

**Background:** The University of Waterloo Distinguished Teacher Awards have been given annually since 1976. Originally, three awards were made each year (although there were *four* in 1983) but, starting in 1989, a fourth Award in a separate category (for teachers who are not regular faculty) was instituted. An announcement of the 1990 Awards in the *University Gazette* (March 28, page 3) included the following statement:

The criteria used to select UW's top teachers are described by Senate as follows: "The Distinguished Teacher Award is given in recognition of a continued record of excellence in teaching at the University of Waterloo. It is open to all those who teach students at the University of Waterloo and is not limited just to those holding faculty appointments. The Selection Committee will look for intellectual vigour and communication skills in the interpretation and presentation of subject matter. The teacher's human quality, the concern for and sensitivity to the needs of students, is an obvious indication that the nominee has a favourable and lasting influence on students. Evidence of successful innovation in teaching would also support a nomination, but it is also clear that excellence in teaching does not necessarily require innovation."

The selection committee consists of three undergraduate students, two graduate students, one alumnus, four members of faculty (including the teaching resource person) and the provost as chairman. They met twice to consider the nominations received from across campus.

This year 21 eligible nominations were considered. The committee reported that many of them were strong nominations supported by outstanding records of teaching and service to students.

- ① Using, where appropriate, the background information given above, what Answer(s) can you give from the data overleaf on page HL106.1 to the following Questions?
  - *Is the selecting process for distinguished teachers at the University of Waterloo biased against instructors in the Faculty of Mathematics?*
  - *Are instructors in the Faculty of Mathematics generally poor teachers?*
  - *Is it appreciably easier to obtain a Distinguished Teacher Award in some University departments than in others?*

In each case, indicate explicitly how the data lead to your Answer and its limitations (using our six categories of overall error) or explain why the data do *not* provide an Answer.
- ② Suggest an explanation for the higher proportion of Awards to females than to males (see Note 1 overleaf on page HL106.1).
- ③ Briefly explain which values are more useful in comparing Awards among Faculties: the *number* of Awards in each Faculty or the Award *rates*.
  - The numbers of faculty members in each Faculty, used in the calculation of the Award rates, refer to 1988. Discuss briefly whether this year provides an appropriate basis for the rate calculation.
- ④ The comments given at the right appeared in the 'Letters' section of the *University of Waterloo Gazette* on April 10, 1991, a week or so after the announcement of the Distinguished Teacher Awards for 1991; three of the four 1991 awards (to W.H. Cherry, R.G.R. Lawrence and I.J. McGee) went to Mathematics and one (A.V. Morgan) to the Department of Earth Sciences in the Faculty of Science. On the basis of this information and the data given overleaf on page HL106.1, write a reply to the letter at the right from Professor Sahas, addressing the *statistical* issue(s) he raises.

1995-04-20

### Why no 'top teachers' in faculty of arts?

It is always with joy and pride that I read the names of the "top teachers" and non-teachers at Waterloo. I am sure that the DTA Committee is at pains to be impartial in arriving at the three or four names every year among "many very strong nominations".

One may only wonder whether the largest faculty in this technological University has been doing such a bad job. Or is it that the Faculty of Arts is lately raising some uncomfortable questions for the University administration? Or is it that someone from above is trying to send a signal to the "irrelevant" Social Scientists and Humanists below? Or is it that a lack of communication and understanding, together with a crisis of identity, is reaching alarming proportions in this University? Or, heaven forbid, is it all of the above? Just wondering.

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