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LOSING CONTACT

HOW CAN WE TEACH LARGE CLASSES?

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INTRODUCTION

It seems to have become commonly accepted that increasing access to higher education means either reducing contact time between lecturers and students or dramatically expanding class sizes – or some mixture of the two. The academy must, it appears, move towards greater use of distance education and mixed-mode teaching, including harnessing the various possibilities of Information and Communication Technologies (ICT), as well as increasing class sizes. Refusing to do so would, it seems, be refusing to increase access.

I want to focus on what may be lost in all of these strategies to increase access. By implication, my conclusion is that any increase in student numbers must come with a corresponding increase in lecturer numbers.

I suggest that large-class teaching, like distance education (both in its traditional guise as ‘correspondence courses’ and the more modern online delivery), reduces meaningful contact time between lecturers and students. In particular, large-class teaching reduces the possibility of meaningful lectures that most students find stimulating and are able to follow. It also, obviously, reduces the possibility of learners getting substantive feedback on written work. These, I argue, are substantial losses, which cannot be replaced by well-structured course guides, discussion groups led by junior tutors, or technology-based interaction.

Drawing on sociologist Randall Collins’ (1998) sociology of intellectual change, I argue that contact between teachers and students is core to the project of the acquisition and development of knowledge. Discussion time and tutorials alone do not constitute ‘contact’, although they are an important part of it. Collins’ extensive and wide-ranging analysis of the work of intellectuals across time and space provides a way of understanding the importance and role of the *lecture* as a specific form of teaching that is core to the transmission and development of knowledge. From this perspective, meaningful contact time requires lectures and taught classes, in addition

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to discussion time, tutorials, and the various forms of interaction that can be achieved using ICTs.

In distance education, with no contact time, the lecture is eliminated (except in the form of an on-screen version of a lecture). Distance education that includes some contact time is usually referred to as 'mixed-mode' delivery. In mixed-mode learning, contact time is usually reserved for tutorials where students discuss their problems or have group discussions. The key mechanism for curriculum delivery is a structured learning programme, either in the form of a course pack distributed to learners or an online programme, and the lecture is not used as a key component of curriculum delivery.

On the face of it, contact time is not reduced with large classes: although there are more students in the lecture hall, they are still all in the same physical space as the lecturer. However, I suggest that the vital role that lectures should play as a key component of the curriculum is substantially undermined by large-class teaching, especially when the class comprises novices (such as undergraduates) or students of substantially mixed ability. In the main, large classes replicate *the form* of contact education, but are unlikely to achieve the essence of what makes lectures a valuable form of contact education. This is particularly the case at undergraduate level, where the practice of large-class teaching is most pervasive and classes contain the largest variation in ability levels and extent of prior knowledge. Furthermore, large classes make it impossible for lecturers to base assessment on any kind of extended writing tasks, as the marking load becomes unsustainable.

This chapter develops the argument in principle that reducing contact time – including reducing lectures that most students find stimulating and are able to follow – as a core part of curriculum delivery undermines the essence of higher education and further disadvantages the already disadvantaged.

Of course, all education could be described as 'mixed-mode' to some extent – learning never happens only in classrooms, and always involves independent work by students. Moreover, I am not arguing that nothing can be learned without contact time, or that highly motivated and capable students cannot manage to overcome the difficulties of reduced contact with lecturers. Yet, something is lost when the lecture ceases to be a key and meaningful component of curriculum delivery. This loss is most serious for those students who are least inducted into the field of study or who possess the poorest mastery of the general practices of advanced study. Something is also lost when extended writing tasks cannot be meaningfully marked by lecturers – again, those learners with the weakest ability to write sustained texts will be most disadvantaged.

In order to make this case, the paper is structured as follows:

- I start by presenting a case for large classes and against the need for a 'talking teacher' as key to curriculum delivery. In this section, I attempt, by drawing on the ideas of Wally Morrow, to advance a clear argument against the need for taught classes or lectures. I support and draw on Morrow's argument about the

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need for systematic and carefully structured learning pathways, and his view that large classes could force lecturers to be more careful in their curriculum design. However, I ultimately disagree with Morrow's position that a 'talking teacher' is not key to the transmission of knowledge. In order to support my case against this aspect of Morrow's argument, I draw on Randall Collins' (1998) sociology of intellectual development, which suggests that an expert exposition of concepts, drawn from texts or previous sustained discussions, and presented to a physically present audience, has played a key role in the development and acquisition of knowledge throughout history and across the globe. Using Collins' theory to isolate the critical ingredients of successful knowledge development and transmission, I also argue that large lectures to novices, particularly in groups with substantially different ability levels, do not contain these critical ingredients; in other words, they replicate the form, but not the vital function of a good lecture. In addition, I emphasise the need for extensive and constructive feedback to learners, which, particularly for written tasks, requires low student/lecturer ratios.

