

"Teaching Skills or Teaching Methodology?"

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While there have been a number of publications exploring the research possibilities opened up by digital humanities and arguing for its place in the higher education curriculum,ⁱ it is not our purpose in the present paper to contribute to this ongoing critical conversation. Instead, we wish to explore precisely *what* we should be teaching under the banner of "digital humanities." In the case studies that follow, we argue that this curriculum should focus on teaching students new approaches and new ways of thinking about the humanities and, in order to accomplish this with different groups of learners at disparate levels, that there is a need for teaching methodological approaches and not simply technological skills.

Critical Background

In addition to developing key research methodologies and skills, students need to develop mechanisms for the development of collaborative and interdisciplinary skills, which are increasingly required within and outside the academy. This requirement emphasizes the need for training students in collaborative method and reflective practice, to build a community of learning that will lead to a community of practice.ⁱⁱ A starting point may be what we might call “fundamental information literacy” to address some of the issues that educators have been aware of for some time (such as students’ uncritical use of the web) but have now been qualified and quantified in a recently published report on “Higher Education in a Web 2.0 World.”ⁱⁱⁱ This report makes explicit many of the issues of concern to higher-education educators for which there was previously little other than anecdotal evidence. In recent years, it has become apparent that the increasing familiarity with the web amongst the so-called “digital natives” (i.e. those who have grown up with the web) has developed alongside a dependency upon, and an uncritical acceptance of, whatever is provided at the top of the list of results returned by their favorite search engine. The investigations of the CIBER group at University College London into the so-called “Google Generation,” confirm the existence of such a trend and counter the common assumption that those born or brought up in the Internet age are the most adept at using the web.^{iv} Just because we in the academic (and digital humanities) community have access to and an understanding of the wide range of resources that we take for granted, we must not assume that our students do too. The so-called “digital divide,” the division between the digital “haves” and “have-nots,” has not been entirely overcome and persists in several dimensions: in

access to, and engagement with, technology; the capability of the technology; and individual competence.^v An important finding of the “Higher Education in a Web 2.0 World” report is that there is a significant and growing deficiency in students’ “information literacies, including searching, retrieving, critically evaluating information from a range of appropriate sources and also attributing it.”^{vi} The report similarly highlighted the importance of teaching staff and the need to keep their skills current with regards to web-based materials and techniques.^{vii}

A major problem for incoming students is that they do not know what is available and, more importantly, what it is that they need to know to become successful learners. This is where their familiarity with online social networking can be used to advantage and something that educators can build on to scaffold appropriate learning activities using a new media approach. Many of those coming to Higher Education already have an online lifestyle in which they use social networking sites, and this familiarity can be built on to support teaching and learning through group interaction and collaboration. However, it is important to remember that to be effective teaching interaction needs to be at a level removed from the students’ online social activities, which should be considered private and entered into “by invitation only,” if at all. It is one thing for the students to set up a Facebook group to work together, but it is quite another for their tutor to set one up in what is after all a “closed” space. To many students, their online social networks are a diversion to escape from learning rather than a mechanism to support it: “Hence, their discomfort with staff-initiated discussion groups in social networking space when they are at ease with those they set up themselves for study-related purposes.”^{viii}

Indeed, these are often places where students feel free to criticize their tutors and their study programs and so would feel inhibited if tutors were able to view their comments. What is needed is the development of a group space that exists somewhere between study and social areas. Using the social web develops a sense of community that reduces the possibility of the sense of isolation,^{ix} and so can be employed to create a sense of cohesion within the group, particularly if they meet infrequently in person. Through the use of these interactive web technologies, we have the tools to develop systems that promote learning with and through the use of technology, to develop best practice in the use of social networking tools in a pedagogical framework, to bring about a culture of participation and collaboration, and “to sustain a learning society.”^x

