Skills involved in teaching large Groups of undergraduate Students

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Abstract
The study is set at a large research intensive university in South Africa. The teaching model in mathematics for entry level students is that of large group teaching, with up to five hundred students per group. Principles for the success of large group teaching in mathematics are identified by the teachers involved. These principles are classified hierarchical into two broad categories, the first concerning organisational principles and the second involving social principles based on the human element. Each category is subdivided into three sub-categories. The study shows, as expected, that organisational and administrative fluency are critical principles for both students and teachers. The importance of suitable and well-equipped venues as well as skilful use of technology is perceived as essential. What does emerge, and should be taken notice of, is the importance of “soft” skills. Such skills include knowledge of large group thinking, the ability to deploy strategies to build a group identity, also being able to devise activities to build coherence and for making the individual feel recognised. The recommendation is for these skills to be developed for cultivating an environment within which large group learning is optimised.

Introduction
Large group teaching is a reality in higher education and the lecture as a teaching mode will be around for the foreseeable future. These are bold statements, open for speculation and discussion, but nevertheless the point of departure of this study. We support Jawitz (2011) who claims that … the view that large class lectures in higher education are ‘bad’ and should be avoided if possible, is a dominant one that needs to be challenged. Not enough attention has been paid to the advantages and special opportunities that exist in working with large classes, and the lecture as a particular mode of teaching can play an important role’ (p. 140).

We need to understand its strengths and limitations, and exploit the possibilities that it holds. The premise of this paper is to embrace the phenomenon of large classes rather than lament it, and show that there is much to embrace.

The paper reports on the experiences of twelve mathematics lecturers, practitioners skilled in teaching large groups. The first-hand accounts of what skills are required when teaching large groups are hierarchically organised into the two broad categories of organisational and social skills, each with three sub skills categories. The paper aims to add to the body of knowledge of large group mathematics teaching of which Jungic et al (2006) say that little has been done.

Literature Review
Large Groups
Large groups of people getting together for a purpose, such as attending a sporting event, a concert, a conference are part and parcel of human activity. Collins (2004) uses the term “interaction ritual” to describe such events, of which the lecture is an example. Collins (2004) claims that without face-to-face interaction rituals, writings and ideas would never be charged up with emotional energy. Allais (2011) states that interaction rituals foster and sustain a sense of group identity in large groups. She further states that in its best form, a lecture provides an introduction to a field or an overview to an argument, while at the same time stimulating and exciting the interest of students to learn more. This is perhaps what is meant by making the subject “come alive”.

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Jawitz (2011) claims that the most significant advantages offered by large classes lie in exploiting the social dimension in the classroom and the economies of scale. Large classes provide the dual opportunity to construct lectures as important, not-to-be-missed events, and to draw on the energy and emotion associated with crowds to achieve the goal of facilitating significant learning. The ideal is to “turn this crowd atmosphere to pedagogical use” (Wolfman, 2002, p. 258).

The question immediately arises: What is a large class? Large classes have different meaning in different parts of the world. We get the impression that anything higher than about 30 is considered to be large class in some parts of the world but in countries such as South Africa and Australia, groups often consist of 300-400 students. For the purpose of this study large classes are considered to be groups of more than 200. Lecturers are often thrown in at the deep end when it comes to teaching a large group. A lecture hall filled with 300-400 students or more can be intimidating for both students and the lecturer. It is often not the lecturers with years of experience that are given the task (Jawitz, 2011). So the lecturer is faced with a problematic situation. S/he is not trained in dealing with large groups of people, are not familiar with the intricacies of group dynamics and do not know how to exploit the energy emanating from a large group. Thus, when moving from a teaching a small group to teaching a large group there is a danger similar to when moving to a new technology – to replicate the old way of doing in the new setting instead of rethinking the teaching strategy. In this case teaching techniques that worked for small groups are tried on the large group.

Although the virtues of a student-centred approach to teaching is highly regarded, high student numbers force universities to consider moving to a teacher-centred approach in which the teacher has the control and responsibility (Surgenor, 2010). The question then arises how can a lecturer create the best learning environment in a large class? In the student-centred approach to teaching the focus is on developing student understanding and conceptual change. The focus is on student activities and the learning outcomes following from the activities (Cannon & Newble, 2002). The challenge with large groups is then to create possibilities of engaging students in active learning and encouraging a deeper approach to learning (Surgenor, 2010).

