Course Title: IST/CSC109 UNIX/Linux Operating System 3 credits

Course Leader: Trudy Gift

Expected Learning Outcomes for Course

- Choose appropriate UNIX/Linux operating system commands to make effective use of the environment to solve problems
- Write efficient, effective scripts with documentation
- Research and present information and resources utilizing new commands

Assessment
(How do students demonstrate achievement of these outcomes?)
There are three take-home, application exams comprised of 50 questions that the students complete. The exams demonstrate their knowledge of Unix/Linux commands and the ability to apply critical thinking skills. There was only one instructor for this course, the exams were the same for both sections.

The exams cannot be posted or added to this report as the report is available to the public. See the instructor if you need this information.

Spring 2015, the updated course was used in all sections (reflect more scripting applications as requested from the IST Advisory committee).

Attendance: There was a severe problem with attendance in both the day and night sections of this course. Most of the F's (15 for both sections) can be attributed to: Night: 1 never attended; 7 walk-aways; Day: 6 walk-aways; 1 earned by not completing exams/assignments/script. Night had a better attendance than Day.

Scripting: Many students did not enter scripts as they were directed while being presented by the instructor. The students that did follow the instructor led presentations enjoyed the process (data gathered through their comments and questions). During the presentations of the final scripts, the instructor could see the pride that students took in getting the Linux operating system to do what they wanted it to do. Four students were invited to the Spring 2015 IST/CYB Advisory meeting (April 3, 2015). Only two were able to present. One student was offered an internship while the other student is currently employed. The comments from the membership: WOW! As a side note, students are given a template they can use to enhance or they can discard the template and go out on their own. The students invited to present are the ones who choose to show their creativity. There is a possibility of students presenting at the Fall meeting.

Final script files are reviewed by the instructor for accuracy, professionalism, application of commands, and creativity and graded based on a rubric. It is 20% of the final grade and contains specific requirements. Data shows the A – D grade distribution during the day 1, 4, 1, 1 while night shows 11, 4.

Netlabs was a dismissal failure. Students did not complete the lab as hoped. Instead they choose to seek the answers online, textbook, or guessing. The data shows that those students that

actually completed the Netlabs did better in the class (grade distribution versus completion of Netlabs with a B or better). The instructor could tell those that did the Netlabs by two methods: checking last used dates and there were specific commands used in Netlabs that were required for the answers.

Assignments: Both in-class and homework assignments had poor completion rates (68% of the students missed one or more assigned tasks which could reflect in poor grades.

Validation
(What methods are used to validate your assessment?)
Using CompTIA Linux Certification Objectives, course content was built around this national certification. The Linux Certification is not used as a capstone project because a minimum of 2 years work experience is required to pass the exam. A UNIX/Linux System Administrator was also consulted in the design of the course. His suggestions were incorporated into the course.

Objectives of the course were mapped to the LPI exam I and were updated in Fall 2014. The results can be found in the IST SLOA .5 folder on Drive Y.

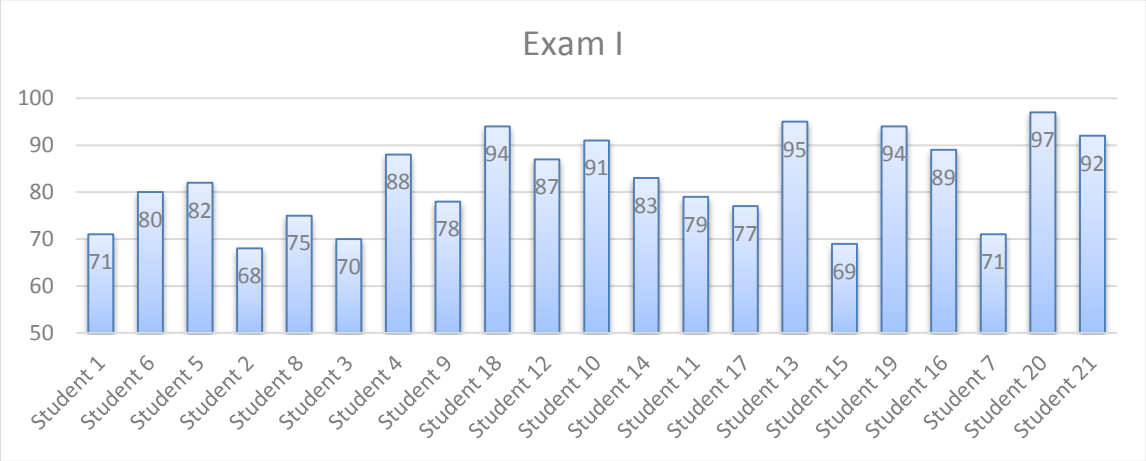
Results
(What does the data show?)
Those students that walked away from the course (without withdrawing) were not included in the results.