- Next, I consider the extent to which ICT may assist in overcoming the challenges of delivering education to large numbers of students. Here I argue that, although there are indeed many ways to harness ICT to enhance educational experiences, not one of them removes the need for physical contact, particularly during the exposition of the key concepts and ideas that constitute a subject. Furthermore, many ICT-based media may not easily lend themselves to sustained and systematic acquisition of complex bodies of knowledge. Two additional points are made: (i) in terms of providing feedback to students, ICT does not obviate the need for a low student/lecturer ratio; and (ii) ICT-based teaching strategies increase the need to read non-core texts, which may put weak students at a disadvantage.
- I conclude by considering the argument that, while contact-based education is preferable, reduced contact is all we can afford, and better than nothing. This may be true. However, such a choice must take full cognisance of what is lost, with no pretence about what we are offering students.

WHAT IS TEACHING?

I start with the work of esteemed educationist and inspirational friend to many educationists in South Africa, Wally Morrow. Morrow argues that the massification of education, at all levels, has forced us to question the very nature of education and teaching. This is also the focus of his book *Learning to Teach in South Africa* (Morrow 2007): exploring what it means to teach.

Morrow argues that we need a new notion of what it means to teach. We are, he suggests, held captive by a notion of education that is only possible in an elite system, where very few members of the population have access to education. He argues that although massification of education and shrinking resources compel teachers and lecturers to teach to much larger numbers of students, this should not necessarily be

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seen as a bad thing. Necessity has forced, Morrow suggests, a reconsideration of the traditional model of a school and the responsibilities of schoolteachers and university lecturers, and this reconsideration allows us to develop a clearer concept of teaching. The essence of his argument is that educationists who resist thinking about large-class teaching, whether for political or conceptual reasons, are in denial: a massified education system has to be based on large classes. We have to grasp the nettle and own it and manage it. He argues that the traditional notion of intense engagement with students and detailed knowledge of each of them is unsustainable. Expecting lecturers and teachers to continue in this mode renders their task simply impossible. Instead, we must rethink what their work is. Large classes, Morrow argues, must become the new norm. While his argument is based on social justice, Morrow's concern is that simply expanding 'institutional access' (formal admission to a university or school) will not enable 'epistemological access' (acquisition of knowledge) – unless something changes, because the 'old' model does not work with large numbers of students.

Morrow argues that, instead of seeing teaching as a person talking to a class, we should define it as "the practice of organising systematic learning" (Morrow 2007:63). Once we have made this shift, we may see that teaching can be done as well, if not better, through carefully written course packs. He considers the texts pioneered through the Open University, which attempted to lay out the key concepts, literature, and debates of a course through a carefully structured learning guide, accompanied by carefully structured assignments. There is considerable merit in this position. Producing a well-structured text that inducts students into key concepts and ideas, and introduces them to other texts, is hard work in any field. Given the rigour required to construct a course in this manner, it may well be that people who have never thought about doing this have a lot to learn from distance education experts. If this is the case, then the spread of ideas about and techniques for course design from distance education and mixed-mode teaching may constitute a gain for education in general. I will return to this aspect of Morrow's argument below.

Morrow does not argue for doing away with all contact time, but rather for a kind of 'mixed-mode understanding' of teaching, both at secondary and tertiary levels, where highly structured texts would minimise the need for the lecture or taught class as the standard form of imparting the key concepts of a subject. Instead, the limited time available for contact could then be used for more discussion with students. Morrow suggests that this is different, but more appropriate – and hence better – education. Flowing from his definition of teaching, he also suggests that once we make the break from seeing a talking teacher as central to teaching, and shift to viewing it as organising guided activities to ensure learning, we can see that teaching in this manner (by means of structured texts) is intrinsically the same thing as face-to-face teaching.

Some aspects of Morrow's argument resonate with one of the core arguments of the progressivist movement. Although progressivism is a complex set of ideas with very different strands, one idea shared by many in this tradition is that teachers should talk

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less and enable learners to be more actively engaged in learning. ‘Talking teachers’ are juxtaposed by progressivists and many other educationalists with ‘learner-centredness’, with the aim of “breaking the lock of teacher-centred instruction and generating high levels of student engagement through student-initiated inquiry and group activities” (Elmore 1996:7). Common to this line of argument is the idea that lecturing, or the talking teacher, is outdated.

However, Randall Collins’ (1998) theory of intellectual change shows that the physical assembly of people who are gathered to focus on a particular text or set of ideas has been at the core of the development and transmission of knowledge for over 2,000 years. There are, Collins explains, very good reasons why this is so: contact, he argues, is not incidental, but integral to the development of knowledge.

