Extract from:
Education in a Changing Environment 13th-14th September 2004
Conference Proceedings

Collaboration Across Border: Benefits and Pitfalls of an International Collaborative Project

Elena Zaitseva, e.zaitseva@salford.ac.uk
Jan Shaylor, j.shaylor@chester.ac.uk
Janice Whatley, j.e.Whatley@salford.ac.uk

Abstract

International educational collaboration, facilitated by web-based means, has important benefits in higher education. The CAB project is aimed at designing, experimenting and evaluating ways of introducing collaboration into the educational practice of higher educational institutions in Europe and beyond. This paper presents results of four collaborative activities aimed at peer-evaluation of students' assignments. Interviews, discussion transcripts, and student questionnaires have formed the research tools for the analysis of pedagogical and social benefits students have gained, as well as problems they experienced. While we found that peer evaluation can be an effective pedagogical instrument for promoting critical thinking, reflection and collaboration at an international level, a number of organizational and pedagogical pitfalls were identified and suggestions for the improvement of such projects are proposed.

Introduction

International collaboration has become more and more common practice in higher education. It gives students the benefits of "shared experience and co-construction of knowledge with peers from diverse perspectives through interaction" (Kim and Bonk, 2002). Research demonstrates that collaborative learning, based on discussion online, facilitates the processes by which learners articulate, conceptualise and re-conceptualise their own understandings of the subject area (Aldred and Reid, 2003 as cited by Bradshaw and Hinton, 2004). It is also recognised that collaboration enhances the learning process by increasing knowledge acquisition and retention (Alavi, 1994, Kayama and Okamoto 2002, Khalifa and Kwok, 1999). As learners communicate ideas to each other, regardless of the different levels of abilities, a more explicit and organised understanding emerges. Glover, Hardakerv and Xu (2004) state that collaboration helps learners to express and explore multiple points of view and ideas on an individual and group level. Peer learning that emerges with collaboration, promotes greater conceptual and procedural gains for students, accommodates a broad range of learning styles, results in greater enjoyment of the learning task, and encourages a stronger persistence in learning (Johnson and Johnson, 1991).

Collaborative learning is enhanced when the learning partners bring different perspectives to a problem or topic, for example, heterogeneous task-relevant knowledge from different student populations within a field of study (Alavi, 1994). In our case cooperation between institutions, usually from different countries, offers a means to broaden the teaching and learning experience.

While collaboration, based on computer-mediated communication, has created new opportunities for students and tutors in different institutions, researchers agreed that it can also be fraught with difficulty (Wheeler, 2001, Chambers, 2003). Most of the attention in collaborative projects has been focussed on the technology itself rather than to its application in different institutional and cultural contexts, this is seen as a deeply

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

mistaken assumption (Chambers, 2003). Some factors which could affect the collaboration process, for example absence of social presence and tutor immediate reaction, were reported in Richardson and Swan (2003).

Globalization and the international nature of collaboration adds new dimensions to students' work, requiring students to handle collaborations that are cross-cultural and linguistically challenging (Daniel at all, 1999). Examining and sharing the benefits of international collaborative activities as well as their drawbacks becomes an important aim of pedagogical research and could help to promote such collaborations between institutions and make them more successful.

CAB: Network for Promoting Collaboration

The Collaboration Across Borders project (http://www.cabweb.net) aims at designing, experimenting and evaluating ways of introducing collaboration into educational practice of higher educational institutions in Europe and beyond. The main goal of the project is to establish a network of tutors who are ready to bring new, internationally enriched ways of collaboration based learning, into their courses and modules and share the experience with other tutors.

In particular, the project is aimed at organizing flexible, short-term (about 2-3 weeks) collaborative activities, without major overhaul of the curriculum, which enables collaboration between students, studying related or even different subjects and having diverse desired learning outcomes (Whatley and Bell 2003). Among examples of such activities are peer-assessment and peer-evaluation, topic-oriented discussions, design activities and online seminars. Recent CAB activities included collaborative exercises between six appointed European based partners from Spain, Netherlands, Germany, Poland and UK, and associate Australian participants.