Students who have grown up not knowing life without the web (the so-called “digital natives”) have little, if any, understanding of the way in which it works. For them, the Internet and the web has become one and the same thing. They know how to “point and click” and, as the above reports have shown, rely too heavily on the first five of results given to them by their favorite search engine. They expect Google to give them the answer when their tutor does not, since the latter, of course, wants them to critically evaluate their primary and secondary material and come to reasoned conclusions based on that.^{xi} For many students, the Google search has become “research.” A pertinent example of this in practice is the increase in student references—particularly amongst undergraduates—to journal articles held in JSTOR (<http://www.jstor.org/>) since it opened up to indexing by Google. While

using an institutional network, provided that institution subscribes to JSTOR, clicking on that Google link will return the full article.^{xii}

At UK institutions of higher education, IT services often offer courses to support students as well as staff. For students, the topics of these courses typically range from word processing, spreadsheets, and databases, through to multimedia applications, aimed at developing students' technical skills and teaching them which buttons to press and how to manage their files. This, however, is not research training, which is necessary for students to progress their learning and, in the case of research students, to satisfy research committees and funders. Graduate schools often have individual sessions to support students, although these often focus on areas such as professional development and self-management. Again, these courses do not advance the research capabilities of the students and do not have pedagogical underpinning. By contrast, the case studies introduced here address both these areas and stimulate and support student learning.

Case Studies

The Department for Digital Humanities (formerly the Centre for Computing in the Humanities), King's College London, delivers a number of courses on the “world of angle brackets” (XML, TEI, XSLT, HTML, and so on) in several forms and at different levels, ranging from one-day full-immersion focused training to a full twenty-credit

academic master's module, as well as a week-long PhD training course.^{xiii} Most incoming students are genuinely concerned to some degree that the content that we deliver will be too complicated for them, and most initially do not have a very strong motivation to attend the classes. Even those students with strong motivation and commitment often struggle in an unfamiliar environment, as formal languages (such as markup) force the liberal humanist to think in a different, perhaps more structured, way. All of these considerations pose serious problems and limitations to the way students might learn, requiring teachers to adopt creative strategies to help them with both the contextual understanding of the content being delivered, as well as with long-term learning skills. Before we examine the methods implemented in our teaching, let us first briefly survey the types of courses and their respective audiences:

- **A one-day training in XML and TEI.**

This type of training is targeted to academics involved in collaborative research projects with the Department for Digital Humanities, covering the basics of XML and an introduction to the principles of the Text Encoding Initiative (TEI). These training days are fairly generic and tend to take place when we have collected a sufficient number of interested participants to be instructed across several projects. In some cases, such as when the research project involves deep specialized XML marking of a corpus of documents, a series of individual follow-ups takes place oriented at the specific needs of the researcher/s. Some of the participants in these training days are genuinely curious and interested in learning about these new technologies,

but many attend only because XML is the technology that has been chosen for the project they work in.

- **A one-week intensive training course on Medieval Manuscripts.**

This is a five-day training course for PhD students in the United Kingdom, Medieval Manuscript Studies in the Digital Age, supported by the Arts and Humanities Research Council under their Collaborative Research Training Scheme.^{xiv} It includes theoretical classes on codicology, palaeography, editing, and art history, as well as visit to libraries.^{xv} Half of the week is devoted to digital contents—in particular, learning XML and the use of TEI for editing and cataloguing, and in general, digital publication. Attendance is vocational and positively sought by the participants—most students apply because they think that the technologies taught in the course will help them with their research; others because they think they will learn reusable skills that will help them find a job once they complete their PhDs; while others are simply curious.

- **An undergraduate course, Introduction to the Digital Humanities.**

From 2010-11, this course includes introductory classes on XML, HTML and TEI, as well as on text analysis and databases. Students in the course typically come from a variety of disciplinary backgrounds, such as engineering, business and finance, education, and humanities. The students have generally very little motivation (with some bright exceptions) for technologies

involving the use of angle brackets and in some cases they have simply been directed to the course in order to fill credit requirements.

- **An undergraduate module on Texts in the Digital Humanities.**

This is a second year module for students that have already taken the Introduction to the Digital Humanities in their first year or otherwise with previous knowledge of the digital humanities. The course focuses strongly on analysis and modeling, and covers XML and TEI, Relax NG Schemas (previously DTDs), and XSLT. Most students choose the module out of a genuine interest in digital technologies, either because they think that it will give their degree a more “modern” flavor, or because they simply like computing.

