

Discussion of IPM 48: Statistics Education for Media Reports

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What we have here is not a comprehensive account of how to teach for the interpretation of media reports but, rather, three very interesting papers on different aspects of the topic. Iddo Gal discusses the nature of press releases and the informational demands they make upon the reader. Martin Podehl tells us about getting data stories out from Agencies to the public via journalists and how to do so effectively. Laurie Snell gives us deeper insights into a statistics course that uses media reports as its spring board to statistical knowledge and statistical thinking.

Let us begin with Iddo Gal's paper, *The Functional Demands of Statistical Literacy*. In truth, when it comes to statistical thinking and statistical literacy, we in statistics education still haven't got much beyond "these are obviously valuable ends to pursue" and broad conceptions. Not only do we not know much about how to develop these in students, we don't even have a comprehensive conception of precisely what it is that we need to develop.

As Iddo says, we often claim that education in statistics helps students to become "smart consumers" of statistical information, not easily misled, who can spot where graphs are misleading, and so on and so forth. These are glib statements, little more than a sales pitch for our existing product. Would you buy a used car from these people? We have no body of systematic research on the statistical knowledge bases and other intellectual capacities that have to be activated for statistical literacy. We need to know about types of demands and how often they are required. If don't really know what students need and what the most pressing priorities should be, how can we design effective learning experiences to provide for these needs?

Iddo Gal is to be congratulated for leading the way towards building that body of research. But there is too much for any one person to do. I would like to make a plea for many others to join Iddo in his quest. He has started with press releases from official agencies — predigested reports by professionals. This is as simple as it gets, but Iddo shows that even this is in no way not simple. Moreover, releases from Research Institutes are different and make different demands than do those from official agencies. Some other insights include, "Don't just use the 'disasters'", let students learn from well-written reports; models of how statistical stories should be communicated. Media reports, both critiquing them and the writing of them, provide excellent opportunities for students to learn to communicate statistics.

Whereas Iddo asks, "What are press releases like?" and "What capabilities must people have to understand them?", the paper *Statistics for Journalists* of Martin Podehl from Statistics Canada comes from the reverse direction. It is motivated by the idea that it is important for Agencies that their work becomes known to the populace and that the main way transmission happens is via the stories of journalists. So how can the Agency manage the agency/journalist interaction so that stories get told, get told correctly (i.e. undistorted), and get told as understandably as possible.

What seems to work best is not to communicate at a statistician-to-journalist level, but to develop excellence in the journalistic communication of statistical stories in house and an eye for the stories of

popular appeal. One then communicates at a journalist-to-journalist level, endeavouring to make the journalists life as easy as possible. The agency tries to write good stories in-house that overworked journalists can pick up. Of course there are some very fine ethical lines to be walked here. But the story I'd most like Martin to tell us one day is about developing the excellent journalistic communication of statistical stories. What has Statistics Canada learned about how to do this? How do you go about writing statistical stories well? What are the key elements of success? There will be critically important lessons in that experience for those of us who want to teach students to communicate statistics.

And now for Laurie Snell's paper, *A Course called Chance*. Laurie, the father of the Chance Course, has given us insight into how it works. It seems to me that the basic concept is, for each class:

- take an interesting and rich news story;
- formulate questions relating to the story addressing issues that are statistical in nature or require statistical thinking to think through;
- learn the salient statistics to enable this;
- discuss answers to the questions; and
- learn statistics and become a critical thinker in the process.

We at Auckland are starting a literacy course next year. We don't want it to overlap too much with our standard Stats 101 course because we want students to be able to do either or both. In our literacy course, students won't learn the technicalities of analysing data, the focus will be on critique and communication. We are looking very carefully at how much we can take from the Chance model which serves both functions. One observation that does cause me some slight hesitation, however, is that for some teenagers I know, the news seems to have been created simply to be a sign from On High that it's time to change the channel. How do we get around that one?