

Analysis of Value-Added Self-Assessment: 2010 - 2016

Since 1998, beginning geology students in GEO 3550 (Sedimentation and Stratigraphy) have been asked to rank their knowledge of geology through an instrument ([Value-Added Self-Assessment Questionnaire](#)) comprising 130 questions that cover the range of topics matching our [Learning Objectives](#). They completed the same questionnaire some three years later while taking capstone GEO 5200 (Geology Field Camp). **Recent results of this rank-assessment are summarized in the table below.**

On 117 out of 130 questions (90%), the students demonstrated significant ($\geq 10\%$) improvement in ranking. Of the 13 questions where the students showed less than 10% improvement (indicated in red lettering below), students were already confident of the answer for two questions (11a and 12d) at the beginning of their program and thus could not show significant improvement. The remaining 11 questions (7d, 11c, 11e, 12c, 13a, 13b, 13c, 13d, 14a, 17b, 23d) highlight areas where we need to improve student learning. Several of these topics (11c, 11e, 13a, 13b, 13c, 13d) can be addressed in GEO 3200 - The Earth Through Time. Questions 7d, 17b, 23d can be addressed in GEO 3550 - Sedimentation and Stratigraphy. Finally, topics of 12c and 14a can be addressed in GEO 3700 - Structural Geology.

VALUE-ADDED SELF-ASSESSMENT RESULTS: 2010 - 2016

values are mean rank, where:

1 = know well, high confidence; 2 = know somewhat, could use more work; 3 = little exposure to topic, low confidence

	Course	3550	5200	5200	3550	5200	5200	3550	5200	Rank
Question	Year	2010	2010	2012	2014	2014	2016	All	All	improvement
1a		1.56	1.00	1.00	1.44	1.00	1.00	1.52	1.00	0.52
1b		1.33	1.13	1.00	1.00	1.00	1.00	1.21	1.03	0.18
1c		1.63	1.00	1.14	1.60	1.29	1.00	1.62	1.11	0.51
1d		1.86	1.13	1.57	1.44	1.14	1.17	1.70	1.25	0.44
1e		1.38	1.13	1.00	1.44	1.14	1.00	1.40	1.07	0.33
2a		1.63	1.00	1.00	1.20	1.00	1.00	1.46	1.00	0.46
2b		1.93	1.00	1.43	1.67	1.29	1.50	1.83	1.30	0.53
2c		2.14	1.25	1.43	1.78	1.43	1.67	2.00	1.44	0.56
2d		2.00	1.38	1.57	1.89	1.71	1.67	1.96	1.58	0.37
2e		1.93	1.13	1.14	2.00	1.29	1.17	1.95	1.18	0.77
3a		2.06	1.13	1.00	1.44	1.14	1.17	1.84	1.11	0.73
3b		2.25	1.13	1.57	2.11	1.43	1.33	2.20	1.36	0.84
3c		2.13	1.25	1.14	1.88	1.00	1.00	2.04	1.10	0.94
3d		2.31	1.25	1.14	1.78	1.14	1.33	2.12	1.22	0.90
3e		1.63	1.13	1.29	1.67	1.07	1.50	1.64	1.25	0.39
4a		2.62	1.13	1.29	2.11	1.29	1.00	2.41	1.17	1.23
4b		2.15	1.13	1.29	2.13	1.29	1.50	2.14	1.30	0.84
4c		2.38	1.00	1.29	1.71	1.14	1.17	2.15	1.15	1.00
4d		2.71	1.25	1.29	2.00	1.00	1.00	2.48	1.13	1.34
4e		2.21	1.13	1.43	2.22	1.29	1.33	2.22	1.29	0.93
5a		2.50	1.75	1.71	2.43	2.14	1.50	2.47	1.78	0.70
5b		2.50	1.50	1.57	2.29	1.57	2.00	2.42	1.66	0.76
5c		2.58	1.63	1.57	2.29	1.57	2.00	2.47	1.69	0.78
5d		2.75	1.75	1.86	2.57	2.29	2.33	2.68	2.06	0.63
5e		2.75	2.13	2.14	2.43	2.29	2.50	2.63	2.26	0.37
5f		2.54	1.25	1.43	2.43	1.71	1.67	2.50	1.52	0.98
6a		1.86	1.14	1.40	1.50	1.33	1.40	1.73	1.32	0.41
6b		1.57	1.29	1.40	1.75	1.17	1.20	1.64	1.26	0.37
6c		1.57	1.00	1.00	1.00	1.00	1.00	1.36	1.00	0.36
6d		1.71	1.00	1.40	1.38	1.33	1.00	1.59	1.18	0.41
6e		2.36	1.29	1.80	2.00	1.83	1.80	2.23	1.68	0.55
7a		1.44	1.00	1.00	1.20	1.14	1.00	1.35	1.04	0.31
7b		1.69	1.14	1.00	1.60	1.14	1.00	1.65	1.07	0.58
7c		2.13	1.43	1.20	1.90	1.86	1.33	2.04	1.45	0.59
7d		1.80	1.57	1.60	1.80	2.14	1.50	1.80	1.70	0.10
7e		1.63	1.00	1.20	1.40	1.57	1.17	1.54	1.24	0.30
8a		2.42	1.57	1.20	2.29	1.71	2.17	2.37	1.66	0.70
8b		2.58	1.86	1.60	2.50	2.43	2.20	2.55	2.02	0.53

