Culture in the Classroom: A comparative study of classroom discourse management strategies

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- classroom discourse
- discourse management strategies
- cultural variation
- rapport strategies
- knowledge transferral strategies

1. Introduction

The primary aim of most professional classroom teachers involved in the education of children is to provide learners with an environment that is conducive to the construction and retention of knowledge. Knowledge construction is an accumulative process of awareness and understanding of facts, personal feelings, and experiences, and in the context of the classroom, it is largely the role of the teacher to facilitate the conveyance and dissemination of such facts, feelings, and experiences.

This paper is a preliminary investigation into the manner in which the construction of knowledge is facilitated by teachers in the formal environment of a primary school mathematics lesson. It is a comparative study in that it involves discourse data taken from two culturally distinct contexts—the first being a primary school class in Wellington, New Zealand (henceforth
NZ), the second, a primary school class of a similar level in Okayama, Japan. It is by no means a definitive study, as the findings are based on a restricted amount of linguistic activity recorded as part of the everyday interaction in the two above-mentioned classes. The aim of the study is to investigate communicative strategies employed by teachers teaching a similar subject matter in different cultural environments and to locate possible cultural influences affecting the style of strategy adopted. The study focuses in particular on initiation strategies employed by the teachers to encourage the active participation of students in the classroom dialogue and thus the students’ learning.

The structure of this paper is as follows. In Section 2, we will give a brief overview of the general tendencies in educational practice in New Zealand and Japanese primary schools. Section 3 discusses the methodology used to obtain data for the present study, while Section 4 deals with the detail of the analysis of the data. Conclusions of the study are presented in Section 5.

2. Background of education in New Zealand and Japan

Since primary education first became compulsory in NZ in 1877, the manner in which NZ students have been taught has changed considerably. In the earlier days the Government had set up a nation-wide formal system of teaching that culminated in a Proficiency Examination sat only by those who were considered likely to pass. The remainder of students left school at around the age of 14. This system lasted through to the 1930s, when the Proficiency Examination was abolished and schools were encouraged to plan programmes that were tailored more to the individual needs of children. The following 30 years from the 1940's through to the early 70's saw a transformation from formal lessons in which students were required to 'sit–still' to an increase in lessons in which students were allowed to be more lively and active. There remained some criticism, however, that primary schools were still rather conservative and unadventurous in both curriculum content and teaching method (Lawrence 1974).

In today's primary schools, emphasis has come to be focused on the importance of students actively participating in classroom dialogue and activity to enhance their own learning. This attitude towards learning is reflected in the following guidelines given by the NZ Ministry of Education with regard to the teaching of English and mathematics (underlining is our own).

（English）

*Language learning requires interaction and active participation*
Successful language learning and development require students to be active participants in learning. This includes interaction between teacher and learner and between learner and learner. Teachers should use and monitor the effectiveness of such collaborative approaches. (Ministry of Education 1994:11)

(Mathematics)
Learning to communicate about and through mathematics is part of learning to become a mathematical problem solver and learning to think mathematically. Critical reflection may be developed by encouraging students to share ideas, to use their own words to explain their ideas, and to record their thinking in a variety of ways, for example, through words, symbols, diagrams, and models. (Ministry of Education 1992:11)

Educational practices within Japanese schools, on the other hand, have long been associated with expressions such as ‘group instruction’ and ‘rote learning’ rather than ‘individual learning’. For example, a guideline in a 1971 Japanese Ministry of Education reform report reads, “In order to provide effective education which will both conform to educational objectives and prove suitable for individual pupils’ characteristics, measures for more flexible class management such as “instruction by grouping” shall be considered.” (Beauchamp and Vardaman 1994).

Despite the massive restructuring of the Japanese education system at the end of World War II that led to an American style 6–3–3 school ladder, decentralisation efforts by the American occupation forces proved to be unsuccessful. This allowed the Japanese Ministry of Education to maintain a relatively structured and uniform curriculum in schools throughout Japan.

Education in Japan from the 1960s on was seen as a vehicle for achieving high economic growth through the development of human capital. The ranking of schools within the education system meant that students had to study hard from an early age in order to gain entrance into prestigious schools and thereby have the opportunity of securing a good career once they had graduated. Through to the early 1980s, the comparatively high achievement levels reached by Japanese students when compared with those of other developed countries led to the Japanese education system being viewed as something of a model system, and one that could be learned from.

