

# English-Medium Content Courses: Student Approaches and Strategies to Increase Comprehension Levels

**Darrell Wilkinson**  
Soka University  
Tokyo, Japan

**Abstract.** Taking English-medium content courses is very challenging for speakers of English as a foreign language, and various factors contribute to the difficulty including the rate of speech that the lectures are delivered at, the technical vocabulary used, and the fact that the content itself is often difficult to comprehend in the native language let alone in a foreign language. This research investigates first-year Japanese university students' perceptions of one such course delivered at a private university in Tokyo. The strategies and approaches that students use in order to successfully understand and take part in an English-medium economics course are also examined. Qualitative research methods including observations, interviews, surveys and document checking were used to investigate the research questions. Data analysis showed that students found it difficult to understand the course content, especially the spoken component of the lectures, but used a number of strategies and approaches to increase comprehension. However, the participants showed a preference for the use of pre-prepared outlines, and pre and post-class peer discussions to better understand the course content. The results can serve as a guide for anyone involved in foreign language-medium content course design, especially teachers who wish to offer specific support to students enrolled on such courses.

**Keywords:** content-based instruction; student strategies; English-medium instruction; language integrated learning

## Introduction

In recent years there has been an increasing trend amongst universities worldwide to offer content courses in a second language (Dale, 2012; Miichi, 2010; Pinner, 2013; Yamano, 2013). This teaching approach was first defined by Krahnke (1987) as content and language integrated learning (CLIL), which he describes "as the teaching of content in the target language with little or no explicit effort to separately teach the language itself." (p. 2). This trend has also gained significant popularity in the Japanese university context recently, with over 190 Japanese universities offering English-medium content courses in 2008

(Miichi, 2010). The number of these types of courses further increased as a result of Japanese Education Ministry initiated programs such as the Global 30 project implemented in 2009, which resulted in an additional 150 courses being offered nationwide, and the Top Global University Project from 2014 (Wilkinson, 2015).

The research project discussed in this paper came from an interest born out of a number of years of involvement with one such course in a private Japanese university in Tokyo. In the faculty of economics at the above mentioned university, students enrolled on a specific program receive a great deal of English skills training in order to not only improve their general English proficiency, but also to help them successfully take a number of English-medium economics content (CLIL) courses. All students are expected to come prepared, actively contribute to the course, and pass tests designed around the content. Preparation for the courses includes reading the chapters to be covered in the lecture a number of times, producing outlines of the chapters, and discussing the content with their peers in adjunct academic English classes. During the lectures, students are expected to take part in group discussions as well as occasionally providing answers to the lecturer's questions to the whole class. These English-medium content courses not only offer students an interesting learning environment, but also provide an effective method of consolidating and improving both their economics knowledge and English proficiency. In addition, the program aims to provide learners with the skills needed to study abroad or work in international contexts (Aloiau, 2008). Based on experience, it seemed clear that while understanding university-level content in English was very challenging for the students, they did a very admirable job. Therefore, this paper aims to shed light on the students' perceptions of (a) the English-medium content courses in general, (b) the materials and activities adopted to improve comprehension of the lectures, and (c) to discover the strategies that they used to successfully understand the lectures and complete the course requirements.

### **Content and Language Integrated Learning: A brief Overview**

As this teaching approach has been gaining popularity, especially in recent years, there are a lot of guidelines available for CLIL teachers regarding curriculum and materials design, for example, using visual aids, clearly organizing the content, and providing chances for peer support (Coyle, 2008; Dale and Tanner, 2012; European Commission, 2012). There is also a growing body of empirical research in support of CLIL, with many researchers citing evidence that a CLIL approach is effective in teaching both the content and target language (Coyle, 2008 and 2006; European Commission, 2012; Johnson & Swain, 1997; Lasagabaster, 2008; Richards and Rodgers, 2001; Snow, Met and Genessee, 1989; Yamano, 2013). However, as Marsh (2002) and many of the authors mentioned above point out, the cognitive burden involved in trying to understand course content in an second language (L2) can cause significant challenges to students in CLIL courses. Gaining sufficient levels of comprehension is seen as major hurdle for learners studying content in an L2, with issues such as vocabulary, speed of speech, and text difficulty being common challenges faced by students. Therefore, while there seems to be well documented benefits of adopting a CLIL approach, it also clear that such an

approach is challenging for learners, and they are therefore likely to need specific skills training and support if they are to be successful.

