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## Overview

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<tr>
<th><strong>Title</strong></th>
<th>Evolutionary Ecology (Spring Term 2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pedagogic theme</strong></td>
<td>Group work: collaborative research and report writing (blended learning)</td>
</tr>
<tr>
<td><strong>Keywords</strong></td>
<td>Group work: group blog &amp; wiki tools. On-line text book</td>
</tr>
<tr>
<td><strong>Subject area</strong></td>
<td>The interaction between ecological and evolutionary processes</td>
</tr>
<tr>
<td><strong>Student level &amp; profile</strong></td>
<td>Third year module for Biology students (10 credits), based on campus</td>
</tr>
<tr>
<td><strong>No. of students</strong></td>
<td>33 Biologists</td>
</tr>
<tr>
<td><strong>Key conclusions</strong></td>
<td>1. Assessing contributions is not the only way of getting students to participate on-line. Where a strong group ethic is established and individuals are accountable to their peers, they are likely to engage in collaborative tasks. Students need to understand the relevance and value of their on-line work and receive some reward for their efforts. However this reward does not have to be a mark, but could be feedback from the instructor or a useful output, such as co-developed resources to support their revision process.</td>
</tr>
<tr>
<td></td>
<td>2. The course instructor’s role is crucial in tying together the on-line and class-based learning processes, making sense of the learning outcomes emerging from the on-line work and linking them to the theoretical concepts presented in the course lectures. The visibility of the instructor is important for the on-line activities in monitoring and acknowledging student efforts and providing feedback where appropriate.</td>
</tr>
<tr>
<td></td>
<td>3. With a relevant induction session, students can rapidly get to grips with collaborative tools such as wikis and blogs. The technical skills required to use these tools are not high and can be addressed in induction activities, which model the way that students will use the tools for the on-line coursework. Students encounter greater challenges in acquiring the learning competencies to provide feedback on each other’s work, to edit and critique contributions from group members and engage in collaborative writing.</td>
</tr>
</tbody>
</table>
Background

Evolutionary Ecology is a third year undergraduate module for Biology students, which focuses on the interaction between ecological and evolutionary processes. The aim of this module is to enable students to develop a critical appreciation of current questions that require an understanding of both ecological and evolutionary processes, and hence to develop an understanding of the interaction between ecology and evolutionary biology. The course is structured around 9 two-hour lecture sessions over 9 weeks, which are delivered on a weekly basis. One hour is taught and the other hour may or may not be used.

Dr. Peter Mayhew, the course instructor, has been running this module for the past 7 years in the standard way, delivering a weekly lecture without the use of a VLE or equivalent system. Aside from the lecture session, students are expected to complete 82 hours of private study in preparation for a closed exam conducted at the beginning of the summer term. Peter has observed that students struggle with the research literature and the amount of private study that they are required to undertake for this module:

"My feeling has been that students find it difficult conceptually to grasp things; there is a lot of theory and the primary literature can appear impenetrable. It is highly conceptual and involves lots of mathematics, which closes the door to a lot of them. A lot of students are not doing the background reading as they need to do. Apart from the 1-hour class they are basically on their own with the reading in preparation for a 1.5 hour closed exam."
The new structure of the course for the spring term 2007 was based on the use of the extra hour for each weekly session, with the introduction of a group task that aimed to help students get to grips with the primary literature. Students were expected to present and discuss course concepts, relating their findings to the research literature.

"I devised 8 weekly group tasks, with each group comprised of between four and five students. Each group had to summarise one or two research papers and then write up a brief report, which served as the motivation to do the reading. They were then given 1 – 2 minutes in class to make a brief presentation on the report."

Students were expected to spend an average of no more than 2-3 hours working on the group report each week, including time for literature searching, reading, writing and editing. Each group then nominated a representative to make a short presentation in class, outlining the topic that they had researched for the on-line textbook, which was built up over the duration of the course. The group presentations were intended as ‘tasters’, to let the class know what they could expect to read about on-line. At the same time, the presentations enabled the instructor to address any problems or difficulties that had been encountered during the week’s research activities.

The VLE was used to support these activities and served as a platform to host the group reports and provide links to the research papers. Previously students had just been provided with a reference list on paper.
The introduction of the VLE enabled them to access the key papers more easily, with 1 or 2 click links to PDF files or the information catalogue. There was also specific help on the conceptual material for the course, with the development of animation resources which aimed to bring to life the concepts under discussion, opening up the mathematical concepts. The animations were intended to help students understand and engage with the key concepts. The VLE also hosted the on-line textbook, which brought together the weekly group reports in one area within the course site.

