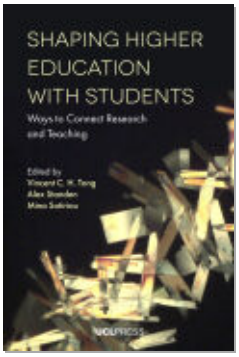
2.8. Large-group teaching



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2.8
Large-group teaching
Problematics, pedagogics and partnerships

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Academics, individually and collectively, are clever people and, faced with a new situation, will address it ingeniously. Being human, when faced with an old situation, they will tend to address it the same way as before. When faced with a very similar situation, they will adapt the previous solution slightly. Preeti's chapter challenges us to realise that the changes in Higher Education, both qualitative and quantitative, mean that 'How best to teach' is a new situation that requires ingenious solutions, not just adapting the old ones.

Professor James Davenport

Box 1: Sample this!

- Between 2004/05 and 2013/14, net staff numbers at UK universities grew by 49,475. Sixty-eight per cent of this growth is attributable to an increase in academic staff.
- Despite these increases in academic staff numbers over the period, student–staff ratios remain at a level similar to 2004/05, at sixteen to one, thereby indicating increased student numbers.

Source: Universities UK 2015

1. Context

Increasingly, the economics of neo-liberal education perpetuates systemic and structural compulsions which require us to stop, think, critically reassess, challenge and/or calibrate our role and pedagogic practices as academics.

The continuing discourse of education as a tool for socio-economic vertical mobility has seen an influx of students into higher education institutions. Scott (1997), inter alia, identifies this as a reason for the 'massification' of higher education (HE). Interestingly, the last decade has seen a surge in full-time students entering both first degree as well as postgraduate taught and research programmes. Part-time enrolments for each have, however, witnessed a decline in the same period (Universities UK 2015). This continual rise in the number of students has direct and pressing implications for the processes of learning and teaching in HE.

Academic discourse concerning the quality of education has identified a favourable pupil–teacher ratio as one of the key components of an effective and fulfilling teaching–learning experience. However, unlike the hugely researched, debated and discussed issue of pupil–teacher ratios for school education (OECD 2014), the discussion around the same with reference to HE has been scant in public and policy discourse.

This is not to imply an absence of discussion. When it does occur, the nomenclature used is that of student–staff ratio (SSR) (Universities UK 2015). The SSR is designed to show the total number of students per member of academic teaching staff, and is calculated from the student and staff full-time equivalent figures (HESA 2016). For a long period of time now, the British HE system has relied on the SSR to gauge the adequacy of the human resource available for teaching (SRHE 2012).

Yet, the issues of calculating the SSR and the implications of using it in HE are more nuanced and complicated than for the pupil–teacher ratios used in school education. Given the complicated matrix of HE created by the various modalities of teaching and learning – face to face and online, full-time and part-time, taught and research-based programmes, etc. – the quantification and calculation of academic staff's teaching engagements is decidedly layered and non-linear. In HE, the SSR rarely translates into a teacher-taught ratio, and thus has limited pedagogic bearing. The SSR of 16 in Box 1 rarely translates into scenarios where teachers walk into lecture rooms with just 16 students awaiting them!

Why is the HE teacher–student ratio so important? To answer this, we need to look at the very aims of HE, which are, in turn, defined by the

ever-evolving realities of the HE landscape. The subsequent sections in this chapter attempt to sketch this landscape as it largely exists today, and explore related issues in large-group teaching.

2. Higher education: an appraisal

The aims of HE have been contested substantially. In particular, Barnett's (1990) expositions on the emancipatory aim of HE has received much attention (Aviram 1992). Barnett posits that self-understanding and self-empowerment are the key elements in emancipation. HE, Barnett argues, must strive to facilitate a state of intellectual independence as well as a discipline-transcending reflection for all students. For Barnett, HE is so named because it necessarily calls upon higher-order skills like analysis, synthesis, imagination, criticism and evaluation. It involves critical reflections on the disciplinary knowledge gained as well as critical self-reflection.