TEXTS, FACE-TO-FACE CONTACT, AND RANDAL COLLINS’ SOCIOLOGY OF INTELLECTUAL DEVELOPMENT

In Collins’ view, accessing texts is clearly key to knowledge acquisition. Knowledge is contained in texts because writing “enables one to transcend the immediate present; it is a gateway to abstraction and generality” (Collins 1998:28). This perhaps contributes to a feeling that face-to-face teaching is one way, but not the only way, of conveying learning. Yet, however central texts may be to the intellectual enterprise, face-to-face contact is equally so:

[A]fter the printing revolution (around 1000 CE in Sung dynasty China; by 1450 in Europe), it should have been increasingly the case that intellectuals carry out their activities without ever meeting each other. There is no such trend [...] the basic form of intellectual communities has remained much the same for over two thousand years: key intellectuals cluster in groups in the 1900s CE, much as in the 400s BCE.

(*ibid*:25)

Collins’ argument is based on a detailed and empirical sociological analysis of society, drawing on the work of sociologists Emile Durkheim and Erving Goffman, which examines the role of interaction rituals in constituting society. His broad analysis of society also extends to thought, learning, intellectual development, and the work of academics. His conclusion, based on a detailed tracing of intellectual thought over 2,000 years, is as follows:

The discussion, the lecture, the argument. [...] these are the concrete activities from which intellectual activities arise. [...] although lectures, discussions, conferences, and other real-time gatherings would seem superfluous in a world of texts, it is exactly the face-to-face structures which are the most constant across the entire history of intellectual life.

(*ibid*:25)

Why should this be the case? A large part of the work of sociologists is about understanding what society is, how it works, and how it is constituted. A key insight

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of sociology is that groups are different from individuals, and that society is not just a group of individuals, but something substantively different. This insight tends to get lost in a world dominated by economic theories premised on methodological individualism and postmodern ideas that emphasise individual identity construction. “Individuals”, argues Collins (1998:71), “do not stand apart from society as if they are whatever they are without ever having interacted with anyone else.” People can do things in groups that they could not do as individuals – even individual acts, like the individual acts of bravery of soldiers fighting together for a cause.

Collins draws on Durkheim and Goffman to analyse the role of ritual interactions in forming and sustaining groups (Collins 2004; 1982). Elsewhere, he argues that a “general theory of interaction ritual [...] is simultaneously a key to the sociology of individual thinking and emotion” (Collins 1998:22). It is the physical interaction in groups, large and small, that makes the difference: it creates group bonds, identity, and solidarity. “The point”, says Collins (2004:34), “is not merely the banal one that people interact best when they are together; there is the much *stronger implication that society is above all an embodied activity*” (author’s emphasis).

According to Collins (1998:22), the following are the key ingredients of any interaction ritual:

- a group of at least two people is physically assembled;
- they focus attention on the same object or action, and each becomes aware that the other is maintaining that focus; and
- they share a common mood or emotion.

This theory is applicable to all groups, from religious groupings – which have particularly overt and explicit forms of ritual – to the everyday ritual of two individuals greeting each other and complaining about the weather.

Interaction rituals foster and sustain a sense of group identity in large groups. Think here of mass rallies or political events, where a fiery speaker and an excited, responsive crowd create a powerful energy – a sense of group identity and purpose. The same would apply to large religious assemblies, where symbolic rituals, combined with the speeches or sermons of clerics and responses of participants, have the same effect. And even in smaller or more informal groups, or through everyday rituals of greeting, complaining about the weather, and making ironic comments, interaction rituals play the same role of consolidating people’s sense of identity in relation to others.

Collins (1998:23) contends that “[i]ndividuals who participate in IR [interaction rituals] are filled with emotional energy in proportion to the intensity of the interaction [...] Emotional energy ebbs away after a period of time; to renew it, individuals are drawn back into ritual participation to recharge themselves.” However, between ritual events, individuals may, to some extent, sustain the energy they draw from such an event through symbols or ideas that have been charged with emotional energy through the interaction ritual – sport, religious or political symbols, for example, may play this role.

