Analysis of Student Content Learning Evaluation Exam
Administered on 11-09-2017

The Test Cohort

The new, Student Content Learning Evaluation exam was administered for the first time on November 9, 2017 in the GEO 3550 Sedimentation & Stratigraphy course. This cohort of students is farther along in the geology program than the typical "pre" assessment group, but it was decided to do a "test run" of the exam prior to administering it to beginning Geology majors during the Spring of 2018. All of the eighteen students in this test cohort had completed GEO 1110 Physical Geology and GEO 3200 Earth Through Time. All were enrolled in GEO 3550 and had completed two thirds of the course prior to taking the exam. Four of the students were also enrolled in GEO 4500 Igneous and Metamorphic Petrology and seven were enrolled in GEO 3600 Geomorphology.

Results

Learning Objective Understand/utilize	Questions	Percentage Answered Correctly
1. Geol time scale and important events	1-4	76.4
2. How has Earth changed over time	5-7	64.8
3. Applications of fossils	8-11	58.3
4. Mineral and rock forming processes	12-15	76.4
5. Sedimentary environments	16-19	63.9
6. Tectonics and the rock record	20-23	55.6
7. Internal Earth processes	24-25	50.0
8. Interpret stress fields from structures	26-30	41.1
9. Surficial processes	31-34	59.7
10. Natural hazards and climate change	35-38	55.6
11. Formation and consequences of utilization of natural resources	39-41	63.0
12. Pathways and fluxes of water	42-45	37.5
13. Create and interpret graphs	46-48	51.8
14. Topographic maps and digital terrain models	49-51	63.0
15. Geologic maps	52-54	25.9
16. Subsurface features with geophysics	55-56	27.8

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When examining the table of [Required Courses and Contribution to the Geology Learning Objectives](#), it would be expected that this group would perform well on questions related to Learning Objectives 1 through 5, relative to students that were just beginning the program. This was indeed the case as the average percentage of correct answers for Leaning Objectives 1 - 5 was 70.6%, versus 51.6% for the remaining 11 Learning Objectives. It is worth noting that the relatively low scores on Learning Objective 3, Applications of Fossils, reflects the fact that this topic was not yet covered in the GEO 3550 Course, but was covered in the weeks following the exam. Based on this test run, some questions that were considered to be too elementary and others that were considered to be ambiguous were eliminated and new questions developed by faculty in their respective areas.