White (1997) questions the philosophical underpinning of Barnett's arguments and highlights the contradistinction between a discussion on the aims of school education and what he refers to as post-compulsory education designed for autonomous agents. He invokes the principle of 'consumer sovereignty' to denounce a paternalistic imposition of an emancipatory aim on HE. Yet, White meets Barnett midway by acknowledging that through HE 'students should be encouraged to reflect on the philosophical and sociological horizons of their own specialism and its relationships to other specialisms, especially with a view to an enlargement of their own self-understanding and capacity for autonomous action' (White 1997, 14).

Aviram (1992, 183) argues that the aim of HE to be 'an educational mission transcending the enhancement of various individual and social practical interests' is repeatedly undermined by, first, the external pressures on the modern university to establish its pragmatic utility and, second, by the practising academic's declining faith in a larger educational mission. Universities are under sustained pressure to prove their continuing relevance. The conceptualisation of the knowledge society has been a key driver in rephrasing the expectations we have of universities. The CHERI report (2007) elaborates on the changing nature of the university, wherein the premium on the production of 'relevant' knowledge has led to questioning of the centrality of the teaching–research nexus characteristic of the 'traditional' academy. The early signs of the 'movement from the "traditional academy" with its stress on basic research and

disciplinary teaching to the "relevant academy"' (Locke 2007, 3) are only now becoming evident. They bode an increasingly fragmented reality within HE. The fragmentation is evident in the differentiated typologies of institutions, as well as academic/research-role profiles. Whereas on the one hand, an epistemological–pedagogical rationale for integrating research and teaching is being exhaustively discussed, the reality is foreclosing the possibility for its realisation. As Locke (2005, 101) points out, 'the separation of research and teaching is itself the result of policy and operational decisions made over some time to distinguish the way these activities are funded, managed, assessed and rewarded.'

Similarly, the predicament of academics themselves has been a topic of sustained interest. Kinman and Jones (2003) assert that academics are reeling under increased job demands, while their job satisfaction and levels of support have declined in recent years. Others have shown that the job satisfaction among academics is much lower when compared to the UK workforce as a whole (Metcalf et al. 2005). The reasons for this state of dissatisfaction vary from pecuniary reward to the qualitative and aspirational aspects of the job. Importantly, academics derive more satisfaction from research. Teaching, though perceived in a positive light, is not the most important reason for their becoming an academic (Kinman and Jones 2004).

The evolving picture is one of an increasingly business-like HE sector with ever-growing student numbers (Kinman and Jones 2003). The demands of the knowledge society lead to increasing differentiation and a 'service station concept' of university (Aviram 1992). The situation is exacerbated by mounting pressures on over-burdened academics to balance teaching, research and administrative responsibilities (Kinman and Jones 2003; CHERI 2007). A casualty of these pressures is the reduction in the quality of, and available real time for, student–teacher interactions.

The related phenomenon of the massification of HE is also relevant here. Scott (1997, 15) notes that since the 1960s, HE has become increasingly socially pervasive and has moved beyond its marginal status. This has resulted in, *inter alia*, an increase in student intake, which has in turn exerted increased demands on institutional and staffing provisions within HE.

The debates on whether emancipation is a suitable aim for students in HE, or whether the conceptualisation of a knowledge society has rather done a disservice to education at large, are ideological in nature, and will find takers on both sides. However, other issues, like the impact of teacher motivations and expanding class sizes on the effectiveness

of teacher–learner interactions, may be more readily amenable to a consensus.

The undeniable reality remains that the debates and issues continue to interact dynamically to shape, arbitrate and delimit the aims of HE in general. At the same time, they make it less likely that the professed aims of HE, in real-time educational interactions between students and teachers, can be achieved.

The take away from the discussion above remains that in the day-to-day experience of a university academic who walks down a corridor towards a lecture hall for her next class, the macro-reality of HE produces constraints that seem immediately non-negotiable. One such constraint – whether face-to-face or online – is burgeoning class sizes.

The next section draws upon (i) my experience as an academic and (ii) the masterclass dialogue to deconstruct the notions of, and delineate some challenges arising from, large-group teaching.

3. The reality and casualties of large-group teaching

Box 2: How do you boil a frog without letting it know? (and what is the connection?)