### **Skills and Strategies used with CLIL**

Although there has been vast amounts of research on listening in a second language, and some research carried out regarding the difficulties students experience with L2 medium content lectures, there is still a need for further, research. With regard to L2 lectures, research to date has largely focussed on the common features that exist in lectures such as naturally paced, lengthy, and complex spoken texts (Coulthard & Montgomery, 1981; DeCarrico & Nattinger, 1988; Montgomery, 1977; Murphy & Candlin, 1979; Olsen & Huckin, 1990; Sinclair & Coulthard, 1975). Some studies have examined what strategies students use to help increase comprehension and overall success, with note-taking, vocabulary study, and revision of content materials being common approaches (Benson, 1989; Flowerdew & Miller, 1992, 1995; O'Malley, Chamot and Kupper, 1989). The authors above have suggested that by structuring content lectures in a consistent way, and by providing learners with clear visual materials, lecturers can put learners at ease, and improve comprehension.

However, the skills required in CLIL courses are very different to those needed in the language classroom, and some characteristics of CLIL courses which present specific challenges include issues such as the content rich nature, extended discourse, technical vocabulary, the speed of speech, and the large student numbers (Coyle, 2008; Dale & Tanner, 2012). Furthermore, while more and more language teachers are adopting an increasingly student-centred approach, CLIL courses by nature, are much more teacher-centred or led. In addition, common features often seen in language classes such as simplification of language and materials, reduced speech rates, and controlling the length of texts and spoken passages (Nation & Macalister, 2009; O'Malley, 1989; Widdowson, 2010) are traditionally not features of content courses. In traditional teacher-fronted lectures, content information is delivered at more natural speech rates, and discourse blocks are quite long; often lasting for several minutes at least. Therefore, the skills and strategy training that students need for success in taking CLIL courses may be very different than those commonly offered in language courses.

### **Gaps in the Literature**

As mentioned, much of the research has been aimed at providing content teaching professionals with guidelines on which instructional materials can be designed, for example, by choosing texts carefully, simplifying or annotating texts, utilizing visual materials, structuring classes and content clearly, and offering cooperative learning activities (Coyle, 2008; Dale and Tanner, 2012; European Commission, 2012). However, while some of the literature deals with specific activities or materials used by students in CLIL courses (Davidson, 2005; Loranc-Paszylk, 2009; Reiss, 2005; Wolf, 2005), there is surprisingly little qualitative data available on the topic. In addition, how learners perceive the activities which feature in this study, for example, outlining of content chapters used in the lectures, and using peers as a resource are not given specific focus.

With regard to outlining, this is a widely recommended activity or strategy to increase comprehension of reading materials, and while there have been some positive results reported in studies examining the effects of outlining on listening comprehension, most studies focused on outlining in the L1, and used teacher-prepared outlines (Tsubaki & Nakayama, n.d.). However, the process involved in outlining; reading the texts numerous times, looking up unknown vocabulary, identifying and organizing main points and supporting details, and then producing an outline which can serve as a guide during the lectures seems likely to be very beneficial, if not simply as a result of the time-on-task involved. However, as stated, little empirical research-based support is currently available, and students' perceptions of outlines as a means to gaining higher comprehension levels of lecture content delivered in an L2 remains unexamined.

Also, while the benefits of peer support have been noted by many, for example, Adapa (2015); Hattie (2009) and Topping (1996), student perceptions of peer support in a CLIL specific domain remain unexamined. Therefore, how often learners seek out peer support, and how they perceive its importance for successfully taking English-medium content courses is another area for which more empirical data is needed.

In summary, there is little qualitative data providing insights into (a) how materials such as those mentioned above are perceived by learners, (b) the extent to which students use peers for support, or (c) what specific actions students take to improve their comprehension in CLIL courses.

### **Aims of the Study**

This study aims, through observation, interviews, surveys, and artefact checking, to identify which types of materials and strategies students find most beneficial, and why students make the choices they make. While there is some qualitative data available examining what learners think about CLIL courses (see Coyle, 2006, for a review of case studies), no studies examining the strategies that students utilize, or materials that they prefer to use in order to overcome the challenges of understanding university-level content in a foreign language could be found. Therefore, this paper aims to offer some relevant and new insights into Japanese learners' experiences and choices regarding content courses delivered in a foreign target language. It is hoped that the data gathered as part of this research will help highlight the type of skills training, both language and non-language related, that students find beneficial, as well as identifying what materials and strategies students find useful. It is felt that the insights gained from this research will be of benefit to anyone involved in designing or teaching CLIL courses, especially at the university level.