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The production, development, and transmission of knowledge need to be understood within this social context. Knowledge is social: it is a product of society, developed by people interacting with one another. This does not mean that all knowledge is relative, or that knowledge only represents the views of power groups – positions that Collins explicitly distances himself from. It does mean, however, that knowledge is intrinsically human and intrinsically a product of human society. The conditions for acquiring, developing and transmitting knowledge are social. Symbols and emotions, Collins argues, are both the medium and energy of individual thought, and they are developed in intensely focused interactive situations: “Intellectual life hinges on face-to-face situations because interaction rituals can take place only on this level” (1998:26). For this reason, a lecture or formal debate is a “key intellectual event [...], a period of time when an individual holds the floor to deliver a sustained argument on a particular topic.” Collins contrasts this with “the give-and-take of sociable conversations, which typically cannot reach any complex or abstract level because the focus shifts too often” (*ibid*). He also distinguishes lectures from other events dominated by a single speaker (such as a political rally or church service), because a lecture or formal academic debate consists “not in giving orders or practical information, but in expounding a worldview, a claim for understanding taken as an end in itself” (*ibid*). As such, lectures have a particular relationship with texts and webs of knowledge constructed in the past:

[A lecture is a] peculiar kind of speech act: the carrying out of a situation – transcending dialogue, linking past and future texts. A deep-seated consciousness of this common activity is what links intellectuals together as a ritual community.
(Collins 1998:28)

Thus, in Collins’ analysis, both the texts that have been prepared and the face-to-face gathering are essential to the development and transmission of knowledge:

The key intellectual ritual, the lecture, is one that has been prepared for by reading a relevant background of texts [...] An intellectual interaction ritual is generally a situational embodiment of the texts which are the long-term life of the discipline. Lectures and texts are chained together: this is what makes the distinctiveness of the intellectual community, what sets it off from any other kind of social activity.

(*ibid*:27)

A lecture, then, performs two essential roles. For novices, it provides a synthesis, an overview, or an introduction that cannot easily be found in primary texts:

[T]he reason why books are not as valuable as personal contacts is that a general exposure to the ideas of the time is not sufficient for first rate intellectual performance; what personal contact with a leading practitioner does is to focus attention on those aspects of the larger mass of ideas which constitute the analytical cutting edge.

(*ibid*:73)

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For advanced scholars, the lecture provides access to ideas and discussions at the cutting edge of the discipline, its role being to “gather the intellectual community, focus members’ attention on a common object uniquely their own, and build up distinctive emotions around these objects” (Collins 1998:26).

“Without face-to-face rituals”, Collins argues, “writings and ideas would never be charged up with emotional energy” (1998:27). The power of a good lecture thus lies in the combination of these two factors. In its best form, a lecture provides an introduction to a field or an overview of an argument, while at the same time stimulating and exciting the interest of students and fellow scholars to learn more, follow points up in more depth, develop opposing arguments, and so on. This is, perhaps, what we mean when we speak of teachers who can make a subject ‘come alive’. While a good overview of or systematic introduction to the key issues in a discipline may be found in well-designed distance or mixed-mode courses, where a primary text or online learning pathway has been specifically developed for this purpose, it lacks the energy of the face-to-face encounter, where both lecturer and students are focused on and absorbed by the same topic. Furthermore, a lecturer has far more flexibility in terms of adapting the substance and pace of his or her presentation to a particular audience, while even the best-designed text has to follow its preordained learning path without deviation.

Of course, not all teaching is good, and neither are all lectures. Many of us have memories of sitting in both large and small lecture halls, bored out of our minds and with little idea about the point of the lecture – and certainly not overwhelmed by the emotional energy of the event. This is not the point, however. Everything can be done better or worse. My interest here lies in the possibilities and constraints of different forms of teaching: what can and cannot be achieved by each. The form of teaching which encompasses lectures, discussion groups and student activities, offers possibilities that are simply not available in distance education (and, I argue below, unlikely to be realised for most students in large classes). Only when people are physically gathered together in a group, focusing jointly on a common object, can that object be imbued with energy. Meaningful face-to-face contact therefore not only enables students to acquire knowledge, but also breeds enthusiasm for the topic at hand. It is this enthusiasm that compels scholars to pursue their studies or professional development, and which creates a moral and emotional bond to the field of study or professional practice, as well as among group of practitioners.

Collins suggests that lectures, conferences, discussions and debates are crucial to the work of academics. We need to meet, assemble, engage, discuss, debate and hear how others in our field have synthesised and analysed key texts, as well as empirical data in relation to key texts. This is why we have conferences. This is why this paper was first presented in a two-day seminar where a group of academics from various universities assembled to *listen* to papers being presented and *discuss* teaching large classes, instead of engaging with each other through interactive classroom-style

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technological applications or reading the papers online and posting comments in a chat room.

Indeed, face-to-face events such as conferences and symposiums are a core part of the academic project. They expose us to an array of cutting-edge ideas, in synthesised form, within a given discipline, and provide grist to the mill, whether for the purpose of bolstering our positions or giving us something to argue against. More importantly, they enable us to pursue our work by energising us and making us feel part of a purposeful group. Significantly, despite all the professed support among educators for teaching strategies primarily based on learner discussions, academic conferences always involve the presentation of papers. After giving a presentation that achieves a high level of audience engagement, we come away with renewed energy to finish what we are working on or to pursue a new idea. In this way, advanced scholars may sustain themselves for a relatively long time on the energy derived from researching, reading and writing in support of or against ideas presented at a physical gathering of their peers. Conversely, extended periods without any such interaction – or with interaction confined to colleagues who appear not to ‘get’ what it is that they are working on – leave even advanced scholars feeling listless and blocked, unable to get anything done.

