EVALUATING STUDENTS’ ANSWERSCRIPTS BASED ON EXTENDED FUZZY GRADE SHEETS

HUI-YU WANG¹ AND SHYI-MING CHEN²,³

¹Department of Education
National Chengchi University
Taipei, Taiwan
94152514@nccu.edu.tw

²Department of Computer Science and Information Engineering
National Taiwan University of Science and Technology
Taipei, Taiwan
smchen@mail.ntust.edu.tw

³Department of Computer Science and Information Engineering
Jinwen University of Science and Technology
Taipei County, Taiwan

Received February 2007; revised July 2007

ABSTRACT. This paper presents two new methods for evaluating students’ answerscripts based on extended fuzzy grade sheets, where the evaluating values are represented by fuzzy numbers. The fuzzy modeling techniques are used to represent the evaluating values by fuzzy numbers to increase the flexibility of the system. In other words, it allows an evaluator to express his/her evaluating values by using fuzzy numbers to increase the flexibility of the system. An index of optimism λ determined by the evaluator is used to indicate the degree of optimism of the evaluator for evaluating the answerscripts of the students, where λ ∈ [0, 1]. The universe of discourse is formed by a set of satisfaction levels. The fuzzy mark awarded to the answer of each question of the answerscript of a student is represented by a type-2 fuzzy set. The proposed methods can overcome the drawbacks of the existing fuzzy evaluation methods. They can evaluate the answerscripts of students in a more flexible and more intelligent manner.

Keywords: Fuzzy numbers, Fuzzy sets, Index of optimism, Fuzzy grade sheets, Extended fuzzy grade sheets, Students’ answerscripts evaluation


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