Mark James Whitehead

Sefydliad Daeryddiaeth a Gwyddorau Daear | Institute of Geography and Earth Science

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TYSTYSGRIF UWCHRADDIEDIG ADDYSGU MEWN ADDYSGU UWCH

POSTGRADUATE CERTIFICATE IN TEACHING IN HIGHER EDUCATION

Cylch Dysgu 2 | Teaching Cycle 2

Interactive Teaching in Realspace

Mae’r Cylch Dysgu hwn o’r portffolio TUAAU wedi’i gyflwyno i CADAIR gyda chaniatâd yr awdur uchod. Adnodd i’w ddefnyddio gan ymgeiswyr y TUAAU yn y dyfodol a staff eraill ydyw, fel rhan o’u datblygu proffesiynol. Mae'n bwysig bod y cylchoedd dysgu hyn yn cael eu defnyddio fel adnoddau, ac nid fel canllawiau i’r hyn sydd ei angen i fodloni gofyinion y TUAAU. Os oes gennych ymholiadau, cysylltwch â thestaff@aber.ac.uk.

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In the previous chapter, I discussed some of the advantages and disadvantages which students identified in the use of an e-mail discussion forum as a basis for interactive teaching and learning. While the use of virtual spaces like e-mail discussion fora has the advantage of being to accommodate large numbers of people within interactive learning, students recognised some significant limitations:

1. Students felt uneasy using a virtual forum, because of its anonymity – they did not necessarily know who they were communicating with. Knowing who you are communicating with appears to be important in building-up the atmosphere of trust which most discussion groups require.
2. While the e-mail forum tested students ability to write polished and heavily edited responses, they did not test students’ ability to “think-on-their-feet”.
3. The forum most obviously neglected the abilities of students to communicate ideas and arguments verbally.

These comments illustrated to me that the e-mail discussion forum was failing to deliver key benefits which I had originally believed a more interactive style of learning could bring. In the context of these concerns, I felt that it was important to consider ways in which I could supplement an e-mail discussion forum with face-to-face interaction in the classroom. Of course in trying to do this I am still confronted with the same barriers I identified at the beginning of this portfolio, pertaining to group discussions in large classes. Despite these barriers, I decided
to try and devise an effective framework for interaction back in the real spaces of the lecture theatre.

3.1. Class-based interaction – the plan.

Agnew and Elton (1998) describe some of the problems of trying to generate class discussion in a lecture theatre (pages 23-24):

1. Generating class discussion often involves asking students questions – students often complain that they are unable to answer such questions because they are poorly phrased or they simply don’t understand them.  
2. Peer pressure often means that students are afraid of answering questions in public.  
3. Students often forget the question while discussing the answer.  
4. Within a large class it is difficult to organise student interaction and to monitor participation.

In light of these problems, Agnew and Elton suggest a series of strategies which can help facilitate more effective class-based interactive teaching and learning (page 24):

1. Create small buzz-groups within which students can discuss answers and get different perspectives on the issue in hand.  
2. Use open rather than closed (yes/no) questions to encourage deeper forms of student feedback.  
3. Ensure that the question is written down somewhere so that students can continually refer back to it.
3.1.a Implementing class-based discussion.

In light of these recommendations, I decided to develop a regular interactive discussion slot within my weekly, first year lectures. Because the lectures are fifty minutes long I decided to restrict the discussion sessions to ten minutes in length. I also decided that the discussion group would take place twenty minutes in to the lecture, so that students could reflect on what had been said and have a chance to regenerate their learning capacity before the final twenty minutes of the lecture (see Figure 3.1).

![Figure 3.1. Student concentration and learning loss (After Cox 1994).]
By positioning the discussion groups at this time in the lecture, I will hopefully be able to counter some of the problems which students experience in a fifty minute lecture and the issue of "learning loss".

