

Report of the Secondary Schools' Staffing Group

Preface

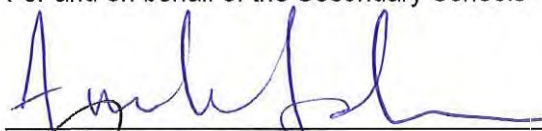
As part of the Terms of Settlement for the Secondary Teachers' Collective Agreement 2011-2013, the Post Primary Teachers' Association and the Ministry of Education agreed that more work was desirable between the two parties with respect to class size. As a result, the Secondary Schools' Staffing Group was established to undertake this further work.

The group comprised representatives from the Ministry of Education, the Post Primary Teachers' Association, New Zealand School Trustees Association, Secondary Principals' Association of New Zealand, and the New Zealand Secondary Principals' Council. It was co-chaired by Anne Jackson (Ministry of Education) and Kevin Bunker (Post Primary Teachers' Association).

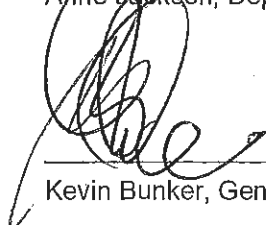
This report presents the results of the group's work.

Signatures

For and on behalf of the Secondary Schools' Staffing Group:



Anne Jackson, Deputy Secretary Schooling, Ministry of Education (co-chair)



Kevin Bunker, General Secretary, Post Primary Teachers' Association (co-chair)

10 February 2012

Recommendations

The parties to the Secondary Schools' Staffing Group make the following recommendations:

- i. The parties noted the impact the current funding formula appears to be having on some schools, and recommend that:
 - a) The delivery mechanism (formula) is reviewed in relation to larger schools, and that the review seeks to neutralise the disproportionate effect of the formula on these larger schools.
 - b) The delivery mechanism (formula) is reviewed in relation to junior high schools, and that the review seeks to neutralise the disproportionate effect of the formula on these schools.
- ii. The parties noted the possible conclusion that the current staffing allocation model is potentially not the right fit for 21st century student/school needs, given it comes from a perspective of limitation of liability rather than a needs-based focus. The New Zealand School Trustees Association believes that this is something that should be part of our consideration.
- iii. The parties work together to develop an agreed understanding of what a needs-based resourcing model may be, and how it might be used to improve the delivery of staffing.
- iv. That, as part of this work, the parties seek to gain a better understanding of the use of guidance and management time in schools.
- v. Also as part of this work, the parties seek to gain a better understanding of the use of operational funding and locally raised funds for additional staffing, and the potential risks and opportunities associated with this.
- vi. The parties noted that there is a lack of agreed information on actual class sizes, and recommend that the Ministry looks to identify and implement a suitable existing (or new) mechanism that would allow it to robustly and effectively collect data on actual class sizes.
- vii. The parties agreed that maintaining school-based decision making around class size is important and no recommendations were made regarding this issue.
- viii. The parties encourage New Zealand-based research into the identification and measurement of the relative impact of the factors, including actual class size, on the ability of teachers to use the pedagogies and student focus envisaged in the New Zealand Curriculum, and the effect of each factor on student outcomes.
- ix. The parties noted that developing solutions for classes that are too large is a contextual matter in New Zealand. No recommendations were made regarding this issue.

Introduction

Background

1. The Secondary Schools' Staffing Group (SSSG) was established because the Ministry of Education (the Ministry) and the Post Primary Teachers' Association (PPTA) agreed (as part of the Terms of Settlement for the Secondary Teachers' Collective Agreement 2011-13) that more work was desirable between the two parties with respect to class size.¹
2. It was agreed that the parties would undertake joint work with the objectives of:
 - ensuring staffing is most appropriately delivered to schools,
 - maintaining flexibility of class sizes in secondary schools,
 - considering the impact of class size,
 - developing solutions for classes that are too large, and
 - recognising the progress made since 2008 of employers using their reasonable endeavours to achieve, for each individual teacher with more than one class, an average class size of no more than 26 students.²
3. It was also agreed that "the group [would]...identify current practices and any staffing changes, if needed, to meet the group's objectives. The group [would] also identify appropriate mechanisms (such as the collective agreement or staffing orders) to achieve these objectives, with the first phase of implementation commencing in 2012/13. The parties [noted] that if any additional staffing [was] found to be required the cost [would] need to be found within Vote Education baselines".³ It was subsequently agreed in the Terms of Reference that this did not preclude advice being provided to the Secretary that might require an increase in baselines if implemented immediately or in the longer term.
4. The SSSG comprised representatives from the Ministry, the PPTA, the New Zealand School Trustees Association (NZSTA), the Secondary Principals' Association of New Zealand (SPANZ) and the New Zealand Secondary Principals' Council (NZSPC). It was co-chaired by Anne Jackson (Ministry) and Kevin Bunker (PPTA).
5. The group was required by its (amended) Terms of Reference to report to the Secretary for Education in early February 2012. The Terms of Reference are at Appendix 1.
6. The SSSG met on the following dates:
 1. 31 May 2011
 2. 4 July 2011
 3. 5 August 2011
 4. 22 August 2011
 5. 6 September 2011 (via teleconference)
 6. 9 September 2011
 7. 7 October 2011
 8. 7 November 2011
 9. 30 November 2011
 10. 20 December 2011
 11. 24 January 2012

¹ Secondary Teachers' Collective Agreement 2011-13, Terms of Settlement, section 15 from www.minedu.govt.nz/employmentagreements or <http://www.ppta.org.nz/index.php/collective-agreements/stca/107-terms-of-settlement>.

