

Diagnosis from Four Directions

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Abstract

Four sources of information are available to the intelligent CALL system described here: individual performance, individual background, individuals' own (stated) beliefs, and typical learner progression.

A learner's performance in the target domain constitutes the traditional information in a student model. However, there are many factors involved in learning a foreign language. For example, a learner's progression may be influenced by his previous language learning experiences, his native and other foreign languages, or the particular learning strategies he adopts. Thus, in addition to performance in the target language, the system presented here explicitly models learners' background languages in order to distinguish difficulties resulting from inappropriate overgeneralisation of the target rules, and transfer from other languages. It also provides general information on, and traces students' use of learning strategies in order to make students more aware of different approaches to learning, and to encourage the use of effective strategies. The modelling of these individual characteristics (language transfer and learning strategies) complements the representations in the student model of a learner's performance in the domain.

Learner awareness of language form is enhanced by allowing the student to both inspect and discuss with the system, all information contained in the system. This includes not only the objective domain information, but also the system's representation of the student's own beliefs. Such discussion is designed to encourage reflection and thereby enhance learning, and also to enable the student to directly contribute information to the system.