

Teachers' Questioning Practices: A Case Study of L1 and L2 History Lessons

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教師の発問： 第一言語および第二言語による歴史授業の事例研究

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[要旨]

本研究は、日本の中学校における日本語による日本史（L1）およびオーストリアの中学校における内容言語統合型学習（CLIL）に基づく生徒たちの第二言語である英語による世界史（L2）の授業内における教師の発問について比較・分析した。その結果、発問様式については共通点がみられた。いずれの授業においても指示質問（referential questions）よりも提示質問（display questions）が多くみられた。また、提示質問の大半が既習の事実を思い出す（recall of facts）ことをもとめる質問であった。一方、教室内インタラクシオンおよび授業設計については違いがみられた。L1の授業においては「教師—生徒1—教師—生徒2—教師」のように常に教師を介した規則的なインタラクシオンがみられたが、L2の授業においては「教師—生徒1—生徒2—生徒1—教師」のように生徒間の連鎖もみられ、インタラクシオンは授業を通して不規則であった。また、いずれの授業も基本的な授業設計（復習—導入—発展）は共通していたものの、L1の授業においては本時の目標となる発問が冒頭にされ、その発問を自力で答えられるよう授業全体が設計されている点において違いがみられた。

1. Introduction

Teacher's questioning has received a lot of attention in the field of education from mathematics to science to language classrooms since the 1960s. The earliest recorded citation dates back to the beginning of

the 20th century (Gall 1970: 707). Undoubtedly, questioning is a critical element in learning and teaching. Teachers ask questions for different pedagogical motives such as cognitive (intellectual), affective (emotional), and procedural (social/managerial) reasons (Wragg and Brown 2001: 11; Cohen, Manion & Morrison 2004: 238). They are a fundamental discursive tool for not only engaging learners in instructional interactions, checking comprehension or making linguistic input more comprehensible but also leading learners to think critically and laterally (Crowe & Stanford 2010: 36; Gibbons 1993: 21; McCormick & Donato 2000: 13). Teachers' quality questions, which stimulate the learners' learning process and expand their thinking (Lee & Kinzie 2012: 858), can challenge learners' existing thinking and promote their reasoning skills that leads to metastatement, helping them to create a conceptual hook to build new understanding (Sharpe 2001; Lee & Kinzie 2012: 857). In other words, the types of questions teachers ask influence the quality of learners' learning. However, just like "using a particular form of discourse does not necessarily result in a particular kind of instruction" (Schleppenbach et.al. 2007: 393), asking a particular question does not necessarily lead to quality learning. That is, the tactics involved in asking these questions also affect learning outcomes (Wragg and Brown 2001: 27): questions need to be examined in light of context. Thus, a qualitative analysis of question sequence is critical.

This study explored secondary teachers' questioning practices in L1 teaching and L2 teaching. Four different typologies of questions have been used: the regulative-procedural/ instructional dichotomy (Christie, 2002), the open/ closed dichotomy, the display/ referential dichotomy (Mehan 1979: 43), and an adapted typology based on cognitive process level (e.g., Anderson & Krathwohl 2001; Dalton-Puffer 2007: 98) in order to analyze the cognitive level of the questions as well as the way scaffolding is provided through questioning sequence. The data were analyzed both quantitatively and qualitatively.

This paper will begin with an introduction of the theoretical framework. It will then describe the methods and findings, followed by a discussion of the findings.

2. Theoretical Framework

2.1 Typologies of Questions

Different typologies have been suggested and used to analyze teachers' questions in the classroom. These typologies are not mutually exclusive but they complement one another in understanding the nature of teacher questions.

Mehan (1979: 43) identified four kinds of elicitation: (1) choice elicitation, (2) product elicitation, (3) process elicitation, and (4) metaprocess elicitation. Choice elicitation seeks the respondent to either "agree or disagree with a statement provided by the questioner" or "vote on options" provided by the questioner. In other words, we can call it a closed question. Product elicitation asks the respondent to provide factual information expected by the questioner. In other words, the respondent is asked to "display" his/her knowledge. On the other hand, process elicitation calls upon the respondent to give his/her opinion or interpretation, while no specific answer is expected. Finally, metaprocess elicitation is that which asks the respondent to reflect on his/her thinking process or "formulate the grounds of their reasoning". This classification lends itself to the first two typologies: open/closed dichotomy, which is based on the answer's degree of freedom, and display/referential dichotomy, which is based on the questioner's intent in acquiring information. In contrast to referential questions, which are asked with an intention to acquire or elicit students' opinion or interpretation, display questions are asked in order to evaluate, test, or confirm students' knowledge.

