

# Enhancing English Language Learning in Japanese Elementary Schools: A Proposal for the Application "DreDrea Chatty"

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## Abstract

English language proficiency has become increasingly vital in the current globalizing world. However, the Japanese education system faces challenges in equipping students with the confidence and skills to speak English effectively. This paper presents an analysis of existing problems in English education in Japan, revealing issues of low confidence, insufficient independent study, and a lack of enjoyable learning experiences. To address these challenges, we propose the DreDrea Chatty application (DDC), an AI-AR-powered solution that inherently focuses on improving listening and speaking skills. DDC offers interactive and gamified experiences for learners and is designed to improve confidence and proficiency in speaking English from a young age. This paper discusses the current problems in English education in Japan with the original survey, the application's features, its user engagement strategies, and ways to promote its widespread adoption, targeting parents and educational institutions. Ultimately, DDC seeks to enhance English language learning before and in Japanese elementary schools and empower young learners while making the process enjoyable for all stakeholders.

Keywords: SLA, linguistic, application, English education in Japan, young learners, AI, AR

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## 1. Introduction

English language proficiency is one of the most essential skills in the current globalizing world, and it has been increasingly recognized as such by the Japanese government, leading to changes in the national curriculum. However, despite these efforts, numerous challenges still persist in the Japanese education system that hinder students' confidence and proficiency in speaking English even with the newly introduced curriculum. This paper addresses these issues and proposes a novel solution — the DreDrea Chatty application (DDC) — designed to naturally improve listening and speaking skills for young English learners in Japan, by improving their confidence and enjoyment while using it.

## 2. Analysis

### 2.1 Existing Problems

A comprehensive survey (original survey) was conducted to identify the existing problems in English education in Japan. The survey gathered responses from 389 Japanese participants across various age groups and revealed several significant issues.

#### 2.1.1 Lack of Confidence.

Most Japanese people lack confidence in their English language skills. The survey on 20 to 64-year-old Japanese shows that “Approximately 70% of Japanese feel poor at

English. This result stays the same regardless of the gender or age of the respondents.” [5] Our original survey indicates that 26% of the respondents feel they are relatively poor or poor at English (fig.1). Meanwhile, only 12% of all respondents answered they relatively dislike it or dislike it (fig.2). The survey further demonstrated that while a significant portion of respondents expressed a lack of confidence, this did not necessarily correlate with disliking the language. This discrepancy highlights the importance of addressing self-esteem issues in English learners.

2.1.2 Lack of Studying

Statistics of Japan revealed that the frequency of independent English language study of Japanese individuals is distinctively low. A mere 1.3% of the total population studies English four or more days per week, reflecting a lack of motivation to learn the language. The percentage of people studying sufficiently on their own among elementary school students is lower than among junior, senior high school, and university students (fig.3). The most significant reason for this relatively low percentage is that students do not find studying English fun [10]. Furthermore, the percentage of adults is even lower than that of elementary school students; it is caused by the social circumstances, where most people are not required to speak English daily, and the perception that learning English is not enjoyable, which comes from their childhood English education [8]. This research focuses on how to make learning English enjoyable, as ‘brain research tells us that when the fun stops, learning often stops too’ [9].

2.1.3 Revealed Problems

The English education curriculum in Japanese elementary schools lacks elements that make learning enjoyable; thus, children do not study independently, which, in turn, leads to a loss of confidence in speaking. Now, Japanese society is left behind by globalization, with nearly 99% of Japanese people working domestically [3].

2.2 Existing solutions

In 2011, MEXT, the Ministry of Education in Japan, lowered the grade level of starting English education from third to sixth grade in elementary schools, and they turned English into an official subject, be graded for fifth to sixth grades in 2020. They conducted the changes because they predicted the number of people coming to Japan will increase by 2050; thus, there will be more demand for speaking English [2]. Students are to listen to English with various accents and learn detailed knowledge of grammar and vocabulary in