² Secondary Schools' Staffing Group – Terms of Reference – Objectives.

³ As per footnote 2.

7. The SSSG established technical subgroups to work between meetings and report to it on four aspects of the Terms of Reference:
- Strand 1: An analysis of baseline data available to the parties on current staffing delivery and patterns of class size distribution,
 - Strand 2: Case Study of a sample of New Zealand secondary schools, undertaken by MartinJenkins,
 - Strand 3: A review of the existing research on class size, and
 - Strand 4: A review of the approaches to large class sizes locally and internationally.

Context

8. New Zealand has one of the most devolved education systems in the world. There are both strengths and challenges created by operating such a model. One of the features of our model is that Boards of Trustees are empowered to make decisions about what subjects to offer, how to meet the needs of the communities they serve, and how to allocate resources within their school.
9. Staffing is provided to secondary schools by a formula that traces its history back to the mid 1940s with minor modifications made in the 1980s. The stated purpose of the formula is "to limit the financial liability of the Crown arising out of its obligation under section 91C of the Act to pay the salaries of all regular teachers employed at payrolled schools."⁴
10. In 1994 the primary and secondary staffing formulae were amalgamated into a unified staffing formula at the recommendation of a Ministerial Reference Group (the MRG Staffing Formula).
11. Three types of 'entitlement staffing' are provided to secondary schools as follows:
- **curriculum delivery allowance staffing** comprising:
 - a **base** component of up to six full-time teacher equivalents (FTTE) generated by the number of secondary year levels *together with*
 - a **roll-generated** component weighted according to year level; the lower the year level, the higher the ratio
 - **management time allowance staffing**: a **base** component of up to 1 FTTE *and* a **roll-generated** component weighted for year level
 - **additional guidance**⁵ **allowance**: a **base** component of up to 2.3 FTTE generated by the number of secondary year levels.
12. This formula provides more staffing to smaller schools (relative to larger schools) to enable the provision of reasonable curriculum width, and account for lack of economies of scale. The base staffing component becomes a relatively less significant element of the total staffing entitlement as school roll increases.
13. There is some limited ability for the Secretary for Education to make exemptions to this formula.⁶
14. Boards of Trustees have some flexibility in timing the use of their staffing entitlement. Within each year, individual schools can choose to operate staffing usage on a full year basis, or to use up to 10% of their staffing entitlement in advance, or to save it up for use later in the year. This is known as 'banking staffing' but has not been investigated in terms of the influence it might have on class size management.

⁴ Education Act 1989, section 91H.

⁵ Prior to 1994 there was a separate guidance and pastoral staffing component in addition to components for curriculum, non-contact, management and other staffing. The MRG formula amalgamated this guidance component into the curriculum entitlement. When a new guidance element was added in response to one of the SRG recommendations as a third separate staffing component, it became known as the 'Additional Guidance Entitlement' to acknowledge that the revised curriculum entitlement already incorporated guidance staffing.

⁶ Education Act 1989, section 91H(2)(d).

15. In response to the recommendations in the report of the 2000 Secondary Staffing Review Group (SSRG) the staffing formula was further modified by the addition of 1668.1 secondary FTTE (provided to secondary schools) over and above roll growth over the period 2001 to 2006. Representatives of the organisations represented on the current SSSG all supported the SSRG recommendations.
16. Separate from their staffing entitlement, schools receive operational funding. The components⁷ of this applicable to all schools include:
 - Base funding provided to meet the fixed costs associated with the operation of a school and to compensate smaller school boards for any inequities caused by diseconomies of scale. Rates vary by school type as well as roll and depending on the roll band a school is in,
 - Per-pupil funding,
 - Decile related funding,
 - Heat, Light and Water funding.

Funding for Recommendations of the SSSG

17. The issue of funding for any recommendations to the Secretary was one of the primary points of difference between the parties, and lies at the heart of many of the challenges the SSSG encountered during this process:
 - a) PPTA, NZSPC and SPANZ maintain that the advice should not be limited to 'no-cost' options, because: additional funding might become available over the longer term or be reprioritised within baselines as part of the natural process of government budgeting; or a future government may be persuaded of the value of providing additional funding for class size improvements or to ensure that staffing is appropriately delivered to schools.
 - b) The Ministry maintains considerations of funding are fundamental to the differences that arise in considering the importance of responding to large classes, and need to be explicit. Specifically, and as explored in this paper, the Ministry's view is that the *relative* impact of class size is the crucial question (because of funding constraints).
 - c) PPTA, NZSPC and SPANZ argue that the cost implications of recommendations are one aspect of the advice but that the decision about the funding of options lies with the Minister and should not be pre-empted. Their opinion is that addressing the issues raised by the considerations of large class size has an importance in both *relative* and *absolute* terms.
 - d) NZSTA understood that the strictures of the original terms for this work agreed by the PPTA and Ministry had been modified during the subsequent discussions of the working group sufficiently to enable consideration of potential change to improve the present system.

