Title	NDLtutor
Author(s)	SULEMAN, RAJA MUHAMMAD
Citation	
Issue Date	2016-09
Type	Thesis or Dissertation
Text version	ETD
URL	http://hdl.handle.net/10119/13816
Rights	
Description	Supervisor: 　　　　,　　　　　　,

JAIST
JAPAN
ADVANCED INSTITUTE OF
SCIENCE AND TECHNOLOGY

Japan Advanced Institute of Science and Technology

ABSTRACT

Negotiation mechanism using conversational agents (chatbots) has been used in Open Learner Models (OLM) to enhance learner model accuracy and provide opportunities for learner reflection. Using chatbots that allow for natural language discussions has shown positive learning gains in students. Traditional OLMs assume a learner to be able to manage their own learning and already in an appropriate affective/behavioral state that is conducive for learning. This thesis proposes a new perspective of learning that advances the state of the art in fully-negotiated OLMs by exploiting learner's affective & behavioral states to generate engaging natural language dialogues that train them to enhance their metacognitive skills. In order to achieve this, we have developed the NDLtutor that provides a natural language interface to learners. Our system generates context-aware dialogues automatically to enhance learner participation and reflection. This thesis provides details on the design and implementation of the NDLtutor and discusses two evaluation studies. The 1st evaluation study focuses on the dialogue management capabilities of our system and demonstrates that our dialog system works satisfactorily to realize meaningful and natural interactions for negotiation. The 2nd evaluation study investigates the effects of our system on the self-assessment and self-reflection of the learners. The results of the evaluations show that the NDLtutor is able to produce significant improvements in the self-assessment accuracy of the learners and also provides adequate support for prompting self-reflection in learners.