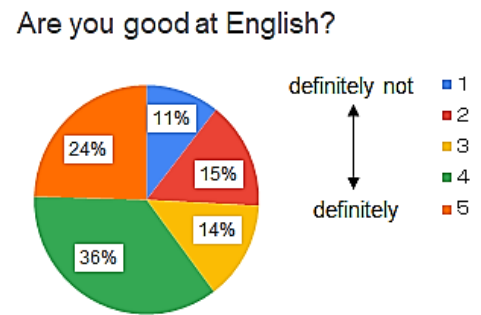


Fig. 1. Confidence Level in English from the Original Survey

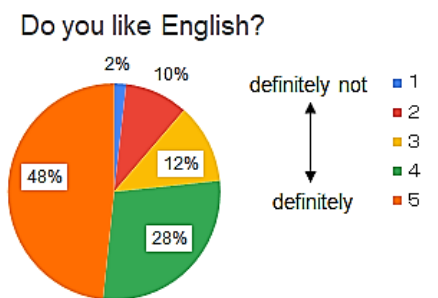


Fig. 2. Degree of Affinity for the English Language from the Original Survey

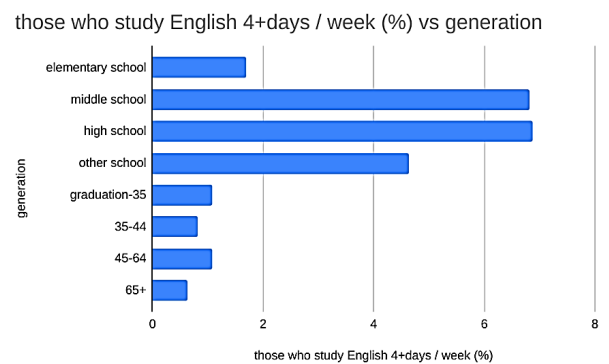


Fig. 3. Frequency of Independent English Study of Japanese Individuals from Statistics of Japan

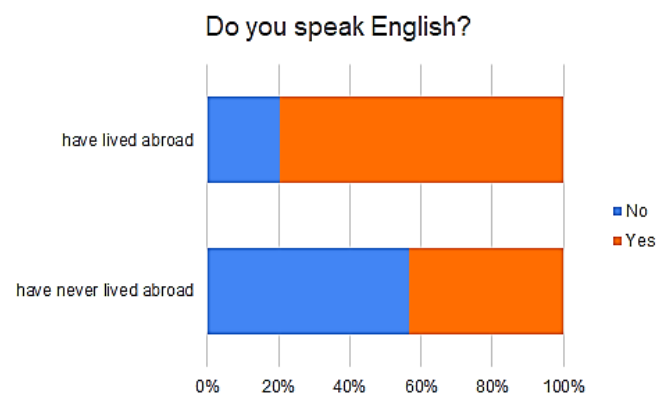


Fig. 4. Level of Confidence in English from the Original Survey

elementary schools. However, these measures have not effectively addressed the issues of inadequate class frequency, the fear of making mistakes, and the lack of purpose in English learning.

First, one class per week is inadequate to develop speaking skills, as Korean grades fifth and sixth students, for instance, take three classes per week. Young learners can memorize easily but forget easily, too [1]. With a class only once per week, students need to work on reviewing what they learned last week, which makes the class even less effective. The original survey shows that 20% of those who have lived abroad responded that they could not speak English, while 58% of those who have never lived abroad responded the same way (fig.4). In a 95% confidence level, with the p-value of 0.0082, the difference in their confidence in English speaking skills is significant. It reveals the essentialities of using English daily to make people confident in speaking English.

Second, Elementary school students hesitate to speak in class [8] as they fear making mistakes. Teachers frequently point out students' grammatical mistakes rather than focus on the ideas they try to deliver [11]. In this paper, I define mistakes as what they do know but cannot use properly and errors as what they completely do not know. Teachers should suggest errors depending on students' English level. According to the "mobile model hypothesis," students feel bad or lose confidence and motivation when their mistakes are pointed out in front of the class. Furthermore, through practice, the number of mistakes they make automatically decreases (Shirai 130). Therefore, teachers should not focus too much on their mistakes. The 'affective filter hypothesis' says children's motivation for language learning decreases when they feel anxious. (Shirai 107) The original survey supports the hypothesis, as 96.1% of all the respondents answered that they were facing anxiety. The top three anxieties were as follows: others may not understand what they say (43.7%), they cannot understand what others say (37.5%), and they make grammatical mistakes (37.0%) (fig.5).

Third, children are aware of the purpose of learning English. MEXT announced that the purposes of learning English are as follows: adapting to globalization, understanding different cultures, actively transmitting information and thoughts, and improving communication skills. However, in reality, children do not study English not for the sake of communication but to get good grades because their visible goal in English study is the high school or college entrance exams [8]. In order to effectively improve elementary school students' English levels, Shirai suggests elementary schools adopt the 'input-interaction model,' which prompts students to talk a lot in the target language and ask questions to each other. (Shirai 180)

### 3. Proposal

This section proposes an application idea that Japanese elementary schools can adopt in their education as supplemental teaching material. Because young learners can learn languages without consciousness [6], the AI-AR-powered application I propose, DreDrea Chatty, or DDC, mainly focuses on naturally improving their listening and speaking skills for daily lives as native speakers learn the language. Incorporating findings from Fig. 6, it is evident that DDC prioritizes the development of listening and speaking skills in students, as these activities tend to be more enjoyable for students when compared to reading and writing. This underscores the notion that there exists a positive correlation between the level of enjoyment experienced by children and the effectiveness of their learning [9].

