitute for teachers. Teachers should focus on education that only teachers can provide. The more work given to AI, the more teachers can focus their work.

In order to do the work that only teachers can do, the curriculum may need to be reformed. With the introduction of AI, writing and translation/interpretation classes, for example, may no longer be necessary. Compositions will be written by AI, not by students, and AI will evaluate them if needed. Translation or

interpretation will be done by AI, so there will be no need to teach them in class. In the classroom, it is better to engage in language activities such as discussions among students or conversations in response to others' reactions and emotions, because such realistic communication is still difficult for AI. Teachers should position the classroom as a place for discussion or presentation of what students have prepared using AI. Designing and facilitating such language activities will be the role of teachers in the future.