

Managing discussion and group-work

Active engagement in discussion

This chapter starts by looking at the application of Principle 6.1, which calls for students to be actively engaged in learning tasks. The most common form of active learning is discussion; so that is the topic for the first part of the chapter. The rationale for discussion is that it is a form of active learning which promotes understanding.

The reason for having so much group-work and talking is to encourage students to articulate what it is that they understand. In articulating it, they quite often discover there are some bits that they don't understand, so they have to go back and rephrase it or rethink it. In articulating it, they lay out their thinking, not only for feedback from others but also for themselves.

(Dawn Francis – James Cook – Education, B B & P, p. 166)

The chapter also deals with group-work as many learning activities take place in small groups. The two parts of the chapter overlap considerably as discussion is the most common activity of the small groups.

Most teachers will find it easiest to implement the advice given in this chapter in smaller classes, normally designated as tutorials or seminars. As we saw in the last chapter, activities can also be incorporated into large lecture classes.

Some teachers or lecturers, who do not win awards, maintain that there is no time for discussion if they are to cover all the content they consider necessary. The retort to this is enshrined in Principle 5.1 which stresses the need to concentrate upon students reaching a thorough understanding of key concepts. If this is at the expense of covering a great body of detailed information, it is a sacrifice worth making.

Some lecturers say, 'We have too much content, how can we fit in so much group-work?' I believe the content the students get in the end

will have more depth and be better understood as a result of the group-work. It might take a little longer to get established, but once you get going the things the students come up with are just so much richer.

(Dawn Francis – James Cook – Education, B B & P, p. 166)

What is important is how much is learnt rather than how much is covered. Students can only absorb so much. In the era of information explosion the principle of concentrating upon key concepts has become even more important.

Small groups within a class

Perhaps the greatest fear of tutors is that awful silence. They ask a question and no one responds. The way to deal with this problem is to break the students into small groups of about four to discuss the topic or question. Rather than a deadly silence the result is a lively buzz of discussion. Once the group has formulated an answer or opinion they will then be keen to tell the rest of the class; so there is no problem in getting a spokesperson to talk for the group.

In the tutorials, I break them into groups and I allow them five or ten minutes to discuss the theory questions for that week. Then they come back and one person from each group presents the group's answer.

(Christine Yap – Newcastle – Accounting, B B & P, p. 59)

The simple technique works just as well with Hong Kong students who can be rather shy and quiet in class. This is not surprising as many had little experience of discussion in school classes. Discussion in small groups deals with the inhibitions and results in a strong commitment to the consensus achieved by the group.

You have to encourage them to speak more. Give them questions ahead of time and ask them to think about it in a small group. Usually they will respond as a group. They will say, 'Our group believes this or that . . .', as they are less likely to say 'I believe this or that . . .' If you give them preparation time, usually they are pretty good about it. Normally I give them a question to think about and ask them to respond a little bit later, after the break.

(David Ahlstrom – CUHK – Management)

Discussion and activities are often managed with a pyramid structure. This starts with an individual formulating a response to a question or

problem. The answer or opinion can then be discussed with another student. The pair can then combine with another pair before a spokesperson passes on the view of the quartet to the whole class. There are many variants on the pyramid structure and it provides variety if different structures are tried. Common structures are:

- individual – pair – quartet – whole class
- individual – pair – whole class
- individual – quartet – whole class.

In think-pair-share, individual students write or simply think about their own ideas or solutions to a problem. Then they share and discuss their ideas with a partner and arrive at a consensus together. Partners may then share their ideas with another pair or with the whole class.

(Toni Noble – ACU – Educational Psychology, B B & P, p. 219)

There are also various ways for the group to record its answer and the spokesperson to report to the whole class. The groups can record key points on chart paper or overhead transparencies to aid the spokesperson's presentation. Alternatively, the teacher can record points on a whiteboard as the summary is given. The advantage of having a written record is that it helps in giving a debriefing. Another way of passing the conclusion on is for each group to send one member to the next group to tell them their group's conclusion. This strategy works well if there are a series of activities as the groups change composition each time. A variation on this cyclical movement pattern is used in the following example.

I frequently use jigsaw teaching. For example, recently, in a course on the Psychology of Learning, this structure was used as a means of exploring different theoretical models. The students were divided into small groups and each member in the group was given the responsibility of looking at one theoretical model. So one student was to look at the humanist model, one was to look at the behaviourist model, one was to look at the cognitive model, and so on. Their task was to develop some sound study questions on their model. For the first hour of the tutorial time, they got together with the people who had the same model from each of the other groups. So all the humanists got together, all the cognitive people got together, etc. In this hour, they developed some challenging study questions and answers on their model. Then, for the second hour, they went back to their group to teach their own group members what they considered to be the key elements of their particular model.

