事例研究

学校における品質工学の集中講義とその成績評価（2）
—成績評価方法の検討—

Short Course Lecture in Quality Engineering at University and Assessment of Student Academic Grades (2)
—A Method for Evaluating Student Academic Grades—

上原　一剛[*1]　*Kazutake Uehara*
小幡　文雄[*2]　*Fumio Obata*
矢野　宏[*3]　*Hiroshi Yano*

Students taking a short course lecture in quality engineering were given problems without correct answers, five proposed criteria were used to grade their performance, and differences among the ratings were studied. The use of the criteria reduced variations in grades given by three instructors and enabled grading differences between the instructors to be reduced. In the calculation of the variation pressure of the grade evaluation, using a unit space constructed by the students with the average grade demonstrated a good agreement with the grading by the criteria. From the study of factorial effects of evaluation items on the variation pressure distance, it appears that grading variations among the instructors can be reduced by evaluating reports in which the students expressed their own ideas in the form of organized text according to the criteria. Evaluating students by using both the criteria and the variation pressure distance could become an advantageous method for many types of scholastic evaluation.

Key words : university, lecture, quality engineering, academic grade, evaluation, criteria, variation pressure, unit space, distance, factorial effect

1. 緒　言

品質工学は技術評価の手法として機械・電気系を中心にさまざまな分野を対象に検討がなされており，品質工学会誌や品質工学研究発表大会で多くの研究成果が報告されている。最近は，標準SN比やMTシステムといった新たな評価手法が提案された結果，農業分野や地震予測を対象とした評価にも品質工学を利用しようとする試みが活発化している[1)2)]。著者らは，大学に所属する教員として教育や人材育成という観点から品質工学に取り組むことの重要性に着目し，SN比の教授方法[3)]や学生の成

*1 鳥取大学，正会員
*2 鳥取大学名誉教授，正会員
*3 応用計測研究所(株)，正会員