

TABLE 1

Criteria of the level of interaction with the primary scientific literature, based on Bloom's taxonomy.

Level of Interaction	Corresponding category of Bloom's revised taxonomy	To complete the assessment tasks, students are expected to read the literature, and then they should be able to:
0	n/a	There is no requirement for students to read the literature in the assessment tasks.
1	Remember	<ul style="list-style-type: none"> pick out, find information they need list different items give definition match their own findings/results with the literature
2	Understand	<ul style="list-style-type: none"> compare their findings/results with the literature summarise or rewrite the findings comment and express their viewpoint identify, outline or describe the structure/function of a substance, the method that is used, the experimental procedure or the process of movement use figure/table/diagram from other literature use reference to support the findings or as background information
3	Apply	<ul style="list-style-type: none"> apply the method to different experiment
4	Analyse	<ul style="list-style-type: none"> explain and communicate the experiment explain the use of method/technique have their own argument and use reference to support it interpret the data from figure/table/diagram construct original figure/table/diagram to demonstrate, explain or illustrate the understanding of the experiment/data
5	Evaluate	<ul style="list-style-type: none"> point out the limitations of the method or findings offer critique

Source: Krathwohl (2002).

TABLE 2

Differences in the means of questions for students in Cluster 1 and Cluster 2.

Question	Cluster 1 (n = 64)	Cluster 2 (n = 72)	p, t-test (n = 136)
5	3.92 ± 0.84	4.46 ± 0.75	<0.001 ***
6	4.64 ± 0.60	4.19 ± 0.88	0.001 **
7	4.39 ± 0.61	3.78 ± 0.83	<0.001 ***
8	3.72 ± 0.85	4.32 ± 0.73	<0.001 ***
9	3.09 ± 1.05	4.00 ± 0.87	<0.001 ***
10	4.64 ± 0.55	3.63 ± 1.2	<0.001 ***
11	4.38 ± 0.66	3.19 ± 1.30	<0.001 ***
12	2.14 ± 1.14	3.46 ± 1.19	<0.001 ***
13	3.25 ± 0.93	4.14 ± 0.64	<0.001 ***
14	3.33 ± 0.89	3.79 ± 0.90	0.003 **
15	3.64 ± 0.86	4.21 ± 0.63	<0.001 ***
16	3.36 ± 0.86	3.83 ± 0.82	0.001 **
17	2.66 ± 0.95	1.60 ± 0.66	<0.001 ***
18	3.61 ± 1.06	4.29 ± 0.86	<0.001 ***
19	3.48 ± 0.99	4.29 ± 0.68	<0.001 ***
20	3.03 ± 1.07	4.00 ± 0.93	<0.001 ***
21	3.03 ± 1.01	2.78 ± 1.00	0.11
22	3.30 ± 0.95	2.21 ± 0.87	<0.001 ***
23	3.81 ± 0.87	2.68 ± 1.02	<0.001 ***
24	3.95 ± 0.77	2.81 ± 1.00	<0.001 ***
25	2.92 ± 0.90	3.74 ± 0.75	<0.001 ***
26	3.05 ± 1.00	4.04 ± 0.66	<0.001 ***

Note. Table shows mean, standard deviation, and results of independent samples t-tests.