### **Research Questions**

1. What aspects of CLIL courses do students perceive as most challenging? (vocabulary, speed of speech, content complexity etc.)
2. Which materials and strategies do students adopt to overcome these challenges?

3. What are the students' views of the effectiveness of these materials in comprehending the lecture content?

### **Research Context**

The International Program (IP) is offered to economics majors at private university located in western Tokyo. According to Aloiau (2008), "The IP is an intensive English-medium economics program that provides academic preparation for undergraduate and graduate study-abroad, and preparation for students' future employment in international contexts." (p. 108). The program first develops student's English and study skills through academic English language classes offered in the first semester, then continues this in the subsequent three semesters while students also take economics content classes in English. In this way, the program aims to systematically build the students English writing, listening, reading, speaking, note-taking, and other skills which they need to achieve their short-term and long term goals. These goals include successfully studying economics in English in their current context, and then studying abroad for one semester or academic year in their third or fourth years, followed by working in international contexts (Aloiau, 2008).

In the adjunct English language classes, all students are given substantial instruction and practice in making materials and using strategies that can help improve their comprehension levels during the English-medium lectures. As a result, all students come to the lecture having pre-read the chapter to be covered a number of times, highlighting key points, and having drafted a detailed outline of the chapter. These outlines are a mandatory part of the content courses, and in the early stages students are required to make a number of drafts. However, in the later stages, the number of required outlines is reduced, and students are given more freedom in deciding on how many drafts to do. The outlines, like the chapters themselves, are written in English, and while they are drafted outside of class, students are given time to discuss them with their peers in the English language classes. Students have also been instructed on, and given practice at discussing challenging content with their peers.

### **Participants**

The sample comprised of approximately 120 first-year Japanese university students majoring in economics, who were also enrolled on the second semester of the IP. The sample was made up of approximately equal proportions of female and male students. At the start of the research, students had completed one and a half semesters of intensive English training, but had taken only half a semester of English-medium content courses. All students had a minimum TOEFL ITP score of 440, and can be described as highly motivated.

### **Data Collection**

**Observations.** The researcher set out to observe the students in a 'real world' lecture environment. It was felt that observations were needed, because simply giving students a survey, or carrying out interviews or focus groups alone would not produce accurate, detailed or holistic information. The observations took place in the main lecture theatre during the course of the content classes.

There was approximately 120 students in each of the lectures observed. Audio recordings using a smart phone were taken and proved to be an invaluable asset when analysing the data. As Hatch (2002) and Spradley (1980) both observe, the level of participation, or participant positionality, is a key factor to think about when planning observations. In this research context the researcher can be classified as non-participant observer as he was neither a student nor teacher of the class.

**Interviews.** It was felt that the data gathered from interviews would not only triangulate the observation data, but would add further insights in the students own words (see appendix 1 for the basic interview questions). Although it would have been ideal to interview a large number students, only three students volunteered. The interviews took place in a private office in the same building where the lectures were held. This location was chosen by the participants who were given a choice of the researchers' office, the library, or an on-campus meeting room. The participants were used to this setting as they often came to see their instructors in the same kind of office space and location.

Of the various types of interviews discussed by Hatch (2002) and Spradley (1979), what has been termed as semi-structured interviews were chosen. Although the researcher came to the interview with a number of guiding questions, it was expected that new or extra information would come up which would require asking unplanned follow up questions, or indeed to even follow a whole new line of inquiry altogether. This actually turned out to be the case as all of the participants provided information that had not been considered, and the interviews went in somewhat unplanned, yet extremely interesting and informative directions.

**Surveys.** A survey was administered to a convenience sample made up of the students enrolled on the researchers EAP course, and consisted of 12 male and 9 female students. The survey (see appendix 2) aimed to add more data and triangulate the information gained from the interviews.

**Artefact Checking.** Data was further triangulated by examining student-produced materials such as outlines, lesson notes, and annotations of course texts. The materials of all the students enrolled in the EAP class were collected and analyzed repeatedly over the course of the semester. Students also brought these materials to the interviews. This data enabled the researcher to see actual strategies and approaches used, and to correlate this with the observation and interview data. During the observation, it was possible to observe the students using their annotated chapters, outlines, and teacher handouts. Then, during the interviews, as participants referred to their use of such materials, the researcher was able to have them produce these materials to show what they had just described.