**Description of approach**

The blend for this module was based on lectures and group presentations for the face-to-face component, and collaborative research and writing for the on-line component, with the development of a weekly report on a topic area. The learning objectives of the on-line component were to:

- Encourage students to engage with the primary literature, to read it and report on the key concepts, summing up the research and sharing it with peers.
- Increase confidence with the primary literature, which has been a major issue for this course. This was addressed by exposing students to the concept animations in a friendly way.

**Learning activities & tools**

The online component of the module included:

- Lecture materials. The module was organised into 9 weekly units. Each unit contained the PowerPoint slides of the lecture for that week and any relevant handouts. The unit also included a folder of reading resources, with links to key articles. There was also a folder of animations, accompanied by a word file containing a text description of what to look for. The animations were designed to illustrate concepts covered in the lecture, and were intended to reinforce understanding. In addition to this, each weekly unit had a self-assessment quiz of 10 questions, which was designed to test understanding of the lecture materials. Feedback was presented for each question. Finally, the materials included a document outlining the week’s research topics.

- Evolutionary Ecology forum. A plenary discussion board for students to post questions on the course materials. The discussion was configured to support anonymous postings, enabling students to ask questions in a less embarrassing way.
- Group work area. Peter set up 8 group areas, consisting of group wiki and blog tools, which were configured using adaptive release group membership rules, so that the areas were visible and accessible only to group members. The blog was intended to help the group communicate in the preparation of the weekly report. The wiki was also restricted to group members and used for collaborative report writing and the presentation of the weekly report, of which there were 8 in total. Each report had a separate wiki page, and was expected to be a short summary of 350 words of main text with references.

- On-line Text Book. A wiki tool (read-only) was used to present the group reports to the class, which were organised into 9 chapters, reflecting the organising themes of the course. On a weekly basis, the course instructor uploaded the group reports to the On-line Text Book with some brief comments added to the entries, serving as commentary and feedback.

- Announcements. The announcement tool was used by Peter as the principal communications channel to students, with weekly updates on uploaded resources, general feedback on group assignments and reminders on upcoming lectures.
Student profile

The entry questionnaire was completed by 11 of the 33 students at the beginning of the course.

Experience with computers

The entry survey results revealed that students were established users of computers for information search activities, with all respondents accessing information from the web on a frequent basis. There was a division though within the class regarding the use of communication tools. Half of the respondents had frequently contributed to discussion forums / blogs, but half had not. 73% respondents rated themselves as confident in uploading files to a website, but 17% had never attempted this before.

Experience with computers for learning

Some of the course participants following the Ecology strand of the undergraduate programme had experienced using the VLE in their second year of study for Environmental Issues, which was based around the use of discussion boards and file exchange tools, as well as access to lecture notes and web resources. This prior experience was reflected in the results, with 82% of respondents having followed courses in which course materials had been delivered online, and 45% having completed online self-assessment activities. 55% of respondents had previously followed courses which involved the use of a discussion forum.

Expectations towards the VLE

Expectations towards the use of the VLE in this module were positive, with 82% of respondents agreeing that it would increase opportunities for discussion and debate amongst students outside class. A similar figure agreed that the VLE would support ideas and experience sharing amongst students and 91% of respondents agreed that it would enable an instructor to provide a wider variety of learning resources for students.
Outcomes of the pilot

The module was delivered over the spring term 2007 (Weeks 1 to 9), with students attending two hours of lectures and group presentations each week. Feedback was collected from the instructor and students on the learning outcomes at the end of the course, before students had completed the exam and received their final marks. A subsequent follow-up discussion was then held with the course instructor to comment on student performance in the closed exam, conducted at the beginning of the summer term.

Activity statistics

Student log-in patterns were frequent across the module, with high activity recorded during the induction phase (15 January) and then steady through to the end of the course (12 March). Log-in patterns dropped off in the immediate post-course period, but there was a concentrated period of activity for pre-exam revision from 24 April onwards, when the site attracted a daily hit rate of 100 log-ins, peaking at 509 log-ins on 2nd May. The lecture materials attracted 51% of the hits, with 47% for the group work areas. 4 students recorded over 200 hits on the group work area, 15 students recording over 100, with only 6 students visiting the site less than 25 times. In contrast to this level of activity, the Evolutionary Ecology Forum remained unused by students for the duration of the course.

1. Participation in group wikis

Students were divided up into eight work groups and were asked to complete a series of reports, summarising the findings of the research literature related to the weekly topic that they had been assigned.
Table 1 below presents the aggregate participation levels of students within their groups for the weekly reports. The percentage scores reflect the total lines modified per student within the group wiki - i.e. the amendments made to the collaborative writing space by each individual within the group for all of the weekly reports.