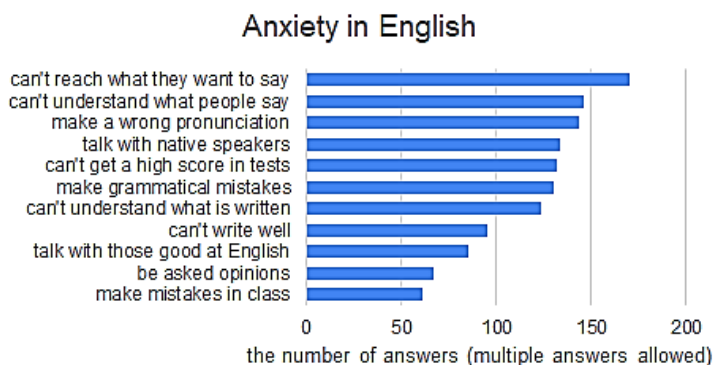


Fig. 5. Reasons for Anxieties from the Original Survey

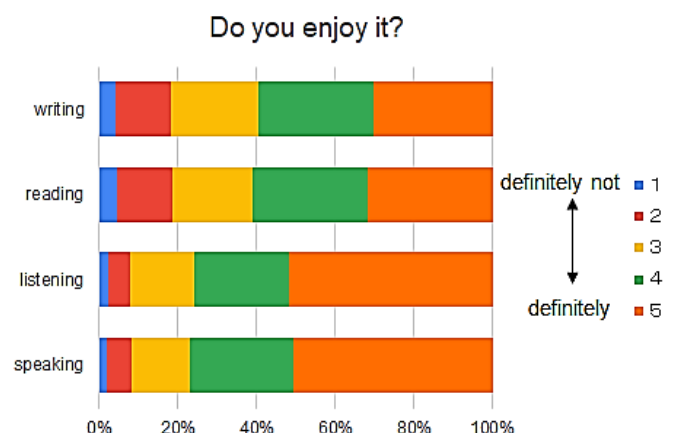


Fig. 6. Level of Enjoyment in Each English Skill from the Original Survey

#### 3.1 DDC description

As users open the application DDC on their tablet or smartphone, they see a screen similar to when they open the camera. As they tap an object on the screen, DDC pronounces the name in English. Users can talk with the objects they pronounce accurately. For instance, there is a chair in front of a user. After she pronounces ‘chair’ accurately, she sees its facial parts, such as eyes, ears, mouth, and nose, appear on the chair on the screen with the augmented reality (AR)-powered technology. Then, She can chat with the face-gained chair. AI-powered image recognition, voice recognition, and conversation AI enable virtual conversation with users and objects. The conversation feature adopts the ‘input-interaction model,’ which refers to a conceptual framework that describes the process by which individuals receive input or information from their environment and interact with it. Users can chat with their stuffed animals, condiments, and characters on a snack package or their favorite book.

Every time they open the application, users play a daily mini-game that encourages them to review the words, phrases, and dialogues personalized with the forgetting curve.

As mentioned in 2.1.3, learners feel anxious and lose their confidence when others point out their mistakes and errors; however, learners need to notice the mistakes and errors. (Shirai 130) Therefore, DDC automatically adjusts and allows the children to adjust the level of identified mistakes and errors that should be pointed out. Users can also set whether the new words are visibly displayed on the screen. Furthermore, they can adjust the level of vocabulary or the type of vocabulary they learn in the variety as follows: the objects around the users, such as the names of the objects they see, the motion of the people or the animals, the adjectives relevant to them, or even sentences.

They can get a score in each section when they compete, such as when they pronounce the words correctly, talk to an object with a face, or complete the daily mini-game. We will create a feature where they can compete with their friends, which will motivate children to play it more and be widely accepted by children because elementary school children play online games with their friends.

### 3.2 How to Make DDC Prevalent

It is important to note that the Japanese government provides tablets to every elementary and junior high school student. To support English learning in elementary schools, we plan to distribute pamphlets and collaborate with MEXT to install DDC onto the tablets as a supplemental learning tool.

Additionally, early language learning is crucial [6], and it depends on parental guidance. Research on 275 pregnant women indicates that 80% engage in activities for their child's benefit, including prenatal education [12]. Introducing DDC during the pregnancy period is ideal as The

pregnancy period can be considered the time when both parents are most focused on their child's education. We can print a QR code for DDC on mother-child health books, provided to expecting mothers. This approach is likely to encourage parents to choose DDC over unrestricted smartphone usage like watching YouTube videos.

## 4. Conclusion

In conclusion, DreDrea Chatty has the possibility to revolutionize English language learning in Japanese elementary schools. By providing an engaging and interactive learning experience, DDC aims to instill confidence and proficiency in students' speaking and listening skills from a young age. This initiative benefits not only children but also parents and guardians by offering them more spare time while fostering children's love for language and cultural understanding.

## 5. Future Directions

We envision DreDrea Chatty as an integral element of English education in Japan, poised to empower young learners with an enjoyable language learning experience. Moreover, we aspire to extend its influence to other non-English speaking countries and to augment its functionality to encompass multiple languages, including Japanese. We also believe that this application harbors the potential to effectively enhance the communication skills of children with autism.

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