### **Data Analysis**

Although the data analysis carried out in this study used inductive and interpretive methods, the methodology probably best fits into what Hatch (2002) describes as "Typological Analysis", and involved "dividing the overall data

into categories or groups based on predetermined typologies or headings” (pp. 152-161). These headings came not only from the relevant literature, but also from contextual knowledge regarding the types of materials students had available, the types of skills training they had been given, and an understanding of some of the difficulties they faced based on previous casual conversations. The basic steps carried out were based on the advice given by Hatch (2002,) and can be described as follows:

1. Identifying typologies for analysis.
2. Transcribing the data, and then reading it while highlighting entries relating to my typologies.
3. Looking for patterns, relationships and themes.
4. Rereading the data and coding it.
5. Deciding if patterns are supported by the data.
6. Writing patterns out in simple, sentence-level generalizations.
7. Selecting data excerpts that support my generalizations.

## Findings

The interview excerpts and interpretations below do not represent all of the data or findings gained from this research, but are concerned with some of the major issues that were discovered relating to the research focus stated earlier.

### 1. Perceived difficulties

During the interviews and as part of the surveys, I first asked participants how they felt about the course in general. All participants interviewed stated that the course was difficult but also useful and enjoyable, something which was mirrored in the survey responses. I then asked what in particular they found difficult, and there were two clear commonalties in terms of their responses: speaking speed, and answering questions. Some excerpts from the interviews which show the participants’ reference to this can be seen below. P1, P2 and P3 refer to the participant number and the three periods (...) represent a break in the conversation such as pauses over two seconds, or comments not connected to the area being discussed in this paper.

**A. Professor’s speaking speed.** All participants mentioned that they found the lectures difficult; especially in terms of understanding the professor’s spoken content. These findings seem to correlate with much of the literature concerning the difficulties in CLIL lectures.

- P1: Understanding professor’s speech difficult, is a little bit fast for me, it is difficult.  
I was really surprized because of high speed ... In beginning I understand only 40 to 50%.
- P2: Her speaking speed is very fast! I sometimes don’t understand. ... maybe understand 50% at beginning
- P3: (teacher’s name) speaks very quick, ..., it is hard to hear, ..., hard to understand, ... so quick.

According to the survey results, 80% of the students stated that the speed of speech in the lecture was very quick and difficult to catch. Based on the

observations, the professor did not speak overly fast, and actually actively tried to slow speech during difficult concepts or content. However, the speech was delivered at a much more natural speed than many students may experience with their peers or English teacher, and I also wonder if it is more connected with the length of discourse blocks rather than solely speed of delivery.

**B. Answering questions.** Another area of perceived difficulty expressed by two participants was concerned with answering questions in class.

- P1: Professor asks some students questions about lecture or topic ... it is difficult for me ... we must answer ... Sometimes we must answer quickly ... content is difficult ... what to say, sometimes I am not confident ... many students in class so I get nervous.
- P3: Answering questions to Professor is also *very* difficult for me. ... It is so nervous for me, so sometimes I cannot answer the questions, so, uh, difficult ... must think and answer in English quickly.

Before the observation, this was not initially one of my areas of focus as I was unaware that students had to respond to teacher questions in front of the whole class. It was also not an initial focus of the interviews, but after the first two interviews I became interested in this issue and specifically asked the third interviewee whether she had answered questions during the course. In response, she stated that she had not been called upon, but was nervous about having to do so in the future.

Again, the survey data correlates with the interviews; approximately 80% of students stated that they found it very difficult to answer questions in class. Many students mentioned the fact that they felt nervous answering questions in English in front of the many students present in the content course. During the observations, I was able to see students answering questions, and although they did seem nervous, they were generally able to provide clear and thoughtful answers to the questions posed, although the answers were more limited than one would expect from participants doing the same in their native language.

## 2. Strategy Use

**A. Use of pre-prepared materials.** Before beginning this research, I was aware that the students have a variety of pre-prepared materials to use in the class such as outlines, highlighted and annotated text chapters, and teacher handouts. However, to what extent, and how the students use these was unknown. The specific questions asked included the following:

1. What do you do/use to help make it easier to understand the lectures?  
How do you prepare for the lecture?
2. Which materials are most useful and why?
3. When do you use/refer to these materials?
4. Do you add notes/questions to your outlines/chapters etc.? If so, when, where and why? In what language?



