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Summary		
<p>Risk Communication is crucial for the risk analysis cycle, and may be dramatically improved by clear prose. Clear prose—and therefore clearer presentation of evidence—may facilitate consensus over risk analyses and help avoid unnecessary debate exacerbated by unintended interpretations of information.</p> <p>This aim of this project is to first test the effectiveness of various strategies for teaching Plain English, and then implement evidence-based workshops.</p> <p>In this document we report on progress in developing these evidence-based workshops.</p>		
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Plain English for Risk Communication

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Progress Report

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1. Introduction

This report documents progress made in developing an experimental protocol for testing the effectiveness of teaching Plain English. These experiments will provide an evidence-base for developing workshops for teaching Plain English for Risk Communication.

Much of the testing of plain language documents comes from law, for example, making jury instructions more accessible to jurors (!) (e.g. Charrow & Charrow, 1979; Masson & Waldron 1994; Apostol & Peters, 2002). But there are no analogous experiments in the biological sciences or in risk assessment. Effectively communicating science and science-based policy is challenging, but the literature indicates that it can be done.

Many governments and corporations have adopted plain language for their reports; the US Environmental Protection Agency is training staff in plain English editing skills. (See their website <http://www.epa.gov/plainlanguage/>).

We will develop plain language training packages tailored to various experiment participants (e.g. students, government employees), focusing on risk and the biological sciences. More research on the effects of plain language is needed, particularly on how to institutionalize it. Lessons from the US and the UK, as well as DAFF's previous work, will guide us.

Our primary text will be Lanham (2006) *Revising Prose*, the standard textbook in American universities. It is short and, not surprisingly, very clear with specific useful instructions. Thomason has taught from Lanham for many years and can vouch for its effectiveness. We will supplement Lanham with Gopen and Swan (1990) "The Science of Science Writing". We are particularly motivated by their claim (p. 550):

.... [Plain language] can produce clarity in communication without oversimplifying scientific issues. The results are substantive, not merely cosmetic: Improving the quality of writing actually improves the quality of thought.

1.1. Background Literature

Everyone can agree that producing reports is a key governmental responsibility. But, can it be done better? We believe it can. In particular, the writing can often be substantially improved.

All too often, unclear prose obstructs effective communication within agencies and to the stakeholders. It costs millions of dollars in wasted time (Kimble 1996). As draft reports circulate within agencies, many hours are needlessly spent attempting to decipher unclear prose. Often

unsuccessfully. Time is also wasted fielding queries from confused stakeholder, who failed to find the needle of significance in the haystack of information or, even worse, who mistakenly believe they have understood what they have read.

Further, there is considerable evidence that most readers prefer plain language -- in a survey of judges and lawyers in the US, 80-86% preferred documents in plain language over those in the traditional legal style (Kimble & Prokop, 1990). Most of the remaining didn't have a preference one-way-or the other; it is a rare person who prefers "bureaucratic" prose. Similar results are found in almost all studies of plain language (Kimble 1996)

Importantly, readers not only prefer plain language documents but are much more successful in absorbing information from them. In other words, plain language is more accessible and improves comprehension. Staff and students at a US law school were a remarkable 19% more accurate in answering questions about a plain language version of the South African Human Rights Commission Bill. They also read it 7% faster (Knight, 1996). Similarly, the double-blind clinical tests (n=1560) by Miguel and Font (2000) found plain language dramatically improved patients' understanding of drug packet instructions. The participants were asked questions about the instructions, concerning interval of administration, administration in relation to meals, and what to do when they missed a dose. With the modified leaflet, participants were over 13 (!) times more likely to answer a majority of questions correctly (Odds Ratio=13.5; 95% CI= 10.5, 17.5)

For these reasons, plain language induced improved understanding benefits both readers and agencies. British Telecom cut customer queries by 25% by using plain English, and the Royal Mail saved £500,000 in nine months by redesigning one form into plain English. Kimble (1996) has many other examples from government and industry.

These benefits, i.e., that plain language is preferred and is more accessible, are well empirically established. There may however be further benefits that have not yet been documented. From years of experience of teaching and using plain language, we suspect that revising prose often helps improve a document's logic. That is, improving an author's prose, plain writing helps authors better understand their own conclusions and improve their own use of evidence. Since we don't know of any relevant empirical research, this is a key possible contribution the proposed project. These potential benefits correspond to objectives 3 and 4 below: Quality of Reasoning and Readers' understanding of content.

