

MELBOURNE GRADUATE SCHOOL OF EDUCATION

FOR ENDORSEMENT

by

MGSE Executive

Class sizes for coursework subjects

1. PURPOSE

This paper proposes the implementation of an equitable, pedagogically sound and sustainable approach to determining class size.

There are two aspects, concerning the need to:

1. Set clear expectations across MGSE of the minimum class size, the point at which additional teaching support will be provided and the point at which a class will be divided, and
2. Establish a transparent and fair process to vary the class size for individual subjects.

2. BACKGROUND

The key issues

The recent Course Strategic Progress Review cycle highlighted issues associated with class sizes:

- There is a lack of consistency within and across courses (Appendix A shows the variation in class size across MGSE subjects);
- There are widely different perceptions concerning the minimum class size and the point at which classes should be split into two or more classes;
 - o Variations in the point at which classes are split range from 15 to 50 students;
 - o For some subjects, additional support is provided without splitting the classes (e.g. appointment of a tutor to assist with teaching or the provision of marking relief);
- There are different views on the impact of class size on pedagogy and student experience;
- There are concerns about overall workload and the distribution of teaching work.
- The number of students in a class impacts on the:
 - o Types of activities that can be used effectively during classes (on campus or through webinars);
 - o Amount of individual attention academics can provide individual students during and outside classes (on campus or through webinars); and
 - o Marking load - the range can vary from a total of 40,000 words or equivalent to 250,000 words or equivalent for a 12.5 subject, with no variation in the associated workload

Although the issue was raised in the context of the Professional Coursework Program, it is relevant to all three MGSE programs.

Research on class size

Findings from the literature on the ideal class size at the tertiary education level are mixed (see Appendix B). The body of research is based on differing definitions of class size (i.e. what constitutes a small or large class) and measures of impact (e.g. student satisfaction, grades, staff satisfaction). This makes it difficult to compare studies and assess the impact on students' learning.

It is important to differentiate between class size, subject size and the student responsibility (i.e. the number of students for which an academic is responsible). All three have an impact on teaching workload but other variables (e.g. assessment strategies) are also important. There is evidence that the quality of teaching and the pedagogical approach are more significant factors than the size of the class.

It is also important to note that much of the literature considers larger classes than is typically found at the MGSE .

Staff feedback

Staff responses to a request for literature on class sizes documented concerns about the impact of larger classes on student learning, student experience, teaching and academic workload. The responses presented different views on what constitutes a manageable class size. Attention was drawn to the need to consider the subject content. For example, it was reported that discussing confronting and sensitive issues with groups of 30 students can be difficult.

Defining the problem

The variations in practice around class size has implications for the way we teach. It also has implications for the equitable distribution of teaching work, which, in turn, impacts on the capacity for staff to conduct high quality research. Transparency and equity around managing class size contributes to the development of a high trust organisational culture.

There are two aspects to this issue:

1. The need to establish a shared understanding of expected class size across the MGSE. This includes identifying a set of principle, as well as specifying the minimum class size, the point at which additional teaching support should be provided and the point at which a class will be divided.
2. The need to establish a transparent and fair process to vary the class size for individual subjects. This includes identifying the conditions that would justify a variation from the minimum expected class size.

Considerations

Policy

Any form of regulation must be based on the [Enrolment and Timetabling Policy MPF1294](#). Implications for cancellation of subjects with low enrolments needs to be considered. There are no other relevant university policies.

Procedures and accountable officers

MGSE procedures need to be developed to ensure processes, roles and responsibilities are clear and support consistent decision making.

These procedures need to address:

- The monitoring of enrolments and include triggers for subject viability review. This would be an extension of the current process of reviewing subjects with fewer than 15 students.
- Allocation or teaching spaces (timetabling)

- Staffing, including the appointment of any sessional staff

Related issues

There are a number of associated issues:

- Subject offerings
 - o The number of subjects offered, including the number of electives has an impact on class size. Courses must be coherent (developing students' knowledge and capacities) and sustainable (balancing flexibility and choice for students with sufficient student load in each subject).
 - o Scheduling a subject more than once in an academic year may unnecessarily reduce class size for some semesters.
- Planning
 - o Access to timely student enrolment data has an impact on staffing and room bookings.
 - o Planning should allow for some reduction in student numbers in the period before the census date.
- Subject and course changes
 - o The time required to change subjects, e.g. to change the assessment tasks.
- Availability of teaching spaces (see Appendix C)
- Workload
 - o The way teaching workload is calculated is also a key factor in determining the impact of class size on academic staff (e.g. a model based on teaching hours compared with a model based on teaching hours, the number of students and a weighting to reflect the type of teaching).

