Accounting for Linguistic and Cognitive Demands in CLIL Course Design

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Content and Language Integrated Learning (CLIL) has grown in recognition in Japan in recent years. However, much of the CLIL literature and research has come from Europe. Therefore, CLIL practitioners and course designers in Japan are required to contextualize their understanding of CLIL and their course materials. Furthermore, a comprehensive CLIL course design framework is yet to be produced. CLIL practitioners and course designers do not have a practical methodology that informs them on how to create a syllabus and course materials. This paper aims provide clarity on the definition of CLIL particularly in a Japanese context, an exploration of the linguistic and cognitive demands in CLIL courses, and ways to account for these two areas during the design process.

Key Words: Content and Language Integrated Learning, Linguistic Demands, Cognitive Demands, Course Design

Japanese government initiatives have made attempts to internationalize Japanese tertiary education in response to the increased global nature of the world (MEXT, 2013). This led to changes and developments in modes of instruction and the types of courses offered to students. Ranging from English Medium Instruction (EMI) to Content Based Instruction (CBI) and Content and Language Integrated Learning (CLIL), these different approaches to teaching and learning have varying goals and outcomes (Brown & Bradford, 2017). There has been a significant increase in the number of CLIL courses in Japan (MacGregor, 2016) and this seems to mirror the similar trend seen in Europe in the 1990s (Coyle, Hood, and Marsh, 2010). Many observers saw the European move towards CLIL as putting an end to Grammar Translation approaches to language learning and giving greater contextualization than Communicative Language Teaching (CLT). However, the CLIL approach is still being contextualized for Japan, Japanese learners, and Japanese universities. Ikeda, Pinner, Mehisto, and Marsh (2013:2) are often quoted as follows: "If CLIL in Europe is a toddler, CLIL in Japan is a new-born baby, but it is slowly and steadily crawling forward in Japanese education."

CLIL literature often explores the difficulty in clearly defining the CLIL approach and ensuring it is not confused with other approaches such as EMI and CBI (Cenoz, Genesse, & Gorter, 2014). In general, EMI focuses primarily on content while CBI is focussed on language development. CLIL is sometimes used in literature as a broad 'umbrella' term leading to overlap, and even confusion, with other approaches (c.f. Cenoz, et al., 2014; Brown & Bradford, 2017). Due to the context driven nature of CLIL, each instance of a CLIL approach will appear different to others. Furthermore, due to the dual focus on content and language, Mehisto (2008) notes the possibility of disjuncture when a CLIL programme is introduced. This means that teachers or students may feel uncomfortable in moving from a previous approach to a CLIL one, or even resist CLIL entirely. When put together, these factors create a number of issues for teachers seeking to implement a CLIL approach.

A growing body of research has measured the beneficial outcomes of using CLIL. Lasagabaster (2011) found that high school students in CLIL classes had higher motivation and language proficiency outcomes compared to students in English as a Foreign Language classes. Jiménez Catalán and Ruiz De Zarobe (2009) found that primary school students taught in a CLIL setting had higher receptive vocabulary at the end of their course compared to those taught in a non-CLIL setting. However, Bonnet (2012) has noted that it is difficult to produce an evidence base for CLIL due to the varied contextual factors that affect its implementation. Unfortunately, there are few studies focusing on the outcomes of using a CLIL approach in Japan. Ohmori (2014) echoes the statements of Bonnet in that empirical evidence in CLIL research in Japanese settings is needed. This particular issue may result in teachers overlooking CLIL as an approach for their classrooms or failing to adapt it to their context. One notable exception in the research is Ikeda (2013) who found that a 'soft/ weak' CLIL course is suitable in a Japanese high school setting and that students improved overall writing proficiency scores after being taught on a 'soft/ weak' CLIL course.

CLIL teachers and course designers have a number of issues to overcome when designing a course. Many teachers and course designers have to design and write their own materials. This is because the amount of ready-made CLIL materials is still low (Coyle et al., 2010) and many coursebooks are often not seen to be suitable (Banegas, 2013). Given that CLIL is a context driven approach, it is unlikely that publishers can produce coursebooks that would be suitable for multiple contexts around the world (Banegas, 2010). This is most likely the reason for many teachers designing their own materials. In Japan, MacGregor (2016) found that most teachers tailored their materials (texts) from authentic sources to better suit their context and learner's needs. Although CLIL teachers have been found to use a number of strategies in this tailoring process (Moore & Lorenzo, 2007), issues in the sequencing of the overall course have been observed (Banegas, 2010). For teachers, a comprehensive CLIL course design

framework that accounts for these issues is absent.