<table>
<thead>
<tr>
<th></th>
<th>S</th>
<th>S</th>
<th>S</th>
<th>S</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>37%</td>
<td>27%</td>
<td>9%</td>
<td>1%</td>
<td>-</td>
</tr>
<tr>
<td>Group 2</td>
<td>26%</td>
<td>11%</td>
<td>2%</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>Group 3</td>
<td>51%</td>
<td>16%</td>
<td>8%</td>
<td>7%</td>
<td>-</td>
</tr>
<tr>
<td>Group 4</td>
<td>41%</td>
<td>33%</td>
<td>18%</td>
<td>3%</td>
<td>-</td>
</tr>
<tr>
<td>Group 5</td>
<td>52%</td>
<td>36%</td>
<td>4%</td>
<td>3%</td>
<td>-</td>
</tr>
<tr>
<td>Group 6</td>
<td>57%</td>
<td>17%</td>
<td>4%</td>
<td>1%</td>
<td>-</td>
</tr>
<tr>
<td>Group 7</td>
<td>39%</td>
<td>20%</td>
<td>11%</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>Group 8</td>
<td>36%</td>
<td>26%</td>
<td>15%</td>
<td>13%</td>
<td>-</td>
</tr>
</tbody>
</table>

The results suggest that the groups varied in terms of the approaches that they took in producing the weekly reports. If we look at Group 1, the statistics suggest that there was an uneven level of participation within the group, with two students doing the majority of the report writing. By examining the breakdown of modifications for specific weekly reports, we see that the group began the research and the writing up of reports in a collaborative mode, but soon switched to individuals taking turns in writing up the findings – a practice adopted for 5 of the reports, and reflected in the following blog posting:

I said to “X” I would do this week’s wiki so don’t worry guys – take a week off.

The results for Group 7 suggest that the writing process was shared across the group for each report, and the statistics from the weekly reports bear this out, with only two reports developed by individual group members.
2. Blog usage

Each group was also given a blog tool to coordinate the research and writing activities, although they were not required to use it. Table 2 below reflects the frequency of posts by group members over the duration of the course.

<table>
<thead>
<tr>
<th>Group</th>
<th>S</th>
<th>S</th>
<th>S</th>
<th>S</th>
<th>S</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>23</td>
<td>14</td>
<td>13</td>
<td>1</td>
<td>-</td>
<td>51</td>
</tr>
<tr>
<td>Group 2</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>-</td>
<td>16</td>
</tr>
<tr>
<td>Group 3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Group 4</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Group 5</td>
<td>2</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td>-</td>
<td>17</td>
</tr>
<tr>
<td>Group 6</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Group 7</td>
<td>9</td>
<td>7</td>
<td>14</td>
<td>11</td>
<td>2</td>
<td>43</td>
</tr>
<tr>
<td>Group 8</td>
<td>10</td>
<td>14</td>
<td>7</td>
<td>8</td>
<td>-</td>
<td>39</td>
</tr>
</tbody>
</table>

The results reveal a wide variation in blog usage across the work groups, with three groups posting 30+ messages each within their group areas, whereas three other groups posted less than 5 messages on their sites. To get a clearer idea of blog usage and the group work processes for the on-line research and writing tasks, the messages for each group have been classified in Table 3 below, according to five categories:

i Progress update: Update by the nominated writer of the weekly report to the group, highlighting progress in the development of the report on the wiki site / inviting feedback.

ii Organisation of group work: Discussion on the division of the work and responsibility for research and writing tasks.

iii Feedback on group report: Comments from group members on the draft weekly report on the wiki site, focusing on presentation style and content.

iv Information sharing: Exchange of research findings and summary material for inclusion within the report.

v Social: Social messaging between group members, not related to the group task.
Table 3: Content analysis of blog postings

<table>
<thead>
<tr>
<th></th>
<th>Progress update</th>
<th>Organisation of group work</th>
<th>Feedback on group report</th>
<th>Info sharing</th>
<th>Social</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>8</td>
<td>14</td>
<td>6</td>
<td>17</td>
<td>6</td>
<td>51</td>
</tr>
<tr>
<td>Group 2</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Group 3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Group 4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Group 5</td>
<td>0</td>
<td>10</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Group 6</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Group 7</td>
<td>3</td>
<td>24</td>
<td>4</td>
<td>12</td>
<td>0</td>
<td>43</td>
</tr>
<tr>
<td>Group 8</td>
<td>8</td>
<td>21</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>39</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>26</strong></td>
<td><strong>76</strong></td>
<td><strong>20</strong></td>
<td><strong>47</strong></td>
<td><strong>6</strong></td>
<td><strong>175</strong></td>
</tr>
</tbody>
</table>

The results from Table 3 offer an interesting perspective on group working processes. If we look again at Group 1, the results suggest a high degree of collaboration in the preparation of the weekly reports. Whereas the report writing task became an individual responsibility, the research activity was shared between group members, with peers contributing to the exercise by summarising research papers. This is reflected in the following posting:

"It’s X’s turn to put the wiki together so if you both summarize your papers for him on the wiki by Saturday, so he can do it by Monday."

