UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

MODELLING STUDENT'S PERFORMANCE
EVALUATION USING FUZZY LOGIC APPROACH

NUR FARAH ATIRAH BT BAHARUDIN
2014803052   K15/45
NURAIN AFIQAH BT KHUMRUZAMAN
2014450726   K15/45
NUR NABIHAH BT AHMAD AMINURDDIN
2014631194   K15/45

Report submitted in partial fulfillment of the requirement
for the degree of
Bachelor of Science (Hons.) Mathematics
Center of Mathematics Studies
Faculty of Computer and Mathematical Sciences

JULY 2016

ACKNOWLEDGEMENTS

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ABSTRACT

Recently, in many academic institution to enhance the evaluation of students has been recognized and were implemented by combining other factors. The process of evaluating student has become a challenge for universities to ensure that students are rewarded accordingly. Therefore, in this study the propose fuzzy inference system (FIS) is applied to evaluate students' performance. Sample of 15 students in Diploma Mathematical Science UiTM Machang is considered. There are three inputs which are GPA, extra-curriculum and attendance while for output is students' performance. Different membership functions is used which is triangular and trapezoidal. The result reveals that, fuzzy inference system (FIS) is suitable to be used to evaluate students' performance. There is slightly no difference between performance value of triangular and trapezoidal.

Keywords -   fuzzy inference system (FIS),   membership functions,   students' performance

1 INTRODUCTION

Nowadays in developing countries, higher education seems so important and essentials means for everyone in many parts of department and development. In educational institutions, achievement are measured by scholarly execution (CGPA or Exam Score), communication skills, two ways communication, leadership skills and also integrity standards that has been set out by the Government educational policies but now we can use a method that can produce any output easier than the classical method.

The concept of Fuzzy Logic has been recently initiated in 1965 by Lotfi A.Zadeh, professor for computer science at the University of California in Burkeley. Fuzzy Logic is also known as Fuzzy Inference System (FIS). Furthermore, Fuzzy Logic is an approach to made machines more insightful that empower them to think in a fuzzy way like people. Specifically, as Cetin Semerci (2004) we observe that she examined the impact of fuzzy logic theory on student's performance.

Gokmen et al. (2010) highlighted that numerous types of decision making, for example, research on designing and artificial intelligent can be connected by a mathematical technique of set theory called fuzzy logic. Recent management research has started to investigate educational frameworks typically utilize established techniques for student performance and in this frameworks student performance relies on upon examination comes about and assessed as success or failure Gokmen et al. (2010). Gokmen et al. (2010) has put some light on Evaluation of student Performance using Fuzzy Logic. By the start of the 21st century, fuzzy logic theory was a consolidation and predicted to be connected broadly in numerous field in addition to he additionally express that one of the use of fuzzy logic is the estimation and assessment in education Gokmen et al. (2010).

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