

Students now have moderated School-based Assessments, which are comparable across the entire VCE system. For example, if we compare moderated School-based Assessments in Geography, we can be sure that a student in Horsham with a mark of 75 has a higher achievement than a student in Richmond with a mark of 60. Before moderation we would not have been able to tell which student had the higher achievement because they are on different scales (refer to the examples with dollars and temperatures where the numbers are not directly comparable).

The outcomes of statistical moderation can be summarised as follows. For each moderation group:

- ▶ the level and spread of the moderated School-based Assessments match the level and spread of the same students' external scores
- ▶ the rank order of students' assessments in a school is not altered by statistical moderation
- ▶ the top student in a moderation group has a moderated School-based Assessment equal to the highest external score in this group
- ▶ the intervals between students on the moderated assessment scale reflect the intervals between them on the raw School-based Assessment scale
- ▶ students' absences from examinations, including the GAT, do not adversely affect the moderation of School-based Assessment
- ▶ the results of students who have applied for a Derived Examination Score do not adversely affect the moderation of School-based Assessment.

Further information, frequently asked questions and a copy of this brochure can be found on the VCAA website:
www.vcaa.vic.edu.au/pages/vce/exams/statisticalmoderation/statmod.aspx

KEY POINTS

- ▶ The VCAA acknowledges that teachers are in the best position to measure students' academic achievement in School-based Assessment.
- ▶ The VCE assessment system gives teachers the freedom to decide what assessment tasks they will use to assess the learning outcomes for each VCE study or VET program.
- ▶ Measurements can only be compared when they are on the same scale. Results from different schools are based on different tasks and therefore cannot be directly compared.
- ▶ School-based Assessment can only be included in study scores, and subsequently in the Australian Tertiary Admission Rank (ATAR); formerly known as the ENTER in Victoria, if it is moderated. If School-based Assessment results were not moderated the ATAR would have to be based on examinations only.
- ▶ Like many other authorities in other states, the VCAA uses a statistical process to carry out moderation of School-based Assessment scores. This allows students to be compared fairly throughout Victoria.
- ▶ Moderation allows School-based Assessment results to be compared even though schools may use tasks that range in difficulty and may apply different marking standards.
- ▶ Moderation does not change the achievement of students; it converts School-based Assessment results to a common scale.
- ▶ Low achievers have no systematic impact on the moderation of other students' marks.

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UNDERSTANDING STATISTICAL MODERATION IN THE VCE

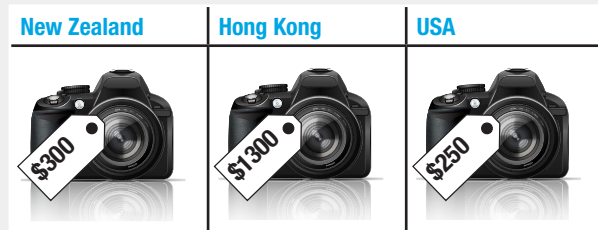
Statistical moderation is a process applied by the Victorian Curriculum and Assessment Authority (VCAA) to the marks awarded by teachers for School-based Assessment. It makes results for a given Victorian Certificate of Education (VCE) study comparable across the entire VCE system and enables School-based Assessment results to be used for admission to university and Technical and Further Education (TAFE).



Why is a common scale needed?

Consider an international traveller who intends to buy a camera at one of the airports on their itinerary (see Figure 1). Which of these identical cameras is cheapest?

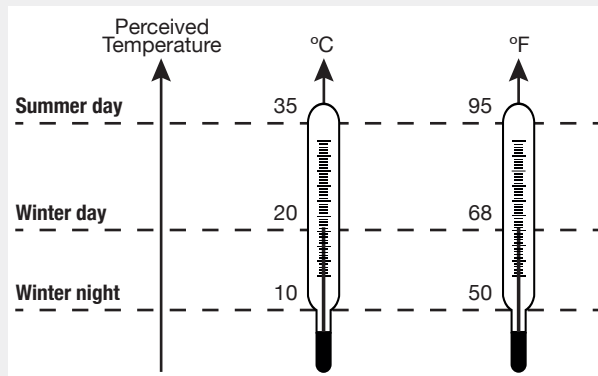
Figure 1: Comparing dollar amounts



Most people know that you cannot simply compare the numerical values of these prices, even though they are all in dollars. To decide which camera is cheapest you need to convert the currencies to a common scale. For example, if you converted all the prices to Australian dollars, they would be comparable. Then you could compare them numerically.