Case Studies Background and Research Instruments

Four collaborations, which are the subject of analysis for this paper, took place between January and April 2004 and were aimed at peer-evaluation of student assignments: multimedia presentations, e-commerce web-sites and interactive web-based tutorials. Collaborations were of different scales and involved between 2 and 5 institutions each. Student groups did collaborations in the framework of their modules/courses on two collaboration platforms (Table 1).

Students whose work was evaluated had to present their projects either on-line or on CD-ROMs that were posted to their peers. Work was produced as part of the student assessment for specific courses, with a variety of tasks such as explaining the project purpose and intended audience, level of its completion, obtaining feedback from peers and then reacting to the evaluation of the international peers. Student-evaluators undertook their work as part of assessments and had to complete their evaluation based on suggested criteria and get feedback from the project author. The collaboration could grow into a follow-up discussion for a number of reasons, including suggested technical improvements and design ideas, and sometimes disagreements. A discussion forum was the main tool of collaboration. All discussions were in English, although the level of English language skills of students who were non-native speakers varied from beginners to advanced. Operational issues such as correctly logging students from different institutions on to the discussion boards and providing clear instructions and forum practice prior to the evaluation starting were important steps at this stage.

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

	Collaborative Activity	Participants	Participant Course/Module	Collaboration Environment/ Platform
1	Peer evaluation of multimedia presentations made by students of the University College Chester	University College Chester (UK)	Multimedia Module (Dep. of Computer Science)	Discussion Board of the University College Chester
		Institute of Information Engineering, Almere (Netherlands)	Department of Computer Science	
		University of Karlsruhe, (Germany)	Multimedia Didactics Seminar (different courses)	
		University of Murcia, (Spain)	Educational Psychology	
		University of New South Wales (Australia)	Multimedia Course (Architecture and Industrial Design)	
2	Peer evaluation of multimedia design projects made by students of the University of New South Wales	University of New South Wales (Australia)	Multimedia Course (Architecture and Industrial Design)	Discussion Board of the University College Chester
		University College Chester (UK)	Multimedia Module, Department of Computer Science	
3	Peer evaluation of e-commerce web-sites made by Institute of Information Engineering, Almere	Institute of Information Engineering, Almere (Netherlands)	Human Computer Interaction	CAB Forum
		University of Salford (UK)	Developing Teaching and Learning Systems	
4	Peer evaluation of interactive web-based tutorials made by students of the University of Salford	University of Salford (UK)	Developing Teaching and Learning Systems	CAB Forum
		University of Murcia (Spain)	Educational Psychology	
		Technical University of Lodz (Poland)		

Table 1. Outline of the Collaborations

After the end of their collaboration, students were asked to complete an online post-collaboration questionnaire, to which there was a response rate of over 50%. (http://www.isi.salford.ac.uk/staff/fb/CABQuest/Cabintro.htm). This questionnaire consists of 34 closed and open questions combined to measure the students' attitude to the following aspects of collaboration:

- academic benefits of collaboration

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

- timing of activity
- impact of collaboration on the group activity
- communication and language issues
- off-topic interaction
- motivational and emotional background of collaboration
- attitude to collaboration tool (discussion forum)
- students' most positive and negative experience gained from collaboration, suggestions for improvements
- their wish to participate in such activities again.

Interviews, focus groups and discussion transcripts, along with student questionnaires, formed a set of research tools for qualitative and quantitative analysis of pedagogical and social benefits that students gained in the process of collaboration, as well as problems they experienced. Transcripts of the students' discussions, which represented all collaboration participants, were examined to analyse the collaboration discourse, language related issues and emotional background, and to obtain examples of particular utterances. Data from two focus groups were exploited to obtain less formal feedback and students' personal feelings about experience gained.

Main Findings

Collaboration Experience of Participants

The questionnaire revealed that 76% of respondents (there were 165 of them) had no previous experience of on-line collaborative activities, though some students reported their previous participation in local collaborative projects and intercultural seminars. The high number of Spanish students having collaboration experience is explained by an earlier participation of the group in a collaboration with Chester (Table 2).