3. PROPOSED PRINCIPLES, GUIDELINES AND PROCEDURES

In the absence of a University or MGSE policy to inform decision-making, this paper proposes MGSE guidelines to ensure there are clear expectations and a shared understanding of expected class size and principles to support consistency with decision making on subject viability and staffing.

Class Size principles for campus-based and online subjects

The following principles govern the issue of class size for tutorials, seminars and workshops (but not lectures) across all MGSE programs:

1. Courses and subjects are to be developed to provide effective learning and a positive student experience, using a pedagogically sound and sustainable model of delivery.
2. The class size should be independent of the fee type, i.e. full-fee paying students are not entitled to smaller classes.
3. That the same minimum class size applies to subjects delivered on campus, online or in a blended form.
4. Variations of the minimum class size are subject to the approval of the Associate Dean - Learning and Teaching. Potential variations will be considered in the following instances:
 - a. To meet external accreditation or registration requirements.
 - b. If the subject requires specific facilities that limit the class size (e.g. an art studio or computer laboratory).
 - c. If the subject meets an agreed MGSE strategic priority and:
 - i. Is a niche subject that is unlikely to attract many students, or

- ii. Is a new subject and has been granted an agreed fixed period to become established,
- iii. An agreed fixed transition period is required so subject changes can be made.
- d. If, for strategic reasons, a subject is to be delivered and assessed in a short period of time and marking cannot reasonably be completed within that time,
- e. If there are occupational health and safety requirements (including access to a teaching space to accommodate the number of students), or
- f. To meet supervision requirements.

Class size guidelines for campus-based and online subjects

1. The minimum size for a **subject** is 25 students, unless a variation consistent with the principles has been approved by the Associate Dean - Teaching and Learning.
2. The minimum size for the **first class** is 25 students, unless a variation consistent with the principles has been approved by the Associate Dean - Teaching and Learning.
3. For classes of 25 to 35 students, **additional support** may be provided (e.g. the support of a tutor or marking relief), subject to the approval of the Associate Dean - Staffing.
4. A class may be split once the number of students reaches 36, unless a variation consistent with the principles has been approved by the Associate Dean - Teaching and Learning to allow the class to be split between 26 and 35 students.

It is important to note that this specifies the *minimum* class size for tutorials, seminars and workshops but not lectures. It is expected that many classes would include more than 25 students.

Class size procedures

The MGSE will need to develop procedures that will:

1. Identify decision points and the roles responsible for making decisions.
2. Specify the steps taken if a subject does not achieve the minimum number of students. This will need to take account of:
 - a. Whether the subject is a core or elective,
 - b. Teach out requirements,
 - c. Implications for student load and the need to offer students viable full-time study plans.
3. Flag subjects for review and responsibility for the timing of that review (e.g. immediate, in 3, 6 or 12 months).

4. PROPOSED RECOMMENDATION TO EXECUTIVE

That MGSE Executive committee endorse:

1. The proposed class size principles and guidelines for campus-based and online subjects (see section 3).
2. The development of procedures to support the implementation of class size principles and guidelines from Semester 1, 2019.

3. Ongoing work to improve curriculum development, teaching strategies and assessment practices to ensure courses are sustainable and to improve the quality of the student experience.
4. Ongoing review of MGSE subjects to ensure courses are coherent and balance student choice with a sustainable number of subjects.
5. The need to take account of the number of students and the complexity and demands of teaching different subjects in the workload model.

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APPENDIX A – Class size data for 2018

Table 1 and Figure 1 show the number of campus-based subject codes for each class size range. This data does not include online subjects, which usually have smaller class sizes. This shows that 17 per cent of subject codes have classes of fewer than 20 students.

Table 2 and Figure 2 show the number of subject offerings for ranges of enrolment numbers. Some subject codes are offered more than once a year. This data does not indicate the class size for the larger subjects. However, it does provide some insight into the number of smaller classes. Slightly more than one third of subject offerings have classes of 20 or fewer students.

