Plurilingual and Intercultural Education:

A Cross-Disciplinary Practice around Chocolate in an Elementary School in Japan

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This paper presents a collaborative teaching design implemented in an elementary school to develop intercultural awareness through plurilingual and intercultural pedagogies. This educational project, focused on the science of chocolate, and anchored in inquiry-based PASTEL teaching (Plurilingualism, Arts, Science, Technology, and Literacies), targeted multiple classes and grades of learners working together (5th and 9th graders). Interactive activities were offered during English lessons and other subject classes conducted in Japanese, as well as culinary workshops.

This article builds upon the current discussion regarding curriculum design and language instruction in elementary schools in Japan, in the context of the spread of English as a lingua franca in a globalized world. We will examine the role and aims of foreign language teaching in the Japanese context and how it can articulate with other subjects, as well as the value of an integrated and plurilingual approach to teaching within this particular educational ecology.

本論文は、西日本の小学校で、複言語・異文化間教育を通じて異文化間意識を育成するために行われた、外国語教育と家庭科の共同授業について述べる。この教育プロジェクトは、チョコレートの科学を中心とした探究型教育で、複数の学年の学習者（5 年生と 9 年生）による共同プロジェクト学習であり、PASTEL（複言語主義、教養教育、科学、技術、リテラシー）教育を基盤としている。外国語や他の授業だけでなく、調理実習も行われた。

本論文では、共同授業による小学生の批判的思考の変化を中心に分析することにより、グローバル化した世界でますます英語が国際共通語として一般化する中で、言語教育やカリキュラム・デザインに関するこれまでの議論をふまえ、日本の文脈における外国語教育の役割と目的、教科間連携の方法、そして統合的な複言語教育の価値を論じる。

Although Japan has the lowest proportion of immigrants among OECD countries, it has been opening up to immigrants in order to meet the nation's labour needs (Tomohara, 2020). As a result, the immigrant population is growing, and beginning to diversify both linguistically and culturally (Nagayoshi, 2020). To help integrate this population, (typically grassroots) Japanese language and education support projects have begun in schools and local communities. In academia, awareness that bilingualism in schools is not just a minority issue, but also involves attitudes to (and awareness of) linguistic and cultural diversity in the majority, is growing (Kiyota, 2016).

As members of society are becoming increasingly multilingual and multicultural, it is a pressing challenge for education to develop an understanding of bilingualism as well as the ability to live in a multicultural environment. As Nagayoshi (2020) has pointed out, for the smoother inclusion of immigrants, it is necessary to develop our understandings of people of different languages and cultures.

However, macro-level (i.e., governmental) education policy has not responded to this changing linguistic and cultural reality. This is in part because the focus in foreign language learning at all levels of public education is solely on English, which is typically taught in isolation from other subjects. For elementary schools, the focus of this study, 2020 was the year in which foreign language became formalized as a compulsory subject for the upper grades, and its initial iteration, foreign language activities,[1] has been brought forward to the third and fourth grades. Previously, schools had a degree of freedom in what kind of activities they conducted in "foreign language activities," although the recent Courses of Study come with the clear addendum that "the language to be learned is, in principle, English" (MEXT, 2017a, p. 164).

Foreign language curriculums (overwhelmingly, the language is English) in Japan have traditionally been centred on entrance examinations, within a pyramidal education system with the University of Tokyo at the top (Kariya, 2019). Foreign language education in elementary schools, despite being ostensibly free from entrance exams, is in danger of being absorbed into the same system. According to the Ministry of Education, Culture, Sports, Science, and Technology (hereafter, MEXT), the aim of foreign language education at elementary school is to "cultivate the basis for communication skills," (MEXT, 2017a, p. 156) through a focus on developing familiarity with foreign languages, although at the same time a response to MEXT Q&A on the elementary school aims for this course states that "it is not intended to be

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[1] Compulsory, although unevaluated, consisting of 35 hours per year in which students engage with foreign language through various activities.

simply about promoting international understanding, but should be directly connected to the junior high school curriculum" (MEXT, n.d.).

There is, however, ambiguity in MEXT policy. In spite of the above trend towards exam-oriented English(-only) study, the commentary to the Course of Study explicitly states that: "in addition to the daily lives of English users, those of users of languages other than English are expected to be taken up." (MEXT, 2017b, p. 164). In regards to multiculturalism, different cultures (i.e., those outside the traditional Anglosphere) have been incorporated into teaching materials in foreign language subjects, but they are typically limited to a surface-level introduction of diversity, and no general strategies are provided for teachers to introduce languages other than English or various cultures into the classroom.[2]

Why Plurilingual and Intercultural Education?

Arguing from a critical applied linguistics viewpoint, and cognizant of the linguistic realities of globalization, Kubota (2018) has raised doubts about the significance of one or two hours a week of English-only education at elementary schools:[3] "of much more value would be intercultural and foreign language awareness education" (p. 198). In the broader discussion of education in Japan, Kariya, a sociologist of education, argues that education needs to implement "pluri-perspectival thinking (複眼的思考)," which he defines as: "relativizing multiple viewpoints without being confined to a single point of view or stereotype… and rethinking situations in relation to oneself by addressing these plural viewpoints" (Kariya, 1996/2002, p. 27).

