Addendum to "To Give a Surprise Exam, Use Game Theory." *Synthese* (1998) 115: 355-373.

Ned Hall (in his letter to me of November 16, 1998) made me see that I give the wrong answer to the evidential version of the problem. The correct answer for the two-day semester is that the teacher's probabilities should be 5/8 for an exam on the first day and 3/8 for an exam on the second. This solution for the evidential problem can be obtained as a special case from the representation I give of the prudential problem. For the latter, the teacher's expected utility (p. 362) is

$$E(\text{Teacher}) = px(1-2q) + (1-p)x(2q-2).$$

The evidential version of the problem can be obtained from the prudential version by imposing two constraints: (1) that p=q; (2) that the teacher sets p to maximize her payoff. The students don't influence the value of p, but merely copy the value that the teacher chooses. The result of the first constraint is that

$$E(\text{Teacher}) = px(1-2p) + (1-p)x(2p-2) = x(-4p^2 + 5p - 4).$$

This quantity is maximal when $-8p + 5 = 0$, in other words, when $p = 5/8$.