Table 1 Number of campus-based subject codes by class size range, 2018

Class Size Range (no. students)	Number of Subject Codes	Proportion of subject codes (%)
< 10	6	2.2
10-19	37	13.8
20-29	100	37.2
30-39	95	35.3
40-49	16	5.9
50-99	13	4.8
100+	2	0.7
Grand Total	269	100.0

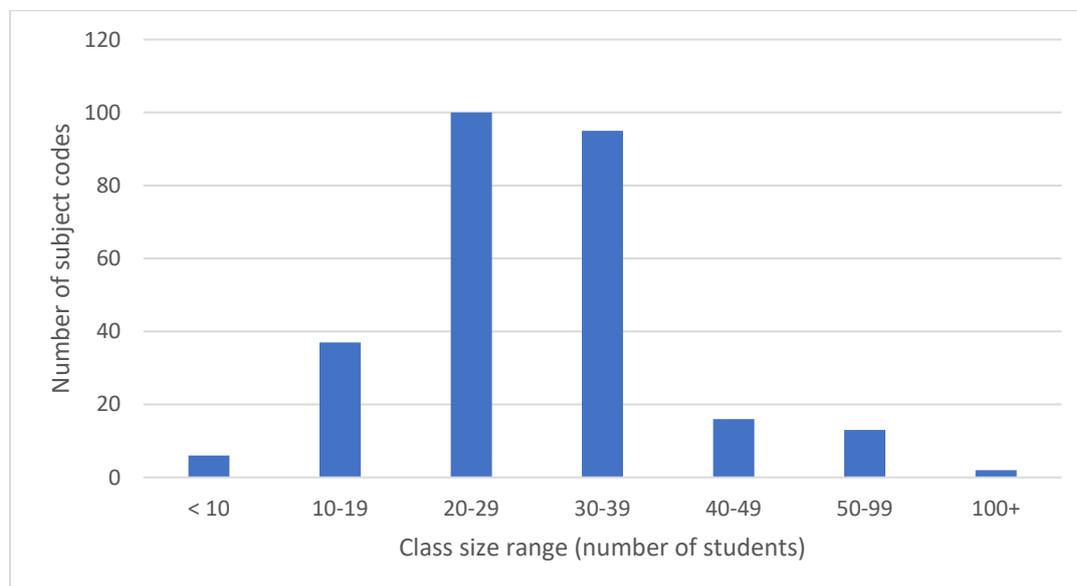


Figure 1 Number of campus-based subject codes by class size range, 2018

Table 2 Enrolments by subject offering for the 438 subjects administered by MGSE, September 2018

Enrolment numbers	No subjects offerings	Proportion of total subject offerings	Cumulative. Proportion
1 - 10	75	17%	17%
11 - 20	82	19%	36%
21 - 30	89	20%	56%
31 - 50	63	14%	71%
51 - 75	61	14%	84%
76 - 100	27	6%	91%
101 - 150	20	5%	95%
151 - 200	8	2%	97%
201 - 300	3	1%	98%
301 - 400	7	2%	99%
401 - 500	3	1%	100%
501+	0	0%	100%
	438	100%	

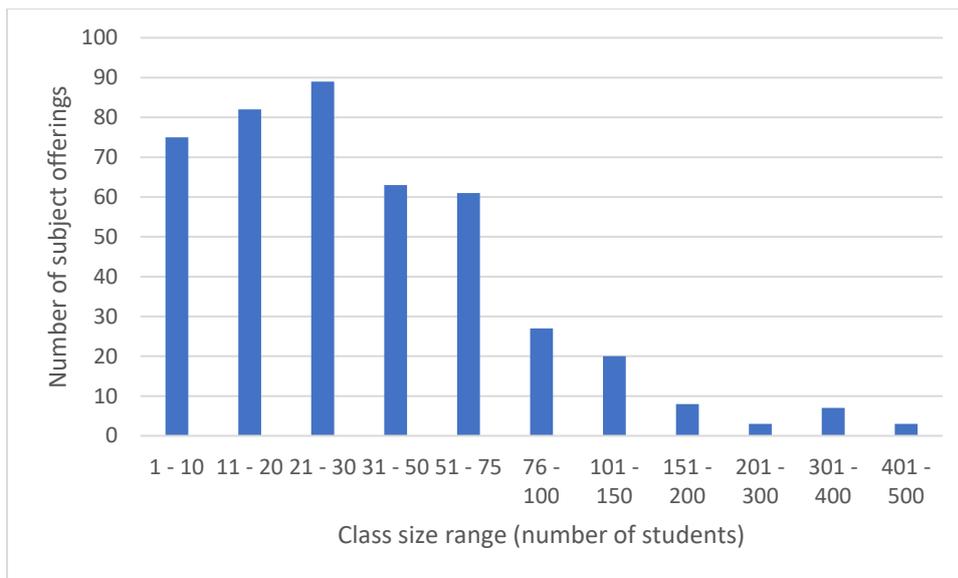


Figure 2 Enrolments by subject offering for the 438 subjects administered by MGSE, September 2018

Table 3 Enrolments by subject offerings – median, mode, mean

Median	26
Mode	20
Mean	47.92

Data provided by Pian Zhang and Roland Wunder on 15 and 30 October 2018

APPENDIX B – Research on class size in the tertiary education sector

Findings from the literature on the ideal class size at the tertiary education level are mixed. In part this reflects different foundational ideas from disciplines such as pedagogy, the sociology of education, and the economics of education. The studies are situated in different national contexts with variations in the structure and nature of national higher education systems. The body of research is also based on differing definitions of class size (i.e. what constitutes a small or large class) and measures of impact (e.g. student satisfaction, grades, staff satisfaction). This can make it difficult to compare studies and caution is required when drawing conclusions.