Much has been written on teaching large groups of students (Jungic, Kent & Menz, 2006) but in most studies the focus is on logistical and technical issues or on clearly apparent issues such as discipline, organisation, and preparation. To a large extent more emotional issues, such as large group dynamics, have been neglected (Hogan & Kwiatkowski, 1998).

... students may experience powerful feelings of alienation, anger, and envy in large groups and compensate in various ways, some of which will be antithetical to achieving effective learning and a stimulating educational experience. Similarly, lecturers can also seek to cope with their own feelings of fear and uncertainty by behaving equally maladaptively (Hogan & Kwiatkowski, 1998, p. 1).

Christopher (2011) mentions some of the arguments against and in favour of large group teaching. Opponents of large groups argue that it is unfair to be expected to teach these large groups and maintain the standards established for smaller groups. They argue that large groups are not only unfair to staff members in terms of teaching loads but unfair in terms of offering students a quality education. No meaningful dialogue or interaction with students is possible and that students do not attend large group lectures.

On the other hand, proponents of large groups argue that the same amount of lecture material is covered regardless of class size and that these classes generate many full-time equivalent (FTE) units, which provide a department the opportunity to teach special undergraduate and graduate courses that might otherwise not be offered due to resource constraints. Large groups allow a department to optimise its limited resources while serving the needs of the department and the university. Large groups are often referred to as the bread-and-butter of a
department. Another advantage is that this approach makes the expertise of a good teacher available to many students, while keeping teaching loads at a low enough level to permit time for staff members to develop their expertise through research and publication (Christopher, 2011).

**Class Size**
The issue of class size is not new. The philosopher Comenius reportedly asserted that it was better that one teacher teach hundreds of students at a time because this would increase the teacher's interest in his work (Glass, 1985). Over the last few decades research has mostly reported that class size does not have a major impact on student learning. In Follman’s (1994) review on what research had been conducted on class size up to 1994 he concludes that most findings imply that unless class size is very low (below 15), class size does not impact student performance, especially adversely as is a common opinion. Laughlin (1976) refers to class size as a sacred cow and concluded from research that “class size has not been shown to be a major factor in student learning,” and that “at this time research data does not substantiate that differing class sizes make a difference in student cognitive growth. Christopher (2011) contends that when teaching factual information and large classes are as effective as small classes but when higher level cognitive skills (including application, analysis and synthesis) are instructional goals, smaller classes have been found more effective.

Williams, Cook, Quinn and Jensen (1985) conducted a multiple regression analyses between class size and achievement using final exams for different ranges of class size across a number of content areas and concluded that “class size may be less important an influence on student achievement than some educators have thought.” (p. 307) and that large classes (even up to several hundreds) may not seriously affect achievement.

**Group Dynamics**
Humans behave differently when functioning in groups. Support mechanisms are present in groups that can improve the overall performance of the group members. Unfortunately there are also possible negative issues that have to be addressed, such as competition, conflict, and deindividuation (Sniezek, 2007).

When teaching a large group, a challenge is to create a common bond among the students, to transform a group of individuals simply sitting in the same venue into a cohesive group that is engaged together in learning with common goals and a group identity (Jungic, Kent & Menz, 2006). A common identity in a group empowers the group to create group norms that all members of the group can attempt to fulfill through their attitudes, beliefs and behaviour (McCauley, 1989).

So when teaching a large group, the group dynamics can be exploited to improve overall performance of the individual members of the groups but one must be aware of the pitfalls of group dynamics of a high cohesion group (Sniezek, 2007).

**Interaction**
In the large group teaching format the importance of human interaction is often ignored (Jungic, Kent & Menz, 2006). Some students use the anonymity as an opportunity to chat noisily during lectures. The lecturer finds it difficult to see a raised hand or to hear a question. In a large group it becomes even more important to recognise individual students rather than a mass of people.

The University of Washington (2009) suggest some strategies to reduce anonymity with students in order for the students to make a connection with the lecturer or fellow students that will help students be more willing to participate in a large class, including giving students information about yourself and your interests, making time to chat with students before or after class, and learning a sampling of student names and use them when calling on students.
Morton (2007) makes a case for providing for the diversity of the student population. A lecturer should find out as much as possible about the student cohort who will attend the lectures and use different examples reflecting the subject disciplines of the different students.

