

William Paterson University
College of Science and Health - Department of Computer Science

Fall 2015 – Spring 2017 Assessment Cycle
Analysis of the Program’s Student Outcome Assessment Data

Program’s Student Outcome: S1: Effectively communicate in written and oral forms.

ABET’s Related Student Outcomes (f)

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A. Analysis of the Assessment Data

For the assessment period Fall 2015 to Spring 2017, this student outcome was assessed in the following four courses: CS3410, CS3450, CS3500, and CS4800. The data were collected in Spring 2016, Fall 2016 and Spring 2017.

In CS3410, 21, 20, and 16 students respectively took the course and 3 of them (which represents 5.2%) did have less than adequate ability. However, it is observed that some students have a tendency to write a very simple report. It is therefore suggested that students be given a detailed requirement specification and some typical examples of project reports.

In CS3450, 4, 14, and 22 students respectively took the course and 3 of them (which represents 7.5%) did have less than adequate ability due to not returning written reports.

In CS3500, 14, 24, and 23 students respectively took the course and all of them achieved adequate ability. The sample of project given in advance helped students a lot in their group projects. Most of the teams scored high in the “Organization of Materials” category. The team in the Adequate Ability was due to mistakes in the Communication Diagram.

In CS4800, 21 students are enrolled in spring 2016 and 11 students fall 2016. One of them (which represents 3%) did have less than adequate ability. It is observed that students are enthusiastic and self-motivated in the class.

B. Suggestions for Improvement N/A

C. Improvements Implemented:

D. List all the “performance level/frequency/percentage” tables and their sources.

- a. Faculty Course Assessment Report: CS 3410, Spring 2016

Data Collected: Each student’s level of performance on oral and written communication

Method of Collection: Each student is required to make an oral presentation (students evaluation 25%, faculty evaluation 25%) and to produce a written report (faculty evaluation 50%) on a digital logic design topic.

Performance Levels	Frequency	Percentage
No Ability	0	0%
Some Ability	0	0 %
Adequate Ability	9	24%
More than Adequate Ability	0	0%
High Ability	12	57%

Observations: Most students’ oral presentations are good, however many written reports are too simple. Three teams have low quality oral presentations and poor written reports.

- b. Faculty Course Assessment Report: CS 3410, Fall 2016

Data Collected: Each student’s level of performance on oral and written communication

Method of Collection: Each student is required to make an oral presentation (students’ evaluation 25%, faculty evaluation 25%) and to produce a written report (faculty evaluation 50%) on a digital logic design topic.

Performance Levels	Frequency	Percentage
No Ability	1	5%
Some Ability	0	0 %
Adequate Ability	0	0%
More than Adequate Ability	7	35%
High Ability	12	60%

Observations: Most students’ oral presentations were good, some teams had errors in the demo but

they fixed later. Some written reports meet requirements fully however many written reports are still too simple.

c. Faculty Course Assessment Report: CS 3410, Spring 2017

Data Collected: Each student's level of performance on oral and written communication

Method of Collection: Each student is required to make an oral presentation (students evaluation 25%, faculty evaluation 25%) and to produce a written report (faculty evaluation 50%) on a digital logic design topic.

Performance Levels	Frequency	Percentage
No Ability	0	0%
Some Ability	2	10 %
Adequate Ability	2	10%
More than Adequate Ability	4	19%
High Ability	8	38%

Observations: Most students' oral presentations are good, however some written reports are too simple. One team has low quality oral presentations and poor written reports.

d. Faculty Course Assessment Report: CS 3450, Spring 2016

Data Collected: Each student's level of performance on a written report.

Method of Collection: Each student is required to write a report on one of the OS topics suggested by the instructor. He/she then receives a numerical grade based on the organization, presentation, and the narrative of the report.

Performance Levels	Frequency	Percentage
Some Ability		
Adequate Ability		
More than Adequate Ability	1	25.0 %
High Ability	3	75.0 %

Observations: All students in this class did very well with the organization, presentation and narrative of their reports. In fact three of those students did an outstanding job.

e. Faculty Course Assessment Report: CS 3450, Fall 2016

Data Collected: Each student's level of performance on oral and written communication.

Method of Collection: Each student is required to make an oral presentation and to produce a report

on one of the following OS topics: Virtualization and the Cloud, Multiple Processor Systems, Security, UNIX, LINUX, and Android, Windows 8, and Operating System Design. He/she then receives a numerical grade on his/her presentation (from every student in the class) and a numerical grade on his/her report from the instructor of the course.

