

Balancing passive and active learning

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Introduction

Active learning is often encouraged in tertiary education management and pedagogical training (Biggs & Tang 2011*a*). Active learning is often resisted by those that educate at a tertiary level. The resistance is typically expressed informally (Biggs 1981). Reasons for resistance are typically not published as such in journals of higher education; resistance is not based upon an extensive critique of active learning as a clearly defined target; nor is it based upon a defence of a clearly defined alternative, which one might call ‘passive learning’. For the purposes of discussion, passive learning can be defined as any activity that does not involve going beyond those activities central to the reception of a traditional lecture. Activities central to the reception of a traditional lecture are those such as “simply watching, listening and taking notes” (Felder & Brent 2009, p. 2). An active learning teaching strategy can then be defined as any teaching strategy that introduces activities that go beyond those central to the reception of a traditional lecture. Active learning strategies are compatible with passive learning strategies, but can also transcend the traditional lecture by “introducing activities into the traditional lecture and promoting student engagement” (Prince 2004, p. 225).

Plausibly, a typical teaching strategy for a given session will exist on a continuum between extremes of active and passive learning (Bonwell & Eison 1991). Placement of a teaching strategy on the continuum can be seen as a function of the extent to which it departs from or adheres to the promotion of activities central to the reception of a traditional lecture. There

are perhaps only few cases at the extremes. But it may well be that worries about an active learning teaching strategy at the extreme forms the basis for resistance to active learning in general. This extreme is ‘discovery learning’, “in which students are expected to work in groups in a learning environment with little or no guidance” (Mayer 2004, p. 14). As Mayer puts it: “Pure discovery—even when it involves lots of hands-on activity and large amounts of group discussion— may fail to promote [selection of] relevant incoming information” (ibid., p.17). This suggests some degree of motivation for guided instruction, even in the context of relatively free active learning strategies, in order to facilitate selection of relevant information. Thus we might conceive of passive learning strategies, at the extreme, as involving maximal selection of information by the teacher – call this ‘guidance’ - and active learning strategies, at the extreme, as involving minimal selection of information by the teacher – call this ‘discovery’.

Finding the right balance between guidance and discovery is the challenge that motivates this project. In what follows, I will compare two ways of balancing guidance and discovery in the context of two modules of two distinct MA programmes at the University of Copenhagen. In one module, a fairly fixed balance between guidance and discovery persisted throughout the course of teaching. Call this ‘Balance 1’. In another module, there was a gradual shift from passive to active learning strategies during the course of teaching. Call this ‘Balance 2’.

In section 2, I will further describe the two MA modules, to give a sense of the context and content of the teaching. In section 3, I will describe the teaching strategies involved in the two modules with respect to the ways in which a balance between guidance and discovery was employed during the course of the teaching. I will also discuss the strengths and weaknesses of each balance. In section 4, I will discuss some of the ways in which each balance seemed appropriate to the particular constraints imposed by the module in which it was employed.

The modules

Balance 1 was employed in a module of the University of Copenhagen’s Philosophy MA programme, titled ‘Central Topics in Phenomenology and Philosophy of Mind’ (hereafter ‘CT’). Balance 2 was employed in a module of the University of Copenhagen’s Cognition and Communication MA, titled ‘Embodied & Embedded Cognition’ (hereafter E&E). The two mod-

ules had some overlap in content. In this respect they were similar. But they were very different both with respect to the MA programmes of which they were part and the disciplinary background of the students in attendance.

Central topics in Phenomenology and Philosophy of Mind

The Philosophy MA programme at the University of Copenhagen aims to advance the kinds of philosophical skills and knowledge that one might obtain in BA degree. Modules cover a range of traditional subjects in the major areas of academic philosophy: ethics, metaethics, applied ethics, political philosophy, aesthetics, epistemology, metaphysics, philosophy of science, logic and philosophy of language, and Ancient, Medieval, Renaissance and Early Modern Phenomenology and analytical philosophy of mind are two of the most influential approaches to the theoretical study of mind in the 20th century. The two traditions have significant overlap in subject matter, specifically regarding topics such as the nature of intentionality, self-consciousness, subjectivity, embodiment and social cognition. But each tradition has been developed in relative isolation from the other, and to the extent to which there have been interactions between proponents of each tradition, these interactions have often been marked by hostility and ignorance¹.