	Country						
Previous Collaboration Experience	Australia	Germany	Netherlands	Poland	Spain	UK	Total
yes	3	1	3	5	21	3	36
no	9	10	2	29	32	35	117
Total	12	11	5	34	53	38	153

Table 2 Previous Collaboration Experience of Students

Although this was a new educational experience for most students, it was positively perceived by the majority of them and their tutors. When asked to select from a list of emotional experiences during the collaborative activity, students gave a positive response.

Academic Benefits of Collaboration

About 85% of students, irrespective of their role in the collaboration (evaluators or those whose project were evaluated), responded positively to obtained academic benefits

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

through engaging in discussion (Table 3). Among educational benefits/advantages perceived by respondents were:

"getting to know what people from around the world thought of my work"

"possibility to have a very accurate look on the work of another student, to tell my thoughts and opinions as exactly as possible"

"finding out other peoples ideas and how different countries' cultures affected the feedback"

"found the subject I was evaluating interesting and wanted to learn more"

"it was good to use English language outside the classroom"

The activity was beneficial	Frequency	Percent	Cumulative Percent
strongly agree	37	22.4	22.4
agree	103	62.4	**84.8**
neutral	20	12.1	97.0
disagree	5	3.0	100.0
Total	165	100.0	

Table 3 Collaboration Benefits

Some respondents suggested that international evaluation has a number of advantages over those happening inside the students group: "I appreciated the honest suggestions put forward by the (foreign) students. Friends can sometimes be biased and reluctant to point out faults in the work". A majority of students (non-native speakers of English and German) welcomed the opportunity to communicate in a foreign language and practice the language outside the classroom.

Results of the survey revealed that collaboration activities were actively discussed in groups (64% of agree and strongly agree responses) and 69% of students believed that collaboration facilitated exchange of ideas in their group.

Only one respondent, who had shown general negative attitude to collaboration, considered this project as wasting his/her academic time: "I felt it was patronising that I had to get my work evaluated by someone who had no proven knowledge or qualification for doing so".

Factors Affecting the Evaluation Process

One of the controversial issues of peer-evaluation discussions was the quality of the projects that students evaluated. Students at Chester were limited in terms of time in the amount of work they could implement, this led to sections of their presentations being incomplete, and whilst this was satisfactory in terms of assessment, it was less satisfying for evaluators. Some Chester students felt they had to cut down some graphic, video and audio information in order to distribute their work internationally. This resulted in an impression of uncompleted work and affected the feedback from peers.

Similarly, lack of detailed information about modules/courses taken by peers, their syllabus and skills obtained, also led to a misunderstanding of the work quality. The questionnaire shows that some Australian students who were designers weren't fully

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

satisfied with the quality of Chester projects. This can be explained by their artistic background and their being unaware of details of the assignment of their peers from the Chester Department of Computer Science. However it must also be remembered that not all the students had the same ability, and some of the work was weak. When a weak student was paired with a strong student in the collaboration this effect was magnified.

The Salford collaboration activity was also affected, as the Salford web-based tutorials were prototypes, as indicated in the collaboration instructions, however, as this was not emphasised by partner tutors, the feedback of students evaluating these was concerned mainly with missing links, shortage of illustrations and sound etc.

At the same time Salford students had been evaluating e-commerce web-sites made by Almere students, and reported that it was difficult to get a proper understanding of the projects' quality, because the language of the web-sites was Dutch and only one Almere group provided their peers with a brief English translation of their project, to assist them in their task.

Language and Cultural Issues

In these cases the main language of collaboration was English, however students were allowed to communicate with their peers in any language, providing English language translation of their postings for others. A common task for the Spanish, Dutch, German and Polish groups was to practice subject-oriented discussion in English and develop communication skills in a foreign/second language in general.

