**In K. Bradford-Watts (Ed), JALT 2006 Conference Proceedings, Tokyo: JALT.**

# Towards Mapping Cultural Differences in CALL

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**Abstract:**

This paper describes aspects of a research in progress. The research is concerned with identifying various forms of L1 interference in the process of acquiring L2, namely in terms of cultural differences, and the difficulties these might create for students. We are also working on instructional strategies and activities to help overcome such difficulties. We aim to map this information in an authoring/learning management system (LMS) that could assist both teachers and students, using ontological engineering (OE), a knowledge management methodology. In this paper, using the example of meeting someone for the first time, we illustrate how cultural differences can be at play in this process, briefly introduce OE and illustrate how our LMS might work.

この文書は調査の進展の状況を説明しているものである。このリサーチ作用は、L-2 を取得するプロセスの中での L-1 の干渉による、つまり、文化の相違とか、、またこれらの相違が学生に与える困難との関わりに於ける様々な形式を識別する作業に関して行なったものである。私達は又、そのような困難をいかに克服するかを手助けする指導戦略と活動に関しても仕上げ作業を行なっているものである。私達はこの情報を、存在論的エンジニアリング法（OE)、知識管理方法論を使って、教師、学生の双方の役に立つオーサリング/学習管理システム（LMS）に取り入れる事を目指している。本文書では、人々がお互いに初めて会った場合を例にして、OE を簡単に説明し、LMS 法がどの様に作用するかを簡潔に実例で示しながら、、このプロセスの中で遊びに於けるお互いの文化の相違が起こりうるのかを描き出す事にした

## Introduction :

In earlier stages of second/foreign language (L2) acquisition, transfer of patterns from one's native language (L1) can be a major source of errors for learners. These reflect the multiple ways of viewing the world and show that language, as a social practice, is imbued with culture. What learning difficulties associated with cultural differences can we identify? Our study has been focusing on those of Japanese students learning English. Among these, we have found that many are related to issues of pragmatics: introducing oneself, asking/giving advice, etc. (for an illustration of transfer at play in relation to usage of certain verbs, namely in the context of giving advice, see article by the same authors in the 2005 JALT proceedings).

Language learning methodology underlying the design of CALL applications and the use of authoring/learning management systems (LMS) is essentially generic, when applicable; it does not yet take into account interferences stemming from L1 in the

process of acquiring L2. We have been working towards the design of a CALL system based on declarative knowledge concerned with such interferences, using ontological engineering (OE). OE is a new methodology for knowledge which focuses on the specification of concepts, their relations and their attributes. OE enables to articulate seemingly chaotic situations in a principled manner, and allows for building a knowledge base, which can then be integrated in an authoring/LMS.

This paper will illustrate cultural differences at play in the context of meeting someone for the first time, in the context of Japan in comparison to Canada. It will then briefly introduce OE and show how it provides "handles" with which to understand and analyze such differences. Finally, it will outline how a potential CALL-related LMS, in accessing information to this effect, can support the design of language lessons that help bridge potential cultural gaps, namely by identifying areas of difficulty, providing explanations, instructional rules, drills and activities to overcome the difficulties.

**Example: meeting someone for the first time**

Let us use the example of a Japanese and a Canadian adult meeting for the first time in Japan, with English being the language of communication. The Japanese person – no longer in school -- hasn't lived or traveled extensively abroad, has not had much opportunity for exchange with foreigners, and though he has studied English in high school and possibly university, has not had much opportunity to practice speaking English (for the purpose of simplicity, we will use *he* to mean both *he* or *she*). The meeting situation is one in which there is time for at least a short, casual conversation.

Though there are several influencing factors (age and context, for example), statements and questions made by a native Japanese in this situation tend to follow, at least initially, fairly set patterns. That is to say, after establishing one another's name, questions concerning country of origin, and hobbies are quite typical. Also typical are questions/comments concerning Japan, namely its food and aspects of its culture, as well as questions/comments about the foreigner's country of origin. Though this may not appear particularly unusual at first glance, what is striking -- in the experience of the foreign writers of this paper -- is that the very same questions and comments are quite consistently made, to the extent that it sometimes seems as though Japanese people share in common a pre-set, agreed upon, question and comment checklist to be used when meeting a foreigner for the first time. Furthermore, questions are often asked in fairly rapid sequence, that is to say, the native Japanese will not necessarily offer many personal comments in relation to the questions and answers exchanged, but tend to move on from one question or comment to another, quickly changing the topic.