Technology
Teaching technology such as using a microphone, a laptop or Tablet PC has considerably eased the teaching activities involved with large groups in the lecture hall. The availability of contemporary technology such as learning managements systems (LMS) assists in managing a large group (Jungic, Kent & Menz, 2006). Using the discussion board feature a lecturer can get feedback from students on their particular needs which can then be addressed in the lecture. Morton (2007) mentions that a lecturer should import technology into the lecture such as audio and video to generate interest and provide rich and varied information to enliven a lecture. He lists a few dos and donts about using technology. Two way communication can be established in class when using clickers or some device enabling students to respond to questions posed by the lecturer. Research on the use of technology for large group learning, supplemental to face-to-face teaching, shows that the student learning experience is usually enhanced by using the student learning technology appropriately (Saunders & Gale, 2012, Vigentini, 2009).

Research Problem
Since the phenomenon of large groups of students is a reality, rather than repeating the often heard lamentations about the problems that are experienced when teaching large groups of students, the aim of this study as inferred is to positively investigate what are the factors and practices that bear on the success of large group teaching of undergraduate mathematics.

Research Design
At the university where this study is conducted, groups of undergraduate mathematics students of between 200 and 500 students are common. Many of the staff members in the mathematics department are involved in teaching large groups and have been doing so for years. A questionnaire was developed with open-ended questions probing respondents as to what advice they would offer to someone starting out on teaching large groups, offering guiding principles based on their experience of large group teaching. The questionnaire also asked about the things that s/he does that are special to teaching a large group. Lecturers were also asked to indicate how they

- Give recognition to individuals, make the individual feel part of the group.
- Engage students when teaching a large group.
- Create coherence in your large group, a feeling of belonging the group.
- Get to know more about the students that you teach.
- Use humour in you teaching.
- Motivate students.
- Show passion and enthusiasm for the subject.
- How do you use technology (the LMS, Facebook, etc) for teaching purposes (other than in class).

Lastly, respondents were requested to indicate to what extent they agree on the following statement:

*A large class enhances you teaching because of the greater response and the energy in the class.*

The questionnaire was completed by 12 lecturers in the mathematics department and the responses were analysed.
A limitation of the study is that the study is based on 12 responses only. It is a small, and context specific data set. The study may suffer from institutional bias. The study could be extended to other institutions for future research. It should be noted, however, that for a single department to have 12 lecturers with experience in large group teaching is exceptional and provides a valuable research source.

**Findings**

The principles that emerged were grouped into two broad categories of organisational and social principles, each subdivided into three sub-categories and a hierarchical order was established, moving from practical, organisational issues to more human elements, such as personal, emotional and sociopsychological issues, including issues related to group dynamics and identity. The order was motivated from literature and through discussion. Each category is described, illustrated by means of quotes and followed by a short exposition of practices of implementing these principles in the class. The number of responses that were received relating to the topic is provided in brackets.

**Organisational Principles**

1. **Discipline**

What emerges on a first level and as most prominent is the notion that a large group should be controlled through authority and that disciplinary measures should be laid down at the onset. A large group should be handled through displaying confidence. Punctuality is expected from both the lecturer and the students.

*Authority (5):* Be authoritative, confident and in control of the class.

- Be big, bold, definitely not apologetic (R1).
- Be in control of the students, your lecture and the technology (R2).
- Show authority, confidence (R3).

*Discipline, order and punctuality (10):* Formulate rules for maintaining discipline and order and apply from the onset. Punctuality is important.

- Set the rules about arriving late, texting, earphones. Implement the rule (R4).
- Be strict about latecomers (R1)
- Be punctual to lecture contact venues – lectures, class test venues and any other appointment. If late, by a minute, say it explicitly and apologise (R3).

*Respect (6):* Demand manners and respect and give respect.

- Show them respect and they will respect you back (R5).
- Mutual respect is important (R2).
- Show students that you respect them or even say it (R3).

Practices for enforcing authority is, for example, looking them in the eyes and spelling out the rules. Large classes pose the threat of noisiness. Practices to counteract this is by picking out one culprit as an example for instance, requesting of him/her to keep quiet and then ask permission to continue and thank the student once he/she agrees that you may do so. One respondent (R6) disagrees to this and confesses to tolerating some noise, telling himself that they are discussing mathematics.