Although the participants did mention the use of textbooks and teacher handouts, there was frequent reference from all participants to the use of outlines, some of which can be seen below.

- P1: I uh, usually look at outline, and try to find the answer, or connect information there to allow me to give answer.  
I make the outline, I uh, write 3 or 4 drafts.  
I follow professor's speech on outline.  
I write questions on outline about points that I don't understand.  
I use outlines a lot for group discussions, I uh, I think many students do same.
- P2: I often look at outlines in class.  
I use them (outlines) in lecture ... and in group discussions.  
Outlines help to follow lecture ... outline points and professor's talk is very similar ... same order.
- P3: The outline is good to understand the class.  
I follow the class and make notes and questions on outline. ... This is good for me.

The fact that participants seem to value outlines highly, while not completely surprising, is encouraging in my role as a teacher because students devote a considerable amount of time to the drafting of outlines. Additionally, participants also commented on how they use these outlines, and common techniques such as making notes in the margins and writing questions about areas they do not understand were mentioned. Due to space constraints, not all of these excerpts have been included here. Again, observation and survey data supports the interview data as during the observations I was able to see students writing on their outlines, and just over 70% of students mentioned outlines in an open question (what materials do you use to help understand the lecture?) on the survey.

**B. Use of peer Support.** A surprising finding was the fact that students appear to strongly appreciate, and actively seek, peer support. The reason this was surprising was due to the fact that in my experience as an EAP teacher, students have voiced a dissatisfaction, or lack of perceived value in peer activities such as peer editing of writing, or oral feedback on presentations, something which has been noted by authors such as Mangelsdorf (1992). The original questions posed were "What do you do/use to help make it easier to understand the lectures?" and "Which materials or activities are most useful and why?". The interview excerpts below highlight how participants appear to view peer support both in and out of the classroom.

#### *In class*

- P1: Group discussion is good. ... I can ask the question to my friends. They can help me if they know, uh, understand more than me  
Speaking about economics in English with group member help me understand what (professor) talked about  
Everyone have different understand points, or not understand points, so we can get different ... view points.

- P2: I like group talking time ... because I can get answers from other students.  
I can test my ideas ... if my idea is OK or not, other student tell me.
- P3: In group discussion time, we try to find ... answer ... together. ... we talk about main points  
We have chance to discuss what she mention in class so far. ... we talk about main points, ask questions each other ... it is good. Sometimes my friends understand better than me so I can learn (from them).

It appears that participants' value the group discussion time as a valuable way of gaining better comprehension of what they have just heard. It seems that the participants understand that each student has differing levels of understanding about the various points raised in the lecture, and that through discussion they can improve their understanding by negotiating meaning together. These type of issues are noted in a detailed meta-analysis carried out by Hattie (2009) and the work carried out by Mangelsdorf (1992) amongst others. Based on the observations, students seem to regularly refer to their outlines or notes during discussions. The average results of a Likert scale survey question show that overall students rate in-class discussions as very useful (4.2 out of 5).

### *Out of class*

As can be seen from the interview excerpts below, the data seems to indicate that students highly value and actively seek peer support outside of the class.

- P1: Talking with friends in Japanese about content ... talking about economics with friends after class help me understand better.  
We talk together before and after class, ... review is good.
- P2: I always talk with friends out of class.  
When I do this (talk with friends outside of class) I always understand  
I prefer talk to other students before talking to professor.
- P3: Talk with friends after class is very good ... I always try to do.  
If have time, (I talk with friends) after class every time. ... can get many sides ... many opinions. We have different understand points so (it) is good. ... I like talking with friends about class.  
I speak to friends first. (before speaking to professor) They help me. It is best, better for me. ... After talk with friends I understand, almost all.

As mentioned above, this point was quite surprising to me as it seems to directly conflict with students' feelings toward peer support, especially feedback in their EAP courses. It can also be seen above that the participants indicated that they prefer talking with classmates than to the professor, again this is different to my own experience as an EAP instructor where many students talk to me after class, or come to my office for advice. Due to the nature of the interaction above (outside of class), I was unable to observe this in practice, but all students stated on the survey that they regularly talk with other students in Japanese about the course content. However, they also indicated that they rarely use English outside of class to discuss the content, something that is a little disappointing as their English teacher.