Therefore, this paper will attempt to provide some clarity on issues CLIL teachers and course designers in Japanese contexts should be cognizant of in their design process. This paper will begin by clarifying a definition of CLIL through commonly used CLIL models. Next, a discussion of linguistic and cognitive demands in course design will be covered. Finally, a section on accounting for the linguistic and cognitive demands together will be described.

Defining CLIL

CLIL is defined as "a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language" (Coyle et al., 2010:1). CLIL courses intend to develop both knowledge and language with each domain assisting the other and with the focus shifting from one to the other as needed. To better understand the content and language objectives of a task or lesson, the Language Triptych conceptualizes the language needed in a CLIL setting (Coyle et al., 2010) (see Figure 1).

Of refers to language needed for accessing the subject or topic. For is required for learning tasks such as pair work, group discussion or debates. Through is when students articulate understanding and thinking, leading to deeper levels of both.

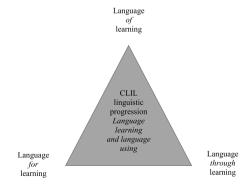


Figure 1: The Language Triptych (Adapted from Coyle, Hood, & Marsh, 2010)

Ball (2015:19) defines 'soft' CLIL as "supporting content learning in language classes". Ikeda (2013:32) states in more detail that 'soft/weak' CLIL is "a type of content and language integrated instruction taught by trained CLIL language teachers to help learners develop their target language competency as a primary aim and their subject/theme/topic knowledge as a secondary aim".

The Language Triptych gives CLIL teachers a better understanding of the types of language students will need. Most modes of instruction teach students 'language of learning' in the form of vocabulary or phrases. For example, it would be integral to a lesson on international aid to teach students the meaning of 'Non-profit Organization'. However, the lexical and grammatical items students need in a lesson on international aid would be beyond a list of vocabulary and phrases (Coyle et al., 2010). 'Language for learning' is often overlooked. On a task where students must research an issue and decide the best solution, some approaches like CLT may provide students with a limited selection of sentence stems or additional phrases to extend speech. In contrast, language needed for other tasks such as researching or coming to a group consensus are often omitted. 'Language through learning' is often ignored by other modes of instructions. This type of language is needed when students are attempting to construct meaning or articulate a thought or opinion that is not included in the course materials or using resources that have been provided by the teacher. In these situations, some CLIL teachers can plan for what language students may require but much of this language will come from unplanned situations that arise during CLIL lessons. The Language Triptych increases awareness of the language required in CLIL lessons but it also shows that CLIL teachers and course designers need to have a deep understanding of the students' linguistic needs. Therefore, CLIL teachers need to have an understanding of a number of contextual factors in their CLIL setting.

The 4Cs Framework is an attempt to bring together four major contextual components of CLIL into a holistic concept (Coyle *et al.*, 2010) (see Figure 2). Content (subject matter) and communication (language learning and using) have been covered above. Cognition describes the thinking and learning processes needed. Culture² describes developing intercultural understanding and global citizenship. The 4Cs of this framework are the integration of content and language learning and each of the 4Cs is contextual-

ized within the learning setting (i.e. context, a fifth C). This framework illustrates how many CLIL contexts will differ from each other.

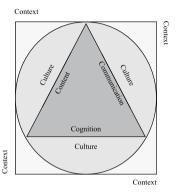


Figure 2: The 4Cs Framework (Adapted from Coyle, Hood, & Marsh, 2010)

By using the 4Cs Framework, CLIL teachers should become aware of how they can achieve the 'dual focus' of CLIL within their context. In this way, learning occurs through deeper understanding of the content, deeper thinking, interacting and communicating while learning, developing language knowledge and skills, and deeper cultural understanding. Awareness of the 4Cs should give CLIL teachers a structured concept of their CLIL context. However, transforming this awareness and understanding into CLIL courses, materials, and lessons is a challenge. As Meyer (2013:295) states: "there are limited methodological resources and practical guidance to enable teachers to plan and teach with a multiple focus".