Pedagogical approaches based on similar perspectives have been developed in Europe and around the globe, within the framework of plurilingual and intercultural education.[4] Such pedagogies differentiate themselves from traditional language teaching approaches in that they are typically context-sensitive, engaging learners in the negotiation and mobilizing of diverse (and partial) linguistic, cultural, and semiotic resources. Plurilingual approaches thus do not seek to simply add languages to a multilingual "patchwork," but to develop the composite underlying competences that support language learning and use (see also Council of Europe, 2001, 2018; Grommes

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[2] As an example, Unit 7 of the MEXT textbook, *Let's Try 2* (2018) includes audio-visual materials of marketplaces from several different countries around the world. The materials have been edited in such a way that there is no foreign language signage visible, and a musical overlay mutes any foreign language audio.

[3] In fact, as Terasawa (2020) points out, even MEXT itself is reticent to say that early English education will have a measurable effect on English proficiency.

[4] The term "plurilingualism" is sometimes confused with "multilingualism." Particularly in the European context, *multilingualism* is typically used to refer to the presence of multiple languages in society, whereas *plurilingualism* refers to an individual's "ability to use languages" and their "proficiency… in several languages and experience of several cultures" (Council of Europe, 2011, p. 168; but see also Canagarajah & Liyanage, 2012 and Marshall & Moore, 2018).

& Hu, 2014).

In this paper, we define plurilingual and intercultural pedagogies as those that foster multi-perspectivity (a concept that resonates with Kariya's pluri-perspectival thinking described above)[5] and the capacity to navigate multiple languages and cultures, and/or to learn through more than one. Within this broad definition, a plurilingual and intercultural approach to education focuses on the connections and interrelationships between languages and cultural experiences to promote holistic participation in learning and knowledge construction. The aim is to encourage children to actively work with, reflect upon, or produce knowledge in multiple disciplines, and from multiple sources and cultural viewpoints (Grommes & Hu, 2014). In this article, we conceptualize multi-perspectivity (or pluri-perspectival thinking) as a cognitive process in which learners try to adopt and navigate various viewpoints in order to create a new context of understanding. Developing perspectival plurality in education aims to critically highlight the perceptual, epistemological, or ideologically restricted nature of individual perspectives in time and space.

In Japan, plurilingual education has hitherto been promoted primarily at the tertiary level. However, a small but growing body of research has begun to explore concrete methodologies for such education at various levels of the curriculum. For instance, Yoshimura & Young (2016) demonstrate tools for plurilingualism in teacher education and suggest that plurilingual education could be a viable strategy for dealing with the overemphasis on English-only education policy. Oyama (2016) recommends the *Éveil aux Langues* (Awakening to Languages) methodology and, argues that encounters with multiple foreign languages are important in developing plurilingual competence. Oyama and Pearce (2019) also conducted analyses on issues surrounding plurilingual education at elementary school and the responses of practicing teachers (not trained in plurilingual pedagogies) to a demonstration of the Awakening to Languages approach.

Much of the reported plurilingual research in Japan has been researcher-initiated, with many researchers introducing or recommending plurilingual teaching materials

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[5] The term multi-perspectivity is used by the Council of Europe (2011) in their recommendation for teaching from various viewpoints, notably as a way to understand divergent perspectives and "the history of the relationships between cultures" (p. 3), and to promote critical thinking. In the context of history education, the notion of multi-perspectivity refers to the epistemological idea that history is interpretational and subjective, with multiple coexisting narratives about particular historical events, rather than being objectively represented by one "closed" narrative. (Wansink et al., 2018, p. 496; see also Stoel et al., 2017).

originally developed in Europe (see, for instance, Oyama & Pearce, 2019). Few studies have so far examined grassroots plurilingual education as implemented by practicing teachers. However, a number of elementary school teachers have taken the initiative in adopting plurilingual and intercultural teaching methods, inspired by various sources from within Japan and abroad. In this paper, we will analyse one instance of practice in a grassroots interdisciplinary project that combines elements of subject learning and plurilingualism.

PASTEL: Plurilingualism, Art, Science, Technology, and Literacies

The background to the practice of this study is interdisciplinary, and is grounded in interdisciplinary PASTEL (Plurilingualism, Art, Science, Technology, and Literacies), a comprehensive approach for guiding learners' inquiry, dialogue, and critical thinking (Moore et al., 2018; Moore, 2018; Moore, 2021). In PASTEL, Art is understood to encompass not only fine arts but also language arts and social studies, thereby explicitly incorporating imagination and creative thinking into the learning process. Integrative learning around PASTEL permits the broadening of tools and methods available to learners for exploring new and creative ways of problem-solving, displaying data, and innovating, while linking multiple fields provides more cohesive education in the classroom.