8c		1.80	1.00	1.00	1.38	1.14	1.00	1.65	1.04	0.62
8d		2.73	1.57	1.40	2.00	2.29	1.67	2.50	1.73	0.77
8e		2.80	1.29	1.60	1.38	2.00	1.40	2.17	1.57	0.60
9a		2.10	1.00	1.17	1.50	1.00	1.00	1.80	1.04	0.76
9b		2.10	1.00	1.00	1.60	1.00	1.00	1.85	1.00	0.85
9c		2.60	1.25	1.33	2.57	1.29	1.33	2.59	1.30	1.29
9d		2.20	1.13	1.00	2.44	1.14	1.00	2.32	1.07	1.25
9e		2.60	1.88	1.67	2.25	1.86	1.83	2.44	1.81	0.64
10a		1.79	1.13	1.17	1.60	1.21	1.00	1.71	1.13	0.58
10b		1.94	1.00	1.33	1.90	1.21	1.33	1.92	1.22	0.70
10c		2.25	1.25	1.00	2.50	1.43	1.83	2.36	1.38	0.99
10d		2.29	1.38	1.17	2.67	1.50	2.00	2.43	1.51	0.92
11a		1.20	1.13	1.00	1.00	1.07	1.00	1.12	1.05	0.07
11b		1.33	1.25	1.00	1.60	1.43	1.00	1.44	1.17	0.27
11c		1.93	2.13	2.17	2.00	1.86	1.83	1.96	1.99	-0.04
11d		1.60	1.00	1.33	1.40	1.14	1.33	1.52	1.20	0.32
11e		1.86	1.63	1.67	2.00	2.00	1.67	1.92	1.74	0.18
12a		1.47	1.13	1.17	1.40	1.14	1.00	1.44	1.11	0.33
12b		1.27	1.13	1.00	1.10	1.00	1.00	1.20	1.03	0.17
12c		1.71	1.38	1.33	1.40	1.36	1.67	1.58	1.43	0.15
12d		1.31	1.00	1.00	1.00	1.21	1.17	1.17	1.10	0.08
12e		1.92	1.63	1.67	1.90	1.50	1.50	1.91	1.57	0.34
13a		2.09	2.71	1.83	2.33	2.17	2.33	2.20	2.26	-0.06
13b		2.60	2.33	2.00	2.30	2.33	2.33	2.45	2.25	0.20
13c		1.83	2.14	2.00	2.30	2.30	2.00	2.05	2.11	-0.07
13d		1.92	2.14	2.17	2.50	2.17	1.83	2.18	2.08	0.11
13e		2.00	2.00	1.67	2.10	2.08	1.50	2.04	1.81	0.23
14a		1.79	1.83	1.50	1.90	2.17	1.83	1.84	1.83	0.01
14b		2.36	1.50	1.50	2.67	2.00	1.33	2.50	1.58	0.92
14c		1.92	1.75	1.50	1.80	1.86	1.00	1.86	1.53	0.34
14d		2.73	1.83	1.67	2.56	2.00	1.67	2.65	1.79	0.86
14e		2.33	1.67	1.33	2.30	2.00	1.50	2.32	1.63	0.69
15a		2.07	1.13	1.00	1.80	1.00	1.33	1.96	1.11	0.84
15b		1.79	1.00	1.17	1.90	1.14	1.33	1.83	1.16	0.67
15c		1.92	1.13	1.17	1.90	1.07	1.00	1.91	1.09	0.82
15d		1.79	1.00	1.00	1.60	1.07	1.00	1.71	1.02	0.69
15e		2.31	1.00	1.17	1.90	1.21	1.00	2.13	1.10	1.04
16a		2.50	1.38	1.17	2.00	1.14	1.00	2.30	1.17	1.13
16b		2.45	1.38	1.17	2.25	1.07	1.00	2.37	1.15	1.22
16c		2.55	1.13	1.17	2.13	1.57	1.00	2.37	1.22	1.15
16d		2.50	1.25	1.50	1.75	1.00	1.00	2.17	1.19	0.98
16e		2.50	1.38	1.17	1.86	1.25	1.00	2.24	1.20	1.04
17a		1.56	1.13	1.33	1.30	1.21	1.00	1.46	1.17	0.29