For example, in addition to hobbies, we have quite consistently been asked whether we can use chopsticks, like sushi or *natto* (fermented soya beans), or whether we like Japan. There might also be, if actually eating together, a question or comment about the food being delicious, a comment on how good we might be at using chopsticks, or at using basic Japanese, with little other variation in the first few minutes of the conversation.

The question related to hobbies is in fact fairly typical of what is called "self-introductions." Self-introductions are quite systematically carried out among Japanese people, namely when a group of people who don't all know each other gather together. People introduce themselves one after another, in an orderly manner, very

often beginning with one's name, place of origin if relevant to the situation, in addition to mentioning a hobby they might have. It is generally not a time to ask questions, rather, one quietly listens to what others have to say. In this sense, then, to ask a foreigner about hobbies is simply asking about information a Japanese person might naturally volunteer in a process of self-introduction.

The questions about food are perhaps related to the curiosity of whether a non-Asian foreigner can actually easily use chopsticks, appreciate raw fish, or tolerate fermented soya beans; less than a decade ago, raw fish was not commonly eaten or found in most Western countries, and fermented beans having a peculiar taste and texture, they are apparently not always appreciated by foreigners living it Japan -- and are not a regular part of the diet in some areas of Japan for that matter. To ask someone if the food is delicious is in fact a direct translation of a fairly typical Japanese question (*oishii desu ka?*). *Oishii* is generally translated in conversation by *delicious*, though it also carries the meaning of *good*, *nice*.

What we are trying to illustrate with the above is that in meeting someone for a first time, notwithstanding the possible difficulty inherent in expressing oneself in L2, cultural differences are at play. In a conversation between a Canadian and a foreigner meeting for the first time, in comparison, the topic might eventually cover what one does in one's spare time, but if such is the case, it would rarely be labeled a "hobby." Furthermore, the conversation is not likely to follow a consistent "checklist" of seemingly set questions and comments, and the content and direction of the conversation will likely present several variations from one set of people conversing to another. This being said, "typically," in this situation, in addition to questions concerning the foreigner, a Canadian would likely make use of general comments (It's a nice day today, isn't it?), ice-breakers (Do you come here often?), personal comments (My native language is actually French) and re-casting of the other person's statement (Really? You have lived in Canada for three years already?). In addition, any chunk of the conversation would likely be an opportunity for continuing along that topic for a time, if deemed appropriate; for example, as a follow-up to the fact that the foreigner may have been in Canada for three years already, a Canadian might ask: Where? Doing what? and intersperse the conversation with personal comments (You're an accountant? So is my brother. He works for…).

Let us consider the above from the point of view of broader cultural considerations. Japanese interaction often calls for the use of prescribed, ritualized sentences and patterns in various interpersonal exchanges to a far greater extent than standard English used in most Western English speaking countries – certainly in Canada (examples of ritualized sentences in English include: "How are you?" "Nice to meet you"). Furthermore, when meeting someone for the first time, personal comments in Japanese tend to be fewer unless solicited, and even then, are often short and concise, in comparison to those a native Canadian might make in similar circumstances. These characteristics are probably linked, among other things, to the Japanese proclivity towards maintaining harmonious relationships, which is further related to the relative importance placed on group concerns rather than individual ones. In other words, set, prescribed sentences and patterns that are shared and expected ensure that two people conversing can "safely" remain on socially accepted ground, namely in a situation of meeting for the first time. There are of course expectations and an understanding of socially accepted ground in this type of situation among native Canadians as well, but the boundaries are altogether looser than they appear to be in Japanese culture, and some

degree of personal improvisation in conversation is generally expected on the part of a Canadian.

Understandings of what politeness, respect and consequent expectations might entail also present variations when comparing Japanese interaction patterns to those involving native Canadians. For instance, English is a relatively neutral language, whereas Japanese is not. In Japan, when meeting someone for the first time, it is important to establish a footing, which means that one will generally set oneself in an appropriate hierarchical position in relation to the person being addressed, which, especially when in doubt, is to put oneself in a lower position than the other – something that is achieved through language: the choice of certain verb forms for example will communicate that one is placing oneself in a position of humility or lower social ranking in relation to the other. These practices carry over into issues of whom it is appropriate to address in given circumstances, who might initiate a conversation, how much to say or not to say, etc. For example, it would not be appropriate for a new Japanese employee to decide impromptu to introduce oneself to the president of the company, whether at a company party or during a fluke encounter. In comparison, it would generally not be a problem if a Canadian employee did this.