Table 4 illustrates the level of English language proficiency of respondents. While the English language level of all the Dutch and majority of the German students was quite high, for most Spanish and Polish students this collaboration was the first experience of practising English in a meaningful educational situation. Australian students, who were non-native speakers, possessed a good level of English.

		country						
		Australia	Germany	Netherlands	Poland	Spain	UK	Total
language fluency	native speaker	4	0	0	0	0	32	36
	fluent	3	2	2	1	6	3	17
	advanced	3	4	3	11	4	1	26
	intermed.	2	5	0	16	40	2	65
	beginner	0	0	0	6	9	0	15
Total		12	11	5	34	59	38	159

Table 4 Language Fluency

Students' responses to the questionnaire revealed that about 90% of British, German, Australian, Dutch and more than 50% of Spanish respondents didn't experience difficulties in understanding their peers. However about half of Spanish students and 30% of Polish had a feeling that other participants didn't understand them properly and reported difficulties in understanding others. Spanish students, who were beginners in English, reported they had made tremendous efforts in completing evaluation text and had difficulties in understanding peers' feedback, which resulted in their frustration and even disappointment. At the same time some British students expressed their

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

dissatisfaction with evaluations made by foreign students, that were hardly understandable. Spanish students also experienced difficulties in completing the post-collaboration questionnaire which was in English. Some of their responses demonstrated misunderstanding of questions.

Among particular difficulties reported by students were the following:

> "we had difficulties because we don't understand very much the English language"
>
> "I felt that they didn't understand me with use of some expressions"
>
> "certain vocabulary used by them (foreign students) and also don't think they understood the purpose in our projects"
>
> "foreign students did not possess the language skills required to understand what our development was about"
>
> "clarity of what they actually meant was needed - a bit sketchy, and others"

At the same time Chester students participating in focus group said that they were impressed by the high level of English language of some German students: " … their English language was very posh, they used rare Latin words and abbreviations…". Chester students also encouraged the language efforts of Spanish peers: "… your English is very good considering you have never used the language before!"

From discussion transcripts we have found that the collaborative behaviour of participants from different countries varies. Dutch students have demonstrated more obvious interest in the results of their efforts, but regarded evaluation activity as much more private and used personal interaction, in comparison with other cultural groups. The language of postings and emotional level of evaluations were also different, from quite formal postings of the Dutch and German students to emotional and intimate messages of Spanish students. Some cultural differences were noticed in students' attitude to the projects they evaluated (Zaitseva at al, 2004).

Timing Satisfaction

Student responses found that while 62% of students regarded the timing of the activity as satisfactory, 15% of them thought that activity took place at an inappropriate time. Delay starting the first Chester collaboration, caused by late delivery of CD-ROMs to the partners, led to feedback being late. Students commented in the following way: "I felt rushed to do an exercise that I felt was pointless, the timing was poor"; "It was after hand in date so the feedback is only useful if doing another multimedia module"; "Suggestions to modifications could not be acted upon"; "The evaluation could have been more useful if it had occurred before I finished the course". Students evaluating Chester projects, who were asked to download projects from the Chester server, reported time-consuming downloading because of their slow home network connection and the large size of the multimedia presentations.

The Salford collaboration also started late, and where students' evaluators (Polish and Spanish) possessed lower levels of English skills, it took more time for these students to complete even a short evaluation report. A Salford student commented: "Lack of feedback from foreign students meant that compilation of final reports were required to be left until very close to the deadline". At the same time Spanish students reported that "… time that we were given isn't enough. I had liked to have got more long time".

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

The experience of the Salford collaboration has shown that an activity, which has a "gap" because of holidays might lead to a lowering of students' motivation from both sides. The focus group of Salford students also revealed that "time overlap" in two collaborations (when one collaboration hasn't finished yet, but another one starts) tends to distract students and even lead to frustration. Slow reaction time from partners was mentioned in 40% of responses, as evaluators, as well as those who evaluated projects.

Social Interaction

While students gained a new perspective on their own learning experience, collaboration wasn't widely regarded as suitable for social interaction. Only 42% of students used the chance to communicate with their peers on topics unrelated to the collaborative activity (Table 5), and less then 17% of students tried to exchange personal information with students abroad.

