Chapter 12

The Role of Age Appropriacy with particular reference to elementary school education

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Introduction

CLIL, or Content and Language Integrated Learning, has been described by Coyle, Hood and Marsh (2010, p.1) as, "a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language," and by Ioannou Georgiou (2012, p. 496) as, "a fusion where the best of language education joins together with the best of general education." However, under this umbrella term, there are variations, summarized by Ikeda (2017) as bilingual: monolingual, partial: total, light: heavy and soft: heavy, under the umbrella of weak: strong. CLIL is distinct from, but has overlapping areas of pedagogy with, bilingual education, CBI/CBLT (content based instruction/content based language teaching) and EME (English (or another L2) Medium Education). For example, while they describe CLIL as an approach which, "stems from immersion programmes," Lasagabaster and Sierra (2010, pp. 371-373) delineate the differences, including the differing language content, with immersion typically focusing on languages in use in the learning environment and the higher proficiency goals of immersion programmes. Whatever the variations and relationship to those other kinds of teaching and learning, CLIL is seen to rest on four principles, described by Coyle, Hood and Marsh (2010, p. 41), as Content (subject matter), Communication (language learning and use), Cognition (learning and thinking processes) and Culture (the realization of global citizenship with intercultural understanding). It is also widely seen as aiming to focus on H.O.T.S. (higher order thinking skills) rather than L.O.T.S. (lower order thinking skills), based on Bloom's Taxonomy, or more recently, Bloom's Revised Taxonomy.

This paper aims to consider the rol□e of the age of students in successfully introducing CLIL at a time when, rather belatedly compared with other global locations, CLIL is increasingly seen as attractive in Japan. This is particularly as it is seen as a way to possibly benefit from the ongoing increase in the number of English classes at elementary school level. For example, Yamano (2013, p. 20) refers to the suggestion of MEXT (the Japanese Ministry of Education) in 2009 that, "teachers link their lessons with that of other subjects while concomitantly considering students' interests." Changes are not limited to elementary school level. Teachers at high school are increasingly expected to teach using English itself and demographic change means that universities are regularly introducing new courses to attract students in a more and more competitive

environment. However, at each age and level of education, challenges are faced and there are issues to be overcome before CLIL courses can be successfully developed.

Age related factors

There has been much discussion about the influence of age on the efficacy of language acquisition, most famously the 'critical age hypothesis', first developed by Lenneberg. However, it has largely been rejected or, at least, reduced to the idea of a 'sensitive age', with reasons described by writers such as Aitchison (1991) and Abello-Contesse (2009).

However, as a way to highlight some of the possible factors in pursuing CLIL at each age level in the Japanese education environment, it is useful to suggest possible benefits and drawbacks, as shown below.

Figure 1: Perceived benefits and drawbacks of CLIL according to school level.

Level of school	Benefits	Drawbacks
Elementary:	Homeroom teacher is not a a specialist teacher, so can cover a wide range of subjects and takes care of content anyway. The culture of elementary schools allows more flexibility.	The elementary school English curriculum is still in its 'infancy' and many teachers feel that they lack experience and suitable skills, with CLIL seen as more demanding in terms of such skills.
Junior High:	The potential to give more 'meaning' to language learning, which is traditionally grammar oriented.	Worry about not getting content across effectively and completely and a heavy curriculum load.
Senior High:	'Selling point' in a competitive market, especially at private schools.	Entrance examination pressure.

While benefits and drawbacks are sharply divided above, it can be imagined that a

drawback such as heavy curriculum load could also be a reason for implementing CLIL, therefore becoming an advantage, by covering a target language and content at the same time, thus 'killing two birds with one stone.'

How can these issues be dealt with?

One approach would seem to be to make CLIL a comprehensive facet of education from beginning to end. Such a comprehensive approach can allow continuous and flexible development which is necessary to deal with contrasting developmental issues at both ends of the age range. As Van der Es (2013, p. 8) writes, "In the initial years of CLIL, learners' vocabulary or command of specific grammatical structures may be too limited to complete certain tasks." In contrast, Ting (2017, p.14) poses the question, "Why are school subjects at upper secondary difficult, even in our mother tongue?", as well as giving the example that, "Content becomes increasingly more complex, abstract and non-tangible: "food and nutrition" at primary is very different from "fatty acids and amino acids" at upper secondary."