Performance Levels	Frequency	Percentage
Some Ability	1	7.1%
Adequate Ability	5	35.7%
More than Adequate Ability	5	35.7%
High Ability	3	21.4%

Observations: One student did not return their reports. However, the rest of the class did relatively well with the organization and the presentation of the contents of their reports: 3 reports were outstanding, whereas five were fairly good and five average.

f. Faculty Course Assessment Report: CS 3450, Spring 2017

Data Collected: Each student's level of performance on a written report.

Method of Collection: Each student is required to write a report on one of the following OS topics: Virtualization and the Cloud, Multiple Processor Systems, Security, UNIX, LINUX, and Android, Windows 8, and Operating System Design. He/she then receives a numerical grade based on the organization, presentation, and the narrative of the report.

Performance Levels	Frequency	Percentage
Some Ability	2	9.1%
Adequate Ability	7	31.8%
More than Adequate Ability	6	27.3%
High Ability	7	31.8%

Observations: Two students did not return their reports. However, the rest of the class did relatively well with the organization and the presentation of the contents of their reports: 7 reports were outstanding, whereas six were fairly good and seven average.

g. Faculty Course Assessment Report: CS 3500, Spring 2016

Data Collected: Each project team's level of performance on oral and written communication (in spring 2016, there were 4 project teams – 2 teams had 3 students and 2 teams had 4 students).

Method of Collection: Each project team (all team members must participate) needed to do a 20

minute presentation (15 minutes presentation plus 5 minutes for questions and answers). Instructor feedback was given at the end of their presentation. They were graded on the following four categories: Organization of Materials, Contents of Presentation, Presenter’s Knowledge, and Overall Rating of the Presentation. Each team needed to hand in the presentation slides which consist of the Use Case Model, Use Case Descriptions / Narratives, Class Diagrams and relationships, and the Communication Diagrams. The ability levels listed below took individual performance into consideration.

Performance Levels	Frequency	Percentage
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	0	0%
Adequate Ability (Level of performance of C)	0	0%
More than Adequate Ability (Level of performance of B)	6	43%
High Ability (Level of performance of A)	8	57%

Observations: I gave them an example of what the presentation consists of. All the teams followed the advice and did pretty good presentations. The presentation slides were mostly well-written. Each team had 15 minutes for the presentation but since this was a small class, every team went over the 15 minutes limit. All the teams scored very high in the “Organization of Materials” category.

h. Faculty Course Assessment Report: CS 3500, Fall 2016

Data Collected: Each project team’s level of performance on oral and written communication (in fall 2016, there were 8 project teams; each team had 3 students).

Method of Collection: Each project team (all team members must participate) needed to do a 20 minute presentation (15 minutes presentation plus 5 minutes for questions and answers). Instructor feedback was given at the end of their presentation. They were graded on the following four categories: Organization of Materials, Contents of Presentation, Presenter’s Knowledge, and Overall Rating of the Presentation. Each team needed to hand in the presentation slides which consist of the Use Case Model, Use Case Descriptions / Narratives, Class Diagrams, and the Communication Diagrams. The ability levels listed below took individual performance into consideration.

Performance Levels	Frequency	Percentage
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	0	0%
Adequate Ability (Level of performance of C)	9	37.5%
More than Adequate Ability (Level of performance of B)	9	37.5%
High Ability (Level of performance of A)	6	25%

Observations: One week before the presentation, I gave them an example of what the presentation consists of. All the teams followed the advice and did pretty good presentations. The presentation slides were mostly well-written. All teams except 1 scored “high” in the “Organization of Materials” category.

The team in the Adequate Ability was due to technical issues (e.g., the operations in the Communication Diagram were in the wrong classes).

i. Faculty Course Assessment Report: CS 3500, Spring 2017

Data Collected: The data collected was based on each project team's level of performance on oral and written communication (in spring 2017, there were 7 project teams; 5 teams had 3 students in each team and 2 teams had 4 students in each team).

Method of Collection: Each project team (all team members must participate) needed to do a 20 minute presentation (15 minutes presentation plus 5 minutes for questions and answers). Instructor feedback was given at the end of their presentation. Their presentations were graded on the following four categories: Organization of Materials, Contents of Presentation, Presenter's Knowledge, and Overall Rating of the Presentation. Each team needed to hand in the presentation slides which consist of the Use Case Model, Use Case Descriptions / Narratives, Class Diagrams, and the Communication/Sequence Diagrams. The ability levels listed below took individual performance into consideration.