Defining class size

It is important to differentiate between class size, subject size, the student responsibility (i.e. the number of students for which an academic is responsible) and the student-staff ratio (e.g. Monks, Schmidt, & Cornell Higher Education Research, 2010). Accurate definitions of each measure are also required. For example, McDonald (2013, p. 652) argues that the student-staff ratio is a 'slippery construct' that can be easily manipulated within universities.

Some studies report on 'large' or 'small' classes without defining class size in terms of number of students or specifying the relevant student to staff ratios. Findings on studies of very large lecture groups students (200 to 1000 students) and their associated tutorials raise important issues about student experience (e.g. Mulder et al., nd) but they may not apply to subjects based on seminars and workshops for smaller groups (e.g. 25 to 35 students). In an internal university report Davern, Davies and Loi (nd) defined five categories of class size: small (fewer than 35 students), small to medium (36 to 50 students), moderately large (50 to 70 students), large (70 to 110 students) and very large (more than 110 students).

The impact of class size

The question of class size has been discussed more fully in the context of schooling. Hattie (2012, 2015b) argued the impact of reducing class size is marginal because teaching practices tend not to change with the number of students. According to Hattie, improving the quality of teaching is far more effective than reducing class size. Economists (e.g. Hanushek, 1998) draw similar conclusions, arguing that reducing class size is costly and has minimal impact on student outcomes. Hattie (2012, 2015b) argues that interaction, discussion and feedback are vital but not necessarily related to class size. Other studies (e.g. Handal, Watson, & Maher, 2015; Zyngier, 2014) report that younger students and students with low levels achievement or from disadvantaged backgrounds benefit from reductions in class size. Zyngier (2014) points to the need to both developing the capacity of teachers *and* reduce class size.

The literature on school class size provides insights into some of the key issues but there are differences in the structure of programs and approaches to teaching. To assess the impact of increasing class size in the higher education we need to consider the implications for students (learning, experience and wellbeing), academic staff (workload, experience and wellbeing) and the organisation (reputation and financial sustainability) (McDonald, 2013).

Students

Most of the existing literature examines the impact of increasing class size focusses on student experience and achievement.

A persistent concern is that larger class sizes decrease the attention academics can give to each student (e.g. Cuseo, 2007; Dillon, Kokkelenberg, & Christy, 2002). For example, Bettinger et al. (2017) describes how increasing class size *could* be expected to impact on the extent and quality of engagement with students. Faced with an increased number of students, an academic can increase the number of hours they work or reduce the amount of time responding to each student. In the

Australian context, concerns have been raised about the negative impact of increasing student to staff ratios on student engagement and achievement (Bradley, Noonan, Nugent, & Scales, 2008; Coates & Goedegebuure, 2010; McDonald, 2013).

Some studies reported that student evaluation of academics and courses were adversely affected by class size and student responsibility (Mandel & Süssmuth, 2011; Monks et al., 2010). Student and staff satisfaction measures can provide important information about the learning or teaching experience. However, they reflect expectations, as well as quality of teaching (e.g. see Nussbaum, 2011; Sen, 2009 for a discussion on the impact of disadvantage on expectations).

Findings on the impact of increasing class size on student achievement vary. In their study of over 100,000 student online subject enrolments in one private American university, Bettinger et al. (2017) found that increasing the average class size of 31 students by ten per cent (to 34 students) had no significant impact on student outcomes or progress. An increase of 15 to 25 per cent had no significant impact on outcomes but there appeared to be a small effect on the number of subjects completed in the following term.

In a more nuanced study, Kokkelenberg et al. (2008) found that student achievement (measure by average grade point) declines significantly as class sizes increase up to 20 students. As class size increases above 20 to 30 students, the decline in student achievement is much more modest. However, the authors said they could not conclude that students in small classes learn more, nor identify the causes for the relationship between class size and grades.

MacDonald (2013) reported that the literature on higher education class size is more conclusive when considering the impact of higher student-staff ratios on non-cognitive aspects of achievement such as self-esteem and attitudes to learning. However, she also concluded that the quality of teaching that is more important.

