
This essay is copyright under the creative commons Attribution - Noncommercial - Share Alike 3.0 Unported licence. You are encouraged to share and copy this essay free of charge. See for details: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

The common ground between Humanities and Science

Last updated 9 May 2009

1. Introduction

A few years ago an extremely competent innovative knowledgeable and experienced school teacher of English was sent to teach English in the Faculty of Agriculture. There she was given ten classes, of two hours each, and told to teach them agricultural English. Worse, it was not just agricultural English in general, but the courses were specialised, one for fishing, another for farm animals, another for forestry, and another for cereal crops. She was supposed to teach at least four different English courses, each relevant to the speciality and sub-speciality of the students. There was no textbook, and all the responsibility for choosing and using lesson material fell on her.

She came to me with a cry of help. To her amazement, when I heard of the job assignment, I congratulated her for accepting such a marvelous exciting job. She was not amused. I reminded her that in school teaching there was a fixed curriculum and a set textbook, and deviation from either was rarely tolerated. In normal school teaching, the room for professional freedom to choose material and plan lessons was minimal. Therefore, in this posting, she now had great freedom to do what professionally she knew must be done. She was also free to experiment and try out her ideas without fear of rebuke or restraint from an inspector.

I discovered that this freedom - which I prized so highly, and had prized it even in my early years of teaching in schools - was something that both frightened and attracted her. She hesitated, she asked me how this could all work.

I again challenged her to answer her own question by asking her the question she needed to ask: what do the students need? You have no time to do a needs analysis, but in the light of your years of experience, your detailed knowledge of the pre-university English language curriculum the students will have followed, what level are the students at? Therefore what kind of English do they most need to learn next? What is their motivation? What range of ability is there?

As I asked, the answers came back, clear, to the point, and with the confident authority that comes from being a highly competent senior teacher with a varied experience over twenty years. Obviously the students were at quite a low standard, and they needed general English - the very English this teacher was so well equipped to teach. But, the administration had told her to teach agricultural English, and she did not know about agriculture in any language.

At this I smiled. I said that she did not need to use specialised and therefore incomprehensible texts that talked about agriculture. Neither did she need to go back to school level biology, for that would be insulting to the students and also be boring for everyone. There is plenty of material, written at a non-specialised level of knowledge, and written in clear English, which all has an agricultural theme to it. Plenty? Yes. What about the debate concerning Genetically Modified crops? Some of that debate is technical, but not all of it. What about cruelty to animals? What about the food surpluses in the European Union? What about world poverty?

My colleague was beginning to see the point, but still had more reservations. What about fish?

Fish, I replied, was an easy one. What about the greed of Europe and the Americas and how they almost wiped out the cod stocks in the Atlantic? What about the fish wars in the last century - ie in living memory - between Britain and Iceland? What about the rape of the seas near poor African countries, as the European fishing boats take fish that should be used to feed Africa back to rich Europe which can well afford not to eat fish? For all these topics, texts can be found in understandable English but they look specialised, they therefore keep the administration happy.

Then, as a final tip, I suggested that the administration will believe what she fed them. Therefore she needed to respect their wishes, highlight the agricultural content using clear headings in the one page summary she was required to give them, then use her material to focus on basic English. Then if she made sure she included something about agriculture in each lesson, she could also include other material as she saw fit. It would be fairly easy to find texts related to each sub-speciality, then to have similar exercises in all her lessons, so making sure that each group was slightly different, but different enough to keep the administration happy.

The points in this detailed story are many. My main point is that English teachers need to find the common ground between their students themselves and the administrators. I discuss below some possible areas of common ground.

2. The common ground of history

All sciences have a history, and the actual science in the past is often far easier to understand than modern day science. In addition, many scientists are not aware of this history. I say many. Some scientists are aware of history, and they value it. I can well remember, in my last two years at secondary school, studying 'A' level biology, physics, and chemistry, and many times the courses would begin by going back to the less technical eighteenth century or earlier. We followed for instance the history of the discovery of the atom, and the various theories that succeeded each other. At university we took two courses in the anatomy and physiology of the brain. These courses were at the same time fascinating and incredibly difficult. At some point we took a course in embryology, and we studied how the brain developed from a few cells to billions of cells. That course in embryology was a course in history for me, and suddenly the brain began

to look a little less complicated.

Now I am not suggesting that English teachers do a course in embryology, for it would still be for most of them far beyond their natural abilities and would require a huge foundation to be laid first. I am making the point that an understanding of history often makes the complicated present reality appear less confusing. To a larger extent than science itself, history is accessible to non-specialists. The language used is also accessible to all.

3. The common ground of biographies

Biographies of key figures in science, both modern, and ancient, are readily available. Some biographies concentrate on the science, but not all, and these general biographies can be used in class. They are especially useful when English teachers have to teach highly mathematical students such as mathematics and physics. I have used this technique myself to study the ideas of for instance Karl Popper. [1]

4. The common ground of illness

Almost everyone gets ill, some time, and there is a lot that has been written in basic English about almost every aspect of medicine. Not all these aspects are dealt with in medical training, and it is up to the English teacher to find this out and maybe cover them in the language classroom. There are now forums such as the Medhelp forum where patients discuss their questions with other patients and with doctors. The language I have seen varies in technicality. The patient point of view is an important one in medicine, and all doctors have to learn to communicate in terms understandable to the patient. Therefore they can get more practice explaining medicine to the supposedly ignorant teacher of English.

5. The common ground of modern developments

I well remember my final year lecturers bringing to their classes the latest research papers, published a few days before, and improvising a new lesson based upon them. This was thrilling, and I try to do the same with my courses in linguistics by at least bringing in the most recent readings and publications I can which are relevant to the course. But I suspect that this is rarely done by the science subject specialists. Since new research is often reported in the press in a language most people understand, and sometimes it leaks into the press before it has been published in formal journals, then this provides an ideal opportunity for the English teacher. Bring to class, at least some of the time, journalistic reports on the latest developments in a subject related to your students. Let the students explain the science to you, and push them to explain the implications.

6. The common ground of ethics

The world of ethics belongs to all of humanity, scientists and arts-ists. In addition, some English teachers will have been well trained in literature - a subject well suited to explore ethical ideas and their implications for people. Some scientists have to do courses in ethics, but not all. Add into this mixture the fact that language learning is often helped when there is genuine debate and discussion, and you get an ideal subject area for the

English teacher to use to promote English and the subject professionalism of the students. The world of ethics can be quite technical, but it need not be.

7. The common ground of economics

Most subjects have an economic side to them. There are hard decisions faced by administrators of hospitals for instance as to where to spend the money. Such decisions fall into the common ground between specialists and non specialists.

Conclusions

There is probably plenty of common ground between the English teacher and the discipline studied by the students. This common ground is also likely to be written in non-technical language, while still respecting the expectation that the students will be taught English relevant to their speciality. In addition, there has been a huge growth in non-technical descriptions of science, some of which is quite accurate, especially modern developments and discoveries in science. The popularity of podcasts means that ESP listening material is readily available for those with the initiative to find it and use it in class.

1. Unended Quest: An Intellectual Autobiography by Karl R. Popper. Routledge 1992.