The CLIL Pyramid provides an operationalized visual representation of CLIL course design, and is designed to be used across a unit not a single lesson (Meyer, 2013) (see Figure 3). The corners at the base of the pyramid represent the 4Cs from Coyle et al. (2010). The apex of the pyramid represents the convergence of the 4Cs. Once the unit topic has been selected, Meyer (2013) suggests selecting content to be covered which could be multimodal to account for different learning styles and language. The content selected will then determine what scaffolding³ and

² Interestingly, Mehisto, Marsh and Frigols (2008:31) use Community instead of Culture and connect it to the notions of 'a learning community', 'the local community', and 'the local and global context'.

³ Coyle et al. (2010:29) define scaffolding as "(supported) learning by someone or something more 'expert' – that might be the teacher, other learners, or resources." It should be noted that resources may include task design, course materials, or outside sources such as additional texts, dictionaries, or the internet.

study skills are required. Tasks should intend to activate thinking skills and output that may be oral interaction, written output, or completing a task. A final review stage should revisit the key content and language points from the unit.

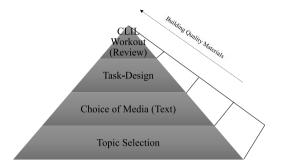


Figure 3: CLIL-Pyramid (Adapted from Meyer, 2013)

Although the CLIL Pyramid suggests the parts of CLIL unit that should be included, it does not give many details on the stages of a unit or lesson. Meyer (2013:305) does mention that the 'core elements of CLIL', that is input, tasks, output, and scaffolding, should be 'balanced'. Through this balance, CLIL teachers should be able to achieve the 'dual focus' of CLIL while accounting for the 4Cs.

As the discussion above shows, CLIL involves many components that are all differentiated in various contexts. This creates a situation where it is difficult for CLIL teachers in training to see a prescribed approach that could be replicated in all settings. In fact, Coyle *et al.* (2010:86) state that there is "no single CLIL pedagogy". Content trained CLIL teachers are often encouraged to incorporate pedagogical choices that have been effective in their particular content area. Furthermore, language

trained CLIL teachers are also encouraged to use pedagogical choices that are effective in language teaching classrooms. However, it should be noted that focusing only on one of these pedagogical approaches alone is not effective (Coyle *et al.*, 2010). Banegas (2013:352) sums up the direction in which further research in this area may head: "CLIL needs to be narrowed down and further contextualized for specific educational settings."

Linguistic Demands

Returning to the CLIL Pyramid, after unit topic selection, CLIL course designers need to select what input they will use. CLIL literature explains that input is any type of media in any format (Mehisto, 2012) but many teachers elect to use texts (MacGregor, 2016). Teachers then have three possible choices for texts; write their own texts, use authentic4 texts 'as is', or adapt authentic texts to suit the goals of their course (Moore & Lorenzo, 2007). Adapting authentic texts is seen as the most desirable of the three choices. As much of the CLIL literature shows a preference for using authentic texts in some form (c.f. Coyle et al., 2010; Meyer, 2013), this places immediate linguistic demands on students. They are most likely unfamiliar with much of the vocabulary and phrases used in these texts, and possibly the grammar and discourse used within them. Therefore, to ensure easier processing of the texts and deeper understanding, there is a need to adapt the texts in some way. Lorenzo and Moore (2007) outlined three approaches; simplification, elaboration, and discursification (see Table 1). While they found the discursified texts to be easiest to read, they felt that most teachers would adopt a range of approaches to adapting authentic texts. Once the authentic texts have been adapted, tasks can be designed around them.

Adaptation type	Method	Examples	
Simplification	"a paring down of the text to its basic content"	simplification, copula verbs ough the addition of high redundancy; important points are highlighted and	
Elaboration	"an expansion of the text through the addition of paraphrase and explanation"		
Discursification	"a pedagogic redefinition of the message"	a deep approach, text becomes pedagogic; rhetorical questions, writer's attitude, added visuals or glossaries	

Table 1: Approaches to adapting authentic texts for CLIL courses (from Lorenzo & Moore, 2007)

⁴ Moore and Lorenzo (2007:28) define authentic texts: "to imply both non-pedagogic materials from the general media and specifically didactic content materials produced for native-speakers of the target language."