The third typology is based on pedagogical motives as shown in Table 1 on the next page. Long and Sato (1983: 276) have categorized into echoic and epistemic questions based on Kearsley's taxonomy. While echoic questions ask the learner to repeat an utterance or confirm the message conveyed in a learner's utterance (e.g., comprehension checks, clarification request, and confirmation checks), epistemic questions ask the learner to share information (e.g., referential, display, expressive, rhetorical). This distinction, however, is not an effective one in that it has confounded pedagogical purposes (e.g., clarification request) with question type (e.g.,

referential / display dichotomy). That is, a question asked to request clarification can be classified as a display question at the same time. Others have differentiated content related and non-content related questions. Wragg and Brown (2001: 11) and Cohen, Manion, and Morrison (2004: 238) have labelled content questions cognitive/intellectual, while they classified non-content questions into those related to classroom management (i.e., procedural/managerial) and rapport development (i.e., social/ affective/ emotional).

Table 1 Summary of question typology based on pedagogical motives

Long and Sato 1983: 276	echoic		epistemic	
Wragg and Brown 2001: 11	procedural	social	affective	cognitive
Cohen et.al. 2004: 238	managerial	social/ emotional		cognitive/intellectual
Dalton-Puffer 2007: 98	regulative-procedural		instructional	

On the other hand, Dalton-Puffer (2007: 98) has adopted a more concise content (instructional) and non-content (regulative-procedural) dichotomy based on Christie's classification (2002). In understanding the effectiveness of questions on students' learning, the content/non-content dimension to the analysis of questions is essential.

The fourth typology further categorizes instructional/ cognitive questions based on the types of information called upon: questions for facts, questions for explanation, questions for reasons, questions for opinions, and metacognitive questions (Dalton-Puffer 2007: 98), which are suggestive of the cognitive level of teacher questions.

Other studies have focused on the characteristics of teacher questions that encourage students' construction of knowledge and cognitive development. The fifth typology is based on the cognitive level of a question. The most acknowledged framework adopted for the purpose of analyzing the cognitive level of questions to date is Bloom's taxonomy (1956) or revised Bloom's taxonomy (Anderson & Krathwohl 2001). The revised Bloom's taxonomy has established two dimensions; namely, knowledge and cognitive process, in order to clearly mark the distinction between the two dimensions. It suggests us to consider the intersections between component

parts of the two dimensions (cf. Table 2). As Walsh and Sattes (2011: 23) have rightly put it, “knowledge is the *what* of thinking at all levels” of the cognitive process and “does not represent a cognitive level”. Knowledge, whether that is of facts, concepts, procedures, or metacognition, does not determine the complexity of the cognitive process asked in a question.

Table 2 Revised Bloom’s taxonomy (based on Anderson & Krathwohl 2001: inside of the front cover)

knowledge dimension	cognitive process dimension					
	1. remember	2. understand	3. apply	4. analyze	5. evaluate	6. create
A. factual						
B. conceptual						
C. procedural						
D. meta-cognitive						

Adapted frameworks of the taxonomy have been used to categorize the cognitive level of teacher questions as summarized in Table 3 on the next page except for Cohen, Manion, and Morrison (2004), who have fully adopted Bloom’s taxonomy (1956) for their analysis of teacher questions. All four studies listed here have the first two levels of the cognitive process dimension on the revised Bloom’s taxonomy in common and rather in detail: remember (including 1.1 recognize, 1.2 recall) and understand (including 2.1 interpret, 2.4 summarize, 2.5 infer, 2.7 explain), whereas most others are missing. This is representative of the reality in classrooms where the majority of teacher questions are display questions asking students to demonstrate their knowledge of information acquired in the lessons. Long and Sato (1983: 277) reported that of the total 616 epistemic questions asked in six ESL lessons, 476 or 79% were display questions. Musumeci (1996: 299), in her analysis of three content-based (geography) ESL teachers, found that all three teachers asked far more display questions than other types of questions (teacher A: 84%; teacher B: 69%; teacher C: 90%). Likewise, Pascual-Peña (2010: 68) reported similar results. She analyzed a total of eight CLIL history and geography lessons taught by two teachers (four lessons each) and reported that both teachers asked predominantly more display

