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Classroom climate

Surveys like the Trends in International Mathematics and Science Study (TIMSS) and Programme for International Student Assessment (PISA) enable educators, policymakers and the wider community to compare Australian students with each other, as well as their counterparts across the world.

Media coverage of the most recent PISA and TIMSS reports for Australia has focused on students' reports of their classroom climate and behaviour, prompting some concern among policymakers and commentators about what is happening in secondary school classrooms.

This Snapshot poses the questions: has the climate in Australian classrooms changed; and have student-teacher relationships deteriorated over the past 15 years?

A changing classroom climate?

Research – and common sense – has suggested that the disciplinary climate of classrooms can have a strong impact on student learning. Research indicates that student perceptions of classroom climate including disciplinary climate and teacher support have an effect on student motivation and academic achievement¹.

¹ McMahon, S.D., Wernsman, J. & Rose, D.S. (2009). The relation of classroom environment and school belonging to academic self-efficacy among urban fourth- and fifth-grade students. *The Elementary School Journal*, 109, 267–81.

In various cycles of PISA, students have been asked to respond to five items about the frequency of certain behaviours in their classrooms, using a four-point scale (every lesson; most lessons; some lessons; never or hardly ever):

- ▶ Students don't listen to what the teacher says.
- ▶ There is noise and disorder.
- ▶ The teacher waits a long time for students to quiet down.
- ▶ Students cannot work well.
- ▶ Students don't start working for a long time after the lesson begins.²

These items were combined to form an index of classroom climate, scaled to have a mean of 0 and a standard deviation of 1 (the OECD mean is always set to 0). Positive values on this index indicate more positive levels of disciplinary climate in classrooms.

While there has been a significant decrease in the average Classroom Disciplinary Climate scale score of Australian students between 2000 and 2015, this is not due to a uniform decline over the five cycles but to a substantial difference between 2000 and all other cycles.



Behind the scale score, responses to individual items suggest a somewhat different picture. Perhaps not surprisingly to those who work in schools, the proportion of students who report that 'students' (presumably not themselves!) don't listen to teachers has increased over the past 15 years. The proportion of students reporting noise and disorder in every lesson or most lessons has followed a similar pattern, with a significant increase over the six cycles (from 21 per cent to 40 per cent).

² These questions were not included in the Student Questionnaire in PISA 2006.

The proportions of students in each cycle of PISA who indicated that these things occurred in 'most of' or 'every' class are increasing.

PISA cycle	Major domain assessed	Students don't listen (%)	Noise and disorder (%)	Teacher waits for students (%)	Students cannot work well (%)	Students don't start working (%)	Mean Classroom Disciplinary Climate score
2000	Reading	21	32	31	18	26	0.09 (0.03)
2003	Maths	34	42	32	20	27	-0.01 (0.02)
2009	Reading	32	39	29	18	24	-0.07 (0.02)
2012	Maths	38	43	32	22	27	-0.14 (0.02)
2015	Science	40	43	33	24	28	-0.19 (0.00)

While the items described in this Snapshot are presented in most cycles of PISA, the focus of items is always on the classrooms of the subject of the major domain – so, for example, in PISA 2012 mathematics was the major domain and classroom climate items were asked about mathematics classrooms, whereas in 2015 science was the major domain and the classroom climate items were asked about students' science classes. As such, they are only an indication of general classroom climate and cycle-to-cycle fluctuations may have more to do with the differences between subjects than they do general changes in classroom climate.

Over six cycles of PISA in the past 15 years there has been no change in the proportion of students who say their teachers have to wait for class to quieten down before beginning the lesson. Nor has there been any change in the proportion of students who indicate that they don't start working until well after lessons begin, suggesting that lost learning time has not increased.

When comparing cycles with the same major domain – where questions were aimed at the same subject areas: reading in 2000 and 2009, and mathematics in 2003 and 2012 – the proportion of students who are not listening to teachers and who report noise and disorder in their classes have increased significantly.