Did you communicate on any other topics?		Frequency	Percent	Valid Percent
Valid	yes	68	41.2	42.8
	no	91	55.2	**57.2**
	Total	159	96.4	100.0
Missing	(not answered)	6	3.6	
Total		165	100.0	

Table 5 Communication off-topic

Among the reasons for this, students mentioned anxiety about the level of their foreign language skills, lack of time, feeling that it was non-relevant, also: "not given the option", "thought it was better to stick to the subject". At the same time the need for more personal contacts was mentioned by many students: "I would've been happy to discuss other matters with the students, although it didn't seem to be an activity for anything other than evaluating the coursework."

Access to Forum and Platform Satisfaction

Figure 1 shows that the majority of students had access to a discussion forum from their institutions/universities and more then 20% used institution and home networks at the same time. Spanish students reported a shortage of computers available for use out of lesson times.

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

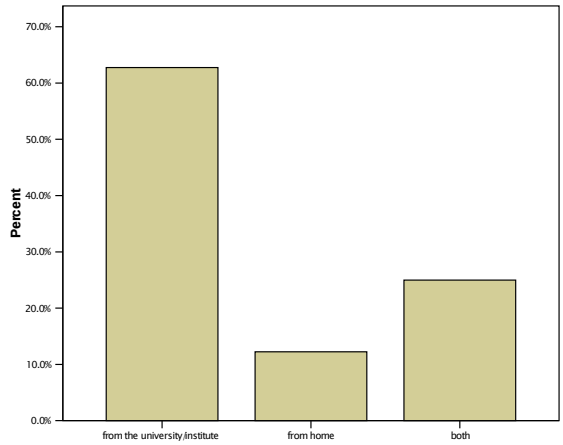

Figure 1 Access to Collaboration Platform

A discussion tool already used by University College Chester, and CABWebWiz discussion forum, implemented in the CAB web site, were the platforms for student collaborations. Whereas the Chester discussion forum was familiar to the Chester tutor and students, and the administration process as well as collaboration itself went smoothly, there were some teething problems with the CAB forum. Participants of the first two collaborations reported no difficulties in getting on to the Chester forum, but some problems with access to the CAB forum, registration of students groups and stability of forum work took place. Therefore more than half of the students who used the newly implemented discussion forum, reported access difficulties.

Wish to Participate Again

The survey results revealed that 62% of students are keen to participate in such an activity again, while 23% were not sure and 14% considered this experience as non-beneficial (Table 6).

Would you like to participate in such activities again?		Frequency	Percent	Valid Percent
Valid	yes	95	**57.6**	**62.1**
	no	22	13.3	14.4
	not sure	36	21.8	23.5
	Total	153	92.7	100.0
Missing	(not answered)	12	7.3	
Total		165	100.0	

Table 6 Wish to Participate Once More

Conclusions

This case study shows that peer evaluation could be an effective pedagogical instrument for promoting critical thinking, reflection and collaboration on an international level as well as improving foreign language confidence and cultural awareness of students.

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

Analysis of four collaborative activities demonstrated that students enjoyed the experience gained and valued highly the academic benefits of collaboration.

The pitfalls of our experience, which should be taken into consideration, lay in two areas– organizational and pedagogical. From an organizational point of view more attention should be paid to the timing of the activity. It is especially important for peer-evaluation projects to leave sufficient time for students to improve their projects based on feedback obtained from their peers. At the same time students who are non-native speakers should have enough time to complete their postings. Reasonable time for responses should be agreed and maintained throughout the activity. Satisfaction of all of these constraints may not always be possible.

It is important to give students an opportunity to try out the collaboration environment and collaboration tools before collaboration actually starts. The size of any files for downloading should be reasonable and institution/home network capacity should be taken into consideration.

Pedagogical strategy can be improved by providing collaborating students with more information about their peers, their course/module of study, and details of their assignment. Evaluation criteria should be developed in accordance with the projects type and reflect objectives of the course/module students are doing.

Foreign language skills also appeared to be an important factor for collaboration success. Tutors can provide students with additional guidelines/materials on their native language, and organize internal peer-support of students who lack confidence in the language of the collaboration. It is worth organizing different types of collaborative activities for students with limited language abilities, starting with very simple activities designed to develop language competence and confidence, and progressing to more authentic international collaborations. Tutors should encourage off-topic interaction before collaboration actually starts and provide students with tools for social interaction.