Interpersonal interaction is arguably even more important for students, who are generally less motivated and have less intrinsic interest in and commitment to a field of study. Yet, this interaction cannot occur through studying written texts only; nor can it occur if contact time is limited to discussion groups where a tutor prods reluctant students to share their limited understanding of a topic and the ideas that students are exposed to are mainly those of their fellow students – such gatherings usually generate lower energy and excitement than good lectures. This does not mean that discussion groups or tutorial classes are unimportant; indeed, articulating their own views, formulating their understanding, and engaging with others are a crucial part of students’ learning process. And the more expert the person guiding and structuring the discussion, the more fruitful it is likely to be. However, reducing contact time to this mode deprives students of something important: a physical assembly of people, where key issues and debates are expounded by an expert who sets an example for them to follow about how to articulate their own views and formulate their understanding. This, as I will argue in the next section, is also unlikely to be achieved in a large class.

WHY WE LOSE CONTACT IN LARGE CLASSES

Interaction rituals *can* happen in very large groups. It is clearly not impossible for a large group to share a common focus and emotional energy, as mass religious gatherings or important sporting events show. In order to achieve this at an intellectual gathering, however, the audience must have sufficient grasp of the field of study and enough mastery of the general practices of academia to follow the lecture and its general points in such a way that follow-up reading can be situated within broader debates,

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and, in the best case scenario, be excited by it. This may be achieved, for example, at an academic conference, where leading experts present their latest insights to a large group of interested researchers. But it is unlikely to be achieved in a gathering of novices who do not already have substantial emotional commitment to the subject matter in question. The sense of common focus and shared enthusiasm experienced at a sports event or religious gathering is visceral, not the product of sustained intellectual engagement. Engendering this same feeling during a lecture – or, more realistically, succeeding in focusing even a modicum of the audience's emotional energy on an intellectual exposition – requires a lecturer to mentally engage the audience as she/he develops a sustained argument. The focus is on concepts. There is no physical engagement to sustain high levels of energy, as happens when sports fans jump up and down, do Mexican waves, and cheer or together; or when individuals collapse at mass religious gatherings of charismatic churches or solemnly chant together at other kinds of religious gatherings. Instead, a text-based reality, which expounds systematised representations between concepts, is the focus. This does not seem to hold out immediate prospects for excitement. Yet, we have all been spellbound by a good teacher. How then is shared focus achieved?

The lecture as a form is commonly seen as a passive, and therefore poor, way of learning. There are two points I want to make about this. The first is that a contact education strategy involving lectures does not, and should not, exclude small discussions and student activities – projects, written assignments, role playing, and so on. Indeed, these elements must supplement the lecture. Secondly, it is commonly believed that listening to a lecture is a passive experience, while 'activity' involves students physically doing something. However, this is not necessarily the case, as Collins (1998:28) explains:

Members of the audience in intellectual rituals are in a distinctively non-passive situation [...] Even when intellectuals sit silently in the audience, they are conscious of their own part as members of this ongoing community. Their own ideas have been formed by the chain from the past; the situation before them is merely one more link in that formation. They will go on to incorporate these ideas in their own future creations and discourses – at least, they are sifting them through to see whether these are materials worthy to take in for this purpose.

To be sure, Collins is describing a group of experts here. Students are not in the same position, particularly undergraduate students and, most particularly, first year students, who constitute the group most likely to find themselves in a massive class. They are not experts and have not mastered, synthesised, or challenged ideas within the field. At the same time, they obviously do not come to class knowing nothing. The task of the lecturer is to find a way of engaging them in the field, presenting overviews and introductions to key concepts and ideas in such a way that they make sense to students and spark their interest, while at the same time introducing them to key texts and stimulating them to engage with these texts. A large lecture might succeed in focusing students' attention on a single topic in a one-off situation; but (as I elaborate further below) this is not what universities are for: their aim is to provide sustained induction

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into complex and systematic areas of knowledge. Sustaining interest and engagement requires the creation of a shared space and experience between lecturer and students – not a large, anonymous event that goes over the heads of some and bores others. If it is to engage its audience, a lecture has to be pitched at the appropriate level, but it is impossible to do this when confronted with a large group of students with widely divergent proficiency levels in the field of study. The more divergent the educational experiences within the group, and the less knowledge individual group members have, the less plausible it is that a lecturer will be able to effectively engage them. It is also difficult for the lecturer to gauge their level of interest and involvement, or the degree to which they are following the lecture; and even more difficult to do anything about it, as modifying it would still mean boring some and losing others. At best, a lecturer facing a large group can pitch the lecture to only a section of the group. However, the boredom felt by those left behind or who are far ahead of the lecture will affect not only them, but the group as a whole: what is lost is the group engagement with an object of focus. Instead, a low energy level is created for all students.