Prof. James Davenport posed this question based on an urban legend (Gibbons 2002) to the attendees of an R=T Masterclass on the theme of large-group teaching. The solution had an eventual analogical import relevant to the theme.

See if you can figure out the connection as you read his solution!

Place the frog in water at room temperature. Put the pan on the stove and very gradually increase the temperature. As the process is designed to be painstakingly slow, the frog remains oblivious of the marginal temperature increase, till of course it is very late for the poor frog to redress his predicament! (but, see Gibbons 2002).

Schools have classrooms.

Universities have lecture halls!

Assuming the intentionality of language orchestrated through specificity of words, the semantic difference between a room and hall is instructive. It tells us something about the reality of class sizes in HE!

I am a teacher–educator and a pedagogue by practice. As a mid-career academic, I have taught large groups. At the same time, as an academic dealing with education as a discipline, the concerns about what transpires in teaching–learning scenarios is my primary intellectual preoccupation. Therefore, to me, a class size of 45 – which I often end up teaching with resentment on the Bachelor of Education programme at the Department of Education, University of Delhi – definitely qualifies as a large group. I was therefore taken aback upon being told that the class sizes in some of the undergraduate courses at the University of Bath, as well as UCL, could go well beyond 200!

My first reaction, bordering on disbelief, led me to think about what qualifies as being a large group in a formal education space?

My reasoned response was that any number which renders individual students 'identity-less silhouettes' in a class is large, and is sacrilegious to the very aims and pursuit of education, either emancipatory or functional. Put simply, a large group is one which constrains the proactive engagement of every student in the process of learning and impedes the teachers' ability to enable such proactive engagement on logistic grounds.

What, then, is the threshold beyond which the group size is sacrilegious to the very aims of education?

This, I reckon, is a matter for a non-linear investigation. I am of the view that the futility of an arbitrary proclamation of a magical number – say beyond 30 (the commonly used threshold for differentiation between large and small samples in statistics) – is self-evident in education on at least two grounds: first, an educational interaction has human beings as its actors. It forecloses the possibility of a nomothetic, homogenising and universal dictum on a magical number across educational scenarios. The definition of what comprises a large group will thus organically evolve from the particularities of the teacher and taught.

To give an example, if the class comprises of non-native speakers for whom the instruction in, say, English is a jeopardising rather than enabling variable, creating an added layer of educational challenge in comprehending and engaging with the content at hand, then probably a class size of 25 may already be large enough to render the achievement of any semblance of effective teaching–learning experience questionable. Language is only an illustrative case in point; the students' prior knowledge and cognitive readiness for the content comprise some others pertinent variables. The particularities of the teacher and the learners are multifarious and are best left to a reflective practitioner to observe, delineate and consider.

The content under consideration is another key parameter in determining what may constitute a large group. I will refrain from resorting to disciplinary categorisations in arguing this. Rather, I posit that irrespective of disciplines, it is the nature of the content (ranging from, for example, statement of facts to descriptive exegesis on observed phenomena, to critical and deconstructive analysis of theoretical postulations) which must be the reference point to determine what comprises a large group. So, whereas a customary overview of the course at the beginning of the term, or an enlisting of theorists to be read during a course may be well received, even in a large group, a critical overview of the historical evolution of a concept may not.

Once again, as subject specialists, it rests upon our shoulders to figure out which content demands a more intimate learner–teacher interaction and which, if any, may be suitable for large-group teaching.

Having said this, I revert back to the earlier point about the non-negotiability of the restraints of large class sizes. The above discussion is not predicated on a utopian hope about the teacher choosing at will what class size to teach. Instead, it is aimed at signposting some points to help the sensitive practitioner undertake a reflexive audit of the reality that she faces and the challenges it may entail, thereby enabling her to work towards effective pedagogic strategies to address the reality and counter the inherent challenges.

Teaching a large group, when 'large group' is defined in relation to the matrix of student, teacher and content specificities and demands, is a daunting task in more ways than one.

For the learners, the forced expectation that they will acclimatise to the reality of studying in a large group may significantly challenge the socio-psychological as well as cognitive competencies of new entrants to HE, who were accustomed to studying in relatively smaller groups during their school years. Professor Davenport pointed to this in his Masterclass discussion, noting that he feels 'sorry for people [learners] negotiating the challenges of transitioning from small groups to inordinately large groups.'