Performance Levels	Frequency	Percentage
No Ability (Level of performance of F)	0	0%
Some Ability (Level of performance of D)	0	0%
Adequate Ability (Level of performance of C)	0	0%
More than Adequate Ability (Level of performance of B)	23	100%
High Ability (Level of performance of A)	0	0%

Observations: One week before the presentation, I gave them an example of presentation. All the teams followed the advice and did very good presentations. The presentation slides were mostly well designed and written. All teams scored "high" in the "Organization of Materials" category. Most common mistake was in the Communication Diagram where students put the operations/services in the wrong classes.

j. Faculty Course Assessment Report: CS 4800, Spring 2016

Data Collected: Each student's level of performance on oral and written communication

Method of Collection: Each student is required to discuss or debate on ethics in and legal aspects of Computer Science on assigned topics like security or intellectual property. They are also had to present a 20-30 minute talk on a research topic of his/her own choosing, coupled with a written 5 to 10 page term paper on his research topic \ project. The talks were graded on effective oral communication, preparedness, structure, delivery, grammar, subject depth, comprehensiveness of references, knowledge of literature and web resources, amount of effort required to do the project, status of software or hardware produced (as demonstrated in class, where applicable), and several other criteria. The papers were graded on similar criteria, such as content, style, knowledge of the topic, and organization of the

material

Performance Levels	Frequency	Percentage
Some Ability	1	5 %
Adequate Ability	8	38 %
More than Adequate Ability	9	43%
High Ability	3	14 %

Observations: Students did well coordinated presentations. While a few were slightly bashful at first, they encouraged each other and felt some comradery of confidence as a group and in themselves. The oral parts of the presentation were well timed and choreographed, so that every student was expected to talk in each team. . When they were talking about topics they put their hearts into it and were enthusiastic about their work and experiences together. Some went over their time limits. Students often went ahead of slides and were describing their contributions and activities rather than reading from slides, so they did not passively mimic the slides. Students felt comfortable expressing what they enjoyed doing and felt valued what they learned and studied.

k. Faculty Course Assessment Report: CS 4800, Fall 2016

Data Collected: Each student's level of performance on oral and written communication

Method of Collection: Each student is required to discuss or debate on ethics in and legal aspects of Computer Science on assigned topics like security or intellectual property. They are also had to present a 20-30 minute talk on a research topic of his/her own choosing, coupled with a written 5 to 10 page term paper on his research topic \ project. The talks were graded on effective oral communication, preparedness, structure, delivery, grammar, subject depth, comprehensiveness of references, knowledge of literature and web resources, amount of effort required to do the project, status of software or hardware produced (as demonstrated in class, where applicable), and several other criteria. The papers were graded on similar criteria, such as content, style, knowledge of the topic, and organization of the material

Performance Levels	Frequency	Percentage
Some Ability	0	0.0 %
Adequate Ability	4	36.4 %
More than Adequate Ability	5	45.5%
High Ability	2	18.2 %

Observations: Students did well coordinated presentations. While a few were slightly bashful at first, they encouraged each other and felt some comradery of confidence as a group and in

themselves. The less-capable of the students were not bashful but most outspoken (indicating that confidence and industriousness do not always coincide, the former being emotion of a moment while the latter is expressed in the long-term success-orientation). This was a great class, in that there were no genuinely weak students; even the lowest performer recognized the competition and applied more effort than usual (as he was in several of my classes and this pressured him to achieve ... confirming the adage that several great students promote accomplishment in class stragglers).

The oral parts of the presentation were well timed and choreographed, so that every student was expected to talk in each team. The top-two actual presented individual presentations, both being highly scholarly and individually motivated. One of the top two is our Omicron-Omega winner of the year. The other (of the top two) presented his work at some external forums too. When they were talking about topics, they demonstrated intense dedication and effort. All the presentations were enthusiastic, expressing work and experiences together. Some went over their time limits (because they felt so strongly about their project). Students often went ahead of slides (out of zeal) and were describing their contributions and activities rather than reading from slides, so they did not passively mimic the slides. Students felt comfortable expressing what they enjoyed doing and appreciated the significance of what they learned/studied and the research process in general. Objective met!