(Toni Noble – ACU – Educational Psychology, B B & P, p. 219)

Group activity

This is a discussion activity we have used many times in courses for both new teachers and teaching assistants. It consistently works well and the participants become committed to their group's conclusions.

Ask the class to divide into groups of about four. Ask each group to discuss the question *What makes a good seminar or tutorial?* About 20 minutes needs to be allocated for the discussion.

Each group should summarise their conclusions on chart paper or an overhead transparency. One member of each group can then present the group's findings. If there are a lot of groups restrict each group to one point which has not been raised by another group.

At the end of the presentations the facilitator needs to debrief the activity by providing a synthesis of key points. The charts or transparencies can be collected for typing up. This way the participants can be given a record of each group's conclusion and the facilitator's synthesis.

Managing discussion

For discussion activities the teacher has the role of discussion and activity manager. The role encompasses controlling the flow of the discussion and ensuring that the activity reaches an appropriate conclusion.

You've got to be the focal point. Even if you let the group discussion roll, you still need to be the conductor of the orchestra. Room dynamics and seating arrangements can be critical. If the person who is the most interactive in your entire tutorial is sitting at the front left hand corner, you end up having a dialogue just with them and you lose the rest. Somehow you have to get that person to go and sit at the back so the room gets brought in or you've got to redirect discussion from the front to the back and say, 'Tricia just said this, what do you think?'

(Leonora Ritter – Charles Sturt – History, B B & P, p. 29)

A potentially difficult issue with managing discussion is uneven contributions. Most classes have one or two students who like to talk all the time and others who prefer to stay silent. If you break the class into subgroups you can insist on having a different spokesperson each time. That way everyone gets a turn. A graphic way of showing levels of participation is described in the following quotation.

If I'm having trouble getting equity of participation in a group, I use a ball of wool. I put the students into a circle of ten. As each person

speaks, they take the ball of wool and then hold onto the twine as they pass the ball onto the next person who speaks. After five or ten minutes we stop and look at the design appearing in the wool.

(Dawn Francis – James Cook – Education, B B & P, p. 165)

There are times when the uneven participation is because of the teacher talking too much. It is easy for this to happen because the teacher has the expertise in the topic. However, monologues do not make effective discussion classes. Students can be brought into the discussion through questions.

My perception is teachers generally talk too much. You can tell somebody's puzzled by the way they look. And you can tell if somebody is not paying attention, often because I'm talking too much. You can tell that somebody is subtly drifting off; that's the time to ask questions, to get them moving and to keep them in. It's monitoring what's going on really. I try and make it so that I don't talk more than 50–60% of the time at most. The rest of the time is students'. Whenever I teach, I have all these questions I'm going to ask them about.

(Gordon Mathews – CUHK – Anthropology)

Asking questions

The most common way of managing discussion in tutorials and seminars is asking questions. Participation can be managed by selecting students to answer questions, though this has to be done carefully to avoid embarrassing the shy students or those who have no ready response to a particular question.

Usually, the more enthusiastic ones answer the questions, so I try to bring in the quieter ones. If they don't answer, I just move on to someone else. I don't try to embarrass them at all. I encourage them to come forward, and to not feel inhibited by being in the class.

(Derek Henry – RMIT – Nursing, B B & P, p. 364)

The initial question needs to be an open one if a meaningful discussion is to happen. If there is hesitancy in responding it can be because students are not sure where to start with the open question. In this case try some prompting questions to channel the direction of the discussion and to explore the topic. These prompting questions are essentially breaking down the big open question into subquestions which are easier to answer. Probing questions can then be used to lead the discussion towards deeper and more insightful conclusions from an initial response. Common probing questions are variations on *how?* and *why?*

I use a lot of questioning techniques to see if they've understood. So when a group is doing an introductory five minutes at the beginning of class I question them: 'Are you sure that's going to be appropriate at that time, and why do you want to use it?'

(Christine Hogan – Curtin – Management, B B & P, p. 70)

Questions can also be used as responses to student questions. Providing an answer when you are asked a question often does not help the students to learn how to solve problems themselves. Breaking a larger open problem down into a series of more straightforward questions can help students start doing this themselves.