The above is, to a large extent, made of generalizations. This being said, "cultural generalizations are necessarily statements of likelihood and potential, not of certainty" (Storti, 1999, 3-4). Yet, as Storti further explains, it is not possible to talk about culture, about groups of people, without making generalizations. As these do contain a kernel of truth, used with discrimination, generalizations can at least pave a way towards clearer mutual understanding. As such, they can be useful.

As mentioned in the introduction, culture is an integral part of language. As language teachers, especially in situations where students form a homogenous cultural group, which is largely the case when teaching in Japan, attention to cultural similarities and differences in the process of teaching L2, with the help of targeted explanations and practice in these respects, not only pave the way towards intercultural understanding, they also enhance the capacity for using L2 in ways that may be closer to "standard" practices in L2. We believe this is important in that it does lessen the potential for cultural misunderstandings. Meeting someone for the first time invariably creates an impression. If that process, among many others, can go smoothly, then it is of benefit to all concerned.

So how might any of this translate into the language class? Teachers who have been working and living for some time in Japan have likely developed an array of various strategies to deal with some of the cultural differences at play. Those who have recently arrived, and are not familiar with the Japanese language or culture, may not be aware that teaching or reviewing specific communication strategies relevant to L2 can help students come closer to hearer expectations in terms of standard L2.

To further illustrate: one of the authors of this paper has had extensive experience teaching English L2 to French Canadian students. When practicing meeting someone for the first time, French Canadian students simply transfer what they already know from L1; in other words, while practicing L2, they use communication strategies they are already familiar with. Since these strategies bear much in common with those used by English Canadians, from a pragmatic point of view, the process is quite smooth. Problems that arise are essentially of a linguistic nature. That is to say, students can easily improvise first time meetings on their own, and communicate in such a way that a potential English hearer would easily relate to. When teaching in Japan, however, it

gradually became clear that taking the time to briefly discuss cultural differences, explain and practice different communication strategies, such as ice-breakers, making general comments, etc., was of benefit to students; with practice, they were able to carry out first time meeting conversations that were not only in tune with what one might expect in L2, many also seemed to enjoy the process.

How might information about cultural differences in relation to language teaching be summarized, organized, and made readily available to teachers? (We have purposely been somewhat loose in the description of our example to show that it is not straightforward to know where to start). How can it be recycled to support learning in other pragmatic situations? Can it help explain why, beyond pragmatics, certain sentence patterns, or the usage of certain verbs, for example, might substantially vary between L1 and L2? Can some generalizations be made about how languages work? Can some of what applies to differences between English and Japanese be applied to a different set of L1 and L2? These are some of the questions our research has been concerned with.

In fact, we have been working towards the design of a CALL system that could support language teaching and learning in view of transfer and interference between L1 and L2, namely from the point of view of cultural differences. This system could provide information about specific cross-linguistic phenomena, along with instructional strategies, drills and practice to help students overcome hurdles likely encountered in these respects in the process of L2 acquisition. Our methodology is one that is increasingly used in knowledge management and artificial intelligence, and is called Ontological Engineering (OE). Let us introduce OE, and later revisit the example of meeting someone for the first time.

**CALL and Ontological Engineering:**

With some background knowledge of the cultures at stake, in this case Japan and Canada, some cultural factors can be distilled from the preceding description of meeting someone for the first time. In this sense, one might begin by considering differences in "speaker and hearer perspective" according to culture, and gradually go into more detail in this respect. More specifically, concise statements such as those following could be used as "handles" to begin understanding what underlies, for instance, the situation described above. In the case of Japan: "Rather collectivist society," "Reliance on ritualized sentences," "Reliance on patterns of interaction," "Deference to age, rank or authority," "Importance of harmonious relationships," "Looking out for others before self," "Respect for tradition" etc. As for Canada, "Rather individualist society," "Frequent use of non-ritualized statements" "Friends can be made quickly," "Self-reliance," "OK to stand out," "OK to be proactive," "Telling it like it is." Essentialized though they may be, such concepts can begin to pave the way to understanding cultural differences. Certainly, they are not perfect, far from exhaustive, they are generalizations and approximations. Even if people within a given culture tend to grow up with common world views and understandings of reality, societal tendencies certainly do not necessarily describe individuals; such concepts are therefore only statements of likelihood and potential, and they only describe a limited portion of a greater picture. However, they do give an idea of how people in given cultures *may* behave in a given situation, and why; in this sense, they can be helpful.