Across the groups, feedback and critical discussion on the weekly reports were less prominent in the blog contributions, with students appearing reluctant to critique individual contributions and to edit the work of others. Social messaging did not figure greatly in blog usage, with students remaining focused on the task in hand. The majority of posts related instead to the organisation of responsibilities for the completion of the weekly report and the coordination of work by group members.
Focus group feedback

Eleven students took part in the focus group. The students confirmed that the module site was used to access the research literature and reference resources for the course, as well as to present the group reports. The links to the reading resources were particularly appreciated, as they were easy to access and exactly what they needed each week to complete their research activities.

"I’m more likely to read them when it’s just one click...It’s so much easier to have them like that."

The animations were also well received and helpful in presenting the concepts to students.

The self-assessment quizzes at the end of each lecture unit were valued, but only one student had gone through them by the end of the course, with the rest planning to review the quizzes at a later stage in preparation for the examination.
Interaction patterns also varied between the groups in terms of their choice of communication tools to organise the report writing.

One group used the blog to schedule group work, but encountered problems because not all group members checked it each day for new messages.

Other groups opted for email or Facebook, which they were accustomed to using on a daily basis. Facebook includes an email alert function when new entries had been made.

"We used Facebook because you know everyone checks it everyday. It was easy to forget to log in [to the VLE]... Maybe if you had it for all modules, then you’d go in everyday."

The plenary discussion board did not catch on and students seemed to be unclear about its purpose and the scope of the tool to enable them to post questions anonymously.
Exit survey feedback

12 students completed the exit survey, which invited them to reflect on their expectations to the VLE based on their experiences following the course.

Table 4: Selection of results from the entry and exit surveys

(%) Exit survey results shown first, entry survey results in italics.

<table>
<thead>
<tr>
<th>Survey question</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>A VLE supports ideas and experience sharing amongst students.</td>
<td>33</td>
<td>50</td>
<td>17</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>64</td>
<td>9</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>A VLE increase opportunities for discussion and debate amongst students outside class.</td>
<td>17</td>
<td>50</td>
<td>16</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>64</td>
<td>9</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>A VLE provides flexibility to learners in terms of their study needs.</td>
<td>50</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>55</td>
<td>9</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>A VLE increase interaction levels between students on the course outside of class.</td>
<td>8</td>
<td>67</td>
<td>8</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>45</td>
<td>28</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A VLE enables instructors to provide a wider variety of learning resources for students.</td>
<td>17</td>
<td>67</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>64</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

SA = Strongly Agree  A = Agree  N = Neutral  D = Disagree  SD = Strongly Disagree

The survey responses indicate that the VLE was well received by course participants. All respondents agreed that the VLE provided them with flexibility in support of their study activities. Respondents highlighted the easy access to lecture handouts and resources, as well as to the key research papers, and there was strong agreement that the VLE helped the instructor to provide a wide variety of learning resources for students.
The availability of resources helped students to prepare for class sessions and to use their study time effectively:

"Having lecture handouts and presentations/slides available online is useful in preparing for a class. It aids my understanding just to have a quick read of the information before the lecture – it helps to see where we’re heading."

"Made the background reading much easier and quicker, so there was more time to devote to learning rather than searching for info. Having the lectures on the VLE means if you haven’t got your handout with you and want to go over something it’s there on the internet…(…) best thing of all is that you can do everything when you want, whatever time you have free can be used whatever time of the day or night so more work can be done."

Respondents also noted the benefits of the collaboration tools in organising their group work and increasing interaction levels outside class:

"(…) The ability to ask questions to other students and the lecturers without having to go and find them to meet is extremely helpful. There is far more interaction within the group."

"The VLE was a great tool for producing a working document that we could all contribute to without needing to get together many times. It made group work more tolerable."

"The VLE was a great tool for producing a working document that we could all contribute to without needing to get together many times. It made group work more tolerable."

"…best thing of all is that you can do everything when you want, whatever time you have free can be used whatever time of the day or night so more work can be done."