questions: 82.7% and 72.4% respectively. Dalton-Puffer’s study (2007: 101) found somewhat different results (47% display questions and 53% referential questions); nevertheless, she explained that the inclusion of student questions as well as procedural questions, both of which are referential in nature, may have influenced the result.

Table 3 Summary of question typology in reference to revised Bloom’s taxonomy

	← less complex ----- more complex →					
Anderson et.al. 2001	1. remember	2. understand	3. apply	4. analyze	5. evaluate	6. create
Wragg 1993	information /data	[higher order] generalize (2.4 summarize) analyze infer (2.5)				
Cohen et.al. 2004	recall (1.2)	comprehension	application	analysis	evaluation	synthesis
Albergaria-Almeida 2010	[acquisition]	[specialization] understand (2) interpret (2.1)		[integration] organize (4.2)		hypothesize (6.1)
Lee et.al. 2012	[lower order] recognition (1.1) recall (1.2)	[higher order] prediction (2.5 infer) reasoning (2.7 explain cause and effect)				

Studies which explored the cognitive level of teacher questions (See Table 3 above) have found teachers asking predominantly remember type of questions with a scattering of all other levels of cognitive complexity. Wragg (cited in Wragg & Brown 2001: 16) analyzed more than a thousand questions asked by primary school teachers and reported that 43% were cognitive/ intellectual in nature, 81.4% of which were asking for information recall. In a study on L1 (Portuguese) subject teachers (chemistry, philosophy and Portuguese) questioning behavior, Albergaria-Almeida (2010: 754) also reported that teachers were in favor of questions that recalled information (i.e., “acquisition” or “stick-to-the-fact”). All 35 questions (100%) asked by the chemistry teacher were found to be of this type, followed by 76.9% (10 out of 13 questions) by the Portuguese teacher and 70% (7 out of 10 questions) by the philosophy teacher. Moreover, Lee and Kinzie

(2012: 867), in their analysis of three teachers' use of questions during varied science activities, observed that more "open-ended" questions which asked for prediction or reasoning were asked during experiments (57% of questions posed) compared to skills practice (22.6%) and book reading (29.2%).

Thus, applying the revised Bloom's taxonomy in its entirety does not seem effective in grasping the cognitive level of teacher questions. While analyzing the cognitive level of teacher questions beyond level 2 may not be feasible, analyzing the first two levels in depth might be more meaningful. In this study, therefore, an adapted typology combining typology 4 and 5 will be used as illustrated in Table 4 below.

Table 4 Adapted typology based on cognitive process level (Typology 5b)

1. Questions asking for recognition (1.1) or recall (1.2) of facts, concepts, or process
2. Questions asking for understanding of facts, concepts, or process
2.1 interpretation
2.2 exemplification
2.3 classification
2.4 explanation
2.5 inference
2.6 comparison
2.7 reasoning
3. Questions asking for application, analysis, evaluation and creation of facts, concepts, or process
4. Questions asking for opinion
5. Metacognitive questions

For the purposes of this study, prior to applying the adapted typology based on cognitive process level (typology 5b), typology 1, 2, and 3 have been applied in steps. Teacher questions were first filtered through typology 3 (pedagogical motives) and differentiated them into either regulative-procedural (non-content related) or instructional (content related). It then categorized them following typology 1 (open/closed dichotomy) and typology 2 (display/referential dichotomy).

2. 2 Questions in context: question sequence and scaffolding

“Higher-level cognitive questions are more critical than lower-level questions.”

“Higher-level cognitive questions elicit higher-level answers.”

