



AQUA-TNET

Work package 5 Core Group Meeting

19th – 20th March 2007

**Societat Catalana de Biologia (IEC)
and Universitat Autònoma de Barcelona, Spain**

Notes on WP 5 core group meeting: Innovation in Teaching

Attending:

John Bostock
Jean Dhont
Juhani Pirhonen
José de Lara Rey
Stefan Oli Steingrímsson
Mike Moulton (replacing Anders Kiessling)
Bernd Ueberschaer

Apologies were received from Juame Fernández-Borràs and Bent Rønsholdt,

John Bostock opened the meeting by welcoming Mike Moulton and Bernd Ueberschaer to their first meeting. He then gave a short introduction to work package 5 and progress to date, and to the tasks for the meeting.

The first task was a review of the findings of the web-site questionnaire. A total of 26 responses had been recorded out of the 110 organisations invited to participate. The group went through each question, discussing the results obtained, interpretation and implications for the project. Some of the key findings included:

- 38% of respondents currently use a VLE and a further 35% expect to in the future – 27% do not
- Less than 20% of respondents currently provide eLearning courses, but up to 50% intend to in the future
- Around one third of respondents are making some use of computer-based learning or simulation software
- Almost 20% of respondents are making some use of mobile devices
- Half of respondents are involved in collaborative projects for eLearning or computer based learning and 80% wish to collaborate
- 77% of respondents would use resources shared by others, but only 42% would contribute their own materials

It was felt likely that different people may have interpreted questions in different ways and that more detailed definition of the questions and answers expected would have been useful. Any future revisions of the questionnaire should take this into account. However, it had been anticipated that the questionnaire would only provide preliminary data and leads that could be followed up for further detail. This now needs to be done, especially where references to eLearning or computer based learning were given.

The main part of the meeting was taken up with a series of presentations and associated discussion as follows (copies of presentations available separately):

- Juhani Pirhonen: provided an overview of lifelong learning and innovatory approaches that are being used to stimulate and meet the demands of adult learners. It was noted that in a European study in 2005, only 8-10% of adults between the ages of 25 and 65 took any form of extra training. This is considered relatively low given that the occupational half-life is decreasing (e.g. after 10 years a person has only 50% of the competencies required to do their job), and the clear link between education and innovation skills. A distinction was made between formal learning (leading to certificate), non-formal learning (structured, but not credited), and informal learning (through interests and experience). Teachers of adults need to be more "learning process consultants" than teachers, adapting to the different way in which adults learn and build on their existing knowledge and life skills.
- Mike Moulton: led a discussion on managing plagiarism issues (no separate presentation, so more extensive notes are provided here). The presentation mostly dealt with the problem of plagiarism in student essays and other written submissions. It was noted that the starting point for reducing plagiarism problems is to ensure that students are fully aware of what plagiarism is, and that it is not acceptable. Materials from Norway were shown which explain plagiarism very clearly and also present a test for students to demonstrate their understanding. They are then asked to sign an undertaking not to plagiarise. This was felt to be a very useful tool by other members of the group. There are also language-related issues. Some students required to write in English when they do not feel very confident in that language may be more inclined to plagiarise to ensure they use correct English. On the other hand, there is less material available to be plagiarised in other languages, although an emerging problem is that students simply translate some plagiarised text from one language to another to try to avoid detection. An increasing number of colleges are now using plagiarism detection software services for electronic submissions, which seems to be working well. The best strategy however is to try to design out opportunities for plagiarism, to build assessments differently and to not use the same essay questions from year to year. This is particularly the case in traditional factual-based teaching where information just needs to be repeated. Learning outcomes need to be adapted to the world we are now living in and be based not on what a student knows, but what they can do. Important skills now and for the future are the ability to find information and bring it together, to evaluate it critically and present and apply the knowledge gained from it. The question of plagiarism by teachers was raised, and that clearly the more high standards are imposed on students, the greater the pressure for teachers also to demonstrate those standards in their own materials.

