

How Integrity can help instructors in the classroom

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Regular assessment can be an important learning tool for students, particularly if they are able to receive meaningful feedback regarding their areas of strength and weaknesses. Such feedback allows students to identify and address course content areas that they may be struggling with. By providing regular assessment feedback to students regarding their retention and understanding of course material, teachers encourage students to take a more active role in their success in the course.

To be really effective assessments must be valid and reliable. Assessments that contain statistically flawed items may not provide accurate measurements of what students know and can do. For example, if assessments are too difficult, students may become discouraged, which could limit their willingness to try to improve their performance. If assessments are not challenging enough, students may have an inaccurate portrayal of their knowledge of the course material. Integrity can help you identify the level of difficulty of your assessment and of individual questions.

But this is only the tip of the iceberg in terms of the wealth of information you can receive regarding the performance of your assessments. For example, statistical characteristics regarding the performance of individual assessment items can help you to identify content problems with items (e.g., items that are worded ambiguously), problems with answer keys (e.g., items that may have more than one correct answer), and problems related to how students of different performance levels respond to items. In addition, strengths can be identified so that you can learn what items work best in terms of content, phrasing, and structure.

Whether you created the items that compose your assessments yourself, or whether the items were provided by a publication company, school district, or another external source, evaluation of these items is important in order to understand how well your students are being assessed. Integrity evaluates the performance of your assessments, providing you with immediate feedback regarding which items are working well for your group and which items may need revision or even to be deleted from your assessment.

Investigating how an assessment performs for your students can shed light on how to focus your instruction, improve the quality of assessments, and identify gaps in student learning (at class and individual student levels).

How Integrity can help

Reports such as the Examinee Results report can help identify students who have mastered the material as well as students who may be struggling. The Examinee Results report gives the raw test score, percentage test score, and percentile rank for each student who took the test. In the example of an Examinee Results report shown below we can see that student

“181” performed better on the assessment than did student “337.” By comparing individual students’ results to your expectation of their performance (e.g., “I would have thought that student 181 would have done better on this test”; “Student 337 exceeded my expectations on this test”) you can identify areas of potential strengths and weaknesses on an individual student basis.

An example of an Examinee Results report produced by Integrity.

Examinee results			
Examinee ID	Raw test score	Percentage test score	Percentile
181	64	64.0	59
337	59	59.0	39
431	68	68.0	71
499	34	34.0	1
878	67	67.0	68
1433	57	57.0	32
1449	60	60.0	44

The subscale reports allow you to receive information on specific content areas. To do this, you simply list which questions are related to the content areas that you specify. The subscale report will then provide detailed breakdowns of which content areas students are doing well in and which they are struggling in. An example of a summary table for a subscale report is provided below. The example shows that an introductory psychology test contained 60 items: 20 from the unit “Brain and behavior,” 20 from “Developmental,” and 20 from “Social psychology.” We can see immediately that students performed least well on the “Brain and behavior” questions (mean of 11.850 out of 20), better on the “Developmental” questions (mean of 16.620), and best on the “Social psychology” questions (mean of 18.488). This information can help you understand which areas your students are mastering and which require more focus. You can also use this information to inform future classes that in the past, students found the “Brain and behavior” unit challenging and to recommend that they spend additional study time mastering that material.

An example of a Subscale Analysis table produced by Integrity.

Subscale analysis of job: Psychology 101 session A4							
Subscale	Number of examinees	Number of items	Mean	SD	SE mean	SE measurement	KR-20
Brain and behavior	50	20	11.850	2.845	0.127	1.965	0.523
Developmental	50	20	16.620	2.840	0.127	2.056	0.476
Social psychology	50	20	18.488	2.923	0.131	2.031	0.517

[View Scatter Plots](#)

Another example of the classroom application of Integrity reports involves the group and writing center reports.

- Group reports provide breakdowns regarding how different groups (e.g., male versus female) perform on the assessment.
- Writing center reports provide information on how different classes perform on the assessment.

The figure below presents an example of a group report for a 100-item test in which the performance of male students (indicated by “M”) is compared with that of female students (indicated by “F”). We can see that females (mean of 66.602) outperformed males (mean of 61.484) on this assessment. You can choose to investigate or reflect on possible causes of this gender difference if you wish. For example, you may find that this gender difference reflects the way in which course material was presented in textbooks or in the assessment itself. You may consider whether classroom discussion tended to include examples that were more relevant to females.

An example of a Group Analysis report produced by Integrity.

Group analysis of job: Psychology 101 session A1						
Group analysis summary	Number of examinees	Mean	SD	SE mean	SE measurement	KR-20
F	52	66.602	12.020	0.751	4.567	0.856
M	56	61.484	11.529	0.721	4.550	0.844

The next figure presents an example of a writing center report for a 60-item test in which the performance of three different classes is compared. You can see that Class 1 (mean of 37.016) and Class 3 (mean of 37.355) performed very similarly on the assessment, whereas Class 2 (mean of 30.640) performed less well. It may be worthwhile to investigate this difference further. You may realize, for example, that Class 2 students have generally learned the material adequately but that there are no really high-achieving students in it. It may be that students in classes 1 and 3 have better attendance rates or that Class 2 students need more detailed instruction. Whatever the case, the writing center report gives more information so that you can decide what, if any, action to take.

An example of a Writing Center Analysis report produced by Integrity.

Writing center analysis of job: Psychology 101 session A4						
Writing center	Number of examinees	Mean	SD	SE mean	SE measurement	KR-20
Class 1	87	37.016	6.873	0.503	3.487	0.743
Class 2	89	30.640	7.157	0.521	3.499	0.761
Class 3	85	37.355	6.924	0.622	3.482	0.747

Integrity’s detailed yet accessible reports are instructor-directed. After purchasing a license for Integrity, instructors receive a secure login identification number that only they can access. As such, Integrity respects the autonomy, freedom, and professional views of instructors by providing personalized and secure evaluation of assessments. The individual instructor makes the decision as to how to respond to the information provided through Integrity, as well as who (if anyone) to share the information with.