CT aims to develop the ability to critically engage with texts from both phenomenology and analytical philosophy of mind. The course material is presented with a view to discerning the ways in which the central concerns of both traditions are similar, yet distinct and perhaps complementary. The module also aims to develop students' understanding of how the two traditions might fruitfully interact in advancing contemporary discussions in philosophical psychology. The intended result is to show how the combination of both phenomenological and analytical approaches to the mind may provide increased theoretical sophistication to empirical cognitive scientific research.

The content is divided into three sequentially ordered sections: 1) intentionality and consciousness, 2) embodiment, and 3) social cognition. The material is orientated towards philosophical psychology in sections 2 and 3. Each section is taught by a separate teacher. I taught the second section, titled 'embodiment'. This section comprised four teaching sessions. Two

¹ For exceptions see Gallagher & Zahavi (2008) and many of the contributions to Smith & Thomasson (2005).

of these sessions concerned the 'Extended Mind Thesis', the thesis that the material bases of mental states can in some cases extend beyond the brain and include aspects of the body and environment (Clark & Chalmers 1998). This philosophical thesis has been developed and discussed in the context of a broader movement within cognitive science more generally, known as 'Embodied and Embedded Cognitive Science' (Shapiro 2010). In this part of the module, three of the four readings assigned were identical to those assigned and recommended for sessions of the module E&E in the Cognition and Communication MA programme.

E&E

The Cognition and Communication MA programme is hosted by the Department of Media, Cognition and Communication. It is taught by individuals in the Philosophy Section of the Department (including myself) and individuals in the Film, Media & Communication Section. It is explicitly interdisciplinary in scope. It offers modules covering qualitative research methods, media science, human computer interaction, communication theory, film theory, philosophy of science and cognitive science. The latter is itself an interdisciplinary field including aspects of philosophy, psychology, artificial intelligence, neuroscience, linguistics and anthropology.

The aim of the Cognition and Communication programme is to give students a strong theoretical basis for practical endeavours that may benefit from any of the various possible combinations of the disciplines involved in the programme. The panoptic scope of the programme allows the student to develop a fairly unique line of study to develop specific expertise in a variety of fields. Students are also encouraged to replace elective studies with an internship to explore the potential for combining theory and practice.

E&E is the second of two modules focussed on cognitive science. The first is an introductory module in the first semester, appropriately titled Introduction to Cognitive Science. Assuming this introduction as a basis, E&E surveys several recent developments in cognitive science that are unified in their rejection of what is known as Classical Cognitive Science. The module thus involves a detailed discussion of the central theoretical elements of Classical Cognitive Science that the movement rejects, as well as assessment of the theoretical significance of the shift in focus that characterises recent 'embodied', 'embedded', 'situated', 'enactive' and 'extended' theories of cognition. These theories variously shift the focus of cognitive scientific methodology and explanation to the ways in which the bodily

structure and environmental situation of cognitive agents putatively shape and even constitute cognitive activity. In large part, the motivation for this shift is conceptual. Cognitive systems and cognitive processes are conceived as potentially consisting in non-neural material structures and processes. In this respect, the module differs significantly from other aspects of the programme, especially the various more practically orientated aspects, as it covers a range of issues concerning the nature of cognitive systems and the theoretical, methodological and philosophical foundations of cognitive science.

Two ways of balancing guidance and discovery

Balance 1

The session format in CT remained relatively fixed throughout the semester. Each session included prepared lecture material presented by the teacher and two individual presentations by two students attending the module. The only exceptions to this were the first session, in which no students presented, in order to allow sufficient time to give an adequate introduction to the course, and one of the later sessions, in which one of the students was unable to present due to personal injury.

In the sessions that I taught, the prepared lecture material would elaborate on the issues motivating the readings assigned and the broader context of the topic in question. PowerPoint presentations were always used. These tended to have very little text; they typically would require the associated commentary and some familiarity with the subject of discussion, in order to be fully intelligible. Two or three short lectures would be broken up into twenty or thirty minute sessions, each would end with discussion questions to be addressed in plenum following a break. Students were required to give a presentation of fifteen minutes on one of the two readings assigned for the session. Each presentation was followed by a discussion directly afterward. Students were encouraged to provide an exposition of the main arguments of the text assigned, to assess whether and if so the extent to which the author's arguments were successful, and the ways in which they might be further criticised or improved. Students were also encouraged to use their presentations as the basis for their examination, which consisted of a written assignment of no more than ten pages and a half-hour oral examination.