⁷ Although the funding entitlement notice to schools shows the grant broken down into various components, these are not 'tagged' funds and do not need to be accounted for individually. The only exception to this is funding provided for Secondary Tertiary Alignment Resource (STAR) programmes.

Summary of each of the Strands

Strand 1: An analysis of baseline data available to the parties on current staffing delivery and patterns of class size distribution

General Staffing Patterns

18. As school size increases:
 - a) Curriculum entitlement becomes a larger proportion of total entitlement staffing, (designed to support small schools that lack the economies of scale required to provide comparable curriculum breadth to large schools),
 - b) The management staffing as a proportion of total staffing reduces,
 - c) The proportion of staffing available for guidance and pastoral care reduces.
19. Staffing entitlement is focused on curriculum teaching, and management and additional guidance staffing entitlements have always been proportionately smaller components of the overall staffing entitlement.
20. Schools can cross-subsidise between staffing entitlement components. However, as school size increases, there is decreasing capacity to cross-subsidise curriculum staffing entitlement from other entitlement components.
21. There is no information on whether the pattern of guidance time allocation is appropriate in secondary schools, or what ratio of students to guidance hours is most appropriate either generally or by decile.
22. There is no information on whether the pattern of management time allocation is appropriate to the actual needs of secondary schools.

Above Entitlement Teacher Staffing Patterns

23. Schools can employ teaching staff beyond their entitlement ('additional staffing') from locally raised funds, foreign fee-paying student income or operational funding provided by government.
24. Additional staffing is important to the class size discussion, because these teachers supplement the entitlement staffing provided by the Ministry and will tend to reduce class size in schools in which they are appointed.
25. In 2010, the 319 secondary schools employed a total of 940 FTTE (on average over the four terms) of additional staffing above entitlement.
26. While the amount of additional staffing, whatever the funding source(s), varies from school to school, there are patterns amongst schools:
 - The employment of additional staffing above entitlement differs by roll size, with larger schools employing proportionately more additional staffing than smaller schools.
 - The employment of additional staffing above entitlement differs by school decile, with decile 8-10 schools having proportionately more additional staffing relative to their size than decile 1-7 schools.
 - Main urban schools employ the highest proportion of additional staffing relative to their size.
 - Rural schools employ very few additional staff, about nine per cent of the number that main urban schools do relative to size.
 - State-integrated schools employ about 10% more additional staffing relative to their size than state schools.
 - Boys' schools employ on average 25% more additional staffing relative to their size than either co-ed or girls' schools (which employ similar levels of additional staffing).

27. Foreign fee-paying students are important to the class size discussion because they both increase roll numbers and provide schools with resourcing for additional staffing above entitlement.
28. There are clear patterns of distribution of foreign fee-paying students across schools:
 - Foreign fee-paying students are found in proportionately higher numbers in larger schools, in higher decile schools, in city schools and in boys' schools,
 - Larger schools have higher numbers of foreign fee-paying students compared to smaller schools, which is likely to account for larger schools' higher additional staffing numbers,
 - There are higher proportions of foreign fee-paying students in decile 8-10 schools than in decile 1-7 schools,
 - There are more foreign fee-paying students in main urban schools than in rural schools,
 - State schools have higher proportions of foreign fee-paying students than state-integrated schools.
29. In higher decile schools, income from foreign fee-paying students generally covers the costs of additional staffing over entitlement. In lower decile schools, the average number of additional staffing is less than two FTTE, or about four per cent as a proportion of entitlement staffing, and income from foreign fee-paying students is estimated to account for only a proportion of the cost of additional staffing.
30. Mid- to low-decile schools are at greater risk of being forced to reduce their additional staffing if they experience falls in foreign fee-paying student income, because they have less capacity to absorb fluctuations in revenue.

School Roll Stability Patterns

31. Higher decile schools have greater stability in their school rolls throughout the year than lower decile schools.
32. Reductions in operational funding as a result of a decrease in roll may have implications for additional staffing, particularly in the lower decile schools, where the income from foreign fee-paying students is lower.
33. Given the link between school size and decile, and the contribution of foreign fee-paying students to additional staffing employed by schools, we can infer that small and low-decile schools are most vulnerable to reductions in additional staffing through loss of operational funding due to roll decline.
34. The subgroup has not commented on the impacts for schools that have an increasing roll across the year (12 from our data).