The issue of acclimatisation is relevant for teachers as well. Especially challenging is the dichotomous experience of being taught in smaller groups during their own student years and then having to teach large groups as academics. A teacher who has experienced the large group as a student is better equipped, at least at the outset, to appreciate students' learning predicament and the challenges facing them in a large group. However, this challenge is surmountable by reflective teachers willing to visualise and empathise with their students' predicament,

and engaging in a dialogue about collaborative strategies to redress the challenges of large groups.

Specifically, large-group teaching can impinge on the nature and extent of an individual student's engagement in class. Given the burgeoning teacher–student ratio and the declining average time available in a scheduled class to encourage the proactive participation of every student, the challenge to design a meaningful learning experience for all involved becomes imminently pressing.

Professor Davenport alluded to the legend of 'boiling a frog' (see Box 2) in this context. He recalled how academics sometimes fail to take into consideration the consistently increasing numbers of students in their class, thereby also failing to devise pedagogic strategies to address the changing demographic of the class, until finally the damage done to the learners, as well as their own reputations and calibre as academics, is irrevocable. However, and thankfully for us, Gibbons' (2002) debunking of the urban myth shows that frogs are not inevitably doomed and do manage to turn the tide.

Large groups pose yet another challenge, albeit arising from an unexpected quarter. A pragmatic solution to support the increased number of students in HE has been to devise a system of tutorial support. There has been a differentiation of roles between lecturing and tutoring. For some, there has been a wishing away of the challenges of large-group teaching, predicating it on the premise that allocating a relatively smaller number of students to individual tutors would offset the lack of quality interaction in the lectures, and that the student learning experience will be significantly augmented and enriched. However, the rise in the number of students has meant that there has been a commensurate rise in the number of tutors. This has led to the challenge of establishing and sustaining parity, in instructional support as well as the quality of assessment and feedback received by students.

The phenomenon of large groups has also thrown up assessment-related challenges. First, the challenge of maintaining consistent grading of student assignments for formative as well as summative assessments remains as valid a concern as ever. Apart from the increasing demands on individual time and effort, assessment for large groups also requires an extended investment of time and effort in inter-examiner coordination to ensure grading parity.

Another pressing challenge is that of designing effective in-class formative assessment strategies. A large group makes it difficult for teachers to ensure that most students participate in in-class formative strategies like discussion activities. This is pedagogically unsound, as researchers

have found that students enjoy the opportunity to reflect, consolidate knowledge or work on a problem (Weaver and Cottrell 1985; Stead 2005; both cited in Foster 2013).

Similarly, a key component of a teacher's in-class formative assessment effort is to look out for non-verbal cues indicative of students' dipping concentration and interest levels or discomfort with the content being transacted. Often these cues initiate impromptu strategies for further elaborating and clarifying the lesson's content and concepts. Higher numbers of students in a class will increasingly restrict a teacher's ability to engage with the non-verbal cues that students unwittingly demonstrate throughout a lecture.

Yet another challenge is to provide in-class feedback to students on their queries, observations and responses. The greater the number of students, the easier it is to practise being equitable by providing little or no feedback to everybody, rather than providing detailed feedback inconsistently. In everyday lived reality, the ticking clock can add to the pressure of content delivery and doubly jeopardise the will and candour for extensive feedback.

The above-mentioned set of pedagogic challenges may severely jeopardise the teaching–learning experience. Any attempts to avoid the fate of the boiled frog will be predicated on devising effective pedagogic strategies to address these challenges. The next section attempts as much, drawing upon my pedagogic reflections and on the interactions with Professor Davenport.

4. Teaching large groups: pedagogic innovations and reaping the collective dividend

Philosophers of education have arduously explicated the difference between education, teaching and instruction. I have come to believe that in the context of formal classrooms, teaching, to be worth its salt, should be taken up in the spirit of education. I therefore embed the subsequent discussion on a willed supposition of an ontological synonymity between teaching and education in the formal educational setting. It is in this spirit that I use the term 'teaching' hereafter.