Screen image from one of the group wikis showing development of the Week 6 Report
All respondents agreed that the introduction of the VLE complemented the class based learning, and indeed enhanced the overall learning experience:

“The class lectures covered the information then the VLE allowed me to go over the work as and when I had time, and provided links to the reading for the lectures so you could prepare in advance so the information in lectures is easier to learn.”

“Summaries of extra reading were readily accessible, so that it reduced the reading workload for me. The extra resources put in by the lecturer i.e. animations, were helpful, as I could work through at my own pace until I understood it.”

Instructor’s feedback

Peter was pleased with the way that the revised module went, which was reflected in the student feedback for the course - the best grades that he had received for this module.

Indeed, there was a noticeable improvement in exam performance, which may be linked to the group activities and the collaborative review of the research literature.
"In their exam essays, two-thirds of the students included material from their extra reading, which was much higher than I have ever seen before. Five students based more than half of their essay on extra reading, which was exceptional, and the average marks in essays was much higher. In short, I think that there is some tangible evidence that not only the students thought they were able to learn better and enjoyed the module, but that they genuinely did learn better."

The results justified the considerable effort that Peter committed to the development of the module site over the previous summer - particularly with the preparation of the lecture content, quizzes and animations. Peter also adopted an active role during the delivery of the module, monitoring the on-line work and providing feedback to groups:

"Every week I posted on the wiki sites [where each group had to publish their report], which were made available to everyone. I spent one hour per week monitoring the wikis. I had to correct mistakes [in the reports], otherwise students would think they reflected the truth."

During the weekly class sessions Peter also commented on the group work and spent time explaining how the research fitted into the previous week’s lecture, building on the comments made in each group wiki report.

"That’s where the relevance on a week-to-week basis came. Students would be forced to rethink things; from the lecture they would conduct their research and then I would go over the connections between the two."

"Where student received positive comments on the wiki, they were very happy about that – a lot of pride going into it. There were several groups at the start of the module which were not using figures in their wiki reports. I made a comment about that and figure usage went up and up. They did respond in a very positive way to the comments."

The delivery of feedback on the wikis took Peter one hour per week to complete. He viewed this as essential, given that students were not summatively assessed for the group reports. The feedback was the least that they could expect for their efforts.

The output from the groups was impressive, with all of the groups completing their weekly reports, except for the final week when there wasn’t a class session for students to feed back on their research findings. The key to the success of the group work lay in the accountability of each group to stand up and present on their reports in the class sessions. In Peter’s view, this served as the driver for students to do the work.
Students recognised the value of the report writing and the contribution of each report to the course’s on-line textbook, which was described by students as “extremely useful”, “the way the VLE should be used”.

“...the way the VLE should be used”

Significantly though, students also recognised the value of the report writing and the contribution of each report to the course’s on-line textbook, which was described by students as “extremely useful”, “the way the VLE should be used”.

Ecology students had encountered the VLE before, and had received an induction training session for the Environmental Issues modules. For the rest of the class, the VLE was entirely new. Peter used the first lecture session, when no group presentations were planned, to present step-by-step instructions on how to use the VLE and also gave students a one-page sheet summarising what they needed to do. This addressed the skills that they needed to acquire to use the collaborative tools. No technical problems were reported by students in accessing the course site. However, some participants commented on text formatting problems with the wiki tool when writing up their reports.
**Staff skills required & developed**

Peter was entirely new to the VLE and had no prior experience of using such a tool for teaching purposes. He benefited greatly from the ELDT workshops, particularly the group tools session which was “absolutely essential and extremely useful”. He also followed the self-study course on creating accessible learning materials, which modified the way he went about designing the course materials, which led to the introduction of Word documents to provide descriptions for the animation files. He also valued the lunchtime project leaders’ meetings, particularly the session on wiki tools, as well as the on-going support which he received from the ELDT.

**Actions for further development**

For the future, Peter would like to encourage students to work more proactively in groups, to talk to each other each week. Not all members of the groups benefited with the rotation of the report writing, which meant that for 3 – 4 weeks some individuals were not participating.

Peter would also like students to make use of the Evolutionary Ecology forum. The plenary discussion board was intended to serve as a place where students could post questions on issues that they didn’t understand, but this remained unused for the duration of the course. There is a concern that students who don’t understand material don’t realise that they don’t understand!

With the initial set-up of the course and the preparation work completed, Peter will be more relaxed the next time around and will have more time to devote to giving feedback on the group reports.

Finally there is scope for the fine-tuning of the group projects, which could be more focused and linked to the research papers, which will simplify the research and report writing activities.