Class Size Patterns

35. There is a tendency for large schools to operate larger classes.
36. Analysis of the results of a PPTA survey of actual class sizes in 2011 (refer to Strand 1 report for details) showed that:
 - The average class size and the proportion of classes of more than 30 students increases with roll size,
 - With each increase in year level, the average class size decreases,
 - The average class size across all schools is below 26. However, many teachers in larger schools have average class sizes that exceed 26,
 - The largest average class sizes and highest proportion of classes with more than 30 students are more likely to be found in larger schools, in years 9 to 11, and in classes of 'higher ability' students,
 - The larger the school, the higher the proportion of teachers with an average class size of more than 26, and the more likely there will be a proportion of teachers with average class sizes of more than 30.

37. PPTA modelling of the current entitlement staffing predicts these patterns, and indicates that as the school roll gets larger the capacity to avoid classes of more than 30 rapidly reduces to zero unless the schools use other staffing resources for curriculum purposes, as most schools do in practice.
38. Further detail about these findings can be found in the Strand 1 Report attached.

Strand 2: Case study report - Use of staffing allocation and class size

39. MartinJenkins was contracted by the Ministry of Education on behalf of SSSG to undertake research to explore class sizes in a small sample of secondary schools. The two key research questions for this study were:
- What do class sizes look like in a sample of secondary schools?
 - What decision-making process leads to these actual class sizes?
40. The research used a case study methodology to look at class size and the factors that influence decisions about class size allocation in a small sample of secondary schools. Within the case study strategy, a mixed-method approach was used to gather quantitative and qualitative information. This allowed a deeper, more meaningful examination of how this sample of secondary schools made decisions relating to class size and the allocation of teaching staff resources, and the factors that influenced these decisions.
41. In total, 11 schools participated in this research. Schools were selected to ensure spread across five key variables:
1. decile level,
 2. location (rural/urban),
 3. size,
 4. state versus state-integrated schools,
 5. co-educational versus single sex schools.
42. The 11 schools were invited to participate in an email survey. The survey questionnaire asked a range of questions about staff numbers and funding sources, class size and timetable policy/guiding principles. Schools were also asked to provide a data dump of their timetable from their Student Management System. The data was analysed by the research team to identify issues related to class size, which were then followed up in the case study interviews. This allowed an examination of decisions and factors that influenced these decisions based on real life examples and instances.

What do class sizes look like in a sample of secondary schools?

43. Broad patterns with respect to class size in this sample were consistent with those found in PPTA surveys, the underlying staffing system, and initial discussions with stakeholders; for example, class sizes were often larger for larger schools and for junior classes. Class size variations in relation to subject also showed few surprises overall (such as smaller classes for subjects like languages and music than for subjects like mathematics, English, or social studies):
- Very large (1,800+) and large schools (1,200 – 1,799) tended to have larger classes than smaller schools,
 - When comparing schools of similar size and nature, those that were close to managing within their staffing entitlement tended to have larger classes than those that were not,
 - Subjects that schools required all students to take in junior years had larger class sizes than those that were optional, and often in the senior year levels these same subjects continued to have larger class sizes,
 - There was often variability in class size within subjects and year levels due to schools' policies on streaming (for example, smaller 'foundation' level classes, with larger classes in 'general' or 'academic' streams),
 - In technology classes, smaller maximum class sizes were the norm due to health and safety considerations,
 - Schools talked about balancing very large classes with smaller classes in some subjects – examples included languages and music,
 - The viability of small class sizes varied widely from school to school. This was largely driven by financial considerations, so that schools that were more able to access alternative funding sources to employ staff were more likely to run a class with fewer numbers.

44. The timetabling policies provided by schools who participated in this research generally referred to a maximum class size. This varied from school to school, with 24 being the smallest referred to, and 32 the largest. This maximum appeared to be a major driver in setting the timetable and setting class sizes in schools.

What decision-making process leads to these actual class sizes?

45. The MartinJenkins survey and case studies showed that timetabling lay at the heart of the decision-making process around class size. Consequently, understanding timetabling in a school, how it is generated, and the inputs that are used to inform this process is a first step to understanding decisions around class sizes.
46. Although the setting of the timetable was a collaborative process in most schools surveyed, the key decision was made by senior managers in schools. Principals and/or the Senior Management Team made initial broad decisions as to the number of classes in each year, in each subject that could be offered the following year. They also had final say on any issues that were raised in the process of setting the timetable. Although many factors impacted this decision, four were central to this early analysis: student enrolment data, student choice, available teaching staff, and physical constraints of the school. There were also other considerations such as school policies, school reputation and identity, trends and patterns from previous years and the requirements of the Secondary Teachers' Collective Agreement, which influenced the principals' decisions to varying degrees.
47. Interestingly, decision making on class sizes relied heavily on some rules of thumb around awkwardly low or high class sizes, such as classes smaller than 15 or more than 30 being highlighted for further review as the timetable evolved.
48. Although schools may not have strictly calculated and taken account of average class size per teacher when planning class sizes, it was very clear that they were endeavouring to achieve a balance for teachers. This was not only with regard to class size, but also class ability level and year level. In general, larger schools had a higher proportion of teachers with larger average class sizes.
49. The overwhelming sense from MartinJenkins' conversations was that schools were endeavouring to do the best by their students and staff with respect to these issues.
50. There were a number of different strategies that schools used to manage class size issues. These tend to be context specific and, as such, it is difficult to determine which strategies would work more widely and which would not. Schools also used a number of compensatory mechanisms for teachers who were under pressure, including balancing large classes with small classes, days off, reduced extracurricular responsibilities, no assembly duty, no exam supervision, and additional cover for classes. This was seen as a reflection of good management by schools and critical to maintaining goodwill and morale.