I like to give students problem sheets where I tease out some of the little problems they're likely to encounter with particular concepts. If the students just apply the formulae by rote, they'll trip up. That's a deliberate ploy that I use to make them go back and think again. When they ask me a question, I try to identify the gap in their understanding and then pose a series of simpler questions designed to lead them from their current understanding to a new deeper understanding. This new deeper understanding will enable the student to answer the original question for themselves.

(Bob Lord – RMIT – Communication Engineering, B B & P, p. 321)

Activity in pairs

Practice questioning techniques in pairs. Pick an open topic which both of you are familiar with. Take it in turn to play the role of teacher and student. The teacher should go through a series of open, prompting and probing questions to draw out a good response.

Discussion activities

If discussion sessions are to work well there needs to be a good activity or discussion topic. One source of activities is published papers.

In seminars, we will discuss some newly published papers and analyse the strength and the weaknesses or limitations of the study, and whether the conclusion is credible. Most importantly, I'll ask them, 'If you come across a similar case, will you adopt the new treatment or will you prefer the old? Is the new treatment method supported by adequate evidence? Or would you rather wait and see?' This is to train them to think.

(Gregory Cheng – CUHK – Medicine and Therapeutics)

A good guide to designing activities is Principle 5.2. If students can see the relevance of a discussion topic or activity they are likely to engage in it seriously. Relevance can be established through current issues, local examples or practical real-life cases.

In one of the courses I teach, I try to conduct discussion sessions once every two weeks. Students are organized into groups of three to five. Before the discussion, I give them some open-ended problems to solve rather than regular homework. These are problems without definite answers which students may need to research beforehand on the web. They are supposed to do it independently.

Come the date of discussion, students will gather together and discuss among themselves. TAs and I will walk around to answer questions, anything that is unclear in their mind. But we will not give out answers. There are no definite answers. One week later, they have to submit a report. . . . In general, they like it.

Q: What kind of problems do you give out in these discussion sessions? Practical problems. If a certain company is producing one kind of product, I will ask them to check what kind of product it is. How does it relate to what they have learnt in terms of technical implementation? How do they think the engineers in this company implement this product? What are the advantages and disadvantages? This would arouse their thinking better than just learning a programming language and doing a programming assignment.

(Soung Liew – CUHK – Information Engineering)

Discussion activities are an important way of implementing Principle 5.3 which notes that there may be a need to challenge students' existing beliefs. Confronting them with unexpected outcomes is a way to do this.

I often use the system of Predict, Observe, Explain as the learning method. I explain this method to the learners and get them to look at something, find it's different from what they expect it to be, and have them nut out why they made the wrong prediction. When they find they can use this learning to correctly deal with new but different situation, then they aren't just rote learning. I think learning is when you change your behaviour or you change your understanding. It's when you attempt a problem and you check your answer and find it's incorrect that you see you have a chance to learn and that to do this you must change your behaviour. That's what I think learning is. And that sort of learning can go on forever – the great thinkers of the world, people like Einstein, keep trying to understand what makes the world tick and end up searching for the meaning of life.

(Bob Lord – RMIT – Communication Engineering, B B & P, p. 321)

Individual or group activity

Plan one activity which you can use in a class you teach which students will find really interesting. Interesting activities are likely to show how a theory relates to current or local issues.

Debriefing

At the conclusion of discussion activities it is important to have a debriefing to ensure that students take the key concepts from the lesson. Without a debriefing some will instead remember discussion points they found interesting, but which are not central. A good teacher should draw out from the discussion the key conclusions.

After the interviews, the tutorial leaders conduct debriefing sessions in which they summarise the information gained and recommend further reading.

(Justine Alison – James Cook – Nursing, B B & P, p. 358)

Students can also be asked to contribute to the debriefing. The advantage of involving students is that they learn that a set of set of key points is an appropriate outcome for a learning exercise. It does sometimes need a degree of control from the teacher to ensure that the appropriate conclusion is drawn.

I always assign equal time to participating in an activity and reflecting on the learning from that activity. Towards the end of the session, I go back to the objectives to see how well we've met them. . . . Then we move around the circle in turn with everybody giving feedback about something interesting they've learned or something they've had difficulty with.

(Dawn Francis – James Cook – Education, B B & P, p. 165)

A somewhat different type of debriefing is needed when students go to different practice situations. At the end of the practice period it is valuable to bring them together to discover what each has learnt and for them to learn from each others' experiences.