However, in the latter half of that decade problems began to emerge that were linked with the system such as rises in the number of school dropouts, a decline of discipline within the classroom, and a subsequent decline in the academic achievements of students. Through the
1990s, it became more and more obvious to the Japanese government that there was a real need for substantial changes to be made to the way in which education was being delivered to students, and this consequently led to significant educational reforms such as a 30 percent cut in the curricula of primary and junior high schools, moves toward a more participatory and knowledge-producing type of learning by students, and an attitude that recognizes schools as being learning centers open to and part of the community at large rather than being isolated educational institutes that happen to be located within the community.

Despite some recent concerns being raised about an apparent fall in the quality of students due in part to these changes, compared to earlier classroom practice, Japanese students in primary and junior high schools are today being encouraged to contribute more to their own education through active participation in classroom discussions and activities. The following is quoted from a Japanese Ministry of Education website.\(^1\)

The Courses of Study seek to foster the qualities and abilities necessary to acquire steadily the rudimentary basics of education, such as reading, writing and arithmetic, and to learn, think and act for oneself as well as develop problem-solving skills. Specifically, by carefully selecting educational content, MEXT is working to ensure that children can actively engage in educational activities that offer individual instruction, review instruction, and hands-on, problem-solving learning, and making other improvements including the creation of the Periods for Integrated Study and the expansion of elective learning. (underlining is our own)

This shift in teaching style within Japanese schools appears to be bringing the Japanese system closer to that reported to be used in NZ schools in which teachers tend to be viewed as facilitators of learning rather than its sole source. If this is so, it raises interesting questions such as to what degree the styles of teaching and teacher–student interaction now resemble each other, and does the contextual factor of culture play any major role in influencing interactive learning discourse within the classroom regardless of the amount of teacher–student discourse that is occurring? This paper attempts to shed light on answers to these questions.

3. Methodology

The data for this study was collected from two sources: one was a year five class of primary school students in Wellington, NZ, and the other a class of year four primary school students in
Okayama, Japan. The age of the students in both classes was around ten years old. The difference in the year level of the two classes was an intentional adjustment made to cater for the difference in starting age at primary schools in Japan and New Zealand (In Japan, children usually begin school at age six rather than five as is common in NZ).

In both cases, the collection of data involved the recording of a mathematics lesson. This subject was selected in order to ensure a common denominator of similar content existed between the two sets of data to reduce the possibility of differences in subject matter influencing the type of language employed. Furthermore, mathematics is a subject that involves the conveyance of knowledge of certain fundamental facts and concepts that are common to most societies regardless of any cultural differences that may exist between them. The selection of mathematics over other subjects, therefore, was designed to limit variation due to the subject matter of the lesson. Subjects such as the study of a national language, or social studies, for example, would have been more susceptible to variation occurring due to the locality of instruction and/or cultural interpretation of the subject matter.

Thirty-minute recordings of each class were made on both cassette tape and videotape in the latter half of November, 2002. The video recordings were made to assist in the identification of individual voices on the cassette tape during the transcription process, and to help identify any other contextual features that may have held influence over the interaction. Inevitably, teachers and students were aware that they were being recorded. However, due to the nature of the interaction, i.e. the fact that students and the teacher were participating in everyday classroom learning/teaching dialogue that involved explanation and practice of new and previously learned concepts and thus requiring a certain level of concentration, it was assumed the effect of the recording equipment on the interaction would be minimal. Indeed, teaching staff confirmed afterwards that there seemed to be little noticeable difference between the behaviour of the students during the recording session and that which would occur on a normal day.