1.2. Training

Kate Barnard and Bonnie Wintle have undertaken substantial training in teaching and plain language based on Lanham's work. Subsequently, they took a series of classes on argument mapping and formal logic. Argument maps visually represent an argument's logical structure. Kate and Bonnie have learned how to construct and analyse these maps to help communicate an argument more clearly.

2. Methodology

2.1. Preliminary Experiments

Our pilot experiment was conducted on 23-24 July with a small sample of students from the Masters of Environmental Studies program at the University of Melbourne. Using the lessons learned we will run further experimental sessions with students others over the next few weeks.

Each workshop session lasts two hours, and participants attend two sessions over two days.

Ethics Approval

Our application for ethics approval was submitted to the University of Melbourne on Monday 3rd March. It was approved. Among other things, we have approval to conduct a series of preliminary experiments on postgraduate students in environmental and social sciences. These experiments will provide evidence about the most effective strategies for teaching Plain English. This evidence will for the basis of the DAFF workshops described below.

Participants

Preliminary experiment participants will be honours and postgraduate students, mainly from the University of Melbourne but possibly from other Victorian universities as well. We have been recruiting students from environmental programs, particularly the Master of Environment program.

Procedure

The workshops will be a crash course in revising turgid writing. After some brief demonstrations, the students will work through a series of examples from live documents and reports. First, we will practice converting bureaucratic prose to plain language. This will be done as a group, then in small groups and as individuals. Finally, participants will revise their own writing using the Lanham method. Participants will be asked to provide a sample paragraph of their writing before the workshop, which we will revise during the workshop. Since revising one's own prose is often more difficult and sensitive than revising others' prose, this will be taken slowly.

Outcome Measures

We have five primary outcome measures (see also Appendix A):

1. Comprehension (of the problem, argument or objective described in the sample text)
2. Confidence (in their own comprehension, above)
3. Importance (of the problem, argument, etc, articulated by text)
4. Self-rated difficulty (of understanding the text; of identifying problem, argument, etc)

5. Preference (e.g., for plain language over the official style or vice versa)

2.2. DAFF Workshops

DAFF Materials

We will source DAFF protocols and guidelines for writing official documents such as templates for ministerial correspondence and DAFF reports and department style guides. The workshops are to fit within these guidelines and/or use templates to develop workshop exercises.

Procedure

The DAFF workshops will follow a similar procedure to the preliminary experimental workshops, incorporating lessons learned about how to teach plain language more effectively. After covering some basic examples in order to teach Lanham's method, we will focus on revising DAFF reports and documents. Since revising one's own prose is the most important thing participants will get out of the workshop, this will take up the most time. Again, participants will be asked to provide a sample paragraph of their writing before the workshop. They will also be asked to work on some short examples for the follow-up workshop(s).

Outcome Measures

We will evaluate DAFF workshops using the five criteria developed during the experimental workshops: Comprehension, Confidence, Importance, Self-rated difficulty and Preference (see Appendix A for a more detail description).

Workshop Timetable

We propose to run DAFF workshops in Melbourne and/or Canberra in September and October.

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Appendix A

Primary outcome measures

1. Comprehension

These are multiple choice items, tailored to each text used in a workshop, and resulting in a total comprehension score. The items test participants' understanding of the main problem, argument or objective outlined by the text. We will compare average comprehension scores of texts in the official style and texts in plain english. *We expect better comprehension when texts are in plain english.*

2. Confidence

These items ask for participants' confidence ratings of their answers to the comprehension questions, e.g., 'how sure are you that [item you have selected] is the author's main argument'? Again, we will compare average confidence scores of texts in the official style and texts in plain english. *We expect that participants will have greater confidence in their comprehension when texts are in plain english.*

3. Importance

Participants mark how important the problem, argument or objective described in the text seems to be, e.g., from very important or (extremely urgent) to not at all important (or urgent). As above, we will compare average scores for the two types of texts. Plain english texts—by making the problem or argument more accessible—may produced higher average importance ratings. Alternatively, participants may conflate official style with importance. Either way, it is important to know how plain english revisions impact on perceived importance.

4. Self-rated difficulty of text

Participants will rate the how difficult they found reading and interpreting the text. We will compare average self-ratings of text difficulty for plain english texts and official style texts. *We expect plain english texts will be rated as less difficult than texts in the official style.*

5. Preference

Finally, participants will rate their preference for text style: did they prefer reading plain english or official style?

Other outcome measures

We also attempt to gather information on how prose style impacts on the perceived objectivity of the author and the report's trustworthiness. For example, we may ask:

- Can scientific prose be written in the first person?
- Which is more objective: 'It was observed' or 'I saw'?