Wilén (2001) called these statements myths. As he argues, not only questions at all levels are important depending on the objectives for which they are intended but also higher-level cognitive questions do not necessarily elicit higher-level answers unless students have understood the questions accurately and they are cognitively/ intellectually ready to answer them. Koizumi (2013: 56-57) also argues that some lower-level recall type of questions were rather critical in leading the students to creative thinking in the mathematics lessons analyzed.

The quality of a question cannot be determined out of context. Although certain tendency can be observed with a quantitative analysis of question types based on different typologies, “the cognitive demand of a question has to be determined with reference to the specific context in which the question is asked” (Yip 2004: 80).

Questions are not only asked to challenge students cognitively but also to scaffold their learning process. High challenge with high support (scaffolding) draws out learners’ latent abilities and engage them with new learning, but high challenge with low support is likely to result in failure (Mariani 1997, cited in Hammond & Gibbons 2001: 16). Teacher questions have to continually challenge as well as scaffold thinking and progressively build on student responses (Kawalkar & Vijapurkar 2011: 2007). Earlier research studies have indicated that traditional classroom discourse followed the Initiation-Reply-Evaluation/Feedback (IRE/F) chain (Mehan 1979: 52), which purpose was to “evaluate what students know” (Chin 2007: 818). However, more recent studies have identified different patterns of questioning sequence (IRFRF chain) in classrooms where constructivist-inquiry teaching was implemented (Chin 2007: 818). The type of feedback in the F move depended on the student responses (Chin 2006: 1326). While

a correct student response followed an “affirmative-direct instruction”, a mixture of correct and incorrect response led to an “extension by responsive questioning (focusing and zooming)”. An incorrect response resulted in either an “explicit correction – direct instruction” or “constructive challenge”. In a different study, the flow of classroom dialog suggested that teachers alternated the level of the questions when they found the students struggling with a particular question (Lee & Kinzie 2012: 866). As Kawalkar and Vijapurkar (2011: 2005) have rightly maintained, “questions and prompts that teachers use to structure classroom interactions are significant forms of scaffolding”. Questions can only be made full use of when they are used strategically. Seemingly redundant recall questions, which are considered to be of lower cognitive complexity, may be pivotal in the learning process, leading the students’ to a higher goal otherwise not achieved.

Thus, in understanding the effectiveness of questions on learning, questions ought to be analyzed in sequence in relation to student responses. In addition to quantitatively looking at teachers’ questioning pattern, this study has also taken a qualitative approach in understanding questions in sequence.

3. Methods

3.1 Data

This study examined an 8th grade Japanese History lesson and a 7th grade CLIL World History lesson. The former is part of the data collected in Japan between May and July 2014. The data analyzed in this study is of a male social studies teacher at an average public lower secondary school in a small city in Saitama Prefecture, which is located in the north of Tokyo. The latter data, which come from the University of Vienna databank (DAT_17), is a CLIL lesson conducted in December 2001 at a Vienna Business School (HAK). They are both whole class lessons led by teacher-student interaction. The Japanese data was transcribed and translated into English by the author.

3. 2 Unit of Analysis

The unit of analysis for this study is any utterance made by the teacher which is intended to elicit a response from the learners. The utterances, both phrases and sentences, include not only grammatical questions but affirmative statements (e.g., just the Persians? or where a river can be crossed?) marked by a rising intonation at the end or elliptical questions (e.g., You can think of...? or join the army, and...?) also marked by a rising intonation at the end. Furthermore, question sequence will be analyzed mainly from the view point of scaffolding in relation to cognitive demand.

3. 3 Research questions

The research questions are as follows:

1. What types of questions are used in the Japanese History lesson?
2. What types of questions are used in the Austrian CLIL history lesson?
3. How are the questions framed in the respective lessons?
4. How do the two lessons resemble or differ?

4. Findings

4. 1 Patterns of questions: a quantitative study

4. 1. 1 First language (L1) setting (Japanese history)

A total of 84 questions were asked during a 50-minute lesson. While 25.0% (n=21) were regulative-procedural questions (non-content related) such as “Are you ready?” or “Did you do your homework?” (managerial) and “xx, are you OK?” (affective), 75.0% (n=63) were instructional questions (content related). Instructional questions were further analyzed using typology 1 (open/closed dichotomy) and typology 2 (display/referential dichotomy). All 63 questions were open, while no closed questions were identified. Further, whereas 69.8% (n=44) were display questions, 30.2% (n=19) were referential questions. The display questions were predominantly those which asked for recall of facts (88.4% or n=38) with a handful of questions asking for reasons (11.6% or n=5).