As a result of students' comments in their journals, I introduced debriefing sessions. Generally, I get six or seven students together for a one-hour debriefing session. This gives them the opportunity to hear about what the others are doing.

(Elaine Thompson – UNSW – Political Science, B B & P, p. 93)

Reflection checklist

The following checklist can be used to reflect on seminars and tutorials. It is suitable for individual reflection after a class or for use with a colleague as an observer. It can also be used in conjunction with an audio- or video-recording.

1 = needs improvement 2 = good 3 = excellent

<i>Criteria</i>	<i>Rating</i>	<i>Comment</i>
Planning – planned content and activities		
Time management – planning and execution		
Organisation – prepared teaching materials		
Introduction – purpose established at start		
Activities – clear direction and management		
Questioning – managed discussion with questions		
Questioning – used range of prompts and probes		
Flexibility – adapted plans in response to feedback		
Debriefing – summarised key concepts		



The reflection checklist for seminars and tutorials can be downloaded at <http://www.routledge.com/textbooks/9780415420259>.

Individual reflection on small group teaching

Use the reflection checklist to reflect upon your own teaching in seminars and tutorials. Do this over a semester and try to make iterative improvements.

Group-work

This section on group-work relates to what has come before in this chapter in that, for much of the discussion activities, students have been formed into small within-class groups for the discussions. There is also a relationship with the next chapter, which deals with a wide variety of forms of teaching and learning, all of which promote active student engagement, rather than passive learning from didactic teaching. Many of these types of teaching can involve students working together in groups.

Why group-work?

There are several arguments for group activities. The first is that the negotiation, discussion and exploration of ideas within groups encourage the use of higher-order intellectual capabilities. This leads to the development of critical and creative thinking abilities. Interpersonal and communication skills are also practised and this leads to an improvement in them.

Co-operative learning has a number of very positive student outcomes. Students are being active learners rather than passive recipients. They're communicating with each other about their ideas. They're making eye contact rather than sitting in rows and just looking out at the front. They're taking responsibility for coming up with their own ideas rather than just being given ideas by me. They are more motivated to stay on task and spend longer working on a problem or an issue than they would be as an individual.

Co-operative learning strategies give students the opportunity to hear and respect other points of view. This is critical in encouraging reflection on their own beliefs and attitudes. Students have to think about where they stand on an issue, clarify their point of view to others and evaluate differing views. So I think it encourages higher order thinking and leads to deeper learning rather than just surface learning. Students are given the opportunity to practice and learn interpersonal, communication and teamwork skills.

(Toni Noble – ACU – Educational Psychology, B B & P, p. 220)

A lot of learning takes place in groups – often a lot more than when students sit passively listening to a teacher.

I think that students teach each other much more than we teach them. Perhaps it's a good quality for a teacher to allow this peer learning to take place, but sometimes it can get a little frightening.

(Justine Alison – James Cook – Nursing, B B & P, p. 361)

Group, rather than individual, projects or activities also permit students to tackle more substantial tasks. This means that they can be asked to deal with more complex real-life issues rather than simplified tasks.

I think the students actually learn a lot more if they're forced to interact with each other in a group and they get to bounce ideas off each other. Of course, there's the added advantage that they can get things done more quickly because there are three or four people to do things instead of just one.

(Alan Butler – Adelaide – Zoology, B B & P, p. 284)

Arranging groups

When forming groups, opinion is divided between allowing students to choose their own group-mates and selecting groups for them. One award-winning teacher made a very graphic case for allowing students to form their own groups.

In group assessment, I allow students a fair amount of flexibility in how they compose their groups. The literature suggests you should find out students' assets and liabilities and then allocate them to groups so that their skills are spread evenly and they'll all learn from each other. I tried to do that once, but it didn't work. We have huge numbers of part-time students from a great variety of backgrounds. I could have one student who is a business person downtown, has very little time, is earning ninety thousand dollars and driving a BMW who really doesn't want to talk to this full-time student who's got pimples, is living in Kogarah or Hurstville or Penrith, and who wants to meet out there. And in this group you've also got the housewife who comes from Wollongong who's trying to manage a family and arrange babysitting, which can be difficult. And I'm telling these people to get together to do a group project! That's why it failed. . . . I now let students choose their own groups.

(Mark Freeman – UTS – Economics and Finance, B B & P, p. 46)

Another argued for teachers to allocate students to groups.