- **A postgraduate module on Advanced Text Technologies.**

This module is part of the MA in Digital Humanities offered by the Department for Digital Humanities, but it is also taken by students of the MA in Digital Culture and Technology (renamed Digital Culture and Society as of the 2011-12 academic year), again offered by the Department for Digital Humanities, and seldom taken by students from other departments in the School of Humanities. In terms of content, the course shares most of the topics taught at the undergraduate level, but with a greater emphasis on analysis and modeling with a specific focus on cultural heritage material. Several PhD students wishing to learn skills that may be of use for their own research often also audit the module. Most students are highly motivated;

most are enrolled in a vocational MA program in which the taught technologies are a core component, while others see the course as offering the key set of competencies necessary to their own research projects.

As the brief outlines above make clear, most students share a strong research interest: either they are researchers (e.g. PhD students, research faculty, or research associates within a research project) or they have a research task to accomplish (e.g. a dissertation). Most students clearly see the use of “angle bracket technologies” within their own research profile, and this also constitutes the principal motivation for taking a course on such topics. These considerations are at the base of the teaching approach we have adopted with such a group of people, such that we have built all of our teaching practices by taking into account that most of our students want to learn *how to do better or new research*. The teaching strategy we have developed includes:

- The use of relevant examples, with the selection coming from the domain of the course participants;
- The use of exercises that are relevant for the participants, again by selecting material from the students’ domains; and,
- Presentations of specific resources and supports that will be available to the participants after completion of the courses in order to allow students to accomplish their research on their own.

This approach is best exemplified by the work done for Medieval Manuscript Studies in the Digital Age course. The training course simulates the life cycle of a typical research project (a dissertation, a publication, a project) in the field of medieval manuscripts involving some sort of digital component. In the first three days of training the students are taught about scripts, binding, parchment, gatherings, and decoration, before being taken into several libraries (Parker Library at Corpus Christi College, Trinity College Library and St John's College Library in Cambridge, Lambeth Palace and the Wellcome Institute in London) to see the same features with their own eyes in selected manuscripts. In the last three days they learn how to transcribe, edit, annotate, and catalogue in a digital environment the very manuscripts they have studied in theory and handled in practice, with the help of digital surrogates.

In previous offerings of the course, we have chosen one manuscript in particular to be used as a continuous exercise, namely CCCC 422 (the "Red Book of Darley") preserved at the Parker Library in Corpus Christi College Cambridge. This manuscript is used first as an example for theoretical lectures on scripts and decorations; it is then shown *in situ* at the Library, where the students have the opportunity of inspecting it; it is then described and catalogued using the TEI manuscript description module before it is transcribed and edited; and finally, the digital images of selected pages are annotated for descriptive and editorial purposes.

The results with the PhD students have been outstanding—even the more digital-skeptic participants displayed a level of commitment and enjoyment in doing the exercises and attending the classes that was beyond our expectation. Feedback from the students has subsequently confirmed the impressions we made from the classroom, with repeated reports that “it all fitted” and “it all made sense.” Most students declared that by using such digital technologies they had seen things in a way they had never previously thought about. By applying these unfamiliar technologies to a familiar and interesting object (the medieval manuscript), students recognized how such techniques could form the basis of a methodological approach to learn something new and exciting about the objects of their research.

This passage from skill to methodology is conceptually more difficult for undergraduate students who lack strong motivation in attending their module: in most cases it represents yet another module “to pass” on their way to the final degree. Second year students, by contrast, show a good level of awareness and motivation. Some students think they will learn something useful for their final year independent project;^{xvi} others take the modules with future vocations in mind. The key to reaching all types of students, regardless of the levels of motivation and fear, is to stimulate their sense of natural curiosity. In our courses, one method of accomplishing this has been to present students with finished products (research project websites, for example) and to challenge them to find out how these were achieved. One frequently used example, because of its clear encoding and outputs, is The Language of the Landscape: Reading the Anglo-Saxon Countryside project or LangScape for short (<http://www.langscape.org.uk/>). For this project some 1,500