Temperature scales (see Figure 2) provide another example of the need to convert to a common scale when making comparisons. For example, if the temperature is 35°C in Melbourne and 75°F in New York, which city is hotter? To answer this question you need to convert the temperatures to a common scale. For example, if you converted the temperature in New York to °C it would be 24°C, which is cooler than Melbourne (35°C).

Figure 2: Temperature scales



Using different temperature scales does not make conditions hotter or colder.

The same principle applies if you want to compare the School-based Assessment marks from different schools. In a particular VCE study, a mark of 75 in one school does not necessarily represent higher achievement than a mark of 70 in another school – not, at any rate, until they have been converted to the same measurement scale.

The common scale for School-based Assessment

All students in a study sit the same VCE examination. Examination marks therefore provide a common scale for measuring student achievement. In a small number of studies a better match with schools' assessments is obtained if the General Achievement Test (GAT) is also included. This composite scale of examination scores¹ and the GAT is known as the 'external score' and its construction is the first stage in the process. Statistical moderation puts all School-based Assessment marks for the study onto this common scale so that they can be compared throughout the VCE system.

Aligning the scales

In the next stage, the scale of the external scores is aligned with the scale of School-based Assessment marks from each school. The alignment is done separately for each moderation group. A moderation group is defined as all students enrolled in the selected study at a given school and its partner schools.²

Firstly, the moderation group is reduced by removing students who may have performed below their best level in the examination. These are students who were absent, applied for a Derived Examination Score, changed school during the year, or had results that were statistically identified as unexpectedly low.

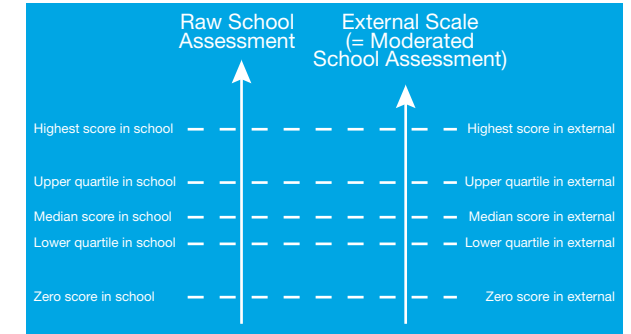
Next, for students remaining in the moderation group, the following marks are determined for both the School-based Assessment scale and the external score scale: the highest achievement, the upper quartile, the median and the lower quartile.³ These scores are used as fixed points for aligning the two scales (see Figure 3).

¹ If the study has two examinations, both are used to form the external score.

² Schools are expected to form partnerships if they have fewer than five students in a VCE study.

³ The upper quartile, the median and the lower quartile are scores that are better than 75%, 50% and 25% of other scores respectively.

Figure 3: Aligning the scales

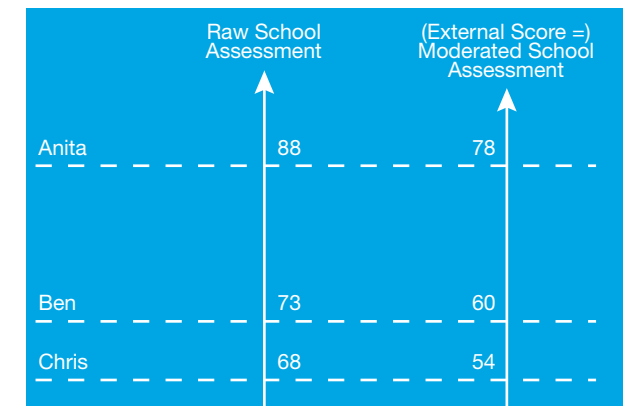


Obtaining the moderated scores

Having aligned the scale of the external scores with the scale for raw School-based Assessments, each student's school-assessed achievement may be read off the external score scale (see Figure 4) to give a moderated School-based Assessment. This is carried out for all students in the moderation group, including those who were previously omitted when the scales were aligned.

Statistical moderation changes the scale of School-based Assessment marks. This process is analogous to the changes of scale shown in the examples where dollars or temperatures were discussed (see Figure 1 and Figure 2). Even though statistical moderation changes the numerical values, the level of achievement of each student is unaltered.

Figure 4: Reading the moderated scores



Now that the scales are aligned, moderated School-based Assessments for individual students can be obtained by reading across from one scale to the other.