Abstract

As students learn about logic circuit design, they come across understanding concepts of Boolean Algebra. For some students, dealing with complex logical expressions could be a
frustrating experience that may obstruct understanding as well as the development of the required design skills. Intelligent Tutoring Systems (ITS) could provide an excellent one-on-one support to improve conceptual and procedural understanding needed to overcome that problem. In addition, the use of Bayesian Networks has been found to be a reliable technique in dealing with different uncertainties encountered during student knowledge assessment. Therefore students’ misunderstanding is identified as precise as possible, and hence proper feedback is provided. Correcting such misunderstanding is anticipated to improve students’ overall conceptual understanding thereby leading to improving their achievement in logic design courses.

References


- Russell, S., and Norvig, P. Artificial Intelligence: A Modern Approach, Prentice Hall,
2002.

**Index Terms**

Computer Science
Circuits

**Keywords**

Intelligent Tutoring Systems
Boolean Algebra
Bayesian Networks

Logic Circuit Design