To me, both the relevance and legitimacy of teaching large groups effectively derives from an appreciation of the difference between instruction and teaching; with me rooting for the latter. I see instruction as predetermined, linear, factual, emphasising physical and/or cognitive skill development, and easily replaceable. Teaching, on the other hand, is

dynamic, dialogic, interactive, rarely mechanical, and aimed at holistic development. The solution to how to teach effectively in a large group derives, in the first place, from the very aims of teaching itself.

In line with our earlier discussion on the aims of HE, teaching in HE must aim at nurturing a spirit of critical inquiry towards oneself and one's discipline, paving the way for an intellectual inclination for disciplinary transcendence, a quest for interdisciplinarity, and an ability for reasoned and autonomous action. This articulation necessitates an experience-based education that enables reflective and critical capabilities and facilitates a meaningful and creative appropriation of one's disciplinary specialisation. The end aim, which I recognise is an ongoing one, is to use knowledge meaningfully in the world we inhabit. Given these aims of HE, research must become a key component of our pedagogic repertoire. I attempt an explication of how this may be done in the context of large-group teaching.

As a teacher–educator, I can hardly over-emphasise the need for a teacher to be more than a master at content delivery. Yet, I start with content delivery for its primacy and sheer obviousness in the discourse of what teachers do.

At the outset, content delivery is a pedagogic misnomer on two counts; first, it connotes the existence of a fixed rather than dynamic content, which is delivered 'as is'. I argue that the dynamism of content derives from the synergetic interactions of the teacher and the learner. That is why no two classes are ever alike in a teacher's experience, even when repeating the same curriculum year after year. Second, the term 'delivery' masks the proactivity of the 'recipient' (and I use the term half-heartedly), who is hardly passive. Classrooms impose physical passivity upon learners through the structuration of space, but mental passivity can only result from a collaborative failure of the teacher and the learner. Mental agility implies that individual recipients engage and negotiate the content ideographically. Importantly, research-based education can be a key ally in countering the physical passivity by changing the definition of what comprises a classroom. In addition, problem-based, scenario-specific research can be used as a valuable pedagogic strategy to keep students mentally agile and invested by positioning them as problem-solvers and innovators.

With further reference to content delivery in large groups, we must recognise that the knowledge society, riding on the omnipresence of technology as a tool for knowledge sharing, has increasingly meant that content – as an assortment of theories and facts – is ever within the reach of the initiated student. The knowledge society's challenge

to content delivery is one beyond packing it all in a lecture; it is about deconstructing the content, questioning its sacrosanct status and contextualising it against the modes of knowledge production that created it in the first place. This mandates a diminishing reliance on linear lecturing. Paradoxically, large-group teaching is perceived as being notoriously appropriate for precisely this: linear lecturing! Encouraging students to stay abreast of the latest research in their field, as well as assuming the role of paradigm-defying critical researchers through micro-projects, can be a useful strategy to enable them to relook at the dominant knowledge analytically and muster the courage to challenge it.

Professor Davenport points out that the concern over technological advancements rendering a teacher's role irrelevant can actually be countered by deploying technology as a pedagogic ally. To elaborate: first, advancements in technology have enabled web platforms like Moodle, which can facilitate 'flipped' classrooms and create academic spaces and an intellectual ethos for critical reflections.

In addition, the internet has become a tremendous and ever-evolving resource repository, allowing teachers to assume the additional role of a 'resource curator'. Engaging students as co-curators of knowledge can be an interesting way of researching a chosen topic. Research in this case would take form of collecting material, cataloguing it against the dominant paradigms of the discipline and evaluating it. This will enable students to critically engage with a topic of their choice.

Lecture podcasts from across the globe, well-researched documentaries and archival resources are just an internet search away for the curious teacher–student team. These resources allow teachers to counter the linearity of the lecture and make learning a research-rich, multi-sensory, interest-provoking and engaging experience.

However, the above discussion is not to denounce the value of a well prepared and presented lecture. A lecture – laced with critical engagement of the content, interdisciplinary anecdotes, academic trivia, a subtle dose of humour and consistent attempts at keeping the students involved – is an equally successful pedagogic strategy. However, the lecture must not be a didactic exercise, but should build upon the intellectual explorations of the students discussed above.