In order to facilitate the lecture-based discussions, I also decided that I would break the class up into small buzz groups (5-10) people. This meant that there were about fifteen groups in total in the lecture class. The discussion was then structured around a PowerPoint question display which the students could refer to during discussion. In order to ensure that students understood the question, I felt it was important to talk the students through the question and explain clearly what I expected them to do. In order to support this explanation processes I also decided that it would be useful to walk around the groups during the discussion sessions to help and advise them if required. While I hoped that the small groups would provide a supportive, interactive context within which students could learn together, I felt that it was important to enable individual groups to feedback to the entire class. In order to enable this to happen I decided that the best strategy would be to target 3-5 groups per session to describe how they had answered the question. This class feedback would not only enable knowledge and ideas to be shared between groups but would also enable me as a lecturer to contribute to the ideas put forward, and to monitor whether students understood the issues and concepts effectively.

3.1.b. Assessing and monitoring the discussion sessions.

In terms of assessing the class-based discussion groups, I decided it would be best to use three strategies:

1. To monitor the types and levels of participation in discussion occurring in the small groups (and to reflect upon this at the end of each lecture in my teaching diary).
2. To assess the types of responses I was getting back from groups during the class-feedback stage (and to reflect upon this at the end of each lecture in my teaching diary).

3. To use a questionnaire to ask students what they thought about the group discussions at the end of the module.

3.2. The class-based discussion groups in practice.

3.2.a. The first class-based discussion.

The first class-based discussion I used was in the introductory lecture of my first year course. I felt that it was important to have a discussion session at the beginning of the course, so that students would immediately get used to the culture of interactive learning I wanted to promote. Having set out the main ideas and concepts which underpinned the course, I asked the class to engage in the discussion exercise which is set out below (see Example Box 3.1).

Example Box 3.1. Early group discussion

3. Group work –

Discuss in small groups (5-10 people), what you think the main development and environmental issues are when we talk about:

- Global warming...
- The use of the Amazonian Rainforest...
- Genetic modification...

The discussion topic was deliberately designed so that students could use ideas and principles which had been presented to them earlier in the lecture to answer
a set of new questions. The open-ended nature of the questions also enabled students to draw upon their own knowledges in addressing the issues presented.

Once the groups had talked about the issues for ten minutes I selected particular groups to feedback their answers. By targeting particular groups for a response I found that it was easier to enlist student participation in a larger class discussion. Overall I was very pleased with the ways in which students appeared to be talking and discussing the issues within their small groups. Also when students reported their discussion back to the larger groups it was evident that they had understood both the questions and the lecture material which had been presented to them. I found that during the course of the class feedback section, that I as a lecture was able to interact with students, asking them to be a little bit more specific in their answer, or to explain their perspective more.

Reflection Box 3.1. The initial class-based discussion group (from teaching diary).

- Overall I was very pleased with how the group discussions went. I felt that students had participated well in the discussion and appeared to enjoy the opportunity to relate their ideas to other class members.

- I was also surprised that having a short break in the lecture for discussion helped me as a lecturer to gather my thoughts and to have a needed rest before completing the lecture.

- The answers which the students gave to the discussion questions, indicated to me that they had understood the key concepts which I had been trying to convey to them. As a lecturer it is important to be able to identify this during the course of a lecture.
• One small problem which I did notice, was that it was impossible to engage all the groups in the class feedback session. Without keeping a record of the groups it was also difficult to ensure that groups did not consistently miss the opportunity to report back to the bigger group.

3.2.b. The second class-room discussion: explaining theoretical frameworks.

In the second lecture of the course I decided to use discussion work to explain a key conceptual framework within environmental studies. In the past students have struggled to understand and apply this framework. Essentially I wanted to explore O'Riordan's (1989) famous spectrum of environmentalisms (see Figure 3.2). In this spectrum O'Riordan attempted to illustrate how there is not one environmental movement — but a whole series of quite contradictory environmental groups who all claim the represent the environment in one way or another. Because O'Riordan’s spectrum contains a lot of information and a range of terms which first year students have often not been introduced to, they have often found it difficult to absorb. In order to help students to understand the spectrum better, I talked them through it concepts and gave each of them a copy of the spectrum. Then I set them a problem-solving task which involved them discussing, as a group, where to place key environmental groups within the spectrum (see Example Box 3.2)
Example Box 3.2. Discussion groups and problem solving.