Practices for preventing late coming include rewarding those that are early by quick revision of what was done the previous day, but not starting something new before a few minutes have elapsed. The disruption is not perceived to be as significant as in small groups, although not all respondents agree and some take drastic measures against late comers such as asking them to leave. Another respondent (R7) disagrees with the concept of enforcing rules and claims that it is possible to follow a different approach with which there will be no discipline issues (discussed under VI).
Mutual respect and tact are advocated and there is caution not to humiliate a student by making small fun in front of the class. Yet there is also a warning from one respondent (R8) to guard against too much familiarity.

II. Presentation Clarity

On a second level and also geared towards the practicalities of teaching a large lecture group is the use of technology for audibility and legibility. Large group teaching, in particular poses the danger of physical hindrances such as not being able to hear or see. For this purpose using technology is strongly advocated amongst respondents. Advantages, and often the necessity of using technology emerge strongly.

Audible and legible (10): Pay special attention for ensuring that all students can hear you and can see whatever you produce for them to read.
- Whether you use a tablet, the black board or both, remember that many students sit far away from you, take care that they can read whatever it is you are writing (R9).
- Be sure that everyone can hear you – use a microphone (R1).
- I use a microphone to get a psychological advantage over my students and also so that I don’t have to strain my voice when teaching (R10).

Presentation technology (11): A Tablet PC as technology is ideally suited to teaching mathematics to large groups, accompanied by a microphone. Be there early to check the technology.
- Chalkboard as the main form of teaching does not work. Use a Tablet PC and a microphone (R7).
- Use a Tablet to look them in the eye (R1).
- Use technology: tablet, microphone, camera etc (R2).
- Know your Tablet PC and the connections, know the safe codes and how the microphone works (carry extra batteries) (R7).

Support technology (5): The Learning Management System (LMS) has a definite supporting role in large group teaching. The LMS that is used at this university is Blackboard but is it locally called ClickUP.
- You are not always able to do all the necessary problems. Use ClickUP when time runs out (R2).
- Turning my notes into a pdf file which I share with students on ClickUP has the added benefit that I can give problems as homework and provide them with the answers as part of my notes or show them explicitly on how to finish solving a problem if time runs out in class (R10).
- I put pre-lecture notes on ClickUP so students have a chance to prepare for the lecture, and read up on the topic of the lecture (R9).

In the setting of this study the facilities are of a high quality and therefore it is common practice to teach by using a microphone for audibility. The mathematics department has also invested in technology for teaching and for this purpose has provided all large group lecturers with Tablet PCs. The venues are technology enabled and projections are large and clear. Although the odd lecturer still uses the blackboard for teaching, group size permitting, the blackboard is not an option for truly large groups. Lecturers have taken positively to using Tablet PC technology, often preparing an outline of the lecture before and fleshing it out in class, and also making use of video clips, graphing and other features available on such a device. Class notes are then converted to pdf format and posted on the ClickUP. Other practices include posting notes before the lecture in preparation of the lecture, posting extra problems, or a complete solution of a problem that was outlined in class.

III. Preparation and Pacing

On a third level, the notion emerging from responses is the importance of preparation and pacing of the presentation. Thorough preparation is advised, more so than for smaller groups and as well as a decreased presentation pace.

Preparation (8): Particular care should be taken in preparing lectures when presenting to large groups.
- Be prepared – really prepared. If you hesitate, you are lost and the students will start talking (R11).
Know your subject content very well. Prepare your lessons carefully with interesting and well-selected examples (R10).
Be extremely well-prepared – minimize mistakes (R2).

**Pacing (3):** Large group teaching necessitates a slower pace.
If you teach a “big” group, you cannot do all the work in a period that you can do in a period for a “small” group. Somehow, you have to work more slowly (R11).
Time management is important: Teaching big groups is time consuming (R2).

Preparation is one of the keystones to presenting to large groups. Under preparedness and hesitation can impact on the attention of the students and often result in them commenting and scoffing amongst themselves. It also undermines the lecturer’s confidence. According to one respondent (R7) one should not only know the work but should also carefully plan how you will approach the work, what background info you need to refresh and what angle you will approach the topic from. It adds to your confidence and the success of the lecture. Examples should be selected with care. Because of the decreased pace of large group lecturing valuable time is wasted if mistakes made by the lecturer needs to be rectified.