In a similar vein, whereas the assessment-related challenges of large-group teaching are pertinent, they too are addressable. Effective assessment must be predicated on the ontological and epistemological aims of teaching itself. At the outset, it should be recognised that the faculty is rarely trained for large-group assessment methodologies. Professor Davenport refers to assessment as the 'untaught black arts',

because teachers are never really inducted into or oriented to an institution's assessment and marking practices.

The situation is particularly challenging with regards to teaching a large group which jeopardises opportunities for engagement and learning for some students. The institutional failure to create a conducive learning environment cannot be allowed to translate into the academic failure of students. Large groups thus create an ethical reason to adopt formative and enabling assessment. To illustrate, formative assessment can take the form of mobile quizzes and 'clickers'; flipped classrooms can create space for peer-to-peer feedback further augmented by feedback from the teacher.

Additionally, the systematic creation of study groups and a regular discussion schedule earmarked for study-group interaction can significantly enrich student understanding. The groups can feedback representative comments in the discussion. However, there has to be a commensurate effort from the faculty to engage regularly with the group comments.

Group work has an added advantage of developing the soft skills so often glossed over in large-group teaching. Groups must be balanced for the various forms of heterogeneity. Negotiating this heterogeneity itself presents an opportunity for reflexivity, appreciation of differences, and academic, cultural and, in some cases, generational tolerance. It also serves to provide a regular space for the cultivation of such soft skills as coordination, effective communication, conflict resolution, teamwork, time management and negotiating complex group dynamics. These opportunities go beyond subject-embeddedness and contribute to what is expected from education for life. The soft-skill dimension can introduce 'authentic learning' to the class, as it enables students to nurture the social–personal skills which will remain relevant beyond their immediate contexts (Newmann et al. 1996).

At a macro level, HE has attempted to counter the institutionalisation of linear lecturing and the related challenges of large-group teaching by ingeniously creating an augmenting mechanism of teaching and tutorial support in the form of teaching associates (or assistants) and tutors. Together, the lecturer, teaching support staff and the tutors are capable of creating a collective dividend for the student from a large group, as well as for each other.

Professor Davenport draws upon his pedagogic experience to note that this arrangement is determinedly beneficial for students as they engage with 'more than one sort of teacher doing more than one sort of teaching'. For them the whole experience can be more than the

sum of the parts. Similarly, given the melange of pedagogical experiences that the team members bring to the discussion desk, lecturers, tutors and teaching assistants all stand to benefit from interacting with each other.

However, this triangulation of academic engagement must be requires caution with respect to parity in academic rigour, as well as in assessment criteria. Further, this 'teacher collective', if I may call it so, must not be relegated to a hierarchical tier system. Finally, there is also an inherent threat that the classroom becomes synonymous with information transfer, and tutorial support with personalised learning, which must be consistently avoided. The collective must work with formal and democratic communication channels, a shared sense of responsibility and accountability, a participative approach to curriculum and intra-institutional policy design.

I have so far attempted to illustrate some of the challenges of large-group teaching and made some suggestions for addressing them through, *inter alia*, designing research opportunities in which students can get involved. Yet, far from providing a checklist for large-group teaching, the intent has been to explicate my ontological and epistemological approach towards engaging the individual students who make up the large group. The specific problems and solutions I have chosen to discuss are hardly exhaustive. Nonetheless they stem from an understanding of HE as a key opportunity for students to develop the academic courage to be critical, original and active members of their class and subsequently of society. This necessitates an institutional ethos where students' voices and participation is continually sought, collectively laboured over and ceaselessly cherished, cohort after cohort.

To wind up the discussion, I attempt a further exploration of the possibilities offered by research-augmented teaching for engaging with large groups of students.

5. R=T in the context of large-group teaching: further explorations

Increasingly, the educational discourse has been dotted with themes of authentic learning, transformative education, constructivist education and so on. Each of these stresses the need for connecting learning with the 'real world'. Driscoll (2005) emphasises that if the learning process is separated from its applications in the real world, the knowledge earned from it will remain inert and unused beyond the classroom.