Anglo-Saxon bounds extracted from the corpus of the Anglo-Saxon charters have been deeply annotated in XML-TEI with linguistic and editorial tags.^{xvii} The project website presents the short texts in three different versions—semi-diplomatic, edited, and glossed—and by using a simplified dataset it is often not too difficult for students to map each element/attribute of the source files with what they see on the live site, and then to question the methodology used to transform from one to another. Another method of stimulating student motivation we have found is to appeal to their sense of competitiveness. To this end, a weekly challenge is included in the homework for the following class, in which the first to email the teacher with the right answer receives a public award.

Of course, the weekly challenge and the down-top approaches outlined above are not enough to help students understand the methodological implications of the contents they are learning—these are only “tricks,” able at best to keep their interest awake. However, to some extent, the same can be said about the use of relevant examples and exercises for research students and researchers. Ultimately, teaching methodological understanding is the result of the time devoted to encoding and analyzing texts and discussing specific modeling issues—only the active demonstration that encoding is an intellectual activity, and not merely the mechanical application of angle brackets, can stimulate real engagement from the students with the possibility of their re-using the skills taught for their own purposes. It is this approach that makes students declare that XML makes them “think,” and in particular “think about the text,” in a different way.

Modeling is a process that is implicit in the act of encoding—one cannot apply markup without having first analyzed the material and planned the goals and purpose of the encoded text. Indeed, as Willard McCarty has observed, modeling is the one activity necessary to enable any computational application.^{xviii} It is therefore essential to cover analysis and modeling while teaching XML, especially when engaging with students not familiar with computers or for whom such an approach may be new. No matter how intensive and short the training session may be, it is fundamental to find some space to discuss modeling and analysis: this will not only ensure that the teaching will make a deeper impact on the students, but will also ultimately mark the difference between teaching and learning skills (that are easy to forget) and teaching and learning methodologies, which have the potential to radically change a student's research and professional life.

Conclusion

What becomes apparent from these case studies is the fundamental need to teach research methodologies. Skills training is not research training: the knowledge gained is transient since, like a language, it requires constant practice and repetition to be retained in memory. By contrast, thinking skills are the most important because they are the most deeply embedded and the most transferable. As educators, how do we develop our students' ability to think? The case studies discussed above suggest that this may be accomplished by building upon students'

existing familiarities: students accustomed to the web are challenged by the incorporation of new ideas and novel methods with which to undertake traditional humanities pursuits, while all students are encouraged to reflect upon and think through new processes and principles as they work with materials (such as medieval manuscripts) already familiar to them. Both strategies rely upon the students' desire to improve their research as a lever to engage their interest.

Our experience has shown that digital humanities teaching needs to be relevant to the students' studies or research interests. It is imperative that students are prompted to think in a new and different way, even when dealing with familiar topics or objects of study. What we should be teaching under the umbrella of the "digital humanities" are not skills—although they too play their part—but new methodologies and new ways of thinking.

There are still some institutional barriers to overcome. The case studies above exemplify the sound critical and methodological approaches to teaching and learning that reflect the fundamental difference between teaching digital humanities and the institutional support courses designed for professional advancement. As teachers, the struggle we face is that our colleagues within many Humanities departments consider the teaching of digital humanities to consist solely of the instruction of techniques deprived of any critical thinking and, as a result, are skeptical of its merits and do not recommend it to their students. The chapters in this volume prove otherwise. One way forward may be to engage with other academic departments and to share courses, perhaps by embedding an introductory

digital humanities module as a core component of undergraduate degree programs.^{xix} Once colleagues across the arts and humanities see how their students benefit from the digital humanities approach, they will better understand our work and support the training of future digital humanities researchers.

ⁱ See Martyn Jessop, "Teaching, Learning and Research in Final Year Humanities Computing Student Projects," *Literary and Linguistic Computing* 20, no. 3 (2005): 295-311.