What do school principals think?

What does the picture look like if we compare the proportions of students in schools whose **principal** reports a negative impact on learning 'to some extent' or 'a lot' due to *disruption of classes and lack of respect for teachers* and the proportions of **students** who reported *noise and disorder* and *students not listening to teachers* in 'every' or 'most' lessons?

From the students' perspective, the classroom climate appears to be degenerating (at least in terms of increases in noise and not listening to teachers), while the reports of principals suggest that disruption and lack of respect are decreasing in their impact on student learning.

Subject	Year	Students – noise and disorder	Principals – disruption of classes	Students – not listening to teachers	Principals – lack of respect for teachers
Reading	2000	32%	36%	21%	26%
	2009	39% ▲	31% ▼	32% ▲	23% ▼
Mathematics	2003	42%	37%	34%	22%
	2012	43% –	32% ▼	38% ▲	23% –

Notes: classroom climate questions were not asked of principals in PISA 2006 or PISA 2015.



ASK YOURSELF:

- ▶ What could be behind this difference between students' and principals' views?
- ▶ What do you think your students would say about the environment in your classes?



What about the relationships between students and teachers?

An important factor in student learning is the relationship between students and their teachers. This relationship is investigated in PISA using students' responses to five items:

- I get along well with most of my teachers.
- Most teachers are interested in students' wellbeing.
- Most of my teachers really listen to what I have to say.
- If I need help, I will receive it from my teachers.
- Most of my teachers treat me fairly.

As with the Classroom Climate items, these items are combined to form an index of Student-Teacher Relations, scaled to have a mean of zero and a standard deviation of 1, with positive values on this index indicating more positive relationships between students and their teachers.

Based on the increase in the proportion of students reporting not listening to their teachers, we might expect to see a degeneration of the relationship between students and teachers. The opposite, however, seems to be the case, with increases in the proportions of students agreeing with each of the Student-Teacher Relations items over the 2000 to 2012 cycles of PISA and no significant change to the scale score over this time.

PISA cycle	I get along well with most of my teachers	Most teachers are interested in students' wellbeing	Most of my teachers really listen to what I have to say	If I need extra help, I will receive it from my teachers	Most of my teachers treat me fairly	Mean Student-Teacher Relations scale score
	% agree	% agree	% agree	% agree	% agree	
2000	70	79	72	84	83	0.17 (0.02)
2003	78	82	72	87	86	0.21 (0.01)
2009	85	78	71	84	85	0.11 (0.01)
2012	84	87	80	90	87	0.15 (0.01)





Comparing like cycles, during which the same subject was the major domain assessed, there was a significant increase in the proportion of students who agreed that they got along well with most of their teachers between 2000 and 2009 (reading) and between 2003 and 2012 (maths).

Has classroom climate changed?

Has the climate of our classrooms changed over the past 15 years? The answer seems to be a case of 'definitely maybe'. Students report more frequent noise and disorder, and appear to be listening to their teachers less; principals say

disruption and lack of respect have the same, or less, impact on student learning; and students say their relationships with teachers have improved.

The situation does not appear to be as dire as the media and some policymakers would have us believe. Zero tolerance of misbehaviour does not seem to be warranted, or possible, but it does raise the question of whether we could be addressing declining student achievement in PISA by focusing on fostering classroom environments that better support all students' learning, not just those who are still able to concentrate, and listen to their teachers, in noisy environments!

A return to classrooms of the past, with rows of silent students copying facts from the blackboard, is neither desirable nor possible. The importance of group-work and collaborative learning mean that some level of interaction, and the 'noise' that goes with it, is a necessary component of the contemporary classroom environment. Nevertheless, a combination of increasing noise and disruption, delays to classes beginning and students not listening to their teachers may mean that students miss out on opportunities for learning, and these missed opportunities can add up over time.



ASK YOURSELF:

- ▶ Is your classroom noisy?
- ▶ Is this noise productive or disruptive?



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