

Appendix 4 Scale changes CSF to VELS in Victoria

The Victorian Auditor-General's Report 2009 shows reduced statewide means at Year levels 3, 5, 7, & 9 from 2006 using teacher-assessed levels. The reduced means may be an effect of adding one more sub-level category to a level scale.

Aggregate data at a state level is reported in Appendix C (p. 69-70) of the Auditor General's report. The most recent years (2006 & 2007) show a drop for reading and number scores as reported by teachers of 0.05 to 0.1 of a level relative to 2005, at the point where the Victorian Essential Learning Standards (VELS) were introduced. The downward shift in teacher assessed state averages was consistent at year levels 3, 5, 7 and 9. The Auditor-General explains the drop thus:

The lower achievement recorded from 2006 onwards most likely reflects the impact of the change in curriculum from the CSF to the VELS, which introduced higher standards of learning for students and a new curriculum and assessment system for teachers. (Victorian Auditor-General, 2009, p. 69)

Given the strong similarity of the VELS levels to the CSF levels in the main learning areas, that is virtually unchanged (Gough, 2006), it is unlikely that the discontinuity from 2006 onwards is due to a change in the descriptions and standards of the levels. The author believes there is an alternative explanation, given that the test measure is unchanged, and there is no major drop in performance in the test in 2006, the year of the introduction of the VELS.

The benchmark standard ('expected level') for teacher judgements is also reported as unchanged for 2006 or 2007 by the Auditor-General (p. 69), implying the Department of Education and Early Childhood Development (DEECD) has not assumed the standard has changed.

Thus another possible explanation for the consistent drop in teacher-assessed means is the change in the scale used in the recording of teacher judgement assessments, originally a three-category scale. Individual teacher assessments of students were recorded by teachers in school records as a level and then one of three zones within the level. The distributions and means, as reported back to schools as benchmarks (Department of Education, Victoria, 1997, 1998, 1999; Department of Education and Training, Victoria, 2002; Department of Education and Early Childhood Development, Victoria, 2003, 2006), are assumed to use a numerical conversion something like 4.17, 4.5, 4.83 as equally spaced values within a level (and between levels) to calculate means. The actual translation values used are not found in the documentation.

In 2006 there was a transition to a four-point scale recorded as 4.0, 4.25, 4.5, 4.75 as an example for level 4 (VELS Standards and Progression Points: Mathematics, 2006). This expansion of the scale introduces one new point, X.0, at the lower end of the scale for each level along with placing category 'centres' at slightly different points on the framework scale. The state mean teacher judgement data are likely to average to a lower value using the four scale points relative to the original three (based on author simulation 'experiments'). Student frequencies, originally spread over three categories, are spread over four categories, with the new category at the lower end of the scale within each level. At each point within each level there is likely to be a tendency to report slightly fewer cases, through the redistribution of the cases downwards over the four points³⁴. In simulated data developed by the author, 7000

³⁴ Since 1998 teacher assessments have been collected electronically from schools (Department of Education Victoria, 1999). Implied in the description of the process is that these data are collected at

cases spread from 0 to 4.0 at values to two decimal places, had a mean of 2.209 when centred on three categories per level and a mean of 2.076 over four categories, a reduction of 0.13 of level. The reduction in the actual data is dependent upon the frequency of the cases across the full scale. For simplicity the reduction effect is assumed to be about 0.1 of a level.

The Auditor-General explains that the number of progression steps has increased from 2 to 3 (in quotation below), rather than from 3 to 4. This may turn on what is understood by 'progression steps'. Within a level a student can progress to two zones beyond the initial starting zone before achieving all the criteria for a level. A simpler description would use 3 positions expanded to 4 positions. The Auditor-General describes the situation thus:

The assessment scale used by teachers for reporting includes progression steps between the standards to describe the incremental improvements students make in reaching each standard. The standards comprise Levels one to six, with three progression points at 0.25 VELs/CSF levels intervals between the standards. Since 1998 the scale has remained the same between curriculum changes, but with the introduction of the VELs in 2006 more advanced skills and knowledge were expected of students achieving the standards. The number of progression steps also increased, from two for the CSF, to three for the VELs. (Victorian Auditor-General, 2009, p. 17)

This example illustrates a consequence of varying the number of categories available on a scale. When making assessments on notionally similar scales, using different unit 'densities' on these scales will influence the comparison.

an individual student level. The Auditor-Generals' Report makes clear that up to late 2008 the department did not have the capacity to connect test and teacher assessments at the individual student level. A unique student number system to be introduced in 2009 will make this possible (Victorian Auditor-General's Report, 2009, p. 11).