The strengths and weaknesses of Balance 1

Strengths

Balance 1 provided a highly regular structure to each teaching session. It enabled both focussed discussion of the particular class readings (through the student presentations) and more general discussion of the broader issues (through the teacher presentations). The relatively strict constraints on the content of the presentations ensured that when students actively engaged with the course material they did so in a manner that remained focussed on relevant issues. It also served as an effective means of covering large amounts of course material. Finally, encouraging students to use their presentations as the basis for their examination perhaps partially explains the high success rate in getting attendees to take an examination for the module, something that has been an issue across the Philosophy MA programme and in previous years in which the module was offered.

Weaknesses

The quality of student presentations can vary significantly. This can result in having to spend discussion time and even lecture time on carefully clarifying the issues and addressing misunderstandings. Depending on students to articulate the content of the readings can also be an issue in cases where students decide to give a more independent presentation. Even if this is not necessarily a poor presentation, it can result in poor integration between teacher and student presentations. On the other hand, it ought to be noted that limiting student presentations to the assigned readings does place fairly strict limits on creative insight. Indeed, one ought to be wary of the assumption of optimal selection of material for the students' learning of the subject matter. It may well be that a more independent presentation from a capable student, able to engage effectively with a slightly broader range of literature, would provide greater insight and more lasting understanding. Moreover, having student presentations as the only active learning strategy may be imprudent, given that certain students may benefit from the presentations less than others. Finally, though the format does promote some student interaction, the interaction is somewhat limited, relative to that involved in other active learning strategies.

Balance 2

The session format in E&E varied considerably, though systematically, through the course of the semester.

Sessions in the first third of the course consisted mostly of teacher presentations interspersed with teacher student discussions. These were of the typical kind for a standard lecture, in some cases involving the student interrogating the teacher and in some cases the teacher interrogating the students. Two sessions were taught by a guest lecturer, an expert on cognitive anthropology, and followed a similar learning strategy. Sessions in the second third of the course involved considerably less lecturing, with the majority of the session devoted to student activities. All of these activities were combined with lectures. These activities included: discussion in pairs, followed by discussion in plenum; discussion in three to four person groups, followed by discussion in plenum; discussion in larger groups, with the attendees split into two groups, followed by a debate between the two groups.

Sessions in the final third of the course were almost entirely devoid of lecturing. Activities included: attendance of the conference “Thinking (about) groups”; field-trip to the Helene Elsass Center (HEC); student PowerPoint presentations; one-on-one teacher-student discussion prior to presentations and after submission of a term paper draft; discussion of term paper drafts in three to four person groups. I will say a bit more about each of these before moving on.

The “Thinking (about) groups” conference was held at the University of Copenhagen from the 8th to the 10th of October². Students were told to attend at least three of the sessions of the conference and write up their impressions. In particular, they were told to try and relate the discussion to topics and themes that had piqued their interest during their studies.

The field trip to HEC was run by Kristian Moltke Martiny, a postdoc at the Center for Subjectivity Research³. Kristian gave the students a tour of the HEC rehabilitation programme followed by a lecture on how embodied and embedded cognitive scientific research might be applied for the development of rehabilitation strategies and technologies for people with brain damage.

Students were told that the aims of the student presentations were to bring together a set of ideas and literature on which they would like to

² See <http://cfs.ku.dk/calendar-main/2014/thinking-about-groups/>

³ See <http://elsasscenter.dk/> and <http://cfs.ku.dk/>

write a term paper and to make the first attempt at outlining the structure and content of their term paper. They were also told that the length of the presentation should be no longer than twenty minutes, leaving a further fifteen minutes for discussion.

One-on-one discussions were held in my office on each day prior to the presentations. I met each student for an hour. Students were encouraged to send any material that they had for the presentation prior to the meeting, but were also told that this was not necessary. I began each discussion by asking the student what they found most interesting about their topic and what they had read concerning their topic. I then lead the discussion towards their presentation, giving advice for how to best present their ideas, going through slides if available. Finally, we would discuss how best to structure their term paper.

The final session of the module took place in the week after students were encouraged to submit an up to five page draft of their term paper. I met any student that had submitted a draft for half an hour to discuss how it could be developed and improved. I used the draft material to develop a brief presentation of common issues faced in preparing a term paper for the course. After this presentation, students discussed their term paper drafts with one another in three to four person groups, taking turns to answer the following series of questions: What's the main issue? How is it, or how might it be, theoretically motivated? What's the most relevant article/chapter (or set thereof)? What's the main argument/point of contention there? How are you structuring your paper? How, if at all, does the structure aid your critical evaluation? What (if anything) do you feel that you have well covered? What (if anything) are you struggling with, and why?