Strand 3: A review of the existing research on class size

Introductory comments

51. Class size is an issue of interest to a broad group in New Zealand, including: parents, teachers, schools, researchers and policy makers.
52. It is a contentious topic. While the majority of New Zealand stakeholders recognise that smaller class sizes can have a positive impact on student outcomes, little consensus beyond this has been reached. There are many different interpretations of the large body of research evidence, resulting in arguments both for and against reductions being drawn from the same experience and from the same research studies.
53. SSSG agree that its primary concern in regard to class size and issues of staffing more broadly should be ensuring secondary schools provide a high-quality 21st century education. There is recognition that this implies thinking about teacher workload, the demands of assessment within the New Zealand Curriculum, individualised learning and reflective practice.

Approach taken by the sub-group

54. The findings of research on class size effects are contested by academics in the field and by many other stakeholders. The sub-group did not believe that it was a useful exercise to present conflicting blocks of class size research or that it was possible to credibly review each piece of research within the timeframe available. The sub-group was also divided on what conclusions could be drawn from the research that they did study. Given the tight timeframe, its report instead focuses on why the class size research findings are contestable, as indicated below.
55. Very little research examining the impact of class size has been undertaken in New Zealand. The only recognised New Zealand study that explicitly measures the impact of actual class size is the Christchurch Health and Development Study.
56. Existing research leads to different understandings of the connections between class size and the other inputs into teaching, and of the relationships between class size, class composition and teaching practices. Future research in New Zealand would enhance our understanding of the impact of class size if it explained these connections, as well as the impact of actual class size on student outcomes.
57. Research relevant to class size uses a range of measures, including:
 - Pupil:teacher ratio,
 - Average class size,
 - Actual class size.
58. There are instances where findings that are taken from pieces of research use the measures, or draw conclusions, in ways that suggest the measures can be used interchangeably. The parties agree that references to relevant research need to refer accurately to the measure(s) used.

Positions of the parties

Ministry of Education

59. After considering the available research on the impact of class size, the Ministry's view is that:
 - class size is one of many factors that influence student learning,
 - effective teaching occurs across the range of class sizes – ie, in both smaller and larger classes,
 - effective teaching practice has the biggest single within-system impact on student learning,

- class size can have a positive impact; however, that impact is most evident in the early years of schooling and for targeted groups of at-risk students, and when associated with major changes in teaching approaches.
60. In the Ministry's view, the evidence is clear that maintaining low pupil:teacher ratios is a relatively inefficient policy to raise achievement. Class size does not have sufficient relative impact to justify the transfer of resource from a range of other factors (such as Initial Teacher Education, Professional Learning and Development provision, school building provision, Information and Communications Technology provision, salary increases for the education workforce) within the system.
 61. The Ministry's view is that the substantial additional costs involved in reducing class sizes in an attempt to improve student learning generally are not justified by evidence of system-wide benefits. For example, since 2000, across all schools and kura in New Zealand's compulsory sector, 5,697 additional FTTE have been funded, over and above the student roll-based staffing entitlements. This has not resulted in discernible shifts in student achievement across the system. Upward trends in NCEA achievement cannot be causally linked to staffing increases, as the increases were made available in a range of ways and applied in a range of teaching areas.
 62. Consequently, the Ministry believes that decisions about actual class sizes are best made at the school level, where full information about available resources, student learning needs and community priorities and needs is available, and appropriate trade-offs can be made by those accountable for doing so. The principal and teaching staff of the school are represented on the Board of Trustees, and there are consultative mechanisms in the Secondary Teachers' Collective Agreement for staff involvement in timetabling and health and safety at the school.