Approximately one third (31.6% or n=12) of the display questions were related with vocabulary asking for a formal synonym, an academic term or a reading (pronunciation) of Chinese characters (*kanji*). All the referential questions asked for students' personal experiences related to the content or about examples given by the teacher in an attempt to clarify the content (e.g., What image do you have of a marsh? or Which do you think would be less painstaking, to make the school playground into a rice field or make a marsh into a rice field?).

Around two-thirds of student responses to the questions were given in a single word (60.3% or n=38; e.g., tax, Nagasaki, rice, dirty, marsh) or a phrase (4.8% or n=3; e.g., It's muddy.). There were seven short complete sentences (e.g., Let's clean the rice fields and marshes because they are dirty.) and five others with teacher interruptions observed in the student responses (e.g., excerpt 1).

Excerpt 1

S1: Matsudaira's

T: Sadanobu's

S1: Sadanobu's politics was

T: Please say it slowly. This person's politics was, OK.

S1: the rice farmers were struggling a lot

T: I see, the rice farmers were struggling

S1: (they) longed for the former politics of Tanuma

T: You mean that Tanuma Okitsugu's politics was good. Thank you very much. Good. I'm glad you've shared it. Give him a round of applause. S2, you had your hands up too, so please say it. It's OK if it's the same.

4. 1. 2 Foreign language (L2) setting (CLIL history)

A total of 136 questions were asked in a 50-minute lesson. The great majority of them were instructional questions (89.7% or n=122), while roughly ten percent (n=14) were regulative-procedural questions such as "Find it on the map?" or "Who can remember?" (managerial). No affective questions were found. Instructional questions were further analyzed using

typology 1 (open/closed dichotomy) and typology 2 (display/referential dichotomy), none of which were responded by a simple yes or no.

Excerpt 2

T: ...did he rule Macedonia?

S: yes...but also he ruled ah ... the Greeks

Excerpt 3

T: Carnuntum, yes, have you been there?

S: twice

Approximately 90% of the questions (n=122) were open questions, of which 88.5% (n=108) were display questions, 8.2% (n=10) were referential questions, and 3.3% (n=4) were confirmation questions. Roughly three-fourth of the display questions asked for recall of facts (73.2% or n=79) including eight questions (10%) that were related with the English language such as pronunciation (n=1), spelling (n=1) and definition (n=6). The rest of the questions could be classified into questions for explanation (19.4% or n=21), questions for reasons (6.5% or n=7) and a question for creation (e.g., What would he have done if he hadn't died?) in order of frequency. Most of the referential questions asked for recall of facts based on students' experiences (e.g., When was that?, ah and what did you see?, ...Nobody...and who learned Latin in school?).

Over two-thirds of student responses to the questions were given in a single word (57.0% or n=122; e.g., Alexandria, eleven, Latin, Gall, the senate) or a phrase (14.0% or n=30; e.g. after himself, a big empire, judges in the law courts). A little over one-third of the single words (36.9%) were found to be repetition of the identical word either uttered by the teacher or peers. In addition, about 10% of the responses were either ja, no, or yes (n=20). Interestingly, these responses were not given in response to the teacher's yes/no questions, but rather as confirmation to what the teacher had said. As mentioned earlier, the teacher's yes/no questions were not answered with a simple yes or no, but additional information was given in most cases.

Around one-fifth of them were complete sentences (17.8% or n=38; e.g., and .. yes.. and the most famous city he founded is .. in Egypt). Moreover, four student initiated questions were identified.

4. 1. 3 Summary

Table 5 below shows the correlation of two typologies, typology 2 and typology 5b in the two settings.