Students who have little mastery of what it means to study at an advanced level – engaging in complex ideas, reading and critiquing texts, and mastering concepts – are likely to be the most disadvantaged by being in a large class. The practice of stuffing first-year classes beyond reasonable proportions seems not to flow from any sense of what is educationally necessary, but rather from economic considerations based on the likelihood of many first-year students failing. Unfortunately, it is a strategy that makes it all the more likely that they will.

Thus, although large classes, mixed-mode delivery, and distance education are seen as key to increasing access to education, it is my contention that they are least suited to students with limited prior educational experience, and that all of them have serious limitations, even for good students.

FEEDBACK TO STUDENTS

Good education involves instruction, description, and, in some fields, opportunities for learners to become directly acquainted with the object of study (for example, conducting a science experiment or dissecting a cadaver). It also involves an expert who is able to constantly draw to students' attention the relatedness of different concepts and objects of study (Winch 2012). All learning, though, requires learners to be actively involved. In the foregoing section, I suggested that listening to a lecture is not a passive experience. Yet, it is clear that learners also need to practice what they are taught: they have to start participating as novices in the discipline or conceptual field to which they are being introduced. Structured feedback and guidance from those with higher levels of expertise are central to this participation.

There are various ways of providing feedback to students. Most of them require low lecturer/student ratios. For example, students ask questions during lectures, or make observations and attempts at inferences, to which the lecturer provides feedback. While

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students do learn from each other's questions, class sizes that allow a reasonable percentage of the class to engage with the lecturer obviously provide a better platform for gaining meaningful feedback. Discussion groups and tutorials also offer students valuable opportunities for making inferences within the subject matter being learned, based on their grasp of the concepts of the subject. Here expert feedback is not just invaluable; it is essential for evaluating the extent to which students have correctly understood the subject matter.

Finally, subjects or courses requiring numerous written assignments place much greater demands on lecturers in terms of marking and student feedback. It is therefore only logical that the number of students taking these courses should accordingly be much lower. Paradoxically, while the ability to read and write complex prose is considered essential for most professional jobs, it is also increasingly felt to be lacking in many trained professionals. For example, a recent study of lawyers commissioned by the Human Sciences Research Council (HSRC) of South Africa showed that although we do not have a shortage of attorneys *per se*, there seems to be a substantial shortage of attorneys with adequate writing ability (Godfrey 2009). This suggests that assigning writing tasks, and giving constructive and helpful feedback on them, is something that universities should be doing more of, not less – with the corresponding implications for additional staff. Detailed and regular lecturer feedback is particularly crucial for underprepared and disadvantaged students. In other words, a reasonably low educator/student lecturer ratio is essential if students are going to master subjects and fields of study and learn to read and write about them in creative and original ways.

All of this boils down to a simple point: increasing student numbers requires a concomitant increase in staff numbers.

CAN TECHNOLOGY-BASED INTERACTION COMPENSATE FOR LACK OF CONTACT TIME?

The possibilities opened up by rapidly developing technology are widely seen as offering alternative, and possibly better, ways of delivering learning programmes. The many arguments in favour of educational technology include possibilities for interactivity and for expanding access to education to dramatically larger numbers of students. Moreover, it makes sense to take advantage of young students' wide use of and inherent excitement about cell phone technology and social networking platforms by harnessing the possibilities these technologies offer for learning. ICT can also be used to enhance the sensory experience of learners: watching a dramatic video clip of a volcano erupting is clearly more powerful than looking at a picture in a textbook.

Murgatroyd (2010) contends that new developments in technology have changed knowledge, the role of teachers, and the ways in which learners access knowledge. Presenting 'newness' as a virtue is common to educational reformers and goes back a long way. It was this attitude that prompted John Dewey to lament that the education of his day was "an education dominated almost entirely by [a] medieval conception of learning" (1956:26), and which informed the arguments of the radical educationists

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of the 1960s and 1970s Everett Reimer, Ivan Illich and Paul Goodman – the so-called ‘de-schoolers’. More recently, Elmore (1996:15) likewise bemoaned the fact that the “core of schooling remains relatively stable in the face of often massive changes in the structure around it”; while contemporary educational reformers argue that the archaic content and pedagogy of traditional education are out of touch with emergent social realities, including the impact of mass media and the ‘knowledge explosion’ (Sedunary 1996), and hold up computers, cell phones and developments such as social networking sites as new and better vehicles for delivering curricula to today’s youth. This position is also in line with the present-day popularity of the notion of the teacher as ‘facilitator’, where “the teacher becomes a co-planner of work, whose expertise is based less on academic knowledge – though a broad general knowledge will be necessary – than on an understanding of children and groups” (Darling 1994:27).