As the name suggests, PASTEL is grounded in the theory and practice of plurilingual and intercultural education (Beacco et al., 2016; Lau & Van Viegen, 2020), which encourages multi-perspectivity (the ability to adopt different perspectives around knowledge building) and reflexivity (the ability to distance oneself from experience and critically analyse its meaning), which are crucial in developing plurilingual and intercultural awareness. We define plurilingual and intercultural awareness as the knowledge, attitudes, and skills needed to support critical thinking and to build learners' identities as social actors and agents of change through linguistically and culturally multi-situated communications and contexts. This plurilingual and intercultural stance on knowledge production offers a reconceptualization of intercultural awareness and intercultural competence as developed through *experience*, and should be fully integrated into core education to foster language and cross-disciplinary learning, cooperation, and human rights education. This PASTEL approach, therefore, aims to support thinking reflexively about controversial issues, resisting ideologies, uncovering social injustices, and criticizing inequalities in order to promote active participation in the society we live in (Tosar, 2018).

The overarching principles of PASTEL are based on three key educational concepts: (i) the transfer of knowledge, concepts, and skills over a variety of learning

contexts; (ii) the centrality of language(s) in the learning process; and (iii) a holistic approach to cooperative learning that is phenomenon-based (the shared observation and experiencing of comprehensive, genuine phenomena in the learning community; Marsh et al., 2019) and transcends linguistic and disciplinary boundaries (Grommes & Hu, 2014).

The Study

Development of a PASTEL Project around the Science of Chocolate

Shino Abe, a teacher at a private elementary school in Yokosuka, first came up with a project involving cacao beans, originally designed as an interdisciplinary project to connect issues surrounding child labour with critical language learning, and which

Table 1

Stages of The Chocolate Project

Stage	General description	Details (aim)
1	Examine genuine cacao beans. Learn about chocolate production,	Have the children get a sense of touch, aroma, colour. Think about how chocolate might be made from the beans. Children learn about chocolate-producing countries and chocolate-consuming countries.
2	Conduct research on cacao beans.	Develop a quiz based on doubts and questions from Stage 1. For example, "wWho eats the most chocolate in the world?" or "Who was the first person to eat chocolate?"
3	Make chocolate from cacao beans.	Learn about the ecology of cacao beans through English materials. Decipher English recipes (with the aid of machine translation) and determine how to make chocolate from cacao beans.
4	Through a workshop, experience the life of cacao farmers.	In groups, role play as Ghanaian and Japanese families, make household budgets, and discuss the differences. Summarize what they have learned, make a presentation, and present to 4th graders.
5	Reflection.	Notice a number of world issues, such as child labour, economic disparity, colonialism, climate change, etc. Think, investigate, and consider the issues.

she has implemented since 2016 (Abe, 2017; Adachi et al., 2019). The project has subsequently been adopted by a number of practitioners, including the teachers in this study, and has been carried out in different ways by different practitioners. The general outline is shown in Table 1.

In Stage 1, the central focus is on developing interest in plant life (science), although it also includes reading graphs on the production and consumption of chocolate (mathematics/social studies). The fact that the major chocolate-producing countries and chocolate-consuming countries differ is included intentionally, and aims to trigger the students to wonder "why?" In Stage 2, students commence inquiry into questions they formulated in the prior stage to investigate plant ecology (science) and food importation (social studies).

In Stage 3, a foreign language element is included, as students are given English recipes for making chocolate. The students use various multimodal tools (iPads/Google etc.) to translate the recipes into Japanese, which enables them to make chocolate themselves (home economics).

Stage 4 was primarily focused on social studies and the development of intercultural awareness. The students prepared computer-based presentations by synthesizing their experiences and what they have learned, to deliver to younger students (grade 4). This stage fosters an understanding of the importance of sharing information.

Finally, in Stage 5, through reflective practice, the aim is for students to realize that their personal experiences are connected to broader world issues.

Participants

The practice examined in this study took place at a public combined elementary/junior high school in the Kansai region. The project has been implemented at the Kansai school since 2017, and the data was collected over two academic years (2017-2018 and 2019-2020[6]). In the second year of the study, the culinary workshop (Stage 3, above) was for the first time conducted as a collaborative session between 9th graders (junior high school, 14-15 years old) and 5th graders (elementary school, 10-11 years old). Stage 3 was a co-teaching collaboration between the English and Home Economics departments, with the English teacher present. While reflections of the 9th-grade students were also collected, the focus of this study is primarily on the 5th-grade students.

The participants in 2017-18 were two classes of 5th-grade students (n = 71; 36

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[6] Due to school closures resulting from the COVID-19 inducing coronavirus, the 2019-2020 participants were unable to complete Stages 4 and 5.

girls, 35 boys), and in 2019-20, two classes of 5th-grade students (n = 78; 44 girls, 34 boys), while one class of 9th-grade students participated in the joint cooking project. The 5th graders' prior experience with foreign language included six hours yearly of English activities with ALTs (typically non-Japanese assistant language teachers) from grades 1 through 4, and 35 hours of foreign language activities in grade 5.

