Subject Achievement Indicators (SAIs)

Fact Sheet 5: Checking SAI ratio multiplicity — what should it be?

What is 'maximum ratio multiplicity'?

A good way to check the reasonableness of an SAI distribution is to compare the average number of points per rung used in different places in the distribution. This is done by dividing the number of SAI points used in a particular part of the distribution by the number of rungs covered. BonSAI calculates this average within and between levels of achievement and displays it in a 'ratio information table'. When the smallest average is divided into the largest average, this is known as 'maximum ratio multiplicity'. For more information, see the *BonSAI User Guide* available on the QCAA website www.qcaa.qld.edu.au/4903.html.

What should maximum ratio multiplicity be?

There should not be more than 'double the difference' between any two places in an SAI distribution. Over many years of comparing students' folios of work, subject experts have never seen 'double the difference' between sets of student folios. Therefore, the maximum a ratio multiplicity should be is generally 1.9. A maximum ratio multiplicity of 2 would mean that 'double the difference' has been indicated and a school may be contacted to provide explanation.

Shouldn't we aim for maximum ratio multiplicity of 1.9?

No. When comparing student work at VLA/LA level and VHA level, a maximum ratio multiplicity of 1.9 might be expected — work at these levels is quite different and might be close to 'double the difference'. Work at these levels is quite different and might be close to 'double the difference'. When comparing student work that covers only two or three levels of achievement on the Form R6, a maximum ratio multiplicity of **much lower than 1.9** would be expected, as the work is more similar.

Can a maximum ratio multiplicity of 1.9 cause disadvantage?

Only if the student group covers most of the rungs on the Form R6 is it reasonable to expect a maximum ratio multiplicity of 1.8 or 1.9. If the group covers, for example, 25 rungs on the Form R6, the only way to create a maximum ratio multiplicity close to 2 is to artificially 'stretch out' the SAIs of students at the top of the distribution and 'compress' the SAIs of students at the bottom of the distribution. This 'stretching' and 'compressing' will disadvantage students who may end up with lower SAIs than if realistic judgments based on real differences in folios of work had been made.

Hasn't a maximum ratio multiplicity of up to 1.9 always been okay?

No. The QCAA has always advised that, when comparing folios of work, subject experts have never seen more than 'double the difference'. Therefore, a maximum ratio multiplicity of 1.9 is the very upper limit of what is acceptable. However, 1.9 would only be expected when subject groups cover most of the Form R6 (i.e. VLA–VHA). Since the introduction of the Queensland Certificate of Education (QCE), it has become more common for subject groups to cover only two or three levels of achievement. In those groups, the difference between students' work at the top and bottom of the distribution is simply not great enough for a maximum ratio multiplicity to be 1.8 or 1.9. Assigning SAIs in this way could disadvantage students and the QCAA will call the school to ask why this has been done.

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