I share the sentiment behind these appeals, which derive their intellectual conviction from the aim of education itself. Formal education must be inspired by the need to establish the relevance of the curriculum, vis-à-vis the real world beyond the classroom.

Relevance does not imply correspondence or adherence. It may and must entail criticism and critiques too. HE, as an exit point to the real world for many, must strengthen its focus on nurturing the capacities for finding correspondences as well as critiques of the disciplinary theorisations, vis-à-vis the everyday lived experiences of humanity. An important channel through which to induct students in this way of approaching disciplines is by establishing a dialectic relation between research and teaching.

In a similar spirit, Locke (2005) furthers a number of arguments in favour of integrating research and teaching. These include preparing students for the super complexity of a pluralist world, developing an attitude of lifelong learning and critical enquiry, and keeping students abreast and engaged with the latest developments in their chosen field of professional practice. He further highlights the academic, professional and curricular enrichment that an R=T approach entails for practising academics (Locke 2005, 119).

Each of the above comments stresses the need for not discounting R=T; the challenges of the large group notwithstanding. Instead, large-group classes are viewed in a befitting and enabling context, to try and establish the R=T equivalence. I argue that, despite those who do not supporte an integrated approach to research and teaching complaining that there are not enough people 'to staff research activity throughout a mass HE system' (Locke 2005), the institutional arrangements for teaching large groups allow the benefits of the teachers' collective to be enjoyed. This allows for a collaborative intellectual engagement focusing on designing a specific pedagogic project that can foreground research in teaching as well as assessment modalities.

Second, the multitude of research specialisations within the teachers' collective significantly broadens the ambit of research areas that can be weaved into the learning–teaching contexts. It also allows for a more diverse research mentorship. Further, it can create an institutional space where students can be regularly engaged in research projects as short-term collaborators. The association can also take form of long-term engagements as team members.

Again, whereas there have been arguments stressing the need to break the link between R and T, citing its adverse effects on individual learning, I argue that a being in a large group of students, especially

within HE, allows learners to reap a demographic dividend arising from interacting with peers from varied nationalities, previous disciplinary backgrounds, formal and informal work experiences, academic interests, as well as linguistic and cultural skill sets. In the context of R=T, this allows the flexibility to conceptualise multiple and diverse group projects across a varied range of content areas. Interestingly, the latent multi-dimensional heterogeneity of the large group also allows the opportunity for a rigorous investigation of a chosen research problem, from diverse socio-cultural, geo-political and linguistic-ethnic vantage points.

From the point of view of students in a large-group setting, R=T is also desirable given the research finding that students positively value 'the link between teaching and research because it places particular weight on meaningful exchange, based on equal measures of mutual respect and trust' (Deakin 2006, 84). This takes me back to the initial concern about rendering individual students as identity-less silhouettes in a large-group classroom. The R=T approach allows for foregrounding the individual students – their interests, strengths, capabilities and learning needs – thereby creating a space for idiographic pedagogy within the constraints of the massified HE.

Finally, integrating research in the teaching experience, above and beyond its intrinsic academic rationale, can also address the challenges of formative as well as summative assessment thrown up by large-group scenarios. The assessment can be based on group work with clearly defined criteria of the nature of the engagement of group members, collectively and individually. The engagement with research can be designed in the form of evaluations of existing research on the basis of disciplinary understanding, conceptualisation of a research project addressing specific academic areas, simulated bidding for grants through drafting a relevant research proposal or project outlines, and making group presentations of a bid or peer evaluations of a proposal on the basis of the understanding of content as well as the research methodologies, etc.

Notwithstanding the above, I do wish to restate that I regard the teaching of large groups as a system-enforced condition, which is bereft of a sound academic or pedagogic logic. I do maintain, however, that despite the neo-liberal massification of HE, there is always room for pedagogic innovations. I argue for strategies that can find strength in numbers by reaping dividends of, on the one hand, teacher collectives comprising various teaching support staff, and, on the other, the immense heterogeneity characteristic of student cohorts enrolling in HE.

The underlying motivation behind these academic interventions and innovations must be to establish a conspicuous interface between

the content and the real world. In doing so, teachers must rely on their own reflexivity, the dividends of ever-expanding technology, and the immense potential of research to inform and invigorate teaching.

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