Procedure

The procedure generally followed the same stages shown in Table 1 above, although the Kansai school introduced the joint cooking session with 9th graders, as well as one class hour hosted by an external company[7] on the theme "thinking about

Table 2

Outline of The Chocolate Project *at the Kansai school*

Stage	Outline	Hours
1	Looking at, touching, and examining real cacao beans. Learning about chocolate production (see Appendix for example materials), and coming up with questions.	1
2	Out-loud reading of a chocolate picture book. Beginning research on questions from the prior period using books and iPads.	2
	Researching how to make chocolate from cacao beans.	1
	2 classes together make 8 groups, discuss cooking utensils and ingredients necessary for making chocolate.	2
3	In groups, find a recipe, and make chocolate with 9th graders.	2
4	Class hosted by an external company: "Thinking about international cooperation through chocolate."	1
	In groups, role play as Ghanaian and Japanese families, make household budgets, and discuss the differences.	1
	Making presentation materials (in groups, using *Keynote*) to present to 4th-grade students.	4
5	Each group presents what they have learned to 4th-grade students and reflect on the project.	1

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[7] The classes hosted by an external company were an optional component of the project. The idea came about due to the teacher's idea that children's understanding of the wide variety of content covered in social studies (agriculture, fishing, forestry, dairy farming, industry, commerce, the service industry, etc.) would be better promoted through experiential learning. While, in the teacher's opinion, fieldwork would be the most conducive to learning, having a representative from a chocolate-producing company visit and discuss various aspects of chocolate was more feasible.

international cooperation through chocolate." The class hours allocated to each stage are shown in Table 2.

After each lesson, the children wrote reflections on the content. Reflection sheets, one type of journaling, are a common practice in Japanese schools. This school also incorporates reflection sheets, through which students report not just on acquired knowledge, but, through responses to targeted teacher questions, reflections on attitudes and skills are also reported. In other words, the fostering of autonomous learners is also a pedagogical aim. Such aims are included in teacher-training programs as a matter of course, but in foreign language education, especially English with its high focus on skills practice, the pedagogical importance of such reflection is easily overlooked, and is thus worthy of special mention here. These targeted reflection sheets become a tool for self-transformation in the learners, and are the primary source of data on the children's learning in this paper.

Data Collection and Methodology

Multi-modal ethnographic data was collected from various sources, including students' and teachers' reflective journals, visual documentation in and around the school, researchers' field notes, and photographic and video recordings of classroom interaction during the culinary workshops, and students' productions.

Interpretation, content coding, and analyses of the data were collaboratively constructed between the researchers and the teacher, which allowed for differently situated perspectives. The group itself (three researchers and the teacher) is plurilingual and pluricultural; a Japanese researcher speaking English, French, and Japanese, a French researcher speaking French and English, an Aotearoa New Zealand researcher speaking Japanese and English, and a Japanese specialist teacher speaking English and Japanese.

Through reflection after each lesson and at the end of each project, different facets of the children's learning are integrated, and show a shift in identity as a whole, which will be explored in the following section.

Analysis
Ecology of the Classroom: Interconnecting Languages, Cultures, and Disciplines

While the importance of linking elementary and secondary curriculums, mentioned above, has been widely expressed in Japan, combined schools like the one in this study, which encompass both levels on the same premises are rare,[8] The

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[8] Joint junior-senior high schools are more common.

teachers are highly motivated in promoting exchange between different grade levels, and both specialist teachers and homeroom teachers work in close collaboration. While recognizing the unique nature of the school in this study, the possibilities of this approach will be explored through one unique and exceptional practice.

At this school, the foreign language teachers display an enthusiastic openness to multiple languages and cultures, which can be seen in observations of the classroom and lessons. For instance, the classroom is filled with books in a variety of languages and adorning the walls are various maps from different perspectives, notably many without Japan in the centre (Figure 1)—all of which illustrate the importance placed on multiple perspective-taking. Most lessons begin by referring to a calendar that introduces multiple languages and cultures, which are connected to labels on the world map adorning the rear of the classroom to locate specific countries geographically for the children (Figure 2). Coincidentally, on the week that the chocolate was to be made, the calendar on display featured Cameroon, a cacao-producing country, but a predominantly French-speaking one.