Furthermore, if such concepts are systematically organized within a relevant

taxonomy, they can hopefully provide a framework for comparing different language acts or functions in view of cultural influence, and possibly lead to establishing links between them. Attention to cultural factors and transfer from L1 has taught us, for instance, that after practicing meeting someone for the first time, discussing and practicing the essentials of "small talk" with Japanese students has been beneficial. Students practicing "meeting for the first time" have begun to hone skills in view of communication strategies such as ice-breakers, personal comments, following up on a chunk of conversation, etc. These can quickly be recycled and further practiced in "small talk," a different pattern of interaction that is also subject to cultural influence. The communication strategies can also be brought up in view of other pragmatic situations.

In our research, we have been working on systematically organizing cultural concepts so that they may be related to various language functions, while trying to be fairly comprehensive within the context of non-English major Japanese university students studying English conversation. We are further interested in making this kind of information available to teachers and students via a CALL system, as well as providing examples of strategies to deal with cultural differences or possible hurdles related to transfer of L1 patterns into L2. That is to say, a teacher working with such a CALL system when preparing a language course or a given lesson could receive guidance if needed, and be able to query the system (we will show an example of this in the last section of the paper). The system could also provide suggestions as to potential topic ordering, for example to practice "meeting someone for the first time" and "small talk" in close sequence. It would provide explanations concerning cultural differences, in addition to providing instructional strategies, activities and drills that could help acquire useful communication skills. A student working on an activity, for his part, might be prompted by the system concerning an area of difficulty, and directed to specific explanations and activities for further practice.

Such a system calls for a sophisticated knowledge management methodology. It also implies the capacity for "intelligent" behavior. To address such issues, we use ontological engineering (OE) methodology. This new methodology for knowledge management, which is well-known in the artificial intelligence community, focuses on the specification of concepts, their relations and attributes. Such a specification is called an ontology, which, simply put, can be understood as a sophisticated road map representing the world of knowledge at hand. OE therefore enables to articulate seemingly chaotic situations in a principled manner, and provides a concrete reference tool in the form of an ontology.

It is not currently possible, with current software, to extract the reasoning behind it since programming rules and the knowledge guiding these rules are enmeshed together. In ontological engineering methodology, however, an ontology is first created, and then, based on the ontology, programming rules and a knowledge base are elaborated. What this means is that since the knowledge representation is independent from the programming rules, knowledge can be readily accessed not only by computers, but also humans. This obviously facilitates the sharing of knowledge between interested parties, and makes it possible to readily adapt the system in view of evolving knowledge, or for use with a different set of L1 and L2, for example.

Let us provide a very basic illustration of an ontology, using the example of the vehicle world (Mizoguchi 2003).

Vehicle World:

- Ground vehicle
  - motor car
    - 4 or more wheel car
      - car
      - truck
  - motor bike
  - train
- Sea vehicle
  - ship
- Air vehicle
  - aircraft

**A simple taxonomy**

OE articulation of the Vehicle World:

- Type
  - ground vehicle
  - sea vehicle
  - air vehicle
- Function
  - to carry people
  - to carry freight
- Attribute
  - power
  - size
- Component
  - engine
  - body
- Traffic system
- ….

**A simple ontology**
**(includes the preceding taxonomy)**

This example shows how objects related to the target world might be systematically organized in terms of relevant concepts. A subsequent step to the above would be to specify relations existing between the concepts, thus ultimately resulting in a comprehensive description of the fundamental understanding we have of this world.

We are currently elaborating an ontology for the study of English L2 by Japanese L1 students in terms of cultural differences and cross-linguistic difficulties. In the process, we are attempting to provide fundamental descriptions of the worlds of culture, language learning difficulties and language teaching methodology in relation to our research and its proposed goals. We have also begun testing relevant strategies for overcoming cross-linguistic difficulties in the classroom, and are thus designing a working prototype of the CALL system we have been describing. Let us now take a closer look at how the system might work.