Understanding the linguistic demands of CLIL lessons is essential to designing an effective CLIL course. If the language within the materials or the language required on tasks is higher than the students are able to deal with, it is unlikely to be conducive to appropriate levels of learning. Clegg (2007:115) suggests a simple analysis of planned input and tasks with regards to the required "vocabulary, grammar, function, discourse, language skills (listening, speaking, reading, writing)". This should give an initial indication of what language demands might be required. Then, CLIL course designers can begin planning ways to provide language support to students through scaffolding, task design, or additional resources. However, Clegg (2007:115) states "Not all learners have the same needs with respect to the language demands of tasks." CLIL teachers must use their understanding of their students' language abilities and predict where a few, some, or all students will need language support because of the language demands of that part of the lesson. Clegg (2007:115) adds "language demands and language needs are two sides of the same coin: if you ask yourself where in a lesson the language demands may be too high, you also have to ask how learners may differ in their need for support in order to meet those demands." Including variable levels of language support throughout lessons and units will enable CLIL teachers to avoid providing too much or too little. Coyle et al. (2010:86) say language teacher awareness is 'invaluable' in this process.

Reflecting on the Language Triptych again after unit content, texts, and tasks have been selected should give a clear indication of what linguistic demands will be required from students. In regards to the Of aspect, Clegg (2007) notes that visuals can help support understanding of subject specific concepts and language support tasks should be provided for any input or output oriented tasks. This ensures that students have the ability to comprehend content and are equipped with enough language to produce output. It is important to remember that the Language Triptych refers to language *learning* and language using as the driving forces of learner progress in CLIL and that learners do not need to have fully acquired linguistic features to use them. In addition, Eldridge, Neufield, and Hanciğlu (2010) recommend the use of corpus driven approach where course designers ensure task instructions use core general English lexis and vocabulary learning support is given for frequently occurring content lexis which may be new to the students. This allows students to spend less time processing the instructions for tasks, and dedicate more to actual engagement with content.

Turning to the For aspect, Clegg (2007) recommends using a variety of interaction patterns throughout CLIL lessons and units. For studentstudent interaction this includes the use of individual, pairs, group, and plenary tasks. To illustrate the differences between interaction types, the language used in an individual presentation when compared to a group discussion would be very different. Furthermore, varying interaction patterns would also include balancing student-student interaction with student-teacher interaction. However, Mehisto, Marsh and Frigols (2008:29) note: "students should be communicating more than teachers". By using a variety of interaction patterns, students should have opportunities to learn and use language and content. It should also be noted that scaffolding or language support can be added if needed or if course designers feel it will enhance interaction.

Lastly, with the *Through* aspect, it is important to understand the connection between the language and thinking required. The work of Cummins (1979) differentiated language as Basic Interpersonal communication Skills (BICS), mostly informal oral language used in social interactions, and Cognitive Academic Language Proficiency (CALP), literacy and academic language skills mostly used in a learning context. Ball, Kelly and Clegg (2016:61-62) note that students expand their 'concrete horizontal knowledge' through BICS and their 'abstract vertical knowledge' through CALP. Therefore, CALP becomes particularly important when the content of the course becomes more abstract or academic. However, it should be noted that BICS and CALP are not mutually exclusive to each other in a classroom. Depending on the age of the students, the input type or the task type, the course materials or a lesson activity may focus on one language type over the other. While BICS are used in CLIL classroom interactions, CALP plays an important role in helping the students deal with the input and output in CLIL courses. Importantly, Ball *et al.* (2016:62) state: "Effective CLIL harnesses CALP, makes it salient, and then practices and balances it through the calming influence of BICS." Furthermore, Clegg (2007:120) notes that language teacher training has a major focus on BICS as it is connected with social interaction, whereas CALP type language that can be used for deeper forms of learning is often overlooked.

Cognitive Demands

The cognition component of the 4Cs from Coyle et al. (2010) is possibly the most difficult to account for in CLIL course design. Language teachers receive little to no training in this area as they often spend more time on the four macro language skills of reading, writing, listening and speaking. In addition, cognition is not as observable for teachers as other parts of a CLIL course or classroom. However, cognition is often considered one of the most important components in the CLIL learning process. Mehisto et al. (2008:30) state: "The more powerful the thinking, the greater the learning." Ball et al. (2016) view cognition in course design as a set of procedures that guide cognitive skills used for learning. Therefore, careful planning and design must consider the cognitive demands that can be within a CLIL course and made possible within learners during the CLIL learning process.

CLIL course designers must ensure cognition is being developed as the learners progress through the course in in their materials. This means that learners are moving from easier or familiar forms of cognition to more challenging and demanding ones. Next, CLIL course designers must include tasks that prompt learners to actually think in different ways. A common mistake is to only include tasks where learners need to memorize and recall content. Tasks limited to this will not prompt learners to think in different ways. Lastly, CLIL course designers need to create tasks that make the cognition component salient to the learners. Without tasks of this type, learners may stay focused on lower order thinking skills and not devote time to deeper forms of thinking and learning.