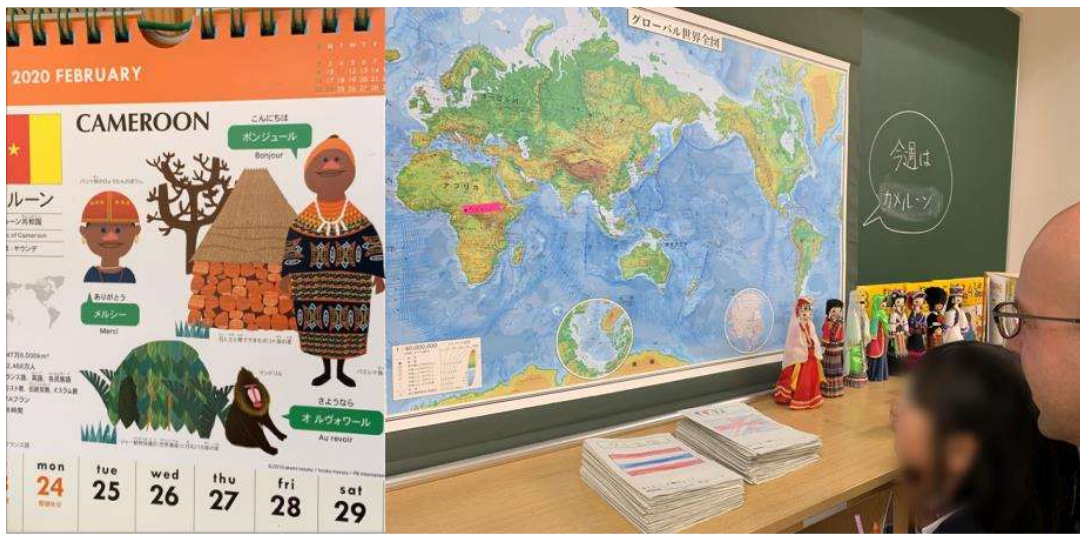**Figure 1**

Multilingual materials and a decentred map
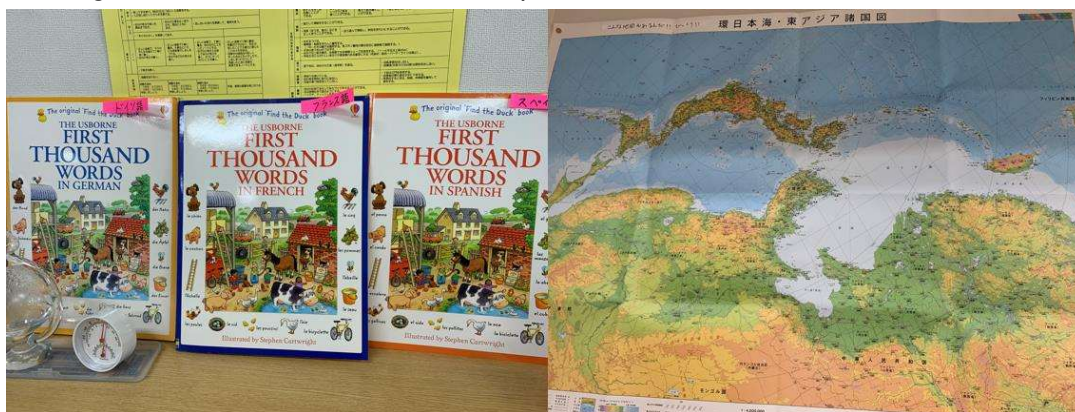
Children's Reflections of the Linguistic Element

The major foreign language component in the project involved translating recipes for chocolate (Stage 3). The foreign language teacher prepared English recipes, and the students used photo translation on iPads to prepare Japanese versions for the culinary workshops (Figure 3).

Figure 2

*Connecting geography, languages, and the science of chocolate*

Figure 3

Using photo translation (Google) on iPads

Students noticed that some of the translations produced incomprehensible Japanese, which needed to be corrected—resulting in variation in the content and expressions in each group's final product (Figure 4).

Figure 4

Variations in students' translated recipes
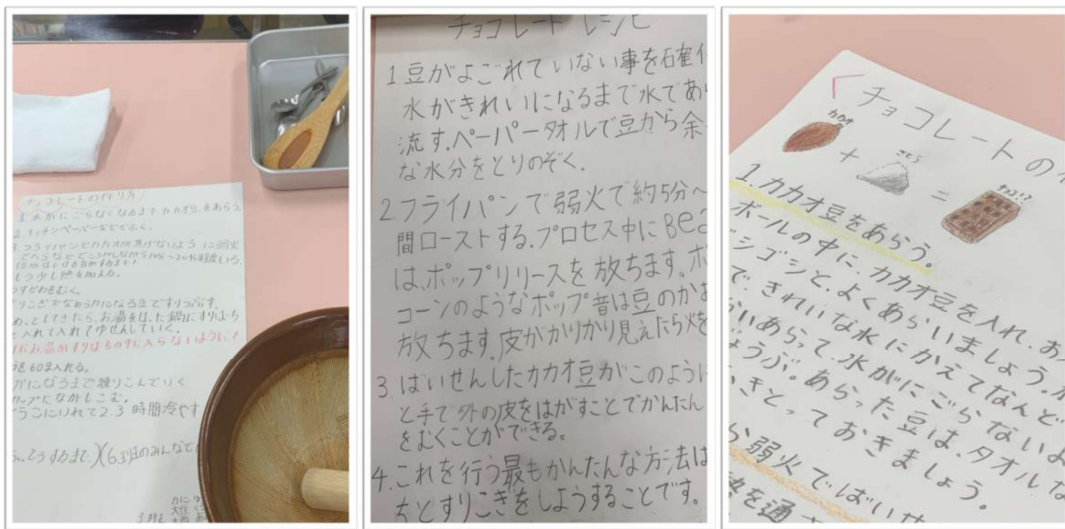
While some reflected on the impressiveness of the technology, with remarks such as "won't translators lose their jobs?" others recognized the limitations of the technology. In-class verbal discussion between the students included remarks such as: "when using photo translation, we can't understand the meanings of individual words."

These reflections illustrate how a direct experience of translation leads to language awareness and the better understanding by the students that knowledge of individual linguistic components (here, words) is important but insufficient. They also become aware of the human factor in meaning-making, and that machine translation has limitations and can lead to misunderstandings.