A place in the spectrum....

Discuss in small teams, were you feel these groups best fit into the spectrum of environmentalisms (give reasons for your placements):

- The British government.
- Eco-warriors.
- Shell.
- Friends of the Earth.
- Wildlife Trusts.
<table>
<thead>
<tr>
<th></th>
<th>Ecocentricism</th>
<th>Technocentricism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baanism</strong></td>
<td>➢ Rights of nature</td>
<td>➢ Faith in social institutions and new technologies to deal with environmental</td>
</tr>
<tr>
<td></td>
<td>➢ Balance</td>
<td>problems.</td>
</tr>
<tr>
<td></td>
<td>➢ Need to reform modes of social organisation to facilitate better relations</td>
<td>➢ Limited reforms.</td>
</tr>
<tr>
<td></td>
<td>with the environment.</td>
<td>➢ Environmental science and liberal-socialists</td>
</tr>
<tr>
<td></td>
<td>➢ Human &gt; Nature</td>
<td>➢ Right wing politics and conservatism.</td>
</tr>
<tr>
<td></td>
<td>➢ Green / radical politics.</td>
<td></td>
</tr>
<tr>
<td><strong>Communalism</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Observing the students working in small groups it was obvious that they enjoyed the challenge of tackling a problem-solving assignment. Many groups appeared to be debating the place of different groups in categories very strongly. I was particularly pleased with the responses I received when I asked specific groups to feedback their discussions and decisions back to the wider group. I was pleased with the students’ responses for two main reasons. Firstly, the students were able to effectively locate where I felt the different organisations belong in O’Riordan’s spectrum, and to give good and valid reasons why they had made such decisions (this revealed to me that the students were coming to terms with the basic principles of the spectrum). Secondly, and most pleasing, was that the students also reported back to the group how difficult it had been to place groups within one category over and above another. In many instances the students felt that certain groups belonged in more than one category, or in-between two of the options available. This observation – that there is not only a spectrum of different environmentalism, but that different groups often occupy multiple positions on that spectrum at different times – was a crucial point which I was trying to convey about the nature of environmental politics in the lecture. **Crucially, I felt that through their own discussions, debates and difficulties that the students had learned this principle in a much more meaningful and personal way for themselves.** To me this in the very essence and point of interactive learning.
Reflection Box 3.2. Giving meaning to learning (from teaching diary).

- This second problem-based class-discussion project illustrates some of the real benefits of interactive learning the class-room.

- One small problem which did emerge in this session, was that when I asked groups to respond, some group members all waited for someone else in the group to speak first. This created an uneasy silence and seemed to make the students uncomfortable.

- I felt that it would be a good idea in the next class-based discussions, to get groups to nominate a spokesperson before their discussion began, so that they would all be clear who was going to feedback to the larger group.

3.2.c. Group-based discussions and the identification of misunderstandings.

I found that running the class discussion with designated speakers worked well and prevented students from being uncertain as to whether they should speak for the group or not. A further class-based discussion I ran later in the course did, however, raise some important additional benefits associated with class-based interactive learning. The exercise was based upon students discussing the different types of global pollution which exist. The two dominant types of pollution which operate at a global scale or systemic and cumulative pollution (Figure 3.2). In order to ensure that students understood the differences between systemic and cumulative pollution I set them a group-based project which asked them to try and decide which category of pollution particular pollution events belonged to (Example Box 3.3.).
**Global environmental problems**