**Social Principles**

**IV. Individualisation.**
On a fourth level, and moving away from practicalities, respondents alert to personalisation of individuals and involvement through a common work culture.

**Individualisation (2):** Get to know a few names in the group and notice behaviour patterns
Show them you care by just knowing the few students names. Try to remember their sitting behaviour and show the students that you do notice where they sit most of the time (R5).
Try to involve them individually. Get to know some of their names. If a student asks a question, always ask his/her name (R6).

**Involvement and work culture (8):** Involve everyone and create a common work culture
Try to interact with the class. This will most likely involve only a small proportion of the students who are actually willing to answer a question (R10).
Don’t think you cannot implement active learning. Use technology as a tool to make active learning possible (R4).
Create a culture of learning – We work together in the lecture, I don’t do the work while you watch. Everyone tries an example, even the back benchers (R7).

**After class interaction (4):** Use the short period after class for valuable interaction
Be available if a student quickly wants to ask something before/after the lecture (R2).
Stay behind after the lecture – there is always somebody who wants to speak to you (R6).
If someone asks a question, I sometimes tell them to see me after the class. To answer a question and the rest of the class do not know what the question is and are not interested it could cause chaos. Best to avoid (R8).

Other practices for individualisation include reading out names of top performers in tests, even asking them to stand to be congratulated. Randomly picking a student from the class and asking a question is a practice in groups of say 200 but becomes difficult to execute in truly large groups (say 500) because it is often difficult or even impossible to hear the answer. A similar practice is to start a public conversation with an individual with everybody listening, asking his/her name, where s/he comes from, what s/he studies etc. Tutorial sessions and consultation session give opportunity to get to know the individual. Another practice is to give students opportunity to try an example during the lecture and walk through the lecture hall giving individuals the opportunity to answer, class size permitting. One respondent (R4) advocates walking up and down the aisles during class with the agreement that if they want to have their work checked they sit at the ends. The respondent claims that students actually do this and like it when she comments on their notation or whatever. Students can be coached into thinking through asking rhetoric questions such as: “What plan shall we make?” Trying to remember faces and names is an admirable if limited practice and some lecturers confess to
the frustration of only getting to know a handful of names. A way of individualising is by coming to the lecture early and while busy connecting the tablet keep smiling at those that are watching and once finished walk around, chatting with students. Using technology (Clickers specifically) is ideal for engaging students as everyone has to give a response.

V. Motivation.
On a fifth level the role of the lecturer as performer and motivator is emphasised, also bringing humour and excitement to the class. Value is added to the interaction through the deliberations of the teacher.

Lecturer as performer (3): The lecturer is a performer that inspires and educates.
Teaching a large class is a performance – you have to inspire students by entertaining them (R6). For a large group the lecturer is more of a performer and you have to pay attention to captivating the audience – so give character to your classes, let there be something to talk about, something to remember you by – they do not remember what they learned, they remember how they felt. (R7).
You can’t present just the subject content- you have to put up a bit of a show (R9).

Motivation (3): Play a role in motivating students
In every moment your message must include elements of persuasion and positivity why completing certain tasks and (timeously) will work in your favour in as far as passing the module is concerned (R3).
A large class needs more motivation, it is easy to fade away in the crowd (R7).

Humour (2): Humour has a place in large group teaching
Make little jokes – sometimes about yourself (R1).
I use as much humour as I can. A lot of it comes naturally, again because I know the student mentality (R8).

Enthusiasm and interest (10): Show enthusiasm for mathematics and create excitement and interest in the topic at hand and the subject as a whole.
Be enthusiastic and passionate about the subject you teach (R10).
Mathematics is VERY clinical and non-emotional. Go beyond the mathematical content by telling them stories about mathematics, mathematicians and what else to give a personal, human flavour to mathematics. Show excitement about the mathematics (R6).
In a large group one has to be particularly interesting and lively. Holding the attention of a large group needs conscious effort (R7).
I have passion for mathematics and teaching and being honest about this shows (R4).