### 3. Which materials or strategies do participants most value?

The excerpts below show some of the participants' comments which indicate that they seem to value outlines and peer support/cooperative learning as the most useful tools or strategies to help them gain better comprehension and success in their content course. Again, although the use of textbook, with annotations, was mentioned as being helpful, there were fewer comments, and it did not seem to rank so highly. Students also mentioned that they appreciated being given a printout of the lecture slides, but based on the interviews and observations, they did not appear to do an awful lot with these. In addition, none of the participants mentioned any listening strategies that they use to help gain better comprehension. Again, the observation and survey data previously mentioned supports the interview data below.

#### A. Outlines

- 1: Very useful, uh most useful! After reading textbook, I understand maybe 50%, but after uh making outline, and discussing with classmates, I understand much better, maybe 70-80%.  
one time I was absent for 2 (EAP classes), so I only make one draft of outline, uh, then in lecture I really, uh, really could not understand so much ...so I think outline is *very* useful.
- P2: Outlines are best for me to follow professors' lecture points.  
With outline, I can understand easily ... Without outlines, I don't think I could understand, uh success in class, uh, or test
- P3: Outlining is very good. Uh, uh, after reading I understand, but um, not so well. But after outlining and discussing with classmates I understand better. I think without outlines, maybe I cannot follow class content. Outlines show me main points ... and make me read ... and think many times ... and think about main ...important points.

Although pleasing from an EAP teacher point of view, these finding are not hugely surprising. This is because it stands to reason that if students spend considerable time reading the textbook in order to write multiple outline drafts, they should gain a good level of comprehension due to the time-on-task and skills integration principles (Nation and Macalister, 2009; Romero and Barbera, 2001). However, based on the interviews and observations, it seems that outlines not only help students to gain good comprehension of the content, but also serve as a point of reference in the class. The outlines provide students with a basic agenda, or a clear list of the main points that are being discussed in the lecture, and being able to read, follow and annotate the outlines while listening to the lecture seems to help the participants significantly.

#### B. Peer Support (Cooperative Learning )

- P1: Without friends I cannot pass ... friends help me with all ... outlines and questions.
- P2: It (group discussion) is useful. ... speaking about economics in English with group member help me understand what (professor) talked about. Everyone have different understand points, or not understand points, so we can get different ... view points.

I can ask the question to my friends. They can help me if they know, uh, understand more than me.

When I do this (talk with friends outside of class) I always understand.

P2: (talking with friends) is very useful ... We have chance to discuss what she mention in class so far. ... we talk about main points, ask questions each other ... it is good. Sometimes my friends understand better than me so I can learn (from them).

If have time, (I talk with friends) after class every time. ... can get many sides ... many opinions. We have different understand points so (it) is good. ... I like talking with friends about class.

I speak to friends first. (before speaking to professor) They help me. It is best, better for me. ... After talk with friends I understand, almost all.

Then, I also ask friends about these points, uh, things I do not understand, I can ask them.

Again, although the participants mentioned the benefit of textbooks, outlines, and teacher handouts, when asked which activities, materials or strategies were most helpful, cooperative learning or peer support was repeatedly referred to in a positive light in both the interviews and surveys.

## Discussion

The data collected so far, although limited in terms of sample size, has highlighted a number of areas of interest, and has provided significant insights into the challenges students face during English-medium content lectures within the limited context discussed in this paper.

First, the findings that learners perceive the speed of the spoken lecture content as one of the largest challenges is in line with previous literature concerning both listening in a foreign language in general (Ghada, 2012; Griffiths, 1991; McBride, 2011; Nation & Macalister, 2009), and in CLIL courses specifically (Benson, 1989; Flowerdew & Miller, 1992; Reiss, 2005; Tsubaki & Nakayama, n.d.). Even though it was clear from the observations that the professor had purposely slowed down her rate of speech significantly, all of the participants interviewed, and 80% of those who submitted the surveys, mentioned listening as a major challenge.

Second, in this context, while small group discussions were incorporated into the content courses, the students were sometimes required to answer questions posed by the professor in front of the whole class. The students mentioned that they felt pressured to answer quickly, presumably as they felt everyone is waiting for them, and they intimated that talking in front of a large group was very nerve racking. This highlights some of the challenges that may be posed by the differences between content classes and language classes. While content classes often contain a relatively large number of learners, and are relatively teacher-centred (Flowerdew & Miller, 1992; Met, 1999) language classes usually contain far fewer students and are more student-centred, with many activities being based around pair or small group work (Nation & Macalister, 2009).