<table>
<thead>
<tr>
<th>Systemic</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Global environmental systems:</strong></td>
<td><strong>Local, regional national environmental systems:</strong></td>
</tr>
<tr>
<td>➤ Global Warming</td>
<td>➤ Rainforest destruction</td>
</tr>
<tr>
<td>➤ Sea-level change</td>
<td>➤ Desertification</td>
</tr>
<tr>
<td>➤ Ozone depletion</td>
<td>➤ Habitat destruction</td>
</tr>
</tbody>
</table>

Figure 3.3. Systemic and cumulative pollution (Model answer).
Example Box 3.3. Discussion groups and identifying misunderstandings.

**Group Exercise**

In your groups I want you to decide whether the following types of pollution are systemic or cumulative in nature. Give reasons for your answers.

- Carbon emissions
- Oil spillages
- Nuclear fallout
- Sulphur-based pollution

While many of the groups appeared to have classified the different types of pollution correctly, it was obvious that other groups had misunderstood the distinction between what makes a pollution event systemic or cumulative. Having realised that some groups were classifying pollution events wrongly, I was confronted with a dilemma – how could I tell the groups they were wrong without damaging their confidence within group-based discussion? Of course, the fundamental point of interactive teaching and learning is not only to confirm that student are understanding what is being taught but to help them with things they are confused about. As a lecturer it was consequently useful to point out to the different groups why their pollution classifications were wrong, but I was not entirely happy that it was done so in a suitably supportive way.
Reflection Box 3.3. Supportive criticism within class-based discussion.

- On reflection I was pleased that the group work made me aware of the students' misinterpretation of important concepts. It enabled greater participation from me as a lecturer in the interactive teaching and learning processes, as I was able to try and explain the concepts in a different way.

- The problem still, however, remained as to how I could provide supportive criticism to students' within large-group discussion – without suggesting that certain groups were right and others were wrong.

- In many ways this issue highlights the pivotal role of the lecture in the large-group discussion. Lectures must provide positive reinforcement and praise when students give good responses within group debates (thus making their contributions appear valued). However, they must also ensure that group discussions are guided, to provide students with an accurate, not misleading representation of key concepts and issues.

- As a lecturer I decided that the best method of doing this, was to always ensure that my first comment on any group feedback would be a positive one and that any criticism would always be done in a way that did not seek to undermine, but to develop upon the students' answers. According to the feedback which I received from staff observing my lectures, this helped produce a conducive environment for class-based interaction (see Appendix 5.1 Teaching Observation Report V).
3.3. Assessing class-based discussion groups.

**Indicator 1.** The types and levels of participation in discussion occurring in small buzz-groups.

- The small group discussions appeared to go very well. Most groups appeared to be talking constantly about the questions in hand for all of the allocated time.

- The shape of lecture rooms (with long thin benches) did, however, appear to make inclusive group discussions difficult. At times it appeared that some people on the end of rows were being excluded from some discussions.

- Assessors who were sitting in, observing my lectures reported that they were actively encouraged to join in with group discussions and that the discussions were detailed and relevant to the lecture (see Teaching Observation Report V and VI Appendix 5.1).

**Indicator 2.** To assess the types of responses I was getting back from groups during the class-feedback stage.

- I was actually amazed at how willing student were to respond to my questions when invited to do so.

- In general the responses indicated to me that students had understood the issues at hand and been able to apply key concepts to particular problem solving tasks.

- At the times students introduced completely novel and unexpected perspectives on debates we were having. These perspectives appeared to enrich out discussions and often made the lesson more relevant to the students.
Indicator 3. To use a questionnaire to ask students what they thought about the group discussions at the end of the module.

At the end of the course I circulated a questionnaire asking students what they thought about the group-discussion exercises (see Appendix 3.1). I received seventy-one responses to the questionnaire. Of these, only 10 stated that they had not found the group-discussion useful. The three main reasons people felt that such discussions were not helpful were: 1) because they already had a firm grasp on the issues under question; 2) because the debates brought too many perspectives to the question in hand – thus only serving to complicate the issue; 3) because the design of lecture theatres did not help facilitate inclusive discussion.