The recorded dialogues of the two classes were transcribed and then analysed based on the function(s) of the utterance. Although the length of both recorded dialogues was set at 30 minutes, an additional word count was carried out on the teachers’ utterances to ensure we were dealing with similar amounts of spoken data from each source. Subsequently, it was found that there did exist differences in the amount of speaking carried out by the teachers, with the Japanese count being 1731 words and the NZ count reaching 2844. To allow for this imbalance, all subsequent tallying of data was divided by 1.731 for the Japanese data, and 2.844 for the NZ data in order to achieve a count per 1000 words.
4. Analysis

In the initial process of the analysis, teachers’ utterances were classified according to the following functional categories².

a) Initiation of student input – Teacher initiates verbal input from students through strategies such as asking direct questions, naming individuals, asking for volunteers, asking for an explanation of a concept etc.

b) Evaluation of student input – This tends to occur in one of two ways. In many instances the teacher confirms the response of a student as an appropriate answer by repeating it him or herself. The teacher may also offer praise to a student for what they have said or done.

c) Teacher monologue – The teacher holds the floor while introducing new information, explaining concepts to students, etc. Requires minimal input from students.

d) Commanding/requesting an activity – The teacher commands or requests students to undertake some action/activity.

e) Fillers and other words – Includes fillers and pragmatic particles such as chotto ‘(lit.) a little’, saa ‘well’, jaa ‘in that case/now then’ etc in Japanese or in English, “umm” etc.

As mentioned earlier, of these five categories we will be focusing on a) in the present study – the teachers’ initiation of student input.

When we investigated in detail the manner in which the teachers engaged their students in the class discourse, there appeared to be three major motivational factors that were influencing the teachers’ choice of linguistic form in the strategies they employed. The first of these was the basic desire to transfer and instil knowledge in their students, which we might term their ‘teaching motive’. The second involved the need for the teacher to control the course of the discourse and to control who was participating in the discourse at any one time. We will call this their ‘managerial motive’. The third motive was the teacher’s desire to maintain rapport with students in order for the first two motives to be achieved smoothly and effectively, which we will call their ‘rapport motive’. In many instances, it appeared at least two of these motives were involved in determining the form of a teacher’s utterance. In the following, we will investigate the strategies that were employed to help fulfil these motives.

4.1 Strategies used to assist knowledge transferral

Besides the obvious method of making knowledge available to students in the form of a one-
way teacher monologue, teachers can employ a number of strategies that involve the initiation of verbal input from students. In the dialogues that we recorded, these strategies included the use of questions to students and requests for students to explain certain concepts or the methodology used in obtaining an answer.

4.1.1 Questioning

Questioning we determined to be utterances that involved a teacher asking students to give an appropriate answer to a given mathematical problem. The total number of questions posed by the NZ teacher was found to be 79, whereas the Japanese teacher posed only 38 questions. Although the NZ total was considerably higher, when calculated as a number of tokens per 1000 words delivered, the difference was not great (J:21.95/E:27.78). Upon examining the form of the questions being used, however, a more distinctive discrepancy was found to have occurred between the two teachers. Questions within the data were categorised into three types – ‘direct’, ‘elliptic’, and ‘speculative’.

Direct questions were those utterances in which the teacher asked a student or students a complete and unambiguous question such as those shown in 1) and 2).

1) T: 0.7 rittoru te iu no wa bunsuu de iu to nan rittoru ?
   0.7 litres to call NOM-TOP fraction as say and how many litres
   How many litres is 0.7 litres if you say it as a fraction ?

2) T: What’s four lots of twenty five ?

These types of questions were asked on a regular basis by both teachers, but it was found that they were more than three times as likely to be asked by the NZ teacher (J:8.08/E:26.02).

Both teachers also made use of elliptic3) questions, but they were preferred by the Japanese teacher who employed them 2.2 times more often than that of the NZ teacher (J:4.04/E:1.76). Examples from the data are shown in 3) and 4).

3) T: bunsuu de iu to
   fraction as say and
   If it is said as a fraction … ?

4) T: Itself and … ?

Interestingly, speculative questions (indirect questions that included expressions meaning some-
thing like “I wonder …”) were found to be used exclusively by the Japanese teacher (J:9.24/E:0) as shown in 5) below.

5) T: san bun no ichi meetoru ga mitsu atsumattara nan meetoru kana?
    3 part-GEN 1 metre-SUBJ 3 if-gathered-together what metre (1) wonder

If three thirds of a metre are put together, I wonder how many metres that would make?

An explanation for this rather dramatic difference in ratio of usage will be looked into further in section 4.3.

So, to summarise the above, it was found that the NZ teacher showed a much higher tendency to use direct questions with students, while the Japanese teacher preferred to use indirect questions that were either framed as being speculative or were only partially verbalised.

