

## **The internal assessment process**

### **Transcript**

The Individual Investigation is assessed internally by the school's teacher and then moderated externally by the International Baccalaureate.

This Internal Assessment is carried out by applying criteria that are common to both the Standard and Higher levels, with a maximum score of 24 points.

For this purpose, a series of criteria have been established, with descriptors for the different aspects in each criterion that describe the level of achievement required for a certain range of marks.

The teacher must, therefore, mark positively by finding the descriptor that best expresses the level of achievement reached by the student.

When different levels of achievement are presented in the aspects that make up a criterion, this will be compensated for so that the score assigned is the one that most fairly reflects the general achievement against the criterion.

The examiners who are preparing the examination session use the criteria in the same way when they are marking. If all works well, there should be no differences between the teacher's assessment and that of the examiners.

Needless to say, there will always be differences of interpretation of the criteria – and this will vary from sample to sample and person to person.

It is important that the examiners agree on a common standard between themselves at the start of the session and remain consistent during the session.

To ensure harmony between the examination team, there is a period of 'practice' at the start of the moderation process where examiners familiarize themselves with the assessment criteria and ways in which the criteria are applied at a global standard.

Then the examiners move into qualification where they mark samples without knowing the definitive marks awarded by the senior examiner team. This process is to check that examiners understand and mark according to the global standard.

Their marks are then compared to those of a team of senior examiners. If one or more of their marks are out of tolerance, they will need to mark a second qualification set. If the

same happens with the second qualification set, they will be unable to mark in that examination session.

This process ensures that all moderators understand the criteria, apply them correctly and are marking at the correct level at the start of the session.

The samples we are working with in this video were used for qualification. The selection of these samples begins several weeks before the examination session starts. The senior examiners discuss many samples and select a wide range of experiment types and marks.

During the marking session, the examiners are periodically exposed to seed scripts. These seeds are also carefully selected by the senior examiners. The seeds are used to check the examiner's level of marking to see if it has remained in line with those of the senior examiners. Seeds look exactly the same as the other internal assessments, so there is no way an examiner can tell if they are viewing a live script or a seed. Examiners use feedback from the seeds, which have been definitively marked by the senior examination team, to continue aligning their marking.

When a teacher marks the student's work, they are recommended to read the overall investigation report without thinking about the assessment criteria. They should read the report in order to understand what the student wanted to do and what they actually did. They should form an overall quality assessment (not a grade; just poor, average or good report). After making sense of the report, the teacher should make an initial estimate of the Personal Engagement and Communication marks, referring to the criteria for guidance. It is important to remember that these marks can be amended.

Next, the teacher should read the report again, slowly, step by step, paying attention to the aspects of the Exploration, Analysis and Evaluation criteria. The teacher should always refer back to the indicator statements for interpretation. The criteria are applied from the bottom up, and teachers should look for evidence that applies to assessment indicators, like a detective looking for clues.

At this time, various sections should be re-read, calculations and technical issues checked, references confirmed, possibly data in graphs could be re-plotted to confirm their authenticity. While the teacher is marking, it is strongly recommended that they add annotations on the script to explain their marking.

Annotations serve three purposes.

- They help the teacher with their marking.
- They aid moderation in schools.
- They justify the teacher's marks to the moderator.

Once the teacher has assessed the students in his or her class, the assessment needs to be compared to those of the other members of the teaching team in that subject (if possible). Internal harmonization of marks is important because normally only a sample of the whole cohort of students will be submitted.

In large schools, teachers of the same science subject should mark two or three individual investigations each, and thereafter mark each other's students' individual investigations using the same process they used to mark their own students' individual investigations.

Next, a standardization meeting should take place to discuss the marks, and a level of marking must be agreed upon. This is an IB requirement. It is important to remember that in these standardization meetings, there needs to be "give and take" as teachers compromise to reach an agreement.

In smaller schools, where, for example, there is only one teacher per discipline, teachers should aim to meet with colleagues from other Sciences disciplines to talk through and justify their marks.

The focus of this discussion should not be on the science subject but on the application of the criteria, for example, "How would you expect the data to be displayed graphically?" or "What do you expect in terms of risk assessments?"

It is important to realize that the treatment of uncertainties may vary from experiment to experiment.