Table 5 Correlation of questions based on typology 2 and 5b: L1 and L2

		display		referential	
		L1	L2	L1	L2
cognitive process level		69.8%*	89.7%*	30.2%*	10.3%*
1	recall	88.4%**	73.2%**	7.1%***	100%***
2	interpretation	--	--	--	--
	exemplification	--	--	--	--
	classification	--	--	--	--
	explanation	--	19.4%**	--	--
	inference	--	--	--	--
	comparison	--	--	--	--
	reason	11.6%**	6.5%**	--	--
3	application +	--	0.9%**	--	--
4	opinion	--	--	92.9%***	--
5	metacognitive	--	--	--	--

*of the total

**of the display questions

***of the referential questions

The pattern of distribution based on typology 2 were found to be similar in that in both settings predominantly more display questions than referential questions were asked. Moreover, the great majority of the display questions were those asking for recall of facts in both settings.

Three distinct features were observed. One difference observed was the use of closed questions. There was no indication of closed questions in the Japanese history lesson, in contrast to the CLIL lesson, which included approximately 10% of yes/no questions. Although there were no closed questions asked in the L1 history lesson, the restrictive question forms seem

to have led to the preponderance of single word responses.

Excerpt 4

T: There is one more place, which has a different name from today. There are lots of salmon and salmon roe there. How did we say it? **In three Chinese characters** (*kanji*).

S: E-zo-chi.

Another difference observed was in the variety of questions according to typology 5b. The L2 setting elicited slightly more variety of display questions than the L1 setting. The third difference observed was in the type of referential questions. In contrast to the L2 setting where all referential questions were recall type of questions, the majority of the referential questions in the L1 setting elicited students' opinions.

4. 2 Questioning practice: a qualitative study

4. 2. 1 First language (L1) setting (Japanese history lesson)

In this lesson, two politicians, Okitsugu Tanuma and Sadanobu Matsudaira, were introduced under the topic of reform of the *shogunate* government. The aim of the lesson was to have students compare and contrast the two politicians and their policies and understand their impact on the society then. The teacher had given a *tanka*, a traditional Japanese poem containing five lines of five, seven, five, seven, and seven syllables, to interpret as an assignment. The lesson began with the teacher asking the students to share how they have interpreted the *tanka* poem, the interpretation of which was utterly impossible without the knowledge of the two politicians, their policies, and their impact on the society. After having a few students share their interpretations, he then explained the objectives of the lesson. Throughout the lesson, the teacher spoke the majority of the time, occasionally asking questions mainly to assure students' understanding of a concept or an academic term. The T-S-T-S (teacher-student) sequence was maintained throughout the whole lesson.

Most of the questions were being asked to scaffold students

understanding of the lesson's objectives. In addition, the teacher regularly gave instructions as to what and where on the handout to take notes. An important feature to note was that the teacher sporadically made reference to the *tanka* poem to remind the students that they would be asked to interpret the poem again at the end of the lesson (cf. excerpts 5 and 6).

Excerpt 5

T: ... (3 sentences). If you remember that behind the *do as you wish* policy, there was politics of bribe, **it may help you understand this meaning** (pointing to the *tanka* poem written on the board). OK, we have studied, the first person, the politics of Okitsugu Tanuma.

Excerpt 6

T: ... (20 sentences) [pause:12 seconds] And, if you get to know Matsudaira's hometown, **you'll come to understand today's poem**. Matsudaira's hometown, which feudal clan (*han*) he was from, please write it down under number two. (7 sentences)

After introducing the two politicians, then the teacher gave the students some time (approximately four minutes) to individually interpret the *tanka* poem again and write it down in their notebooks (cf. excerpt 7).

Excerpt 7

T: ... (7 sentences) So, we have studied about the two. We studied about the two. Don't you think you are ready to answer this (pointing to the poem on the board) ? If you translate this normally "*Shirakawa, shiroi kawa*, the river Shirakawa is so beautiful that the fish feel uncomfortable to live. So, we miss the former somewhat muddy rice fields and marshes". This would be the normal translation. If we translate it literally. But I don't want you to answer the normal meaning. We studied today, didn't we? We studied about Mr. Tanuma and Mr. Matsudaira, didn't we? from the *Shirakawa* clan? So, I'll give you some time. Please write the real meaning of this in your notebooks. I'm most certain that you can write

the answer if you made use of the handouts and the textbook. Please try to write it. Let's try. Please. I'll give you time. Think well. [pause: 7 seconds] Write it in your notebooks. In your notebooks. Not on the handout.