**Basic Simulation of CALL System: Example Revisited**

We have brushed upon the fact that there are cultural differences at play when meeting someone for the first time, and some communication strategies that could be used. Let us now, in the following, be a little more specific. A teacher newly arrived in Japan with little experience of the culture or the language could have access to information in this respect, as well as suggested teaching strategies. Let us imagine this teacher sitting in front of a computer, with access to a CALL authoring/learning management system (LMS) (an example of LMS: Moodle (www.moodle.org)). The teacher could browse through a list of topics, or perhaps key in “Meeting someone for the first time.” Let us look at some caricatured examples of possible computer rules underlying the system:

IF *Japanese* is L1 and *English* is L2
And IF Learning Topic is: *Meeting someone for the first time*
THEN (display the following):
- Provide students with communication strategies
- Provide targeted exercises and practice drills

REASON : - Cultural differences at play
RELATED TOPIC : *Small Talk*
RETRIEVE TEACHER EXPLANATION (in text form)
RETRIEVE INSTRUCTIONAL STRATEGY (in text form)
RETRIEVE EXERCISES AND TARGETED DRILLS (stored in the computer)

The computer could also display "aware" behavior. It could reproduce, in essential form, information contained in the ontology. In this particular case, on the topic of meeting someone for the first time, the computer could display information of the following type:

Topic: *Meeting someone for the first time*
Related to broader topic of: *Pragmatics*
Culture-related difficulty: Y*es*
Manifestation: *Overuse of ritualized sentences/questions*
*Limited personal comments*
*Rapid change of topic*
(retrieve explanation for any of the above in text form)

Cultural factors, Japan: *Rather collective-oriented society (strength: 4 out of 5)*
*Importance of harmonious relationships*
*Looking out for others*
*Deference to age, rank or authority*
*Features of educational methods in Japan*
(though we haven't commented on this last point in this paper, we believe it is a factor to be considered)
*Etc.*
(Retrieve explanations for any of the above in text form)

Cultural factors, Canada: *Rather individualist society (strength: 4 out of 5)*
*Friends can be made quickly*
*Self-reliance*
*OK to be pro-active*
*Features of educational methods in Canada*
*Etc.*
(Retrieve explanations for any of the above in text form)

Suggested Communication strategies: *Use of ice-breakers*
*Making general comments*
*Providing personal information*
*Expanding on chunks of conversation*

(Retrieve explanations for any of the above in text form)

Again, we acknowledge that the above represents approximations, if not a simplification. And yet, it is a starting point towards trying to bridge communication gaps that are very real. The computer can point to the root of the problem, in other words show basic "intelligence," and a more detailed explanation in text form can be retrieved. Such an explanation is further linked to examples of instructional strategies, targeted explanations and practice. Ultimately, the teacher can decide what to incorporate, or not. Let us add that the cultural factors we have provided may perhaps seem haphazard, but they are based on work of different experts in the field of comparative cultural studies, for instance Geert Hofstede (2001) and Shalom Schwartz (1992), to name two. Furthermore, the behavior demonstrated by the computer models information based on our working ontology, which will be described in more detail in a subsequent paper.

In view of the topic of meeting someone for the first time, we have noticed that with Japanese students, reminding them that native English speakers (using the example of Canadians) have a tendency to be individualistic and as such, do not make large use of ritual statements or questions, preferring "original" utterances put together according to the situation and conversation, while interspersing with personal comments, is usually enough for them to understand that there is reason to pay attention to cultural differences and examine specific communication strategies. Practice of conversation activities with a focus on the communication strategies has also shown to be efficient. In other words, a detailed explanation of cultural differences or cross-linguistic phenomena may not always be needed for students, even though the system has information to this effect in store. Suggestions as to what explanations are especially efficient are actually provided in the instructional strategies. Our system provides guidance and suggestions, leaving the teacher with the flexibility of learning more, to borrow, adapt, adjust, if need be – and make it all or in part available to students.

To give a quick example of how a student might work within such a system: we could imagine that he is be working via a computer with a listening exercise in which he is required to label various sections of a conversation in terms of communication strategies. When in doubt, he could access other examples of what the strategies entail, for the sake of comparison. Explanation of strategies could also be accessed, as well as aids to translation in Japanese, if needed.

**Concluding Remarks:**

The process of acquiring L2, especially in the early stages, is not without challenges, many of these stemming from cultural differences and L1 influence. In this paper, we have illustrated the example of meeting someone for the first time, illustrating that different cultures call for different communication strategies. We have briefly described how we might coin concise concepts to provide handles to understanding some of the phenomena at stake, and quickly shown how a CALL system built on the basis of ontological engineering methodology can be of help to language teachers and students using this system, taking cultural considerations into account. We hope to further elaborate on the results of our research in future papers, and ultimately, we hope that our work can be of help in promoting cross-cultural understanding.

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