- John Bostock: gave a presentation on the principles and problems of collaboration between students, teachers and administrators. A number of web-based tools were discussed for facilitating collaboration at different levels.
- Jean-Dhont: Gave a second presentation on learning object repositories and particularly the importance of good definition of metadata for use in such systems.
- José de Lara Rey: Discussed the use of video conferencing in aquaculture teaching. This was based on his experience of the Isabel video conferencing system, which uses central server but accessed through the Internet. This software has a slide mode for presentations, VNC mode for virtual desktop, and whitepad facilities etc. At the Polytechnic University of Madrid, materials are presented in Moodle which include recorded video conferences. He also briefly introduced some of the other eLearning projects that he was aware of, including the Orion project, Pescalex, e-aQua, and Aquahealth online. He also highlighted the potential of video streaming, for instance as used by Project Oceanica, (water Vision – although not sure if still available), Canal naval (Spanish commercial channel for marine issues), Aquanic videos, Aquator, Gent (private) video repository, and Pisces TT virtual tours. He discussed teaching in 2020 – envisaging a mix of simulation, virtual reality, video and other elements. He also demonstrated the virtual reality and simulation systems shown at the first meeting for the benefit of the new members.
- Stefan Oli Steingrímsson, Provided an update on eLearning in aquaculture. He discussed general changes in eLearning and the expectation that there should be more activity in eLearning. He therefore explored the links that the group have so far identified to investigate the nature of current e-Learning material – at what level, how extensive, methods used, mode of teaching, interaction with and among students etc. However, he found the level of information available web sites was very inadequate. For instance the teaching methods used are very unclear from the information given by institutions. He gave an example of the type of analysis that could be produced (statistics) if the information was available. There is a need to follow up directly with links concerned.

The proposed resources database was discussed. It was agreed that having a good metadata set of descriptors for categorising content would be very important. Jean Dhont introduced the Dublin set, which is one model that could be used. It was agreed this should be a major task for the next meeting. The nature of the database was also discussed, particularly if it should contain learning objects itself, or just pointers to resources available elsewhere (mostly on other Internet sites). A mixture would also be possible. In general it was felt that a database of links would create less problems. The issue of copyright and licensed use was raised in relation to any sharing of teaching resources. This is an issue not only because of the desire of many teachers to prevent others using their materials, but also institutions that control the copyright for materials produced by their staff. It was noted that other projects had addressed this by having clear restrictions on use, and requiring anyone using the materials to sign an agreement to that effect. Further work is required by the group to identify any relevant existing repositories or teaching resource

databases in case it makes more sense to point the Aqua-TNET constituency to these rather than create something new.

A workpackage 5 contribution to the stakeholder event was discussed, although time did not allow ideas to be fully developed. It was felt that interaction with the stakeholders was the key element and that time and opportunity needed to be given to that. One possibility would be to have an exhibition fair and/or short workshop approach where stakeholders could move between the different workpackage areas and engage readily with the workgroup members. For workpackage 5 this may for instance require having some Internet connected computers so that various teaching tools may be demonstrated. This would allow a greater level of dialogue than a plenary presentation.

If a presentation to a plenary session is needed, three ideas were suggested and discussed briefly by the group:

1) *A vision of aquaculture teaching and learning in 2020*: This was suggested by José de Lara Rey and might include video conferencing between multiple locations, virtual reality exercises, on-demand video and multimedia content and software-based simulation tools. This approach had the potential for producing an attention-grabbing presentation and helping to pose the question of what future directions do the stakeholders want education to take. However, it was also suggested that stakeholders might view it as too far away to be relevant today, or conversely, that groups such as industry are already regularly using techniques such as video conferencing, and students may well be making and posting videos on line through services such as MySpace and YouTube. The use of virtual reality does appear more distant, but so far the only demonstrators available are aimed at children.

2) *Demonstration of collaborative problem-based learning*: This was suggested by John Bostock. It might use a case study, such as a disease outbreak on a fish farm, to feed problems to students, who then need to further research the problem and find solutions, taking a collaborative and multi-disciplinary approach to consider pathology, welfare, markets, management, economics etc. It might include the use of simulation software and video conferencing with an external expert. Issues with this approach were that it might be a lot of work to put together a demonstrator of this type and that the complexity might introduce greater risks.

3) *Comparing different learning approaches*: This was suggested by Juhani Pirhonen. It would take as its basis something like the 3 modes of learning identified by Baumgartner (2005) i.e. knowledge transfer, knowledge acquisition and knowledge construction. A case would be considered such as the larval rearing of marine fish, and methods for teaching this based on these modes illustrated. Account may also be taken of different learner characteristics in developing the examples. This approach was felt to have the strongest emphasis on pedagogy and would also provide a possibility for highlighting relevant technological tools. It might however increase the amount of material that the group wished to present, which could be a problem if time is limited.

It was felt that further discussion was needed with the student representatives and if possible other stakeholders, as well as leaders of the other workpackages and project coordinator, in order to decide the best idea to take forward. In order to minimise work for the group it was agreed that it would be better to make use of any relevant existing materials rather than develop them from scratch.

Any other business: The group briefly discussed the need for a global information system for aquaculture. It was agreed that many types of information were still too widely scattered or simply not currently available through the Internet. It was acknowledged that there have been a number of useful initiatives in specific areas (Fishbase and LarvalBase are well established with more recent initiatives including the Aquainnovation Knowledgebase and the FAO Aquatic Commons document repository). However, the group felt that a more comprehensive approach is needed, and that a recommendation from the Aqua-Tnet network could encourage funding agencies to support such an initiative.