ⁱⁱ Simon Mahony, "Using Digital Resources in Building and Sustaining Learning Communities," *Body, Space & Technology Journal* 7, no .2 (2007), <http://people.brunel.ac.uk/bst/vol0702/simonmahony/>.

ⁱⁱⁱ David Melville, Cliff Allan, Julian Crampton, and John Fothergill, et al, "Higher Education in a Web 2.0 World," report of the Committee of Inquiry into the Changing Learner Experience to the Joint Information Systems Committee, May 12, 2009, <http://www.jisc.ac.uk/media/documents/publications/heweb20rptv1.pdf>.

^{iv} David Nicholas, Ian Rowlands, and Paul Huntington, et al, "Information Behaviour of the Researcher of the Future," University College London CIBER Group briefing paper prepared for the Joint Information Systems Committee (JISC) and the British Library, January 11, 2008. The full reports and findings are available from the JISC website for the project,

<http://www.jisc.ac.uk/whatwedo/programmes/resurcediscovery/googlegen.aspx>.

^v Melville, et al, "Higher Education in a Web 2.0 World," 33-34.

^{vi} Melville, et al, "Higher Education in a Web 2.0 World," 6.

^{vii} Melville, et al, "Higher Education in a Web 2.0 World," 10-11.

^{viii} Melville, et al, "Higher Education in a Web 2.0 World," 24.

^{ix} See Mahony, "Using Digital Resources."

^x Ron Dearing, et al, *Higher Education in the Learning Society: The Report of the National Committee of Inquiry into Higher Education* (London: Her Majesty's Stationery Office, 1997), 13.

^{xii} This was clearly demonstrated in the module described later in the present chapter, in which graduate students were asked to source quotes. Many searched Google using the quote surrounded by double quotation marks and then read off the source from the links returned without clicking that link and investigating further, that is, without moving beyond the Google results page. The notion of finding the printed source in the library to validate their references always seemed beyond most, if not all, of them.

^{xiii} This behavior explains why so many students refer only to JSTOR in their referencing rather than the journal in which the article was published. Moreover, this behavior also explains why so many students are completely unaware that the articles they are accessing are often digitized from back-issues of print journals, that the most recent issues are often unavailable from JSTOR, and that these materials are being accessed via a subscription-only service.

^{xiv} Many people are involved at various level in teaching these classes: Eleonora Litta Mognani Picozzi, Charlotte Tupman, Gabriel Bodard, Paul Spence, and Raffaele Viglianti in 2011, and previously John Lavagnino, John Bradley, Arianna Ciula, and Juan Graces, Zaneta Au. The authors wish to thank their colleagues for their fundamental contribution in the development of the teaching strategies discussed in this article.

^{xv} The course is based at the Institute of English Studies, which is one of the Schools of Advanced Study in the University of London. Other collaborating institutions include the Department of Anglo-Saxon, Norse and Celtic at Cambridge University, the Department for Digital Humanities at King's College London, and the Warburg Institute, which is another of the Schools of Advanced Study.

^{xvi} For more on this course, see Peter A. Stokes, "Teaching Manuscripts in the Digital Age," in *Kodikologie & Paläographie im Digitalen Zeitalter 2 / Codicology & Palaeography in the Digital Age 2*, edited by Franz Fisher, Christiane Fritze, and Georg Voegler (Norderstedt: Books on Demand, 2011), 231-47.

^{xvii} See Jessop, "Teaching, Learning and Research."

^{xviii} For more on this project, see Peter A. Stokes and Elena Pierazzo, "Encoding the Language of Landscape: XML and Databases at the Service of Anglo-Saxon Lexicography," in *Perspectives on Lexicography in Italy and Europe*, edited by Silvia Bruti, Roberta Cella, and Marina Foschi Albert (Newcastle-upon-Tyne: Cambridge Scholars Publishing, 2009), 203-38.

^{xix} Willard McCarty, *Humanities Computing* (New York: Palgrave Macmillan, 2005), 20-72.

^{xx} At time of writing, this approach is being promoted at University College London, where a digital humanities module is offered as core curriculum as part of a new bachelor's of arts and sciences (BASc) program.