Reformers concerned with social justice tend to juxtapose newness with ideas that are, by virtue of being old, implicitly seen as conservative or elitist. Left-wing educational reformers usually want to achieve radical (in the sense of dramatic and substantial) change, and want something new and forward-looking. But the left does not have a monopoly on this position: reformers supporting market-oriented approaches or economic efficiency (neoconservatism (or ‘neo-con’) as opposed to traditional conservatism) also identify ‘old’ or ‘traditional’ approaches to education with backwardness, inefficiency, and irrelevance to industry. Furthermore, capitalism creates an inherent tendency to fetishise technology: in effect, the key role assigned to ever-improving or new technologies in increasing profits comes to dominate general perceptions of their value (Harvey 2005).

Clearly, technology offers myriad possibilities for education, and these should be explored and their potential harnessed in creative ways. However, the role of contact time – both in terms of lectures, where an expert provides an introduction to key concepts, arguments and questions in a field; and discussion groups dominated by student discussion – should not be dismissed when making decisions about course design and delivery. Bearing in mind Collins’ detailed empirical work demonstrating the integral role of face-to-face interaction and the energy generated by the physical assembly of individuals in intellectual development, these elements cannot be done away with without a serious loss to the educational process. Consecutive waves of technological development over the past 2,000 years have not made the lecture redundant, and there is no reason to believe that it will do so today: the printing press did not do away with face-to-face teaching; and neither will Facebook or chat rooms.

There may be another problem with technology-based learning, one that relates to Morrow’s idea of systematic learning, and of teaching as organised activities to guide learning.

One of the difficulties in acquiring the types of knowledge that is taught at schools and universities is that it needs to be structured and sustained over periods of time in order to allow learners to attain systematic knowledge of a field or discipline, including

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understanding something (to different degrees at different levels of learning) of the conceptual structure of the subject. Disciplines “take the form of a coherent, explicit and systematically principled structure” (Bernstein, in Moore 2004:144). Disciplinary knowledge is often not directly practically useful or easy to learn, and the conditions for acquiring it are different from those governing the acquisition of ‘everyday’ knowledge (*ibid*). It cannot be easily disaggregated, and the learning process has to be sustained, sequenced, and systematic: learners have to be introduced to disciplinary knowledge in a sustained way, gradually acquiring greater levels of conceptual depth and breadth; and mastery of wide-ranging and specifically chosen facts, concepts and principles is needed before progress can be made. This requires uninterrupted, extended, well-planned and well-structured educational programmes, which are not easily provided: institutions and expert staff able to design and deliver these sequenced and systematic courses take time and resources to build up.

According to educational philosopher Christopher Winch, systematic knowledge is organised both in terms of the classification of its various conceptual elements and the relationships between them, and the procedures and processes required to gain and validate it (Winch 2012:6):

Learning about a subject is learning to take part in conversations and discussions that employ [its] concepts. This is a matter of degree as one ascends from novicehood to expertise, but there is a sense in which, even for a novice, that ‘light must dawn over the whole’ (Wittgenstein 1969), or at least over a significant part of the relevant conceptual field, before one can be said to have begun to acquire subject knowledge. Beginning to learn a subject is beginning to take part in the language of the subject.

Curriculum design, then, concerns introducing novices into the conceptual field that constitutes a subject, including its central organising and methodological concepts, as well as more derivative concepts at the periphery. There is much debate and disagreement about curriculum sequencing, and, in many instances, the issue is not easily resolved. Nonetheless, it is clear that curriculum design and delivery must be systematic and sustained in order for learners to be meaningfully inducted into a field of learning.

While, in theory, online learning programmes can be designed in a sustained and systematic manner, in practice there are two limitations. The first has already been elaborated at length, namely the value of physical assembly and engagement in generating the energy that enables students to persevere. The second relates to the nature of ICT. In many instances, it does not lend itself to sustained and structured curriculum delivery, because of the logic of the medium. Many ICT-based platforms involve the delivery of small pieces of information – they provide sound bites, as opposed to propositions based on concepts and objects of analysis and woven together in a structured and, to some extent, hierarchical web. Yet, the power of these media can easily dominate curriculum design. For example, Internet browsers or hypertext-based online courses lead to a horizontal organisation of bits of information, which may not

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be conducive to mastering structured bodies of knowledge. While this may not pose an insurmountable problem – and certainly does not in the case of, for example, the structured learning material approach described by Morrow – it does suggest caution about how ICT can and cannot be used in curriculum delivery.