A contrasting approach is to make CLIL provision self-standing, in the sense of being rather separate from the main curriculum. Johne-Yamamoto (2018) described provision in Italy involving twice weekly sessions with a total annual contact time of 50 hours. Materials are story based, focusing on art and science. Teaching is 'outsourced' to specialists and subject to parents' interest and financial support. A 'ripple effect' means that the provision spreads, as its success when used at schools becomes known. This self-standing approach seems to reflect the CLIL environment in Italy where, according to Infante, Benvenuto and Lastrucci (2008), "it is important to stress that in Italy, in spite of the continuous EU encouragement to adopt this approach: there are no centralized CLIL actions; there is not a systematic and extended monitoring of CLIL initiatives; CLIL is more widespread at secondary school level than at primary" (p.75).

In a Japanese educational environment, Ito (2018) also describes a self-standing activity concerning the history and making of a local craft item carried out in a double period class. She indicates how it can achieve diverse but intersecting aims when she writes, "The lesson teaches regionalism to students. It also contributes to cross-cultural education and global education" (p. 65). Based on follow-up research, the writer describes it as successful, particularly as, "through the help of visual aids, the students were unconcerned with the language of instruction, and instead concentrated on the lesson content" (p. 66).

In contrast to these self-standing examples, in the next section I turn to a course which I

had the opportunity to observe.

CLIL at Elementary School Level

As indicated above, the points which may facilitate CLIL at this level can be seen as two in particular. Firstly, as the homeroom teacher is not a specialist teacher, he or she is already obligated to cover a wide range of content and learning. Secondly, at least in Japan, the school 'culture' at elementary school level would seem to provide more flexibility than at other levels, not least because there are rarely entrance examinations looming. However, there are two less positive points which have to be considered. Firstly, the English curriculum at this level is still in its early stages. Secondly, there remains a shortage of teachers with skills in the language. However, there are possibilities to gain from the positive points above and to mitigate the challenges, in the way that Ellison (2015) sees synergy present in the primary school environment, describing CLIL as, "one such approach which merits inclusion in teacher education for primary English language teachers owing to its integrationist, holistic principles which align with those of primary education" (p. 67).

At this point, I consider a specific CLIL environment at this level. In March 2018, I could observe two CLIL classes (1st grade and 2nd grade) focusing on Mathematics at a private elementary school in northeast Japan. At that time, these were only those two grades covered, with a further grade to be added in the following academic year. The latter gradual process is described by school principals surveyed by Soler, González-Davies and Iñesta (2017, p. 484) as something which, "favoured teachers' work, the preparation of resources, and the better integration of students in the programme." At the school where observation took place, there appeared to be factors contributing to a positive environment, including a small class size, students taking part following a selection process, and collaboration between a variety of teachers, both native and non-native, with their specialisations being both in English and in other subjects. However, it also showed the challenges, both present and future. These were particularly described in a discussion after the classes, as including:

1: The need for teachers with both high level language skills and a clear understanding of CLIL to maximize the benefits of 'incidental learning', with more such teachers needed as the programme develops and is extended to further grades, as is planned.

2: The importance of teachers having trust in a CLIL program and accepting it, which was said to have taken two years for the grades which were then included. Discussion was still taking place for its extension to the highest grades.

3: The autonomy which the school had as a private school compared with the public school system, which educates the vast majority of students nationwide at this level.

Aspects of a CLIL class at this elementary school (1st grade class).

Here, I consider a short (1 min 50 secs) initial section of a 1st year class with 14 students at the school described above, which shows us elements of a CLIL class. 'Teacher' below refers to a native speaking teacher who led the class. Two non-native speaking teachers were also present and assisted, for example, in monitoring groupwork. The 1st year students have four CLIL classes per week, plus one additional class, mainly in Japanese to review concepts. One more CLIL class is added in the 2nd year.