The CLIL Lesson Framework provides one way to ensure CLIL course materials develop cognitive skills

(Banegas, 2017) (see Figure 4). If the content within the materials increases in difficulty alongside the language, the cognition required to deal with this increase will also become more demanding. This increased level of cognition is also evidence of the integration of content and language that is the desired outcome of CLIL. Course designers need to be aware of the learners' cognitive abilities at the beginning of a lesson, unit or course. This will provide the course designer with a solid base from which to start. From there, the materials should guide and develop the learners' cognitive skills. However, CLIL course designers need to be careful not to move beyond the learners' cognitive capabilities and ensure the cognitive objectives of the course are accessible for the learners.

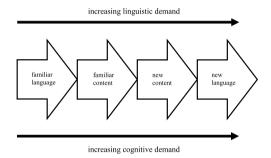


Figure 4: CLIL Lesson Framework (Adapted from Banegas, 2017)

A common way for course designers to understand the type of thinking skills required in CLIL courses is to refer to the revised version of Bloom's taxonomy (Anderson and Krathwohl, 2001) (see Figure 5). In brief, remembering, understanding, and applying are considered lower-order thinking skills (LOTS) whereas analyzing, evaluating, and creating are considered higher-order thinking skills (HOTS). CLIL course materials should endeavor to transition students from LOTS to HOTS to promote cognitive development and learning. However, CLIL course designers should not be compelled to cover all levels of the taxonomy, and understand that learners on their courses will have various levels of prior attainment of each strata of the taxonomy. Furthermore, the types of thinking skills covered would depend on the content, tasks, and output in the materials and a LOTS to HOTS sequence may even develop over a number of lessons (Banegas, 2010).

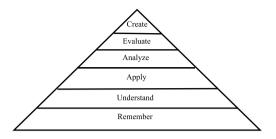


Figure 5: Bloom's Taxonomy revised by Anderson and Krathwohl (2001)

Ball et al. (2016) use the metaphor of a mixing desk in a music studio to explain how cognitive aspects of CLIL can be made more salient at different times throughout the course. Three components are always present in the course; concepts (content), procedures (cognition) and language. When needed, the course designer can give less emphasis to the concepts and language in order to give more emphasis to the procedures. Ball et al. (2016:54) state: "Both the conceptual content and the linguistic content can be considered 'vehicles' for the cognitive skills contained within the procedural content. In many ways, the process can sometimes be more important than the product." In this light, the learners should notice the importance of cognition in CLIL. In contrast, at the beginning of a lesson or unit, less emphasis can be given to procedures and more given to concepts and language. This should enable learners to develop their understanding of the concepts and improve their language skills. As the lesson or unit progresses the emphasis can be shifted to the procedures. It is this shift, with the support of the concepts and language that have already been learnt, that gives the cognitive component of CLIL its salience.

A Synthesis of Demands in Course Design

The previous two sections have detailed various ways to understand or design for the linguistic and cognitive demands present in a CLIL course. Unfortunately, the number of frameworks and conceptual models makes it difficult for CLIL course designers to achieve a synthesized understanding of a CLIL course. CLIL course designers are often in need of approaches that integrate the various demands.

Mehisto (2012) provides a set of criteria that are intended to assist in the development of quality CLIL material (see Table 2). The ten criteria address linguistic or cognitive demands, and sometimes both at the same time. Many of the criteria directly match with some of the frameworks and models included in the previous two sections. For example, criteria 2 is related to CALP and criteria 8 is related to the revised version of Bloom's taxonomy. However, other criteria are not clearly linguistic or cognitive in nature at first blush. Mehisto (2012:20) mentions that within criteria 5: "Materials can foster 'cognitive fluency' by avoiding cognitive overload." In addition, criteria 6 gives opportunities for learning and using 'language of learning' and 'language for learning' (c.f. Coyle et al., 2010). Therefore, these criteria are connected to numerous CLIL frameworks and models. Following a set of criteria such as these should give CLIL course designers a set of guidelines. These guidelines are not only good pedagogical choices but also allow the course designer to account for the linguistic and cognitive demands.