17b		1.54	1.25	2.00	1.80	1.57	1.67	1.65	1.62	0.03
17c		1.42	1.00	1.33	1.30	1.29	1.00	1.36	1.15	0.21
17d		1.40	1.00	1.17	1.10	1.14	1.00	1.28	1.08	0.20
17e		1.56	1.00	1.00	1.40	1.29	1.00	1.50	1.07	0.43
18a		1.80	1.25	1.00	1.60	1.14	1.00	1.72	1.10	0.62
18b		2.17	1.25	1.33	2.00	1.21	1.00	2.09	1.20	0.89
18c		1.54	1.13	1.17	1.70	1.07	1.00	1.61	1.09	0.52
18d		2.25	1.29	1.17	2.30	1.57	1.00	2.27	1.26	1.02
18e		1.93	1.19	1.33	2.00	1.07	1.00	1.96	1.15	0.81
19a		2.08	1.25	1.00	1.78	1.21	1.17	1.95	1.16	0.79
19b		1.93	1.00	1.00	1.70	1.00	1.00	1.84	1.00	0.84
19c		2.40	1.25	1.00	1.70	1.00	1.00	2.12	1.06	1.06
19d		2.45	2.25	1.50	2.22	1.43	1.50	2.35	1.67	0.68
19e		2.25	1.75	1.17	1.50	1.14	1.33	1.91	1.35	0.56
20a		2.00	1.38	1.00	1.80	1.29	1.00	1.90	1.17	0.74
20b		2.00	1.25	1.00	1.80	1.57	1.33	1.90	1.29	0.62
20c		3.00	2.80	2.40	2.75	2.14	2.50	2.88	2.46	0.41
20d		2.38	1.80	1.67	2.75	1.86	1.60	2.56	1.73	0.83
20e		2.00	1.50	1.17	1.90	1.43	1.00	1.96	1.27	0.68
21a		2.09	1.57	1.17	1.80	1.64	1.50	1.95	1.47	0.48
21b		2.33	1.63	1.17	2.10	1.43	1.17	2.23	1.35	0.88
21c		2.40	1.57	1.33	2.14	1.71	1.40	2.29	1.50	0.79
21d		2.40	1.71	1.17	2.13	1.71	1.50	2.28	1.52	0.75
21e		2.00	1.50	1.00	1.80	1.29	1.17	1.90	1.24	0.67
22a		2.40	1.00	1.00	2.00	1.29	1.00	2.24	1.07	1.16
22b		2.70	1.25	1.17	2.14	1.29	1.33	2.47	1.26	1.21
22c		2.50	1.25	1.00	2.00	1.43	1.00	2.29	1.17	1.12
22d		2.40	1.57	1.67	2.14	1.21	2.00	2.29	1.61	0.68
22e		2.45	1.38	1.17	2.29	1.36	1.50	2.39	1.35	1.04
22f		2.30	1.63	1.50	2.14	1.43	1.50	2.24	1.51	0.72
23a		1.67	1.00	1.00	1.10	1.29	1.20	1.44	1.12	0.32
23b		1.90	1.13	1.00	1.30	1.14	1.40	1.60	1.17	0.43
23c		2.11	1.13	1.00	1.30	1.14	1.40	1.68	1.17	0.52
23d		2.25	1.38	1.83	1.20	1.86	1.80	1.67	1.72	-0.05
23e		2.63	2.14	1.50	1.90	2.00	2.00	2.22	1.91	0.31
24a		1.87	1.75	1.17	1.50	1.86	1.40	1.72	1.54	0.18
24b		1.94	1.38	1.33	1.60	1.43	1.40	1.81	1.38	0.42
24c		1.80	1.50	1.00	1.70	1.43	1.60	1.76	1.38	0.38
24d		2.08	1.50	1.00	1.70	1.50	1.60	1.91	1.40	0.51
24e		2.07	2.00	1.17	1.70	1.86	1.60	1.92	1.66	0.26
25a		2.20	1.50	1.33	2.25	1.57	1.20	2.22	1.40	0.82
25b		2.18	1.50	1.33	2.00	1.43	1.40	2.11	1.42	0.69
25c		2.30	1.63	1.17	2.00	1.64	1.00	2.17	1.36	0.81

25d		2.10	1.50	1.33	1.71	1.71	1.00	1.94	1.39	0.55
26a		1.82	1.00	1.33	2.14	1.57	1.60	1.94	1.38	0.57
26b		1.73	1.00	1.33	2.00	1.29	1.00	1.85	1.15	0.70
26c		1.62	1.50	1.67	1.60	1.29	1.20	1.61	1.41	0.20
26d		2.60	1.25	1.50	2.57	1.71	1.00	2.59	1.37	1.22
26e		2.80	1.50	1.83	2.57	1.71	1.60	2.71	1.66	1.04