Teacher is pointing to language on the blackboard:
00:00-00.15: Teacher points to eight words (triangle, square, side, corner, rectangle, slide, turn) on the blackboard and students repeat each word once, after or with him.

00:15-01:50: Teacher holds up a shape (a square) and follows this sequence with students:

Teacher	Students
Let's check. So Triangle? (places it in on blackboard)	
	No
No?	
	Square
O.K. Square. How many sides does a square have?	
	Four
1, 2, 3, 4. (indicating with his finger). How many corners does a square have?	
	Four!
1, 2, 3, 4. (indicating with his finger). I'm sorry. Can you tell me in Japanese what is 'corner'?	
	Kado
Kado. Very good. All right. Square goes here (places it on blackboard next to the word). Alright.	
	Diamond
We could have a diamond, but we're not going to do diamonds today. We'll do that next time. And if you turn it… but if you turn a square, you can make a diamond by turning. Turn, turn (indicates by turning the square).	Diamond
	Turn

Alright. Triangle (holds the shape). Is this a triangle?

Yes!

What colour is this?

Red!

(looks quizzically) That's orange to me, but O.K.
That's fine.

How many sides?

Three!

1, 2, 3. (indicating with his finger).
How many corners?

Three!

(confirming with his finger).
(places the triangle on blackboard next to the word).
Side and corner. You just practiced that.
Which one's a rectangle? (holds up circle (left hand)
and rectangle (right hand)). You can point. Which one?

Left! (and students point)

Very good. The left side. So, rectangle.
(places the rectangle shape on the blackboard and
points to the square and the rectangle). What's
the difference between a rectangle and a square
What's different? (points to both on board)
In your groups. Let's think.

Student offers individual answer.

In your groups! (Groupwork commences)

At least some of the six means of mathematical communication described by Pirie (1998), quoted in Hofmannová, Novotná and Pípalová (2008, 23), can be seen:

1: "Ordinary" language. Here the term *ordinary* denotes the language current in the everyday vocabulary of any particular child, which will, of course, vary for pupils of different ages and stages of understanding.

2: Mathematical verbal language. Verbal here means "using words", either spoken or written.

3: Symbolic language. This type of communication is made in written, mathematical symbols.

4: Visual representation. Although not strictly a "language", this is certainly a powerful means of mathematical communication.

5: Unspoken but shared assumptions. Again, these do not really fall within the definition of "language", but they are a means by which mathematical understanding is communicated and on which new understanding is created.

6: Quasi-mathematical language. This language – usually, but not exclusively, that of the pupils – has, for them, a mathematical significance not always evident to an outsider (even the teacher).

The fact that they are not all present can perhaps be attributed to the early age and stage of learning of the students in the class. It can certainly be felt that, "CLIL allowed students to be exposed to specific vocabulary/expressions that may not emerge in English language lessons," as described by Soler, González-Davies and Iñesta (2017, p. 485) in a study of CLIL in a Catalan context.

A further section of the same class (1 min 31 secs) is detailed here:

00.00-00.32 Screen shows a shape made up of six triangles.

Teacher	Students
	Star.
I think it's a 'star'.	
	I think.. Star! Sun! (repeated)
I hear 'star'. I hear 'sun'	
Who says 'star'? (raising right arm). Who says 'sun' (raising left hand)?	
Well, you're both right! The sun is a star.	
But, really good. So, can you tell us (student's name)? Big voice! It is a…	
	It is a sun.
Really good. Give her a hand.	

00.32-01.31 Screen shows another shape made up of a number of triangles.

O.K. Let's guess.

Laughter

What do you think? Well (student's name)
is very eager to answer. OK.

I think it's a diver.

You think it's a diver? A diver?
(demonstrates diving)
O.K. What do you think? I think it's a⋯.

I think it's a ningyō.

It's a ningyō? A doll. O.K.

No. It's a mermaid, she said.

Ningyo. Mermaid. Thank you.
Mr. (teacher's name) made a mistake.
Thank you very much. Yes.

I think it's a duck.

A duck? O.K. Last guess, yeah.