PPTA/NZSPC/SPANZ Joint Positions

63. PPTA/NZSPC/SPANZ note that much of the research on 'class size' is generally not actual class size research but pupil:teacher ratio (PTR) research. The two are measures of different things and the findings from the two types of research should not be conflated. Research based upon actual class size tends to show positive correlations for smaller classes while PTR-based research is more equivocal. It is wrong to use the term 'class size' to describe research that is PTR-based work.
64. PPTA/NZSPC/SPANZ note that existing class size research that is based upon actual class size tends to show more positive effects for reduced class size than primary research (and secondary analyses) which are based upon pupil:teacher ratios or average class sizes. Pupil:teacher ratios and average class size are not measures of actual class size and policy based upon findings from analysis of such research is fundamentally flawed. The evidence for effectiveness, with respect to any single measured outcome, relative to other interventions is therefore highly contestable.
65. PPTA/NZSPC/SPANZ consider that the body of research drawing on actual class size makes consistent and plausible links between actual class size and desirable outcomes, and that the evidence around relative impact of 'class size' and other interventions is largely dependent on pupil-teacher ratio findings, and open to doubt. An explanation of the difference between actual class size and pupil-teacher ratios is provided in the Strand 3 report. The evidence for effectiveness, with respect to any single outcome, relative to other interventions is therefore unreliable. The PPTA appended to the Strand 3 report a list of reported class size effects, but acknowledges that the Ministry does not endorse this list.

66. PPTA/NZSPC/SPANZ note that the recent Scottish Government review of class size came to the conclusion that limiting class size was an essential step in their education system despite having access to the same body of research. They share the Scottish view that appropriate class size is a prerequisite for many of the behaviours, pedagogies and outcomes that all the parties would wish to encourage in our schools, and that it is part of an integrated and coherent package of changes which is required to drive the New Zealand school system forward. It is an essential component that has to be integrated with professional learning, effective pedagogy and technology to achieve optimum outcomes across a range of factors for all students.

NZSTA

67. NZSTA does not consider class size as something that can be looked at in isolation. There must be a clear purpose, and an understanding of what outcomes are being sought, be it essentially a work load issue, or whether the overall intent is to improve student outcomes. With regard to the latter, NZSTA notes that significant additional secondary staffing has been introduced in the recent past, but there remains no real indications of tangible benefits in terms of improved student achievement. In NZSTA's view, it is a reasonable expectation that high-cost solutions should deliver improved outcomes for students. In NZSTA's view, and as evidenced by research, lowering class sizes per se is unlikely to improve student achievement to any great degree, and certainly is not a cost-effective solution if improved outcomes is the overall goal. At best, class size is only one of a number of components of the wider issue of how secondary schools are resourced for 21st century education.

Strand 4: A review of the approaches to large class sizes locally and internationally

68. In response to the objective of “developing solutions for classes that are too large”, the subgroup for this strand of work investigated approaches taken in New Zealand and elsewhere to respond to large classes.
69. The subgroup identified three categories of mechanism to respond to large classes used internationally and/or in New Zealand. No research evidence was identified that had sought to make a direct link between the implementation of any of these mechanisms and changes in student achievement, nor were the costs of implementation of any of these identified.
70. The mechanisms identified were:
1. Mechanisms that influence the maximum size of classes – including:
 - Centrally legislated maximum class sizes,
 - Maxima set within industrial agreements,
 - Maxima set partly by central legislation, supplemented by industrial agreement provisions,
 - Informal agreement/accord between nationally representative bodies,
 - Informal guidelines and recommendations.
 2. Mechanisms that are related to average class size or PTR reductions, for example:
 - The ‘maximum average class size’ component in the New Zealand staffing formula for year 7 and 8 students in year 7-13 secondary schools. It applies only when the combined year 7 and 8 roll is under 176, and has the effect of keeping the curriculum resourcing ratio to 25 or below for those year levels,
 - Florida progressed in stages through a programme that first reduced average class sizes and then implemented maximum class size limits.
 3. Mechanisms that are designed to operate in response to large classes, for example:
 - Use of teacher aides, such as in the United Kingdom. (There is evidence that the use of teacher aides has no impact on student outcomes and increases teacher workload),
 - Requirement on schools to develop a timetabling policy that refers to class size (e.g. New Zealand),
 - Locally (school) funded additional staffing,
 - Application of workload balancing mechanisms at the local level such as time in lieu or reduction in non-teaching duties,
 - Workload balancing mechanisms at national level such as the maximum average class size in the Secondary Teachers’ Collective Agreement,
 - Strategies such as streaming/banding and varying the class size according to stream, e.g. larger classes for higher ability students.
71. Further detail is provided in the Strand 4 report.

Overall Conclusions

Strand 1:

72. Staffing of secondary schools is a highly complex process, both at the Ministry level and also at the individual school level. There are significant differences in the sources of staffing and patterns of staffing use depending on size of school, decile range, and location. The most obvious pattern is that the larger a school becomes, the more difficulty it will have keeping its classes to 30 or below and keeping teachers' average class sizes to 26 or below.

Strand 2:

73. The case study schools were broadly consistent with other evidence in relation to their patterns of class size. The decision-making processes that led to these actual class sizes were generally collaborative and sought to use the finite staffing resource fairly. It was acknowledged that school management generally endeavoured to create timetables that were fair and equitable to staff, and took measures to that end, as anticipated by the provisions in the Secondary Teachers' Collective Agreement. Teachers and management alike agreed that the system runs on the goodwill of teachers.