Motivation is important for large group teaching as it is easy for individuals with feelings of despondency to go unnoticed in the masses. Motivation practices include sketching the bigger picture, pointing out that they are doing this for their future, they are making a difference for themselves. They do not pass a module, they advance a future career. Although it may have gone badly at first there is opportunity for recovery. Failure is very difficult for them to deal with, so provide constant encouragement for them not to fall behind. A boost for themselves is to tell them that it is not a mistake for them to be sitting where they are. It is because they deserve to be there.

Respondents testify to making a special effort to hold students’ attention by varying the pace, interspersing the class with comments and anecdotes and giving context to the topic at hand. One respondent (R6) has the habit of creating a fuss about a student asking a question or making a remark. If a student (say Peter) makes some conjecture from an example, he would call it “Peter’s conjecture” or “Peter’s theorem” and would jokingly ask the other students to try to test it with other examples or prove it. Another respondent (R3) illustrates the value of anecdotes by relating an incident of telling students of a newsworthy discovery and after the lecture, on a Friday when most students would rush out to catch up with the Friday fever, there was a crowd of students who wanted to understand more on the relevance of their math knowledge to the discovery.
Humour is often spontaneous and is invariably valuable for regaining attention and interest and for relaxing the mood. Humour is also used deliberately after a long sequence of mathematics when the class feels “dead”. There are a number of mathematical jokes that can be used in, what one respondent (R7) calls “a commercial break”, when the moment is right for something lighter. Humour is a binding factor and respondents testify to its worth.

Respondents are witness to the importance of displaying enthusiasm and passion for the subject and that it is something that cannot be faked. Practices include pointing out the beauty of mathematics, telling them about the history of a certain result and about unsuccessful attempts through history in proving a result but also telling them about recent developments in the mathematics world so as to avert impression that mathematics is an ancient subject. This positive emotion will hopefully result in students liking the subject more and wanting to engage with the subject material more. Another practice (R7) is that whenever it gets tough or when there is an impressive formula to stop them to take note and say this is the type of thing they must take home to show the paying parents that they are not wasting their money.

VI. Group Coherence.

On the sixth and highest level is the awareness that a large group has a character in itself, that there is an energy that can be tapped to the advantage of both students and lecturer. The key is to embrace the largeness of the group rather than try counteracting it, tapping the energy rather than controlling it, to let the individual feel recognised as part of a coherent group rather than attempting to individualise a few people in the class, creating a whole bigger than the sum of its parts.

Large group dynamics and identity (3):
- Big crowd as they are, know their collective psychology and feedback mechanisms to your interaction with them (R3).
- Create or suss out the group identity and group feeling – I believe every large group has a character - certain peculiarities and characteristics. If you know that you can adjust your approach to it and really reach them (R7).
- Individually I don’t really get to know them but I know the psyche of a first year engineering student and I have sympathy with their workload (R8).

Winning them over (3):
- Remember, you want them close to your bosom – even if that is not physical closeness. The opposite might close them off from you (psychologically) (R3).
- Make it clear that you are on their side. You will do whatever possible to help the pass the course (R6).
- Bond with the group from the beginning, win them over. Sometimes you bond better with one group than another (R7).

Practices of exploring the group identity and winning students over are on the highest level in this categorisation. Knowledge of group dynamics and group psychology is preferable although, and obviously so, not prevalent amongst mathematics lecturers. History has shown that there are people who can naturally influence and sway crowds, tapping their emotions and gaining their goodwill. Amongst respondents this is the least focused on aspect of large group teaching. Yet, there are valiant efforts on an intuitive level for following a psychology based approach. One respondent (R3) claims that he pays attention to winning students over. He says it develops quickly and soon class reps will be talking to you and his task is to cooperate with them and appreciate their input. He focuses on the positive aspects that enhance mutual trust, cooperation and academic friendship, the stepping stones into positive engagements. In passing this might even be commented upon in the next contact with them.

The class representative is mentioned by another respondent (R7) for building the group identity and for creating coherence. He is their peer and what he says is taken seriously. The class representative is coached into giving a short “message” once a week, often humorous, sometimes profound, wishing them well, commiserating with them after a test. They find listening to someone their age believable and funny. This has been hugely successful for coherence. Another lecturer (R6) believes in building a group spirit by “conspiring” with
them that this group is going to make history by every member of the group passing the course – this has never happened before.