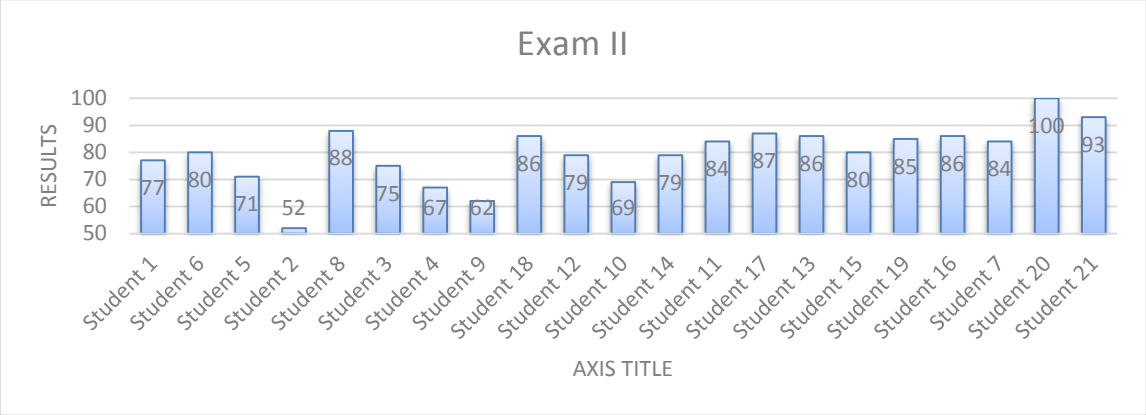
The course continues to be more hands-on and less demonstration. Students are actively involved in all phases of the class. They are asked to read chapters prior to coming to class. Activities formerly used as a homework assignment are now completed in class (implementing flip classroom technology). There is improved class participation. Students are encouraged to work together to solve error messages (which is a reflection of what they will have to do on the job).

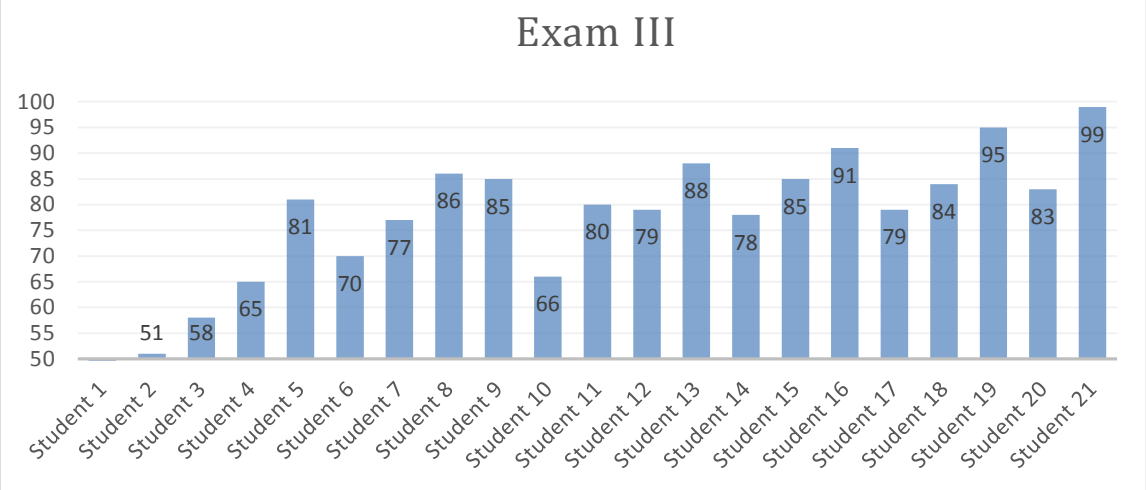
Out of 273 submitted assignments 8.1% (22 out of 273) were not completed.

	Average of Course total
A	93.6
B	84.8
C	75.8
D	65.6
F	42.9
Grand Total	81.9

Every question on the exam is an application/critical thinking question. This correlates directly to Outcome 1: Choose appropriate UNIX/Linux operating system commands to make effective use of the environment to solve problems. Therefore, the three exam results reflect the success or failure of the outcome.







Scripting continues to be a problem. The overall average 79.7 was for Fall 2014. Some students continue to use the sample template which means they can only get a 70%. They do not have the logic background to create more complex. Those students who have programming in their background are creating outstanding scripts. Notice two student choose not to do the script. They did not pass the course.

They are not ready to take LPI since one of the recommendations is two years' work experience. In addition, while we do some Linux administration in this course, there more on the exam than offered in this course. Due to time constraints, no additional administrative commands are being considered for inclusion at this time.

Follow-up
(How have you used the data to improve student learning?)
The new textbook and format seem to be working well. We will use Netlabs for another year before we consider dropping it.
Need to work on solving the attendance problem.

Budget Justification
(What resources are necessary to improve student learning?)
Currently no budget request items are needed.