[pause: 1 minute 25 seconds]

Anyone who is not sure, it would help you to think who this is about. [pause: 7 seconds] OK, I'll give you a big hint. (circles the keywords of the poem on the board). You might find the answer if you think a little who this is that I just circled with the blue chalk. Try.

[pause: 3 minutes]

It's looking good. I'll wait for one more minute. It's a little difficult to understand who this is. It'll be good if you can get who the fish represents.

[pause: 26 seconds]

I see faces looking up. You must be ready now. OK. I'd like to ask what you wrote. Those who I had commented "good", please share it with confidence... (4 sentences).

A lot of scaffolding can be observed in the excerpt above. The teacher gave each student time to think on their own, walked around to find what further problems students might have, gave some more scaffolding (hints), and again gave each student time to think. This cycle was repeated a few times before the whole class was called upon again and the answer was shared. Here a high challenging task was framed in the lesson with both planned and contingent scaffolding (Hammond & Gibbons 2001: 23), which has extended students' ZPD (zone of proximal development) (Vygotsky 1978: 87), enabling most students to accomplish the task in the end.

4. 2. 2 Foreign language (L2) setting (CLIL history)

In this lesson, the Romans and the political system in Rome was introduced. Prior to the introduction to the new topic, some time was spent reviewing previously studied topic, mainly about Alexander the Great. The lesson began with the teacher asking the students to explain what they

knew about Alexander the Great. A student volunteered and explained who he was and what he did with the help of leading questions by the teacher. The student managed to explain as he responded to the teacher's questions. Here the teacher's questions seem to have served as scaffolding extending the student's ZDP.

Excerpt 8

1. S: Alexander the Great was a...Macedonian king
2. T: yeess...and did he rule Macedonia?
3. S: yes...but also he ruled ah...the Greek-about (?) the Greeks, and the Persians
4. T: he ruled the Greeks, yes, and the Persians
5. S: and the Persians
6. T: and ...any other countries?
7. S: yes, Egypt
8. T: aha
9. S: aand...
10. T: just the Persians? .. or did he aah..did he go further .. eastwards?
11. S: he went to the- to a river in in India
12. T: that's right

In response to the teacher's question in line 6 (excerpt 8), the student gave an additional name of a country Egypt (line 7), to which the teacher responded with a back-channel (line 8) expecting the student to give more names. However, the student showed some struggle in line 9, which the teacher scaffolds with a specified closed question (line 10). This enabled the student to recall the information expected by the teacher.

Throughout the lesson, the teacher's turns were kept relatively concise most of the time. Moreover, S-S (student-student) chains were frequently observed as illustrated in excerpt 9 below. Throughout the lesson, not only did the teacher-student interaction chain varied, but also the teacher's question elicited responses from different students. In other words, the students jointly constructed the answer to the question.

Excerpt 9

T: any emperors?

S7: (X)

S: the/der (??) -

S7: Augustus (dt.) ?

T: who was the emperor at the time when Jesus was born?

S8: Her····no/na (?)

S7: Augustus (?)

S8: Herodes?

S9: der hat (??) (XXX)

S: Augustus (dt.) ?

T: Augustus (dt.)

S8?: Augustus

S9: (XXX), oder (?) ?

T: yes, Emperor Augustus (engl.). andah..

A few times during the lesson, students were asked to read the textbook aloud, which was followed by the teacher's questions about certain terms used in the text that were presumed to be difficult or new to the students as shown in excerpt 10 below.

Excerpt 10

S: Volturno and Tiber. Rome was e (/)/) dsta-e (/↔/sta(/↔/) blished on the plane of **Latium**

(/↔+t)um/) [reading the textbook]

T: yyes. If you look at the map, can you find the plane of···Latium (dt), or **Latium**

(/le) t·.m/) in English?

S: hm···mhm

S: yes

T: find it on the map? just south of Rome···right? Aandah..on this map you have other regions, Etruria..aahmm .. and a people that settled there, which people settled in Etruria?