Strand 3:

74. The parties struggled to arrive at agreement as to what the research on class size has to tell New Zealand. This was because of issues of validity of research, the use of different forms of measurement of class size, and a paucity of New Zealand research.

Strand 4:

75. A range of mechanisms are used internationally to respond to large classes. The sub-group was unable to reach any conclusions as to which mechanisms were likely to be most effective in the New Zealand context.

Ministry of Education overall conclusions

Changes in schooling affecting the traditional concept of 'class'

76. The concept of the traditional 'class' is undergoing significant change, as schooling itself changes so that it can continue to provide the education students need. Changes in schooling manifest themselves in the way the school physical environment is structured and the way the school day is organised. At the heart of the changes, however, are changes in the way teaching and learning take place.
77. We have already begun to move beyond the old norms. Schools are being designed in different ways – for example, with common spaces and breakout rooms instead of classrooms. Teaching and learning is being experienced in different ways – for example, in the Virtual Learning Network, students may have one hour of face-to-face time per week with the subject teacher (via videoconference) and three hours online learning time supervised by another teacher.
78. Schools are changing the way teaching and learning take place. We need to look fully into the implications of these changes to teaching and learning when we look at class sizes. The direction of this change is signposted in the principles of the New Zealand Curriculum - learning to learn, future focus, cultural diversity, inclusiveness, Treaty of Waitangi, community engagement, coherence and high expectations for all students. The Youth Guarantee initiative also signals change, as it sets the framework for provision of education of 16-17 year olds, and how they can best achieve a minimum of NCEA Level 2 or equivalent qualification. The magnitude of change required in teaching and learning to meet these new directions is already manifested in changes underway in some schools. These changes will soon affect the way all classes are organised to such an extent that the traditional concept of 'class' itself will change.

Finding better ways of working within resourcing constraints

79. Resourcing constraints will continue for the foreseeable future. It is incumbent upon the Ministry to seek value for money in all resourcing to schools. This will necessarily extend to the consideration of trade-offs (for example between aspirations to moderate class sizes through additional resourcing, and to secure pay increases).
80. The Ministry remains open to responding to evidence for cost-effective improvements in the delivery of staffing resources, and the promulgation of innovative staffing practice in schools. To that end, on behalf of the SSSG, we have commissioned and funded research into current decision-making processes and practices (including the effects of the 2008 'reasonable endeavours' clause) in a sample of secondary schools.

Additional support recently provided

81. Since SSSG was established in May 2011, the Government has agreed to significant initiatives to support teachers as they implement the new curriculum-aligned achievement standards for NCEA levels 1-3 over the next two years. In particular, the adjustment of the 10% internally assessed sample requirement and the provision of four additional professional support days. Both have the potential to positively impact on teacher workloads.

Ongoing work

82. Since this work commenced, a lot of countries have also been undertaking research into the impact of class size, including the United Kingdom (this research has been overseen by the OECD). We will continue to monitor this research and use it to inform our thinking.

PPTA/NZSPC/SPANZ overall conclusions

(Note: NZSTA also shares aspects of the views expressed in paragraph 88 and 89)

83. PPTA research indicates that the great majority of practising teachers and principals regard class size as having a significant effect on the ability of teachers to do their best for their students. Many of the 10 characteristics of quality teaching identified in the Quality Teaching for Diverse Students: Best Evidence Synthesis are less able to be achieved when classes are too large, e.g.
 - Fostering caring, inclusive and cohesive learning communities,
 - Responsiveness to individual student learning processes,
 - Providing appropriate feedback.
84. This research also indicates that the majority of New Zealand secondary teachers believe that classes should not exceed 25 students in non-practical subjects or between 18-20 in labs and workshops. This preference for maximum class sizes of around 25 is shared by parents in research undertaken on behalf of PPTA. Large classes are seen as creating higher levels of health and safety risks to students and teachers in workshops and laboratories. Teachers are also aware that large classes add to individual teacher workloads, exacerbate student behaviour problems, and influence job satisfaction and teacher retention.
85. PPTA identifies other problems related to large class size as:
 - Limitations on the range of effective pedagogies teachers can use,
 - Generation of excessive workloads for teachers, particularly when combined with NCEA assessment, which can increase teacher loss rates and reduce the capacity of teachers to engage in other professional activities,
 - Poor facilitation of the kind of individualised learning that New Zealand encourages,
 - Poorer outcomes in a range of measurements, from academic results to engagement in learning and future post-school expectations,
 - Poorer student engagement,
 - Problems with the availability and management of resources and equipment.