Two further points are worth making. Firstly, while ICT does offer various possibilities for engagement between students and lecturers (e-mail, chat rooms, discussion groups, and so on), meaningful feedback to students still requires a low student/lecturer ration. Secondly,¹ students who are weak readers need to spend a maximum amount of time on reading the key texts of the course. Putting them in a situation where they have to read even more just to access these texts may further disadvantage them, whereas they may be enticed into reading the actual texts far more quickly and efficiently through face-to-face engagement, where the introduction itself does not require them to read.

CONCLUSION: ACCESS TO WHAT?

I agree with Wally Morrow that massification leads us to question the very nature of education. His argument clearly demonstrates that a mode of teaching which involves much face-to-face interaction and detailed feedback to students on assignments is impossible with large numbers of learners, and that a good curriculum has to involve a carefully designed and sequenced learning pathway. However, I disagree with his conclusion that we should therefore redefine teaching as organising opportunities for learning, because it ignores the social nature of education and learning. I suggest that Randall Collins offers a better way of making sense of the essence of education. To re-iterate the salient points of his argument: the conditions for acquiring, developing, and transmitting knowledge are social; and intellectual life hinges on face-to-face situations, because it is at this level that interaction rituals take place – the physical assembly of a group of at least two people, focusing attention on the same object or action and sharing a common mood or emotion, thereby imbuing the object of focus with emotional (and moral) significance and binding the group together. While this definition does not preclude large classes, it does give us analytical tools with which to think more clearly about what we are willing to sacrifice in the name of access to education or budget cuts, and at what point increased numbers will mean that we are no longer meaningfully educating students at all. Collins does not give us a simple point at which to draw the line about how much contact is sufficient, or how large a class may be before it becomes too large – in some instances, a group of forty students may be considered too large; in others, two hundred students may constitute a reasonable number. I suggest that answering this question requires an analysis of the field in question, the knowledge and capacity of the students, and other specifics of the situation. The key point is that student numbers must be sufficiently low for most of them to be able to clearly follow and be stimulated by a lecturer's presentation.

¹ This problem was pointed out to me by Lynn Slonimsky of the Wits School of Education.

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What has brought us to a stage where we consider it possible to construct a common object in large classes where the majority of learners have poor prior educational experiences? Demand for access to education at higher and higher levels is partly the result of qualification inflation: when employers use qualifications as a screening device, potential employees are obliged to strive for higher and higher levels of qualifications to improve their place in the queue and stand at least a chance in the face of increasing competition for good jobs. As a result, many people obtain qualifications that they do not need for the substance of the work that they will be doing, which in turn leads to increasing criticism of education, both in terms of content and form. This is a complex area of research, which I cannot address in this paper, except to point out that the problems we face in education are, in many cases, caused by things that are extrinsic to it. The real problem here does not lie in education, but in using credentials to justify a spurious meritocracy, and the fact that education is used for social selection, which has distorting effects on the substance of education, as well as how it is viewed, valued, and so on. The irony is that while there is an increasing demand for access to education, education itself is less and less valued.

If we change higher education completely in order to meet perceived labour market and 'client' demands, we run the risk of losing the very substance of what makes it valued in the first place. We may be falling into the trap of providing thinner and thinner education to ever-increasing numbers of people, thus fuelling ever-rising demands for higher qualifications from employers, and giving rise to a permanent vicious cycle. Much of this cannot be addressed by changing education systems; far wider social changes are needed. For example, the more egalitarian a society is, the less likely it is that qualification inflation will become a serious problem.

What educationists can do though, is develop a coherent notion of their work, its value, and its limitations. What we should not do is lose sight of arguments in principle, because we are dominated by pragmatic solutions; or, even worse, be seduced into thinking that pragmatic compromises are principled positions. We should also not take the attitude that agreeing to teach ever-larger numbers of students is our moral obligation to the nation. Our obligation is to teach and develop knowledge; to the extent that we are forced into situations where our ability to do so is substantively compromised, we should stand up for principle. If we are to deliver good education, either more lecturers must be hired, or alternatives must be found for potential students who cannot be admitted. If we must compromise for pragmatic reasons, we must, at the very least, be aware of what may be lost.

There is potentially a lot at stake if we abandon Collins' notion of the lecture, debate, and discussion as not just one way in which learning can happen, but central to the transmission, acquisition, and development of knowledge. Even if we are thinking about the narrow economic needs of the country, intellectual development is crucial. And if we are thinking about students' needs in terms of access to education, we should think carefully about what it is that we are giving them access to, and what makes it really worthwhile.