The strengths and weaknesses of Balance 2

Strengths

The major strength of Balance 2 is that the course of the teaching incorporates a variety of teaching styles and learning strategies. This serves well to overcome a weakness of Balance 1 in this regard. The debate activity is noteworthy for its success and the ease with which it can be combined with traditional lecturing. There are in fact many ways of varying this kind of activity to tailor it best to the individual class (Kennedy 2007). I chose to have the debate follow two short lectures in which I had presented the main arguments for and against a controversial thesis. The debate fostered a

good discussion environment both in the individual session, but also in future sessions, with students becoming more ready to address one another's remarks in a friendly, yet critical manner. The variety of student activities also matched well with the nature of the MA programme and expectation that students will follow a fairly independent path through the various opportunities for learning disciplinary expertise and combining theory and practice. Informal discussion with the students gave the impression that the field trip and the conference attendance was also very useful in this regard.

Finally, having fairly independent student presentations addresses certain worries with the strict constraints on student presentation in Balance 1.

Weaknesses

The lack of uniform structure to the teaching sessions that Balance 2 requires results in a much less orderly course of teaching than Balance 1, which in turn requires much more frequent communication about the structure of each session. The third part of the course, devoted almost entirely to student activities, requires less preparation of lecture material, but it is in fact far more time intensive as it presents the teacher with a significant administrative workload. In addition is the extra reading, writing and interaction time involved in the one-on-one interactions. Arguably these are indispensable, at least if one is to give sufficient guidance to the students such that they do not lapse into pure discovery learning. Poor presentations can be avoided to some extent by meeting students beforehand. But this does not necessarily ensure that the student will be adequately prepared or able to present their ideas in a timely and reasonably engaging fashion. Given that entire sessions were dedicated to student presentations, the opportunities for addressing misunderstandings were fewer than in Balance 1. Also, devoting entire sessions to presentations created the further problem of a gradual decrease in student attendance, where many of those that had presented in previous sessions did not attend later sessions. Finally, giving over so much of the time to student activities, especially independent student activities, had the inevitable consequence of reducing the amount of material that could be covered.

Finding the right balance for the learning situation

Despite the weaknesses discussed, there are various reasons to think that the balance chosen for each module was more appropriate for the module than the balance chosen for the other, given the unique features of each course of teaching. Specifically, there are three ways in which the course of teaching differed between the modules, which each seem relevant when considering which balance of guidance and discovery is most appropriate.

Disciplinary uniformity

The nature of the Philosophy MA in general and the Phenomenology and Philosophy of Mind Specialisation in particular is such that it attracts applicants with a strong background in academic philosophy. As a consequence, the disciplinary expertise of the student body was expectedly uniform; almost all students had some experience in studying philosophy academically and most had a previous full degree in the subject. By contrast, the explicitly interdisciplinary nature of the Cognition and Communication MA is such that it attracts students from a range of disciplines. The range of disciplinary expertise in the student body for the 2014 E&E module covered Journalism, Semiotics, Political Science, Sociology, Anthropology, Cognitive Science, Psychology and Philosophy. For such a mixed group, a gradual shift from precise (but less interactive) lecturing to highly interactive (but less precise) student activities is plausibly much more beneficial. Whilst the lectures provide a common ground for the diverse group, the interactions allow the group members to take advantage of their individual differences in expertise.

Variety of teachers

E&E is typically taught by one teacher. By contrast, CT is typically taught by three teachers, one for each section (intentionality and consciousness; embodiment; social cognition). This situation makes Balance 2 rather difficult to implement in such a course. Firstly, the subject matter would covary with changes in format, but for no good reason. Secondly, the differences in teaching style between the teachers would be combined with the differences in format, but not as a matter of the teacher's own preference. Both of these are likely to increase a sense of overall disorganisation in the course of teaching. Thirdly, the administrative load and time demands upon the third teacher will be much greater than the first two.

Nature of examination

Although in both modules students were encouraged to focus their examination upon the subject of their presentations, the two modules differed significantly in the forms of examination that students were typically required to take. In CT, students were required to submit an essay of up to ten pages, which would serve as a basis for an oral examination that would also test their knowledge of other aspects of the course material. Accordingly, restraining the student presentations to the course material provides some degree of uniformity to the written and oral examinations. By contrast, E&E is examined by a 20 page essay alone. Combining a more independent presentation with plenty of individual discussions between students and between students and teacher seems more appropriate for the development of thought required for a longer paper.

All contributions to this volume can be found at:

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