4.1.2 Requests for explanation

Requesting that students explain mathematical concepts being discussed, or the method in which a mathematical problem is solved, was a second strategy found to be used by teachers to illicit verbal input from their students. This strategy has the benefit of ensuring that students not only know the answer to a question, but that they understand the process that is involved in solving the question. Examples taken from the data are shown as 6) and 7) below.

6) T: setsumei dekiru? Miki-san doozo
    explain can Miki please
    Can you explain ? Miki, please (give it a try).

7) T: Who thinks that they can come up here and show me how to do this, and explain what they're doing ?

Within our data, it was found that students in the NZ class were more than two and a half times as likely to be asked to offer an explanation than their Japanese counterparts (J:2.31/E:5.98), which may be an indication of the differences in teaching style that still exist in Japanese and NZ classrooms. Further data, however, would be necessary before we could substantiate whether this generalisation can be said to be true.

4.2 Managerial strategies

In addition to the deliverance of information and knowledge to students mentioned in 4.1
above, teachers must also assume the responsibility for the management of the classroom discourse in order for it to proceed in an orderly and meaningful fashion. This means that with regard to the initiation and management of student input, teachers must decide whom they would like to contribute to the conversation, and at what time.

There were various strategies used by the teachers to control the rights to the floor during the discussion, but they can be loosely divided into two types: those used to indicate the bestowing of speaking rights on a specific student, which we will call ‘closed floor’ strategies; and those that indicated that anyone can contribute, or ‘open floor’ strategies.

4.2.1 Closed floor strategies

One of the most unambiguous strategies that can be employed in the offering of the floor to a particular student is to use the student’s name in combination with the question or request for an explanation being made. An example of student naming can be seen in below. We had suspected that the Japanese teacher may be more inclined to make use of student naming as it has often been noted that open floor questions and requests (i.e. using questions such as “Who can tell me …”) tend to be unsuccessful in producing a response from Japanese classes due to students’ reluctance to stand out in a crowd. In fact, there proved to be very little difference between the two teachers in this respect (J:15.60/E:15.12).

One example was recorded in the Japanese data in which the teacher specified particular individuals to whom the floor rights had been transferred, not through use of the students’ names but by singling them out by describing the position in which they sat. This example is shown in 8).

8) T: Ichiban ushiro no […] ushiro no futari doozo
   most back-GEN back-GEN two-people please
   […] right at the back, you two at the back please/it’s all yours.

Even including this example in the same category as naming had little effect on the fairly equal distribution of usage.

A significant difference was found, however, in another rather direct strategy used by both teachers that involved the use of a specific word that signalled a transfer of speaking rights was taking place. In Japanese the word used for this purpose was doozo ‘please’ as can be seen in example 9) below.
In English, a similar kind of effect was achieved through the use of the word ‘yep” (yes).

10) T: What’s the multiples of the five times tables? **Yep?**
   S: The answer to the five times tables ↑

   It was found that this kind of direct offering of the floor was employed far more frequently by the Japanese teacher than the NZ teacher – almost five times as often in fact (J:6.93/ E:1.41\(^4\)).

4.2.2 Open floor strategies

While closed floor strategies indicate the transferral of speaking rights to a specific student, open floor strategies allow any or all students to participate in the discourse. Methods through which the teacher indicated an opening of the floor to all students included the use of phrases such as “Who can tell me …” or more commonly by simply omitting the use of a closed floor marker. 11) and 12) below are examples of this kind of strategy.

11) T: **Kotchi no shita no hoo ni aru no o nan to iu ka shitteiru?**
   This-GEN below-GEN-direction in-exist one OBJ what-say Q know
   The one down here at the bottom, (does anyone) know what it is called ?

12) T: Who thinks that they can come up here and show me how to do this, and explain what they’re doing?

Both teachers used open floor strategies, but they were less inclined to use them than closed floor strategies, indicating their desire to maintain a tight control of the discourse.
4.2.3 Open and closed floor strategies as managerial strategies

As we have just seen, when we considered and compared both open floor (OF) and closed floor (CF) strategies as being a part of the overall discourse managerial strategies employed by teachers, we found that both teachers used more CFs than OFs. However, the ratio of usage for the Japanese teacher was more than 4 to 1 in favour of CFs whereas the NZ ratio was only 2 to 1. This would appear to indicate a preference by the Japanese teacher for a more controlled and systematic transferral of speaking rights to students during the class discussion, something that was further reflected in utterances made by the same teacher in the latter half of the discourse such as 13 below.