In terms of which strategies and materials students find most useful to help them, students repeatedly cited the perceived effectiveness of self-created outlines. The use of outlines was identified many times in the space of the interviews, and open ended survey responses also highlighted the positive view of outlines as a tool for gaining a better understanding English-medium content. In addition, students' use of outlines was observed during the observations, and after examining the participants' actual outlines, it was evident that they were using them effectively during the classes. Tsubaki & Nakayama (n.d) reported positive quantitative listening comprehension gains in a CLIL course as a result of outline usage, and the qualitative data provided in the current study offers further support for outlines as an effective method of increasing comprehension in CLIL environments. It appears that the cyclical nature of the drafting process, the skills integration (reading, writing, speaking and listening), and the considerable time-on-task are important factors (Romero and Barbera, 2001; Loranc-Paszylk, 2009; Nation and Macalister, 2009). While outlines were clearly perceived positively, it also appears that the participants see the benefit of having multiple sources of information including textbooks, teacher hand-outs, and lecture slides as discussed by Dale and Tanner (2012), Flowerdew and Miller (1992), and Guerrini (2009).

Another point which was raised a number of times by the participants was the value placed on peer support or collaborative learning. It appears that the participants very much value their peers as resources, which is to say that they feel their peers can help them gain much better comprehension levels and a deeper understanding of the content. Again, this is in line with previous research discussed by Hattie (2009) and the work carried out by Mangelsdorf (1992) and Topping (1996).

### **Limitations and Future Directions**

As mentioned, the data collected is very limited, therefore, while this study has unearthed some interesting data and findings, a much larger number of observations, interviews and artefact collection and analysis is needed. Future observations, interviews and surveys, preferably carried out in a variety of English-medium content course contexts, would offer much more data regarding how students perceive such courses, and what materials and strategies they find most useful for success in content courses delivered in a non-native language. Within the current context, by carrying out a larger longitudinal study, tracking students as they move through the various courses over a three to four year period, much more detailed and holistic data could be collected regarding perceptions and strategy use.

### **Conclusion**

As seen above, some interesting initial findings have been generated concerning CLIL courses. The participants in this study confirmed that listening to content lectures in a second language is difficult, especially due to the rate of speech. They also showed strong preferences and positive attitudes for the use of self-prepared materials, namely outlines, and seeking out peer support in order to overcome the challenges they faced during the courses. However, in order to get

a more detailed, holistic, and clearer picture of what is going on in this particular context, more observations, interviews, surveys, and artefact analysis needs to be carried out. In addition, in order to fill a gap in the literature, more qualitative research in the field of CLIL is needed to shed more light on students' perceptions and strategy use in a wide array of contexts.

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## Appendices

### Initial Interview Questions

1. What are your overall impressions/feelings about your lectures?
2. What is the most difficult part of the lectures?
3. What do you do/use to help make it easier? How do you prepare for the lecture?
4. Which materials are most useful and why?
5. Do you add notes/questions to your outlines/chapters etc.? If so, when, where and why? In what language?
6. How do you feel about the discussions?
7. How do you feel about reporting to your professor (in front of whole class)?
8. Do you use the materials during these times?
9. Do you ever ask questions to the teacher?
10. What other things do you do to help you better understand the lecture content?

### Survey Items

1. What are your overall impressions of the class?
2. What do you find most difficult in the lectures?
3. What do you do/use to help make it easier? How do you prepare for the lecture?
4. How do you feel about answering questions in front of the whole lecture class?
5. Which materials or activities are most useful and why?
6. How useful do you find the in-class discussions in helping you better understand the course content?  

|                   |             |
|-------------------|-------------|
| Not at all useful | Very useful |
| 1                 | 5           |
| 2                 | 4           |
| 3                 | 3           |
7. How often do you discuss the lecture content with other students outside of class in English?  

|       |           |            |
|-------|-----------|------------|
| Never | Sometimes | Every Week |
| 1     | 3         | 5          |
| 2     | 4         | 4          |
8. How often do you discuss the lecture content with other students outside of class in Japanese?  

|       |           |            |
|-------|-----------|------------|
| Never | Sometimes | Every Week |
| 1     | 3         | 5          |
| 2     | 4         | 4          |