The above mentioned strategies should be implemented by institutions to improve the organizational and pedagogical framework of international collaboration, together with encouraging productive social interactions between students in order to support the learning process.

Future Plans

From October 2004 the CAB network intends to grow, to increase the number of participants and involve participants from additional countries both in Europe and world-wide. A specially developed collaboration platform will be used to host Tutor and Student Networks as well as to provide tutors with a collaboration space and tools for organizing and carrying out collaborative activities. Tutors who have not experienced international collaboration, will be given the opportunity to find a partner, helped to plan activities, and obtain guidelines and examples of good practice. Students will be able, not only to participate in subject based educational activity, but to also join a CAB cafe for social interaction.

Research directions for the second year of the project will be focused on the development of a multicultural interface, the design of collaborative activities for students with limited English skills, and research into students' learning styles and their impact on collaboration results.

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

Acknowledgements

This project is supported by EU Minerva funding (Project Number is 110681-CP-1-2003-1-UK-MINERVA-M). We are grateful to the international team of tutors who made these collaborations possible: Frank Thissen, Cecilia Ruiz, Danuta Zakrzewska, Marcel Heerink, Jacqueline Hiemstra and Dean Utian. The authors also wish to thank Frances Bell for her valuable comments to the final text of the paper.

References

Kim, K.-J., Bonk, C.(2002). Cross-cultural comparisons of On-line Collaboration. *Journal of Computer Medicated Communications*, 8 (1), http://www.ascusc.org/jcmc/vol8/issue1/kimandbonk.html

Bradshaw, J., Hinton, L. (2004). Benefits of An Online Discussion List in a Traditional Distance Education Course, *Turkish Online Journal of Distance Education-TOJDE*, July 2004, Vol 5, No 3 http://tojde.anadolu.edu.tr

Alavi, M. (1994). Computer-mediated collaborative learning: An empirical evaluation. MIS Quarterly, (18:2), June, pp.150-174

Kayama, M., Okamoto, T. (2002) Collaborative learning in the Internet learning space, *Industry and Higher Education*, Vol. 16 No.4, pp. 249-59

Khalifa, M., Kwok, R. (1999) Remote learning technologies: effectiveness of hypertext and GSS, *Decision Support System*, Vol.26 No. 3, pp 195-207

Glover, I., Hardaker, G., Xu, Z. (2004) Collaboration Annotation System Environment (CASE) for online learning, *Campus-Wide Informative Systems* Vol. 21-No. 2 -2004 pp. 72-80

Bell, F., Whatley, J. (2003). Discussion Across Borders: benefits for collaborative learning. *Educational Media International*, 40 (1- Computer-mediated communication)

Beaudin Bart, P. (1999). Keeping On-line Asynchronous Discussion on Topic. *Journal of Asynchronous Learning Networks*, 3 (2), pp.41-53

Richardson, J.C., Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Networks*, 7, (1), pp.68-88

Cash, J.I., Jr., McFarlan, F.W., McKenney, J.L., & Applegate, L.M. (1992). Corporate Information Systems Management, (3rd Edition), Homewood, Il: Irwin

Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1993). *Cooperation in the classroom* (6th ed.). Edina, MN: Interaction Book Company

Chambers, E. (2003) Cultural Imperialism or Pluralism? Cross-cultural electronic teaching in the Humanities. *Arts & Humanities in Higher Education*, Vol 2(3), pp.249-264

Wheeler B.C. (2001) A Framework for Technology-mediated Inter-institutional Telelearning Relationships. *Journal of computer mediated communication*. Vol 1, issue 1. http://www.ascusc.org/jcmc/vol1/issue1/wheeler/essay.html

Zaitseva, E., Bell, F., Whatley, J., Shaylor, J. (2004) Peer-Evaluation in Multicultural Context : Language and Culture Issues in International Collaborative Project. Paper

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/

Extract from:
Education in a Changing Environment 13th-14th September 2004
Conference Proceedings

accepted for publication for CELDA'2004 conference, Lisbon, Portugal, 15-17 December, 2004

ISBN: 0902896806

Published by the University of Salford
http://www.edu.salford.ac.uk/her/