13) T: attatenai hito oran kanaa
    not-hit people not-exist (I wonder)
    I wonder if there is anyone who has not had a turn.

Further evidence suggesting the Japanese teacher was more concerned with a controlled environment with regard to turn taking could be seen in their more prolific use of the CF marker doozo, as discussed in section 4.2.1 above.

4.3 Rapport strategies

So far we have been looking at two different types of strategy employed by the teachers to aid in the initiation of student input – those used to assist knowledge transferral to students and those that assist in the management of the dialogue. In most cases these strategies were employed by both teachers, although as we saw there were often differences in the frequency of employment. We will now look at a third group of strategies that appeared to be used to increase rapport between the teachers and their students. These so-called “rapport strategies” were conspicuous in that they tended to differ between the two languages not only in form, but also in substance. While the ultimate goal of the strategies was the same good relationship between teacher and student, the manner in which the goal was achieved differed according to the language and culture of the teacher.

Our first example that was a prominent feature of the NZ dialogue was the regular use of the first person inclusive pronoun ‘we’ and its various other forms such as ‘us’ and ‘our’ etc. In English, this pronoun can be employed as a marker of solidarity with an addressee, as in the expression “And how are we this morning? ” It is also used with young children to circumnavigate the cognitively rather difficult concept of the referent of ‘you’ and ‘I’ changing according to
the identity of the speaker. Of the 52 instances of employment by the NZ teacher, there was only one instance in which the pronoun could be regarded as being used in its true sense in that it could not be replaced by a second person pronoun (i.e. 'you') and/or a first person exclusive pronoun (i.e. 'I'). In all other instances, it appeared that the teacher was selectively choosing the first person inclusive in order to portray herself as being in the same group as the students and thus expressing her solidarity with them. \(14\) is an example of this type of pronominal manipulation.

14) T: So why, when \textbf{we} add these together do \textbf{we} get the same answer?

We can consider such usage of the first person inclusive to be culture–specific, as the same type of usage becomes unnatural when employed in Japanese, even though technically it is grammatically possible to construct such a sentence.

14'\) \textbf{dakara naze watashitachi ga korera o issho ni tasu to} so why we–SUB these–OBJ together add and \textbf{watashitachi ni wa onaji kotae ga deru} we same answer go–out

So why, when \textbf{we} add these together do \textbf{we} get the same answer?

A different phenomenon observed in the Japanese data that was referred to in section 4.1.1, was the teacher's use of speculative questions using the sentence–final form \textit{kana} \(a\). Of the total number of questions posed by the Japanese teacher to her students, 42\% included this feature. Example \(5\) is repeated here for ease of reference.

5) T: \textit{san bun no ichi meetoru ga mitsu atsumattara nan meetoru} 3 part–GEN 1 metre–SUBJ 3 if–gathered–together what metre \textit{kana}?

(1) wonder

If three thirds of a meter are put together, I wonder how many meters that would make?

There were no instances of this type of speculative questioning observed in the NZ data, and indeed it would have sounded unnatural for the NZ teacher to have used such a strategy at the ratio it was used by the Japanese teacher. This again, is despite the fact that there is no gram-
matical restriction preventing the creation of such a question in English, leading us to the conclusion that the restriction is culturally based, i.e. based on the widely accepted norms of a certain speaking community.

The last strategy we will consider here was the use of forms that gave the impression the teacher was inviting or suggesting to students that they might like to participate in some activity or provide some kind of verbal input. In Japanese, this was achieved through the use of the volitional form of the verb as in 15) below.

15) T: kyooko san, ittemiyoo
    Kyoko, say-let’s-try
    Kyoko, let’s try saying it.

This strategy occurred only once in the initiation of student input, but it was the most frequently used form by the teacher in commands/requests for student action, occurring in 21 such speech acts out of a total of 23. A similar strategy shown as 16) below was employed by the NZ teacher, but it was employed only once in the entire dialogue.

