REPORT OF THE STATS SESSION
MAY 2000 BCCUPM MEETING

Present: Veda Abu-Bakare (BCOU), Aubie Anisef (Douglas), Ed Butz (UCFV), Bill Calver (Camosun), Susan Chen (Camosun), David Feldman (Selkirk), Harry Joe (UBC), Tony Webb (BCIT), Larry Weldon (SFU).

The following items were considered:

1) Software Site Licenses.

Our guest, Susan Weber (AEMAC), explained that AEMAC (Advanced Education Media Acquisitions Centre) is a Ministry-funded provincial service bureau for the post-secondary system. It negotiates and signs licenses for software and video. Once the software has been selected by the Articulation Committee, Susan steps in to get the best possible price. Because of our discussion at the May 99 meeting, Susan has been in touch with Minitab and their offer is based on a buy-in of 2/3 of the 29 institutions. Susan reiterated that she needs to know what our software of choice is and the number of installs in the institution (not just in the Math/Stats Departments) and then she can proceed.

We went around the table to see what software was being used - the responses were none (students use a scientific/graphing calculator), Excel, Minitab, SPSS, SGP, JMP In, and Statdisk (a software package that comes with the text). Harry Joe of UBC said that their agreement with JMP In (a SAS product) was that the company would install the software free on as many machines as requested in return for the Bookstore selling 50 copies of the student version and that he didn't think that they even checked! There was no outright leader and it was clear that people wanted the flexibility to make their own choices.

The following Recommendation was agreed upon: that the Stats Subcommittee does not wish to pursue a particular software product at this time; that we will undertake a usage survey of all postsecondary institutions; and that we will then request Susan Weber of AEMAC to present this information to vendors of the various statistical software products with a view to obtaining the best price.

2) Online course in Stats:

a) Larry Weldon demonstrated his course which uses First-Class, a conferencing software. The Web version can be accessed at *http://firstclass.sfu.ca/* . The first thing to note is that there is no content online. The students get a text (print) and they are guided through the course by a study guide (print) and the work posted online. There is scope for both individual and group work. Each assignment covers 2 weeks of work. The questions are usually open-ended, requiring discussion. This forces the students to verbalize about what they know or don't know. The students work in groups of 4 or 5; there is 1 tutor-marker for about 50 students. The students are required to hand in their assignments electronically and to use Minitab in their assignments. There is one mid-term exam online but the students come in to write the final exam during the exam period in the conventional exam setting.

The speed of responses is quite fast - questions are usually answered the same day. Student interaction is greater, both among the students and between student and instructor. The marking does take longer. Most of the interaction is text-based, although it is possible to send a graphic in a First-Class message.

b) Veda mentioned the work done by Robin Susanto of Langara. He has developed a Web-module on Sampling Distributions. The URL is www.langara.bc.ca/~susanto/index.htm .

c) Online resources for Stats are also to be found in Alan Cooper's Web resources project to be found at www.langara.bc.ca/~acooper .

3) Intro Stats course maintenance:

In May 98, we had listed as Core Topics for an Intro Stats course (with a Grade 11 prerequisite):

1. Overview of the subject and the opportunities for its applications in real-life situations; vocabulary.
2. Data production - randomness, sampling methods, bias, variability, etc.
3. Exploratory statistics
   - Univariate- graphical display, measures of centre and spread
   - Bivariate - graphical displays , correlation, linear regression, chi-square analyses
1. Some probability - tree diagrams, sample space, independent and mutually exclusive events.
2. Sampling distribution of the mean and of the proportion.
3. Inference (Confidence intervals and hypothesis testing) for the population mean and the population proportion.

Here are the comments:
a) It was suggested that we take out the chi-square analysis in (3) and save it for later. That is, we would do contingency tables in (3) and the chi-square analysis in Inference.
b) One member expressed the opinion that what is taught in any given semester is entirely personal and depends on the instructor. (Added in proof - I see this as unsatisfactory. The idea is that we must have a list of core topics to establish benchmarks, ensure transferability, and to give guidance to instructors of these courses who are, quite often, not statisticians.)
c) The amount of probability to be included is, as always, a matter of discussion. As UBC pointed out, they have a stats course with no probability and a probability course with no stats. The suggestion is that only a minimum amount of probability is to be taught to facilitate the understanding of sampling distributions and the Central Limit Theorem.
d) It was suggested that we include the 2-sample comparisons.

4) Intro Stats Course with a Calculus prerequisite:

One member wanted some guidance in what would be the difference in an Intro Stats course with a Calculus prerequisite and one with a Grade 11 prerequisite. The responses were that the language changes - there is more of an algebraic approach and greater use of mathematical notation. More

distributions are added - the binomial, the hypergeometric and the exponential.

5) Course in SPC (Statistical Process Control):

One member wanted to know if there were any courses developed in SPC - not just xbar charts and control limits. This can be something that institutions might wish to take up.

6) Textbooks and Video Set for Intro Stats:

a) For guidance for instructors of Intro Stats courses, we listed some of the texts in use:
-Moore and McCabe, *Basic Practice of Statistics* and *Introduction to the Practice of Statistics.*
-Weiss, *Introductory Statistics*
-1st Canadian edition of Triola
-*Understanding data; principles and practice of Statistics* (Larry Weldon, coauthor). Information on this text can be found at www.cast.massey.ac.nz . You may use the user id guest with the password 1111.
-Samuels, 2nd edition.

b) *Against all Odds* is a Video set for Intro stats. One institution got this free with the adoption of one of the Moore and McCabe texts.

7) General Comments

a) It is important that we liaise with the high-schools. From September 2001, the probability and stats section of the Principles 12 curriculum will be about 25%. There is opportunity for institutions to mount courses, workshops, etc. for in-service training for teachers. Also, since teachers invariably teach to the exam, we should have some input in the exam. Larry and Veda expressed interest in following up on the exam.
b) Many institutions expressed interest in having projects in their courses. Veda is to post something about the mandatory project in Langara's stat courses.

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