Session C9
Assessment of Performance in Probability and Statistics

Organiser: Carl Huberty (Athens, Georgia, USA)

Invited Speakers: Mitchell Dayton (College Park, Maryland, USA)
Carl Huberty, Janna Dresden and Byung-Gee Bak (Athens, Georgia, USA)
Earl Jennings (Austin, Texas, USA) and Joe Ward Jr (San Antonio, Texas, USA)
Flavia Jolliffe (Surrey, England)
Anthony Nitko and Suzanne Lane (Pittsburgh, Pennsylvania, USA)

Introduction

It was observed that sessions at ICOTS 1 and ICOTS 2 were pretty much devoid of papers dealing with measurement and evaluation of students in statistics classes. Furthermore, in neither of two books devoted to the teaching of statistics (Anderson and Loynes, 1987; Rustagi and Wolfe, 1982) is much space at all devoted to this topic. How can anyone discuss the teaching of statistics without paying some attention to the assessment of student knowledge, competence, and understanding? Attempts were made in the current session to address the following question: How do we know what the students learn in our classes? More particularly, we are interested in objective feedback on student learning, and in evaluating that feedback.

Three of the papers (Huberty et al., Jolliffe, and Nitko and Lane), present models or structures of learning and knowing statistics. All three structures are multi-dimensional and involve much more than statistical calculations. The models cover the gamut from mere recognition and simple calculation through application to argumentation. Such models of knowing suggest and lead to models of student assessment. These assessment models involve a variety of ways of obtaining student feedback for purposes of testing: short answer items, open-ended statistical problems, and student projects. The third of this trio of papers presents a microcomputer-assisted student measurement tool.

The Dayton paper describes the use of (large) data sets in statistics instruction and assessment. Microcomputer statistical packages are utilised in instruction and student evaluation; on-going student self-assessment is an integral part of the learning process. The Jennings and Ward paper deals directly with the age-old student grading

problem. An approach that allows for differential weighting of early term performance and final examination performance for grading purposes is described.

It is hoped that some interest in student assessment, testing, and grading has been demonstrated, and that this interest will carry over to ICOTS 4.

References

Anderson, C W and Loynes, R M (1987) *The Teaching of Practical Statistics*. Wiley, New York.

Rustagi, J S and Wolfe, D A (eds) (1982) *Teaching of Statistics and Statistical Consulting*. Academic Press, New York.