16) T: Okay, sit down sweetie, let’s try someone else.

The motivation behind the employment of this strategy is similar to the English use of the inclusive ‘we’ pronouns in that, by taking the form of an invitation or suggestion rather than a direct command, it implies a lesser degree of power differentiation and thus a greater feeling of solidarity between the teacher and the students. Although the strategy was employed once in the English dialogue, the above example is not a request or command, but a comment indicating a progression in the classroom activity. It would have sounded odd if the same strategy had been employed in commands/requests for activity or student verbal input to the same degree as it was in the Japanese dialogue. Indeed, of the 52 instances of such commands/requests noted in the English data, not one included the form ‘let’s…’ So again, although grammatically quite feasible, the use of this strategy seems to be restricted by the cultural norms governing English speech in the classroom.

Finally, let us look at the cultural basis behind why different strategies were chosen in English and Japanese to show solidarity with the students in each of the classes. As we mentioned, it would have sounded unnatural, although not ungrammatical, for the same strategies to be employed in each language. The English use of “we” and the Japanese use of the volitional form
can be explained as being the result of two cultural phenomena affecting language use.

The first is to do with perspective and the tendency for Japanese speakers to linguistically represent their observations and experiences by referring to them through the eyes of the speaker, as opposed to the eyes of God as frequently occurs in English (cf. Obana 2000: 113–185). As a result, there is usually little need for the use of personal pronouns such as “I” and “we”, as it is culturally understood that speaker’s is the default perspective. In addition, there is an aversion to the use of personal pronouns in Japanese due to the culturally accepted wisdom that they are too direct and impolite and should therefore be treated as being taboo (Barke 2000).

The use of the indirect ‘speculative’ marker kana (a) in questions can also be related to the well attested Japanese aversion to direct forms of speech. This aversion is linked to the importance placed on negative politeness strategies within Japanese society in which the speaker refrains from impinging his/her wants on the hearer.5)

5. Conclusion

In this study we have investigated some of the communicative strategies employed by teachers teaching in two different cultural environments and attempted to and establish possible cultural influences that affect the style of strategy adopted by those teachers to encourage student input in the class discourse. Through the comparative analysis of two classroom dialogues, it was found that strategies adopted by the teachers of those classes could be categorised into three major categories. The first involved strategies that were directly related to the transferral of knowledge, and included various types of questioning techniques (direct, elliptic and speculative) and requests for explanations from students. The second involved discourse management strategies used to indicate the transferral of speaker rights to nominated individuals or to the entire class.

With regard to these first two categories, it was found that in most cases strategies were employed by both the NZ and Japanese teachers, but in some cases the ratio of usage was found to be much higher for a particular teacher. It was noted that the Japanese teacher tended to use more indirect questioning strategies, but at the same time maintained a more structured approach when it came to management of the discourse. The NZ teacher, on the other hand, showed a higher tendency to use direct questions and used a higher percentage of open floor tactics. Whether these variations in the frequency of usage between the two teachers can be determined to be the result of cultural differences, i.e. differences in the widely accepted norms
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of teacher behaviour in a particular culture, has yet to be confirmed. A much larger body of data covering multiple discourses from a number of different classes and teachers would be necessary before we could begin to substantiate such a hypothesis.

With regard to the third category, however, which consisted of strategies used by the teachers to maintain rapport with their students, it was found that teachers employed several devices of engagement that were culture specific, but that had a similar goal. In both languages the objective was to imply a lack of power differentiation between teacher and student. In English, this was achieved through use of the inclusive pronoun “we”, while in Japanese, a similar result was achieved through the frequent use of speculative questioning and the volitional form of the verb.

References


Notes


2) a) and b) frequently occur as part of a sequence commonly found in classroom discourse generally referred to as IRE (teacher Initiation, student Response, teacher Evaluation) (cf. Cazden 2001, Mercer 1997, Fisher 1992, Edwards and Westgate 1987)

3) Elliptic questions are those in which a portion of the sentence has been omitted, and as such they are considered to be grammatically incomplete.

4) Tallies are given as the number of occurrences per 1000 words used.

5) cf. Brown and Levinson (1987) for definitions of ‘positive’ and ‘negative’ politeness