

Using BonSAI_2014 to check SAIs

SAIs and BonSAI video 5

Transcript of video 5 of 5

This video is available from <https://www.qcaa.qld.edu.au/15580.html>

Voiceover BonSAI_2014 contains a number of tools to use to check the reasonableness of Subject Achievement Indicators. If you create SAI distributions outside BonSAI_2014, you can still import them into the program to check them. Just enter the students' rung placements after you import the files into BonSAI_2014.

Voiceover Reasonable SAIs are compatible with the way students have been placed on the Form R6. SAIs should also be consistent with the assumptions developed by subject experts comparing many folios of work over many years. Essentially, we know that the folios of work of students in lower levels of achievement are more similar than folios of work in the higher levels of achievement. This means there should be "increasing" amounts of difference when comparing the average number of points per rung used from the bottom of the distribution to the top. We also know though, that there should never be DOUBLE the difference when comparing the average points per rung in different parts of the distribution. Indeed, we would only expect to see close to double the difference if the OP-eligible students cover most of the Form R6.

Voiceover There are three main tools you can use to check the reasonableness of SAI distributions in BonSAI_2014. These are:

- The rungs to SAI graph
- The ratio information table
- Information about maximum ratio multiplicity and the number of rungs on the Form R6 the distribution covers.

These tools should be used together to make sure that SAIs are reasonable. Sometimes one tool will show something that another does not.

Voiceover The rungs to SAIs graph is useful as a first checking point. On this graph you'll see a black line and a red line. The black line shows where a linear distribution would lie. This line appears so that you can compare your actual distribution to a linear distribution. Unless the student group are only placed over a few rungs on the Form R6, most SAI distributions would not be linear. The red line shows the actual SAIs that you have assigned, plotted against the Form R6 rung placements of the students in the group. A

reasonable distribution will show the red line generally curving underneath the linear marker. The line need not be smooth, but you should investigate any unusually large peaks or dips, or places where the red line crosses over the black line which could indicate that SAIs had been assigned in a way that was not consistent with how students had been placed on the Form R6.

Voiceover

The next tool to use is the ratio information table. The table displays the average points per rung used both within and between levels of achievement, making it easy to see whether there are generally increasing amounts of difference from the bottom of the distribution to the top. Sometimes you will see an asterisk beside a number, such as the 3.5 next to the VHA band in this table. An asterisk means that the average points per rung have been calculated over only two rungs or between students on the same rung. It's quite OK for numbers with an asterisk to be small, because the work of students on adjacent or the same rungs may be very similar.

Underneath the ratio information table, you will see the maximum ratio multiplicity, which is calculated by dividing the smallest number of average points per rung used into the largest number of average points per rung used. This makes it easy to check whether "double the difference" has been created anywhere in the distribution.

Also under the table you will see the "rung range" displayed. This shows a count of the number of rungs the group of students covers on the Form R6. A group which covers less than half of the Form R6 (that is, 25 rungs or fewer) should not have a maximum ratio multiplicity anywhere near 1.8 or 1.9. For more information about this, please read Fact Sheet 5 on the SAIs and BonSAI page of the QCAA's website.

Voiceover

Let's take a closer look at how "average points per rung" is calculated. On this slide, we will consider the Sound Achievement band highlighted in green. The top student in Sound in this group is on SA10 and has an SAI of 311 and the bottom student is on SA2 and has an SAI of 259. This means that 52 SAI points have been used in the SA band in this distribution. Since we always count rungs "inclusively", there are 9 rungs covered in the Sound band in this group from SA2 to SA10. 52 points divided by 9 rungs, gives an average of 5.8 points per rung, and this is what appears in the table for comparison with other parts of the distribution.

Voiceover

Average points per rung is also calculated between levels of achievement. This example shows how the calculation is made between the Limited and Sound Achievement bands. In this distribution, you can see that there are multiple students on both LA10 and SA2. In BonSAI_2014, the SAI of the "outermost" student on the rung is always used to determine the range of SAI points. In this case, the "top" SA2 student has an SAI of 259, and the "bottom"

LA10 student has an SAI of 244. The difference between 259 and 244 is 15 SAI points. When 15 points have been used over 3 rungs, this means that an average of 5 SAI points per rung have been used at this point in the distribution.

Voiceover

Let's also take a closer look at what asterisks mean in the ratio information table. In this case, you can see that the average points per rung in the VHA band has been calculated over adjacent rungs – students are on VHA1 and VHA2.

An asterisk appears beside 3.5 and it's OK to ignore this number in the table as it is small.

The average points per rung used between the SA band and the HA band has also been calculated over adjacent rungs – students are on SA10 and HA1. However you might notice that an asterisk DOES NOT appear in the table. This is because the 7 points per rung is equal to the largest number in the table. If a ratio is calculated over adjacent rungs or the same rung and it is the largest number in the table, an asterisk will NOT appear as larger numbers should not be ignored and should be considered along with the other averages in the table.

For more information about average points per rung, asterisks and the ratio information table you will find it in the BonSAI_2014 User Guide on the QCAA's website.

Voiceover

To recap, when checking SAIs, first look at the Rungs to SAIs graph to see if there appears to be increasing amounts of difference from the bottom to the top of the distribution, and whether there might be any odd gaps that indicate students have SAIs that are inconsistent with their placement on the Form R6.

Voiceover

Next, look at the ratio information table to double check there are increasing amounts of difference from the bottom of the distribution to the top. Remember this doesn't have to be exact.

Check that ratios with asterisks are small numbers and are therefore OK to ignore.

Look at the maximum ratio multiplicity and make sure it is less than 2.

If it is close to 2, check that this is OK for the rung range. Remember we would not expect to see close to double the difference unless most of the Form R6 is covered.

Voiceover

For more information about checking the reasonableness of SAIs, see the BonSAI_2014 User Guide on the QCAA's website.