Children's Reflective Journals (Post-project)

The following analysis is centred on the written reflection sheets of the students who experienced the 2017-18 practice (n = 71). In-vivo coding of the data generated 205 emergent codes. Reflections were coded by content type, described in Table 4. A number of the codes were connected by the students in their reflections. For instance, many made connections between their own difficulty in making chocolate (Impressions: Labour) and learned content about those who produce cacao and chocolate (Learned content: Social Studies), and a number of students connected

impressions and learned content to changes in attitudes or behaviours surrounding chocolate. Representative examples will be explored below.

Table 4

Coded data of Student Reflection Sheets

Code (Number)	Sub-code (Number)	Description
Impressions (81)	Labour (42)	Student impressions of the difficulty, time required, etc. for making chocolate.
	Gustative (18)	Taste, smell, feel of the student-made chocolate.
	General (18)	General reactions such as "it was fun," "I want to do it again," etc.
	Product (3)	Student impressions of their finished chocolate.
Learned content (62)	Social Studies (31)	Reported learned content related to child labour, chocolate-producing countries, imports/exports, etc.
	Science (27)	Content related to cacao beans, ecologies, chocolate production process and ingredients, etc.
	Home economics (4)	Content related to utensils, flavour-changing ingredients, etc.
Attitudes (23)	about (child) labour (11)	Attitude shifts regarding child labour, such as "I feel bad for them," "It's terrible that they can't go to school."
	about chocolate (8)	Attitude shifts relating to chocolate, such as "I think chocolate tastes better now."
	about learning & presentation (5)	Attitude shifts relating to learning and sharing information, such as "I want more people to know…," and "I want to learn more about social problems."
Behaviours (14)	Chocolate (12)	Shifts in behaviour related to chocolate, such as looking at ingredients when buying chocolate, or showing appreciation.
	Other (2)	Shifts in behaviour, such as collecting money for charities.
Reflections (11)		General reflections on aspects of the project, such as "I wish I had prepared my presentation better."
Other (14)		Other general comments, such as "it was amazing," or "the company gave us chocolate," that were too general to be categorized.

Impressions of the Culinary Session: Gustative and Experiential Aspects

Students gave a variety of vivid reactions after tasting the chocolate they had made (Stage 3), including reference to flavours and smells. Most of the codes related to the difficulty of making the chocolate (n = 42), and many of the students connected this with information learned about the chocolate-making process and producers. The following are representative comments:

It was difficult. It didn't taste good.

It was tough. Grinding the cacao beans into powder was tough. I want to make it again.

It takes a very long time to make chocolate from scratch.

It was tough, it smelled bad, and it smelled good. I remember how to make it. I regretted thinking "the chocolate project is easy!" It was too hard!

In making chocolate from cacao, they first had to wash the beans well, before roasting them in a frying pan. While the beans were still hot, they removed the shells and crushed the beans, for which each group used a mortar and pestle. The schools did not have mortars or pestles, although they are common utensils in Japanese home kitchens, so two children from each group brought them from home. One student per mortar was sufficient for crushing the beans, but most groups had two or more students collaborate. Some groups had 5th and 9th graders collaborate, while in other groups 5th and 9th graders divided labour. Crushing the beans was an intensely laborious process, giving rise to the largest number of comments regarding the difficulty (Labour: n = 42).

The researchers observed the following reactions in the 2019-20 practice. Because the students are used to eating sweetened milk chocolate, 100% cacao chocolate was to them, very bitter. Regarding the aroma of the roasted cacao, which an adult might describe as "flavourful" or "aromatic," several of the children reported it being "stinky," although, as the product became closer to chocolate, some remarked on the pleasant smell (similar responses were common in the coded data, gustative impressions, from the 2017-18 students). A homeroom teacher reported the following comments from one student; "it is a lot of work, but I was surprised you can make chocolate just by crushing the beans." This surprise represents a science-related learning event regarding material change.

While the above reactions suggest a focus by the children on their own experiences, others connected this experience with what they had learned about labour in the social studies classes: "I felt it was really tough. The people who make chocolate are too amazing." The connections made between experience and learned content are a core aspect of PASTEL teaching, which, through these interdisciplinary connections, aims not only to nurture deeper linguistic or content knowledge, but also to promote shifts in attitudes, including greater openness to plurality, and to foster multi-perspectivity and intercultural awareness.

Changes in Knowledge, Changes in Savoir-Être (Attitudes)

In addition to impressions of the cooking experiences, most of the students reported on learned content (n = 62). Many also reported changes in attitude (n = 23) and behaviours (n = 14) that resulted from connecting their experiences to the content. Some of the comments will be explored here.

> I started to realize how much goes into chocolate and started to look at ingredients lists. I want to make chocolate from cacao again. (Behaviour)

From this comment, we can see a change in the behaviour of the student. The learning experience was thus not confined to the classroom but, for this student, continued outside of the school in her daily life. Another student reflects:

> After the class, I went to the supermarket and looked at chocolate, and remembered how tough it was to mix it. We did it for two hours, but I want to spend four hours and make it again, properly. (Behaviour/Attitude)

This comment is similar, not only reporting on the difficulty of making chocolate, but also how the student now reflects on the experience when coming across chocolate in his daily life. From this, we can see that the experience was likely not only "tough," but also enjoyable and creative (something that was readily apparent in the facial expressions of the students as they were making the chocolate). In the journal of one of the homeroom teachers, the following comment could be seen (Figure 5).

