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Teaching introductory Science and Technology Studies through open learning

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Abstract

In 1994 the Science and Technology Studies Program [STS] won a three year contract with the Monash led Open learning Australia consortium [OLA] to provide two first year subjects in the area of history and philosophy of science/social studies of science and technology. The two subjects, OLA SCI 14 and OLA SCI 15 were analogues, respectively, of STS 100 Introduction To Science and Technology Studies and STS 112 The Scientific Revolution-History, Philosophy and Politics of Science. That is, both were modelled exactly on long standing and well established first year subjects taught on campus. I wrote approximately 65% of the subject materials-all of STS 112 and one third, the opening section, of STS 100. Dr Stewart Russell and Dr Sharon Beder each created a third of that latter subject. The subjects were first offered through OLA midway through 1995. In 1997 the OLA contract was renewed for a further two years.

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In 1994 the Science and Technology Studies Program [STS] won a three year contract with the Monash led Open Learning Australia consortium [OLA] to provide two first year subjects in the area of history and philosophy of science/social studies of science and technology. The two subjects, OLA SCI 14 and OLA SCI 15 were analogues, respectively, of STS 100 Introduction To Science and Technology Studies and STS 112 The Scientific Revolution—History, Philosophy and Politics of Science. That is, both were modelled exactly on long standing and well established first year subjects taught on campus. I wrote approximately 65% of the subject materials—all of STS 112 and one third, the opening section, of STS 100. Dr Stewart Russell and Dr Sharon Beder each created a third of that latter subject. The subjects were first offered through OLA midway through 1995. In 1997 the OLA contract was renewed for a further two years.

The OLA subjects are based on traditional print formats, including a study guide and book of basic readings. In addition we were invited to succeed or embarrass ourselves by writing and mainly performing a thirteen part radio series for Radio National, to go along with the OLA version of STS 100. Dr. Stewart Russell comments upon our radio experiences elsewhere in this issue. Secondly, we had in hand a suite of textbooks authored by ourselves which paralleled the on campus lecture courses and which had grown out of organic reflection upon them, a process begun before we ever dreamt of OLA.

One problem in this area has always been that whilst there are many books, there are almost no useable, stand alone elementary texts, and especially no first texts that open the wider realm of HPS to STS students. That is what I had aimed at in the textbook developed for teaching on campus, and now used in OLA. The subject and the book are the fruit of twenty years of teaching in the area and of twenty-five years of research. The textbook accompanying the subject had evolved from personal lecture notes, through edited transcriptions of tapes of the lectures, which in turn were re-synthesised into textbook form. Passing through an oral stage of presentation helped capture the appropriate tone of presentation of this difficult material. Re-synthesis instilled in the final, public, written text more detail and formal argument.

In my first year teaching in the Scientific Revolution subject, there are historiographical, conceptual and narrative constraints upon content, order and style of presentation. This has meant that the curriculum evolved over many years to consist in a pattern of sedimentary layers—sequential sections of the subject alternating between narrative and

conceptual-theoretical moments. The narrative segments use only the conceptual apparatus already supplied; but, they are also designed to lull the students into acquaintance with the next layer of conceptual apparatus, prior revealing their presence. For example, the students are already practicing a post-Kuhnian narrative of a small part of the Copernican Revolution, before being formally presented with Thomas S. Kuhn's theories [and criticism thereof] which had actually structured that bit of earlier narrative.

Turning to STS 100/SCI 14: it had been designed by a committee and team taught over many years. Despite this perhaps unpromising background, it had been an on campus success. The same pattern developed here as in STS 112/SCI 15: textbooks organically tied to the course content had begun to emerge prior to OLA becoming a possibility.

So, in both subjects we have ended up with identical on campus and distance learning materials: subject guides, textbooks and set of readings. There was no denaturing of the on campus basic print material for distance mode, because the on campus material had already reached a high degree of tuning for ease of first year use. That is an ideal situation. The question remains, 'Is it replicable?' I am not at all sure about

that. The circumstances leading us to OLA were all very specific.

Our involvement with OLA started in mid 1994, rather early on in the development of interest in flexible delivery on this campus. It was not an internally driven development. We seized an opportunity offered by OLA to move into an area we had not visited before.

For the reasons already mentioned, the production of print materials was not difficult and we had lots of help. We were well funded, resourced and staffed. Jim Falk was committed in earnest to this and so were the rest of us. By far the most daunting and challenging tasks involved writing the radio scripts and producing the programs. In my case, this largely replaced research work for an entire session.

Involved in this project, in addition to myself, Dr. Russell and Dr. Beder, and absolutely necessary to our success were, firstly, Dr Rhonda Roberts who has handled the vast bulk of the management, negotiation, liaison and internal organisation, and Lawrence Stevenson, Professional Officer in STS, who has done the bulk of the day to day routine administration, organisation of the printing and mailing of materials and much of the marking and phone tutoring.