All of the other sixty-one student responses claimed that they had benefited from the group-discussions. The reasons why these students felt the discussion session were useful are summarised below (see Example Box 3.4). The student responses illustrate that the majority of the class who were questioned saw the benefits of interactive class-based discussions. Students gave a variety of personal and pedagogic reasons as explanations of why they liked group discussions. Some claimed the group-based discussions enabled them to meet and mix with more of their peers. Others felt that the discussions were helpful because they split the lecture up and enabled them to concentrate more effectively in the second half of the lecture. At more pedagogic level, students stated that the discussion groups were *stimulating* and enabled them to use their own mind in the lecture theatre – rather than simply having information given to them. Others claimed that the discussion sessions provided an opportunity to clarify their own thinking on a subject and to become more confident communicating in a large group arena. Possibly the most important feedback given by students on the group discussions was the sense in which they felt active learning gave them a greater sense of ownership over the learning experience. They realise that group-based discussion meant that they had to
Example Box 3.4. Positive student feedback on class-based discussion groups.

- "You get to see other people’s views on the subject"
- "It helps to break up the lecture and give you a different way of learning/thinking"
- "You get to see other people opinions and ideas and that helps you to expend your own"
- "Allows you to develop your own ideas"
- "It made it more developed so we could voice our opinion on a topic"
- "It’s good to hear feedback and views of others"
- "Breaks-up the lecture"
- "Involved students actively in the lecture - stimulates the mind"
- "Put your views across- see if what you think is right"
- "Encourages you to think of new issues and links between topics"
- "It helped me to get ideas from other people when I wasn’t sure the topic being discussed"
- "Gets views from a range of people"
- "It helps you to hear other people’s views which can sometimes contradict your own. Therefore it can lead to discussion that you remember more"
- "Made me think about the question, realised not as easy as first thought"
- "Get more ideas when discussing topics - breaks up the lecture"
- "Have made lectures not so impersonal"
- "Sharing and introducing ideas - and helps you get to know others"
- "In general clears-up concerns"
- "A way of speaking with others on the course"
"Help you to understand the topics in more detail"

"It has helped me as a mature student to meet others"

"It's good to do something active instead of just listening for fifty minutes"

"Became more confident with peers"

"Keeps you on yours toes"

Active learning gave them a greater sense of ownership over the learning experience. They realise that group-based discussion meant that they had to remain alert and on their toes if the lecture was to be a success – they were not just relying on the lecturer for inspiration, but on each other.
Reflection Box 3.3. Student feedback on group-discussion work.

- It was evident from the feedback that most students saw the benefits of group-based learning.

- Given the range of benefits which students recognised in interactive learning, the question does remain why it should still remain a marginalized section of a wider lecture-based learning experience (only ten minutes long). Some students did state that they felt that the only problem with group-based discussions was that there weren't enough of them and that they didn't last long enough!

- Significantly, many of the reasons which some students gave for not liking group-based work, were tied-in to the inadequate facilities which lecture rooms provide for group work.

- In many ways, it appears that our curriculum and teaching facilities are designing-out the opportunities for more group-based learning.
3.4. Conclusions -

In this chapter I have described the implementation of a class-based model of interactive teaching and learning. Despite the large numbers in the class, the group-based discussions appeared to bring a variety of benefits to both staff and students. By structuring and facilitating class discussion on specified themes and by breaking-up the class into small groups, I managed to overcome many of the traditional barriers to large class-based discussions. One interesting conclusion which emerges from this chapter, is given the benefits of class-based discussion, why are they not a more fundamental part of university curricula. One obvious answer to this question is that the physical and intellectual design of learning environments and curricula tends to create structures which are essentially anathema to interactive forms of learning. How can this be changed?