During the interaction with the teacher, the student reported verbally that "it's really hard," although the teacher was also paying attention to non-verbal behaviours. It might have indeed been very difficult, but to the student, the chocolate she had made was something quite

Figure 5

Reproduction of one homeroom teacher's transcription of verbal interaction

Student: "It's really hard. I don't want to make it anymore!"
Teacher: "Why don't you want to make it?"
Student: "'cause it's so tiring"

(Despite this, she carefully wrapped up the chocolate
she made and took it home.)

precious. Chocolate had changed from "something that's everywhere" into something with a more special meaning; a shift in perspective.

One of the students in the coded data reflects on a conversation with his mother that resulted from experiences in the project (Behaviour): "After the class, when I ate chocolate, and explained to my mother and others how it was made, I felt [I could do that] because of the chocolate project." Here, the student displays an out-of-school application of sharing information (developing an understanding of the importance of sharing information was a pedagogical aim of Stage 4 of the project).

One comment from the data (coded "Other") indicated a piqued interest in a particular linguistic element: "I wonder if cocoa and cacao are related?" This interest in words related to chocolate may have come about due to the practice involving foreign countries, in which the main foreign language was English. It could also be evidence for a transfer of skills—the student here applying curiosity about a linguistic aspect in content learned in a class module where the focus was not on foreign languages, a transfer of skills that is indicative of the interdisciplinary learning that is a key aspect of PASTEL approaches (Moore et al., 2018).

Amongst the data related to attitudes, changes in students' appreciation of chocolate were visible, even at the level of flavour: "I felt chocolate began to taste better after learning how hard it is to make. Anyway, it tasted good." Other attitude changes involved increased motivation and desire to acquire knowledge: "After looking it up, I learned that chocolate has been around for a long time. I want to research more."

As part of the project revolved around child labour, it is not surprising that many of the children reflected on that aspect (Learned content: n = 31; Attitudes: n = 11):

> I learned that many cacao farmers are children working as child labour. (Learned content)

> When we made the chocolate, it had a (strong) smell of bitter chocolate. After researching, I learned that Ghana is a country that produces a lot [of cacao], and that in some places in the world there are children who aren't able to study, and I learned that "child labour" exists. **I felt that it was really tough for children in Ghana to make the sweet chocolate that is being sold**. (Impressions [gustative], Learned content, **Attitudes [about child labour]**)

From these types of comments, we can see that not only the practice of making the chocolate, but the social studies modules also had an impact. The students were not specifically instructed to reflect on these aspects, although a large number (n = 42) did.

One comment that amalgamated both impressions, learned content, and changes in attitude, is the following:

> I was surprised to learn chocolate is made from cacao beans. I learned that even now, there are some places where children work. I felt chocolate tastes better [now].

This type of comment came about not only due to the experience of making chocolate, but also an increased awareness of the realities and problems surrounding chocolate production, leading to a perceived change in the taste of chocolate, a comment which several children (n = 6) made. This type of comment shows that, to the student, what was acquired was not simply arbitrary knowledge, but situated, experiential knowledge, directly relevant to her perceptions of the world. A similar comment follows:

> Through making chocolate, I learned that the chocolate I often eat is that hard to make. I was shocked to learn that we, who don't make chocolate, eat it, but the small children who make the cacao don't get to eat it.

This comment displays the student's understanding of her own experience and acquired knowledge, and how she is connecting this with inequality. The comment illustrates her development of intercultural awareness, as her realization of inequality was not directly referenced by the teachers or specifically touched upon in the teaching materials. This child has built on her experience of the difficulty in making chocolate

and connected this with the idea that those who produce it should at least be rewarded with the experience of consuming it, having also come to a realization that this is not the reality. Here, the child is focusing not only on her own experience, but also on the realities and experiences of others. Through her experience, she has developed an understanding of others' ways of being. In summarizing these thoughts, she displays her critical thinking skills and ability to take the perspective of other children by connecting her empathy with thinking about inequality.

Through these series of thought processes, we can see clear shifts in the children's identities. They have gained a deeper understanding of who they are, through understandings of others and others' positions, supported by the opportunity to examine content from multiple perspectives offered by the PASTEL approach.

The following is a complete reflection of one of the students, amongst the longest in the data. The complex range of knowledge, experience, and viewpoints gained through the project are amalgamated surprisingly well:

> I felt like the chocolate that I usually don't give much thought to is actually really time-consuming and hard to make. In the cacao-producing country, child labour is a big problem, and even though it's a poor country, they don't get much money for their cacao. I also learned that there are several countries using child labour, and in some places, they can't even get clean drinking water. I learned that some children around the world can't go to school, and that there are some very serious problems in the world. And when I see chocolate being sold, I remember the cacao-producing country and the labour and poverty and other problems, I have often thought, "it's because I learned about them [in school]." I want to learn more about social problems, and think about what I can do to help, even with smaller problems.