4. 2. 3 Summary

In both lessons, teachers' overall intentions of asking questions appeared to be similar in that they were mainly asked to help students understand the content of the lesson by turning students' attention to essential terms (see excerpt 10) or focusing their attention on the central topic (see excerpts 5 and 6). A qualitative analysis of the lessons in the two settings, however, has identified some differences. First of all, the interactional pattern was fundamentally different. While the L1 history lesson followed a regular T-S-T-S chain, the CLIL history lesson followed a varied T-S-S-T-S-S-S-T chain. Student-student interaction and joint construction of understanding were only present in the CLIL lesson. Not to mention, teacher turns were much lengthier in the former than the latter lesson. While long stretches of teacher turns exceeding three minutes were found in the L1 lesson, most teacher turns in the CLIL lesson were concise ranging from a couple of short sentences to at most five relatively short sentences.

Another big difference was the overall structure of the lesson, which led to the differences in the nature of questions and scaffolding patterns. The L1 lesson had a clear objective for the lesson, which was to interpret the *tanka* poem written about the two political figures in the Edo period introduced in the lesson, whereas such an objective was not identified in the transcript in the CLIL lesson. This focused objective of interpreting the *tanka* seems to be a good way to engage the students in deeper thinking process as they actively listened to the lesson, made inferences, made comparisons, generalized and analyzed.

Finally, scaffolding strategy was more diverse in the L1 lesson than in the CLIL lesson. In the L1 lesson, the teacher made use of the blackboard and handouts. The handout, which was prepared by the teacher, followed the structure of the lesson. In addition, the notes on the blackboard followed the structure of the handout, often reinforced with direct instruction to copy it on a certain section of the handout. Unfortunately, however, because of the step-by-step scaffolding the teacher provided throughout the lesson, even the supposedly challenging task of interpreting the poem may have turned into a simple fill in the blanks activity for some students.

5. Discussion

This study explored the similarities and differences of teacher questioning behavior in L1 (Japanese History) and L2 (CLIL World History) settings. It also examined how the questions were framed in the entire lesson in relation to scaffolding and cognitive engagement. The result of the quantitative analysis of question types showed that the distribution of question types was similar in the two settings, which was consistent with earlier research (e.g., Musumeci 1996: 299; Albergaria-Almeida 2010: 754; Pascual-Peña 2010: 68). One intriguing difference was found in the referential questions that the two settings elicited. Whereas students were asked for their opinion in the L1 history lesson, the students were asked to recall facts in the L2 CLIL lesson. This may be explained by the intention of the teachers for asking the referential questions. Whether consciously or unconsciously, the role of the referential questions appeared to be different in the two settings. In the Japanese L1 setting, the referential questions were asked to activate students' schema to scaffold the understanding of the content studied in the lesson. (e.g. in order to explain the concept of a kind of *cartel*, which existed in Edo period Japan, the teacher gives an example of cellphone communication companies and how these companies establishing a cartel would influence their lives) On the other hand, in the Austrian CLIL setting, the referential questions served more of a social role; the teacher learning more about individual students in relation to the content (see excerpt 3 in section 4.1.2 for an example).

The qualitative analysis showed two distinct pictures. The framing of the questions in relation to scaffolding and cognitive demand was different. Despite the fact that both were whole class lessons and similar age group of students, while only T-S1-T-S2-T chain was observed in the L1 setting, T-S1-S2-S1-T chain was also observed in the CLIL lesson. Furthermore, the structures of the two lessons were found to be different. The structure adopted in the L1 history lesson can be described with a Japanese pedagogical term *hatsumon*. *Hatsumon* is a key question that solicits students to think, which is typically planned ahead as part of the lesson script (Kawanaka & Stigler 1999: 277). Other key pedagogical concepts

include *jiriki kaiketsu*, which is to solve a problem on one's own effort and *happyo*, which is to present one's thoughts and ideas. These pedagogical concepts explain the framing of the questions observed in the L1 Japanese history lesson.

These differences in the questioning behavior observed in this study may be due to the differences in the two cultures, Japan and Austria, more than the language of instruction (L1 or L2). The findings of this study, unfortunately, cannot be generalized due to the limited data analyzed. The distinctive features identified might only pertain to the teachers in this study and not characteristic of the particular settings. Nevertheless, the different questioning patterns, especially in relation to scaffolding and promoting thinking skills, identified in this study might be of worth investigating further.

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