Criteria		Linguistic Demands	Cognitive Demands
1.	Make the learning intentions and process visible to the students	•	•
2.	Systematically foster academic language proficiency	•	
3.	Foster learning skills development and learner autonomy		•
4.	Include self, peer, and other types of formative assessment	•	•
5.	Help create a safe learning environment		•
6.	Foster cooperative learning	•	
7.	Seek ways of incorporating authentic language and authentic language use	•	
8.	Foster critical thinking		•
9.	Foster cognitive fluency through content, language and learning skills, helping students reach well beyond what they could do on their own		•
10	. Help make learning meaningful		•

Table 2: Criteria for quality CLIL learning materials (from Mehisto, 2012)

Another conceptual model that allows CLIL course designers to account for cognitive and linguistic demands is the CLIL Matrix (Coyle et al., 2010) (see Figure 6). The four quadrants of the matrix denote the various levels of linguistic and cognitive demands placed on learners in CLIL courses. Well designed CLIL lessons often follow a sequence of tasks that move from quadrant 1 to 3. A typical sequence of tasks may involve the following four stages. First, initial tasks use familiar language and content to build confidence. Next, new content is covered using familiar language and scaffolded tasks. Afterwards, new content is added and the language demands are increased. Finally, cognitively demanding tasks that combine the use of the new content and language are included. Coyle et al. (2010:44) state that tasks in quadrant 4 are: "appropriate only during elements of CLIL where linguistic practice and focus on form are essential to progress learning." The CLIL Matrix is intended as an audit tool to allow teachers to identify areas where learners will need additional support. However, it also provides a sound approach for designing a sequence of tasks in a CLIL lesson or unit.

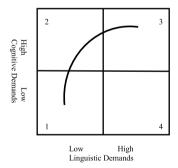


Figure 6: CLIL Matrix (Adapted from Cummins' Matrix in Coyle *et al.*, 2010)

Conclusion

In conclusion, this paper has attempted to provide CLIL teachers and designers with greater clarity on the design process of CLIL course materials. Before starting this process, course designers must ensure that they have developed a context responsive definition of CLIL. This means that they have considered how CLIL will be defined within their specific teaching context. Furthermore, during this process, it is essential that course designers develop an under-

standing of the linguistic demands that CLIL content and tasks place on the learners. An understanding of the cognitive demands required from learners who are attempting a sequence of tasks is also needed. Following that, course designers must ensure they synthesize the linguistic and cognitive demands through pedagogical criteria and planning and audit tools.

The large number of CLIL frameworks and conceptual models creates a difficult situation for new CLIL teachers and inexperienced course designers. CLIL literature has grown in volume over recent years but this has created some confusion amongst CLIL practitioners. It is important that CLIL teachers review the literature so that they can reach an understand of CLIL that is suited to their teaching context. Course designers must also be selective in the frameworks and models they use in developing CLIL courses. Selecting ones that add deeper understanding of linguistic and cognitive issues that learners may face or materials may create is essential. The frameworks and models presented in this paper are suited to a Japanese context. However, CLIL teachers and course designers in settings different to this may need to use ones not mentioned in this paper. This will ensure they have contextualized their analysis the linguistic and cognitive demands present in their CLIL setting.

Finally, it is clear that a more comprehensive CLIL course design framework is needed. De Graaff, Koopman, Anikina, and Westhoff (2007) developed an observation tool that allows practitioners to determine if effective pedagogy is being used in CLIL lessons. A similar tool needs to be developed so that course designers can determine if they have followed an effective course design process. Using a similar idea and methodology to de Graaff et al. (2007), this tool would provide a set of guidelines on course development and a set of criteria on auditing the effectiveness of the materials. Because of the multitude of contexts where CLIL is used, this tool could be produced in different versions. For example, a 'hard/strong', a 'soft/weak', and a 'mixed' version could provide enough differentiation so that the tool is useful in most contexts. Furthermore, the tool could even allow for switching in and out different guidelines and criteria so that the tool can be contextualized in more detail. This contextualization could be done by a group of teachers or even include other stakeholders such as administration staff, students, or employers. In short, this tool should assist course designers in developing CLIL materials that account for linguistic and cognitive demands.

For CLIL to continue to grow and develop as an approach to learning in Japan, CLIL practitioners need to continue to contextualize and share their understandings of CLIL. Best practices of CLIL course design for Japanese contexts could also be shared Also, approaches on how to account for linguistic and cognitive demands that are placed on Japanese learners, should be a major part of this professional discourse.

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