Here we can see that chocolate as a familiar starting point has encouraged noticing of issues in global society and encouraged thought about how the children as individuals interact with their local worlds. Most of the children did not write such comprehensive reflections. Nevertheless, this clearly shows that the series of interrelated learning opportunities presented by this PASTEL project have enabled both multi-faceted learning (drawing connections between subject areas) and multi-perspectival reflection.

Collaborative Learning, Multi-perspectivity, and Intercultural Awareness

The 2019-20 year was the first time in which the culinary workshop was conducted with both 5th and 9th grade students. From field notes taken by the

5th-grade homeroom teacher, we can find students' reflections immediately after the practice. Of the 13 total reflections, 3 referred to interaction with the 9th graders:

> the 9th graders are pretty amazing

> even though the 9th graders helped us so much, I didn't even know their names. It's a shame. [to which the homeroom teacher responded by having the student introduce herself to the 9th graders the following morning)

> the 9th graders were kind

The following was also included in the teacher's journal:

> For the 5th graders, being upperclassmen in elementary [school], they have become used to being relied upon. Being in the opposite position, able to depend upon the 9th graders, and being fawned over… they looked happy.

Here, the teacher referred to the 5th year students being "fawned over." As interaction at schools mostly occurs within the same grade level, it is likely that most students have an idea of how they should behave as upperclassmen within their interactions. For the 9th graders, being much older, they were presumably aware that they needed to be role models and ensure the safety and enjoyment of the younger students cooking on open flames. On the other hand, to the 5th graders, their upperclassmen must have appeared extremely adult and responsible. For teachers and students, this would have been a new experience.

Worthy of mention is the multi-perspectivity that was likely fostered by this experience. For the 5th-grade students, what they gained was not just the experience of being "fawned over," but likely also how they should interact with students younger than themselves. Through the (unusual) experience of being the younger students, they had an opportunity to gain empathy through a decentering of their normal experience. Interaction with a different year level and the interculturality that occurred because of this, could be said to be another part of the identity development aspect of this project, achieved not through a focus on one's own individual experience, but through interaction with the "other."

Discussion and Concluding Remarks

What is unique about this project in Japanese foreign language education is its collaborative aspect; multiple teachers worked together to implement a project using a familiar product (chocolate; all of the children know it and enjoy it) as a starting point

to intercultural awareness, and foreign language use as one component of that project. Through this interdisciplinary, plurilingual endeavour, the children were able to develop deeper understandings of their identities and of intercultural awareness, through a cross-pollenization of science, social studies, and foreign language knowledge (PASTEL) which led simultaneously to multi-perspectivity and development of empathy.

Within the monolingualized and culturally homogenized Japanese educational context, the openness of the teachers to other languages and cultures was the key in achieving this deeply intercultural, pedagogically significant practice. This grassroots project shows how language education policy may be affected from multilateral directions, while simultaneously demonstrating the need for plurilingual and pluricultural perspectives in teacher training.

In this practice, the fact that the teachers were able to collaborate across their various specialized fields speaks to their intercultural strengths. This practice was possible because of the practitioners, but also because they could expand on a pre-packaged set of interdisciplinary pedagogical materials developed by the private school teachers in Yokosuka. The unique structure of the school (joint elementary/junior high) in Kansai allowed for the practitioners to capitalize on the existing intercultural reality (mixing of grade levels) of the context. As a result, an intricate and complex multifaceted educational project was made possible.

Given that teacher training has tended to be subject-focused, or otherwise centred on general concepts regarding knowledge acquisition and pedagogical theory, there is a necessity to emphasize this type of interdisciplinary, collaborative study and practice.

The Chocolate Project was specifically designed to be interdisciplinary, thereby decentring English language learning. Children were challenged to integrate multiple sources of knowledge, including English, and an understanding of a specific multilingual in which English is an official language widely used as lingua franca alongside many regional languages: Ghana.[9] English was used in part both to understand the Ghanaian context and as a linguistic tool, although primacy was not given to Ghana as being a country where people use the target language. Within the

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[9] Some readers may wonder why, given the plurilingualism aspect of this PASTEL project, other Ghanaian languages (Over 80 languages are present locally, including at least nine government-sponsored languages, for instance Akan, Ga, etc.) were not taken up. This was not an oversight, but rather an intentional decision given the already broad scope of the project. Nevertheless, diversities in local languages, and sociohistorical reasons for the presence of colonial languages in various countries and regions form a part of the everyday foreign language classes at the school (see Moore et al., 2020), as well as other interdisciplinary projects (Pearce et al., 2021).

Japanese guidelines that state that the target language is to be English, and amongst textbook representations of British and American English varieties as the only appropriate models (Kubota, 2018), this project is important in demonstrating that practice does not need to be bound by such representations. It is thus significant as a plurilingual practice involving English as a global lingua franca in a globalized world.

The multi-perspectivity fostered in learners and their shifts in identities regarding linguistic and social aspects of their global and local understandings have important implications for practice and for teacher training in a context where the English language is promoted as the only fundamental component of globalization.

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Appendix
Examples of Interdisciplinary Learning Materials