Yet another respondent (R8) says that individually she does not really get to know them but she knows the psyche of a first year engineering student and this shows through. She has standard sayings which she knows they like – “Very few of “us” communicate in our first language, so we should all feel at home here.” She maintains that the class as a whole has a common goal of succeeding and that she is on their side. A suggested practice is set a reward for cooperation and hard work of the group as a whole by using the last ten minutes of the last lecture of the week for telling a well-prepared mathematically related humorous or informative story. It provides a common treat to look forward to. Another respondent (R9) believes that by addressing the class as a collective, it creates the impression that the group is a unit. However, he is in disagreement that it is the lecturer’s task to create unity, he believes it is much more of an internal process, taking place among the students themselves.

It should be emphasised that the efforts mentioned above is not based on large group dynamics principles but are merely intuitive efforts. Yet there is an awareness of large group dynamics and behaviour among certain respondents. Such principles should be explored and large group lecturers should be advised on it.

Finally, respondents were asked to express agreement or not (on a four point Likert scale) with the statement:

“A large class enhances you teaching because of the greater response and the energy in the class.”

Of the twelve respondents, seven were in agreement to the statement (five strongly agreed and two agreed) and five of the respondents disagreed with the statement. It is noticeable that not one of the five respondents who disagreed with the statement gave responses falling in the sixth category related to large group psychology. It is also noticeable that all four respondents (six responses) who gave responses that fell in the sixth category agreed with the statement above. It could be surmised that for most lecturers efficiency, order and enthusiasm is at the heart of large group teaching and that they have success in doing so. But in many cases small group teaching techniques are practiced, only on a smaller scale in the large group – knowing a few names, checking a few students’ work.

It is also noticeable that of the total of 94 points of advice raised by the twelve respondents, 56 fell into the first three categories (the practicalities) and 38 in the last three categories (the human elements).

Discussion and Conclusions
Large group teaching is at the order of the day at universities and an inventory of skills required for doing this should be valuable for teachers embarking on this activity. In doing so the danger of trying to transfer teaching strategies for small groups to large groups could be eliminated.

The findings of this study is in agreement of Jawitz (2011) who advises that we need to find ways to draw on the traditions of lecturing, performance, motivational speaking and dramatic production so as to create an experience that enables learning for large numbers of students. He says that by cultivating a sense of belonging in a large community of learners, one is feeding into each student’s need to be part of something significant.

Practicalities such as maintaining order in the group, having clarity of presentation and doing thorough preparation while pacing the lecture correctly cannot be discounted. The importance of these issues is emphasized by most of the respondents in this study.
What does emerge and corresponds to what Jawitz (2011) infers is that organisational skills alone do not translate into successful large group teaching. Factors such as the enthusiasm of the teachers, individualisation and motivational aspects are paramount. Creating coherence in a large group is a valuable skill that could and should be cultivated through scholarly practices.

We support the claim that large group teaching does not compromise student performance or cognitive growth (Follman, 1994; Laughlin, 1976) and that the quality of the teacher is more important in determining the success of the learning outcomes than the size of the class. The fact that these opinions have withstood the test of time testifies to its validity.

Caution should be taken that the teacher is not lulled into thinking that by knowing a few individual’s names that all individuals feel recognised. Dividing the large group into small discussion groups is also not feasible as it leads to disorder and it is impossible to hear students give feedback from the back. These are practices inherited from small group teaching and could perhaps work for groups of up to 200. Perhaps a distinction should be made between large groups and mammoth groups of over 400.

The premise of this paper is that it is possible to work with the group as a whole while making individuals feel important within the group. Concerts, rallies and sports matches are testimony to that. It is also suspected that if the elements in the last three categories are in place there will be few issues of discipline and control. The recommendation is that teachers of large groups should take cognisance of the psychology and dynamics involved and put it to practice, and in so doing add a new dimension to their teaching of large groups.

In conclusion we add our voice to that who Jungic, Kent & Menz (2006) who say that teaching a large class offers unique rewards. In particular, a large class offers the instructor incredible potential for creating excitement among students. When a lecture or demonstration goes well, it generates a charge of positive energy that excites the students and instructor alike. A collective aha moment with a mass of students is a powerful reminder of what university learning can be. We agree that large class teaching can be enjoyable, despite the additional hurdles to overcome.

References