Another study examined strategies to manage increasing class sizes. Focusing on history, Keirle and Morgan (2011, p. 14) argue that 'the discipline-specific scholarship of teaching and learning' may be able to support deep learning when class sizes increase (e.g. to between 16 to 25 for tutorials and from 30 to 40 students for the workshops that are replacing tutorials).

There is no consensus on the extent to which online and on-campus education vary and should be treated differently. Hattie (2015a) argues that the effect associated with the mode is marginal. The way academics teach (including clear criteria and an appropriate level of challenge) and the quality of interactions between staff and students is more significant than the mode of delivery.

Academics

There is less research on the impact of class sizes on academic staff although the more general literature on the changing nature of academic work is relevant. There is evidence of increasing academic workloads and stress, which is partly attributed to increasing student numbers and more diverse student cohorts (e.g. Coates & Bentley, 2013; Gillespie, Walsh, Winefield, Dua, & Stough, 2001; McDonald, 2013; Winefield, 2002). Tomei (2006) calculated the ideal class sizes of 17 students for on-campus delivery and 12 students for online subjects. This study was based on teaching demands and it did not consider the impact on student learning.

Some of the literature examining online teaching identifies workload issues. According to some studies, online teaching involves higher levels of student engagement, with more time spent responding to individual students than typically found with on-campus teaching (e.g. Cavanaugh, 2005; Tomei, 2006). It is important to consider the context. The type of contact described in these studies may be similar to the ways academics engage with part-time graduate students undertaking subjects as intensives. These studies do not consider whether different ways of managing student engagement can reduce the time commitment without compromising the student experience

University

The literature on class size tends to be silent on the impact on the university. There is some discussion of broader trends and the pressure to reduce costs and increase productivity as a key driver of increasing class size (e.g. Keirle and Morgan 2011). Reputation is an important consideration. When online delivery was first introduced through GoMELB (now part of MSPACE), it was decided to limit class size to 15 students to protect the reputation of the University and its online courses. As courses have become established, class sizes have been increased.

Concluding comments

There is the potential for tension between financial pressures and concern for educational quality and student experience. However, the medium to longer term sustainability of education programs depends on quality, reputation and staff wellbeing as well as financial viability.

Class size, subject size, the student responsibility and the student-staff ratio can impact on student learning and experience and on teacher workload. However, the number of students is not the only salient factor. Also relevant are the type of class (e.g. lecture, seminar, placement), student expectations, pedagogy (McDonald, 2013), curriculum, and academic staff expectations, roles and total workload. There is some evidence that the quality of teaching and pedagogy are more significant factors than the size of the class.

It is important to note that most MGSE class sizes (see Appendix A) are not large compared with the class sizes discussed in the literature. The effect of very small classes is not discussed in the reviewed literature. One of the strengths of MGSE graduate coursework is the engagement with fellow students and vibrant peer-dialogue is difficult to achieve in classes of fewer than 10 to 15 students.

One of the main concerns of this paper is the allocation of teaching load, an issue that is not addressed in the literature on class size and student-staff ratios.

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APPENDIX C – Capacity of MGSE teaching spaces

One consideration is the availability of teaching spaces. Of the 21 MGSE teaching spaces, 12 cannot accommodate more than 30 students and we have limited access to three of rooms, including the two larger rooms (Q101 and Q102). There may be some capacity to increase the size of some teaching spaces by reconfiguring rooms and/or purchasing additional chairs and tables.

Table 4 presents a summary of MGSE teaching spaces and their capacity, with Table 5 providing more detail.

Table 4 Summary of MGSE teaching spaces

Room capacity (number of students)	Number of rooms	Notes
24	3	Limited use
30	9	
36	7	
42	2	Limited access (see notes in Table 5)

Table 5 MGSE teaching spaces

Room	Capacity (no. of students)	Notes
L105	30	
L106	30	Rooms L106 and L107 can be combined – capacity of 70
L107	30	
L108	30	
L109	36	
Q101	42	Limited access in 2019 and beyond – in negotiation with the central exam unit. Rooms 101 and 102 can be combined – capacity 104
Q102	42	
Q218	36	
Q213	36	
Q409	36	
Q416	30	
Q417	36	only available from 1pm on week days
Q419	36	
Q420	36	
Q421	30	
3 Science labs (physics, chemistry & biology)	24	Limited use: The Science Laboratory Supervisor has to be present because of the equipment, and OHS restrictions (no food or drink, requirement to wear closed toe shoes)
3 studios (Music, Art and Drama)	30	Each studio can be divided but each studio is booked as one space, because of noise levels. Managed by studio technicians because of OHS, valuable equipment and bespoke technology.

Data provided by Jenny Lowe, 16 October 2018