Given that students put so much energy into the subgroups, I try to ensure that nobody gets stuck in a dysfunctional group. One way of doing this is for staff to allocate students to subgroups. I have found that if I let them choose their own subgroups, the result will be two pretty functional groups of, say, six or seven each, and the third group will have students who do not readily identify with other people in the room and who almost certainly do not readily identify with each other, and that group is much more likely to be dysfunctional. It is not possible to completely avoid the occasional dysfunctional group, but the impact of this is ameliorated by changing the group membership mid-semester, so that no one should be in a dysfunctional subgroup for the whole semester.

(Peter Lee – South Australia – Social Work, B B & P, p. 111)

We allow students to form their own groups – partly because that is normally their preference and partly because you rarely have sufficient information about individuals' interpersonal and group-work skills to make a good job of forming compatible and productive groups.

Group dysfunctionality can be reduced by checking progress on a regular basis and discussing task management with those who do not appear to be progressing well. A further strategy for improving group performance and making assessment fairer is to use one of the methods for group members to assess each other's contribution to the work of the group. These ask each student to rate the contribution of each other group member to specified aspects of the project work. Marks for the group can then be adjusted according to contributions. This rewards those who have put in the most effort and penalises the freeloaders. Assessment of contribution to group projects is discussed in more detail towards the end of Chapter 12. References are given to articles which give detailed descriptions of how to organise and conduct the peer assessment.

Facilitation

Facilitating group-work is a delicate balancing act. Intruding too much within a group removes the benefits which accrue from the self-directing nature of group activities. On the other hand, having no contact with groups can mean that some groups go off in directions which are unproductive and dysfunctional groups can flounder. A reasonable middle point is to arrange review meetings at regular intervals with each group. Progress and direction are then checked periodically.

The other point of balance which is important is the degree of direction given to a group. Excessive prescription turns a project into an exercise in

following a recipe. An absence of directions can lead to blind alleyways or going round and round in circles. A useful technique is to use probing questions to prompt students to work out a direction for themselves. A good example is in the quotation below.

Here's an example of how a demonstrator might provide guidance. You might say to students that you want them to investigate a particular species of snail, where it is on the shore, why it's there and not somewhere else. So they might go into a huddle and say, 'Right, we've got to do a transect here – we'll need a tape measure and string and levelling devices and quadrants and so on'. The demonstrator will say, 'Okay, but why? Why do you want to do a transect?' It turns out they want to do a transect because they learned how to do a transect in another course, and they'll be a bit stunned by someone asking them why they want to do it. Their initial response will be pretty much 'Because we've already learned that this is the right thing to do'. So the demonstrator is essentially saying, 'Well, it may be or it may not be the right thing to do; it's your responsibility to decide why you're doing it'. This usually stuns them.

(Alan Butler – Adelaide – Zoology, B B & P, p. 283)

Computer conferencing

Most group discussion takes place face-to-face. It is also possible for it to be computer-based. For distance education students this provides a vital channel for interaction which they would otherwise be denied. Computer-based communication can also be used as a supplement to face-to-face classes. Groups of students can continue their dialogue outside the classroom.

I've come up with an idea I've called 'computer-supported collaborative problem-based learning'. Problem-based learning is about focusing the learning and instructional process within the context of a problem – making it more authentic, more realistic for the learner. I asked myself how we could bring the technology, collaborative learning principles and problem-based learning together in a composite environment. So I've developed a model that can also be applied in a face-to-face classroom. You present the problem during the lecture, then you embark on a process of investigating, negotiating and exploring the problem in a computer-supported environment.

We create virtual tutorial groups on what we call the 'Listserv', to which students have access through the university computer labs. Firstly, they post their individual reflections on a problem to the tutorial group. When they've all placed their reflections, they can read each other's

reflections, just as they would in a face-to-face tutorial. At the next stage, they go away and revise their initial reflection and think about whether their view of the issue may have changed after considering the others' responses. They can then return and bring in, for example, articles that may be relevant to the problem. Finally, they produce a 'critical reflection record' summing up everything that's transpired in relation to the problem.

The objective is to get people to discuss the issues and reflect on the problem from a variety of viewpoints. We're simply creating an environment for people to have a discussion if they want to. As the lecturer, I might come in every now and then and pick up on things, make a comment from my own experiences and give general feedback. I don't necessarily read all the comments in great detail every day so monitoring the whole process is not too much of a task. I allocate half an hour every second day to it. We spend that kind of time on our electronic mail every day anyway.

(Som Naidu – Southern Queensland – Education, B B & P, p. 186)