86. PPTA/NZSPC/SPANZ are concerned that the staffing allocation to secondary schools means that schools do not have equal opportunity to choose to keep their class sizes at 25 or below, and believe that all schools should be staffed to the level that allows them the flexibility to choose not to have classes of more than 30 students without having to employ additional staffing from their operational or locally raised funding.
87. PPTA/NZSPC/SPANZ believe that there is no relative overstaffing in smaller schools. The staffing pressure there is to maintain curriculum width and meet the administrative demands placed on all schools by Tomorrow's Schools. Therefore, the total amount of secondary staffing provided from Vote Education is insufficient to adequately meet the operational needs of all schools, and additional funding for this needs to be found over a period of time.
88. All parties note that it is necessary, when talking of the cost of eliminating large classes, to be specific in the method proposed and the actual cost of such a method within New Zealand. PPTA/NZSPC/SPANZ and NZSTA propose targeted additional staffing to larger New Zealand schools. This is unlike the across-the-board reductions to pupil:teacher ratios in other countries, and can be phased in as resourcing becomes available. One model presented to the parties for equitably resourcing larger schools, and thus allowing all schools the flexibility to choose to have classes below 30, has a salary cost of \$67m on full implementation. Other models are possible. It is noted that the recommendations of the School Staffing Review Group (2000) included a 10 step phase-in plan.
89. PPTA/NZSPC/SPANZ and NZSTA note that the additional teachers generated through the SSRG recommendations and from changes to STCA provisions (such as specialist classroom teachers and extended beginning teacher advice and guidance time allowances) were not provided or used for actual class size reduction. Most of the additional teachers added since 2000 were used to resource the non-contact time introduced over that period or to improve professional mentoring in schools (such as through the provision of specialist classroom teachers, improved year 2 beginning teacher time improvements, and Head of Department beginning teacher time allowances). The provision of that time is credited by the parties with providing the capacity in the system to operate NCEA, which was introduced over the same period. PPTA, NZSPC and SPANZ argue that the viability of NCEA and the improvements in student results since its inception are directly related to the additional teachers provided.
90. PPTA/NZSPC/SPANZ note that ongoing changes in teaching and learning in secondary schools are a given. They also note that there has been an evolution in the school day for some time. They note that no evidence has been provided to the parties that these factors have any significance to the Terms of Reference of the SSSG.
91. PPTA/NZSPC/SPANZ note that the design of schools, ongoing changes in teaching and learning, organisation of teaching groups, and use of the Virtual Learning Network (VLN) for small groups of students do not address the issue of large class sizes. No evidence has been provided to the parties that these factors have any significance to the Terms of Reference of this group. Changing school design and use of the VLN do not address the issue that a teacher with responsibility for 35 students is not able to sustain as effective a job as one with 25, nor does it address the issue that the current staffing delivery model disadvantages larger schools and junior high schools with respect to the number of teachers per student. They further note that VLN classes may be one or two students per school and 6 to 12 students online at any time. This may involve an e-teacher online and a supervisory teacher physically present with the students. This is a high pupil:teacher ratio.

NZSTA's overall conclusions

92. NZSTA acknowledges that additional staffing has been introduced previously, but asserts that there is no indication of what benefit has been gained for schools and students given associated restrictions and compliance placed on Boards of Trustees and principals, in how that resource can be used.
93. NZSTA believes that these restrictions and compliance can impede innovative practices and on occasion encourage restrictive practices from teachers. NZSTA sees class size as only one of the components of the wider issue of how secondary schools are resourced for 21st century education.
94. One possible conclusion is that the current staffing allocation model is potentially not the right fit for 21st century student/school needs, given it comes from a perspective of limitation of liability rather than a needs-based focus. NZSTA believe that this is something that should be part of our consideration.

SPANZ's overall conclusions

95. SPANZ's view is that teachers are under pressure in terms of workload and capacity. SPANZ wants a staffing entitlement that is sufficient to allow principals to meet the requirements of high-quality education and give teachers sufficient release time and classes of a manageable size.
96. However, since class size is only one of many factors that impacts on teacher workload, SPANZ concludes that flexibility in class size should be maintained. SPANZ accepts that an average class size of 26 is a reasonable benchmark but would not want to see that codified.

NZSPC's position on the impact of class size

97. NZSPC believes that class sizes of up to 25 students provide a suitable learning and teaching environment for both students and teachers. Their experience is that parents favour smaller classes and that the demands of the modern curriculum and assessment systems cannot be most effectively met in groups much larger than this.
98. NZSPC believes that schools should be resourced through the staffing entitlement to allow them all to set 25 as an upper limit for class sizes. The resourcing provided to schools must also allow principals to respond to health and safety issues within specific classes or subjects. They do not believe that any school should be in a position where it is forced to run classes of more than 30 through the inadequacy of the staffing entitlement.
99. NZSPC is particularly concerned that the current staffing formula does not give larger schools the choice about whether to operate such large class sizes or not, and notes the inequity that this creates between schools and for students.
100. NZSPC notes that it represents the majority of secondary principals covered by the SPCA, and that its position is that class size limits are acceptable with appropriate resourcing.

Appendices

- A1 Terms of reference
- A2 An analysis of baseline data (Strand 1)
- A3 MartinJenkins' Case study report (Strand 2)
- A4 A review of the existing research on class size (Strand 3)
- A5 A review of the approaches to large class sizes locally and internationally (Strand 4)
- A6 Table of indicative high level findings/conclusions and recommendations