Fish

A fish. You think it's a fish. O.K.
What's the answer?

Mermaid

It's a ⋯.

It's a mermaid.

It's a mermaid.

For comparison, Yamano (2013) describes another CLIL based elementary class, where the focus is animals. She indicates that it encompasses: language of learning, with its purpose of learning concepts, language for learning, to achieve participation, and language through learning, where unplanned language is dealt with when it arises. While the second of those three may appear to be limited in the excerpt from the class above, the first and third are certainly apparent, with the 'intrusion' of the unplanned vocabulary item 'diamond' being an example.

A discussion following the observation of the two classes (1st year class detailed above and 2nd year class). It indicated the degree of preparation which was needed. The teachers involved in the CLIL programme described:
1: The relative priority between the language used (English) and the subject (Mathematics), with the first step in planning involving setting the Mathematics content goals and the second step being to

consider what kinds of language they need to be using and how it relates to language they have used in the past and in the future. This relative priority is also shown by a clear view of the centrality of the content, in this case Mathematics, with one of the teachers involved saying that, "if you take the content out, there really is no class."

2: The amount of time involved in planning, with the main native speaker teacher of English estimating that he was involved in five to six hours of meetings per week. However, he firmly felt that such meetings were necessary to build trust and for all teachers involved (English or other subjects/native speaker or non-native speaker) to clearly understand the relationship between the language and the content.

3: The situation for the school was quite different to the more typical public school situation, with the non-native speaker teacher of English stating that, "Our program is completely different from public school."

4: Acceptance of a 'time and a place' for translanguaging (use of both English and Japanese in the class), including for confirmation of understanding as shown by corner/kado in the transcript above. However, overuse of the mother tongue (Japanese) was described by the native speaker teacher as, "outside of accepted levels of interaction."

The overall issue of language use is complex. Widdowson (2019, p.10) considers that in deciding how learners can make use of language in connection with the subject, "there is no logical reason why the E in EMI or the L in CLIL, should be modelled on native speaker norms." However, the native speaker teacher of English stressed that he felt that it was a native speaker who would be best able to maximize incidental learning as opportunities arose.

Finally, both entry to the programme and assessment may help illustrate how CLIL can more easily be introduced at this level of education than at later levels. As was explained by teachers who are involved, student participation in the CLIL programme is decided by a process starting from an expression of interest, through class observation, then a mini class to assess cognitive ability and on to an interview focusing on language and overall communicative ability. Apart from having previously been enrolled in pre-school, there is a lack of the complications which might arise from assessing entry to a programme at either junior high or senior high level. Regarding assessment of students who are taking the programme, there are double tests, in Japanese and in English. While assessment is always important, it is not as 'high stakes' as it would be at those higher levels where entrance examinations to the next level play a key role. As indicated previously, even at higher grades in this school, opposition to extending the CLIL programme remained. This perhaps reflects the impression that the stakes are higher, the older the students become, and that the content is more challenging to deal with, as was indicated earlier in this paper

with reference to Ting (2017).

Conclusion

The breadth of this paper is restricted, particularly by the limited time available to see the course described at the elementary school in north east Japan, given its distant geographical location and the desire not to impinge on the busy teaching staff here. It is undoubtedly much more challenging for such courses to take root in public schools. As has been indicated, the latter are more restricted financially and curriculum wise. Generally, there is reluctance concerning perceptions of inequality resulting from dividing students by measures which seem redolent of streaming. However, developments are taking place, such as an 'immersion' programme being launched for the 2020 academic year at an elementary school in Toyohashi, Aichi Prefecture (Mainichi, 2019).

Trends towards cross-curricular education, to deal with the challenges of preparing for life and the workplace in the 21st century appear to provide a fertile environment for the development of CLIL. Writers such as Lloyd, Rogerson and Stead (2017) indicate how technological developments such as virtual reality can also aid 'contextualization' which can contribute to the success of CLIL courses. Hopefully, increasing interest in C.L.I.L. will lead to increasing acceptance in Japan, while keeping to the tenets which underpin it and which were described earlier in this paper.

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