On a Computerized Foreign Language Learning System 
Displaying the Material for Prompt Translation; 
Situational Selection of a Material

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Abstract

In this paper I describe a computerized foreign language learning system displaying the material for prompt translation, where situational selection of a material is regarded.

Keywords

CALL, Prompt translation practice, situational

Introduction

We report a situational prompt translation practice system for language learning. The system first builds a database holding many of short sentences instead of vocabulary assembly(Ma 2006). After that, it selects a sentence from the sentences through a quasi-random process and then displays it on the screen. The learner promptly and verbally translates it into the foreign language. The system employs such a method that the learner verifies how precisely the sentence has been translated by comparing the learner’s translation with the display answer and the voice answer indicated by the system. The system aims at the learner who finds difficulty in promptly speaking what he/she wants to say in the foreign language. Because there is not necessarily one correct answer, the learner must have the ability to judge how precise the his/her answer is by visually and verbally checking the answer indicated by the system, which would be one of the correct answers.

The adjective “situational” derives from the fact that the system has adopted such an algorithm that the occurrence probability of a short sentence which is suitable under a certain situation will be increased and thus the occurrence probability of an unsuitable sentence will be decreased, by calculating the compatibility between the property of the short sentence and the property of the user, even though the short sentence displayed on the screen has basically been selected through a quasi-random process.

Because it is an on-going project, only the outline is stated.

The system concept

Figure 1 show the planned system concept.

1. SS(short sentence) database The structure is shown in Figure 2 which has several tiers. One SS has several contents: character, sound and image. The former two contents are necessary and the latter one is optional. A SS usually has two kinds of contents, that is, with or without situational information(Sit. Info.). The following is an example of the contents. Underlined part ought to be translated as a prompt translation practice.

[without Sit.Info.]
I don’t think that I have to be to you, but I don’t think too that I should not be to you.

[with Sit.Info.]
After the *miai* finished, the couple got into a coffee shop. Then the male said to the female with some hesitation: I don’t think that I have to be to you, but I don’t think too that I should not be to you.

As shown in the above, a Sit.Info. is necessary for the student to remember the situation of the conversation leading to the easier and accurate translation.

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3. User property Each user has to set all the properties above before he/she starts the practice.

4. Time information A computer has a timer. The information ought to be used for the calculation of properties below.

5. Algorithm for determining a sentence The computer can make the value pair for the field of all the properties. These values are supposed to be a membership function used in fuzzy theory (St-Jacques et al. 2005). Thus, first, the value pair is first minimized, second, all the calculated values in a property are maximized then the value for all the property are minimized resulting in obtaining the situational validity. So the validity means how much the SS is suitable in terms of the relevant student property and access time.

   In principle, the next SS is determined at random in the relevant Topic but the validity mentioned above is added. Thus I can say that SS is determined at quasi-random.

**System characteristics**

1. Different from the conventional printed material, the student is difficult to know the SS sequence. Thus a game sense might occur in the student’s awareness.

2. The system enables a student to do self-practice. He/she can use the system, at any time, as many times as he/she wants.

3. The system considers the relevant student’s situation. Thus the appearance possibility of a SS which is less relevant to the student gets less.

4. A translated answer is not unique. Thus comparing his/her own answer with the given answer, the student has to evaluate his/her answer to some extent. If it is difficult for them to do that, it means that the difficulty ought to be lessened. In that sense, the system is applicable to all level of the student except for the beginner.

5. The proposed system can be used in an authoring mode in the way that a language teacher him/herself customizes the system to fit the relevant educational situation.

6. The system is extendible to use it abroad by making use of roaming function. Thus a more situational practice of translation might be possible.

**References**
