

Annual Assessment Report for 2019-21 Academic Years

Department: Industrial Technology

Program: Masters of Science in Industrial Technology

Assessment Coordinator: Arun N Nambiar

1. Please list the learning outcomes you assessed this year

During the 2019-20 academic year, the department assessed the following learning outcomes:

- a. LO 1.2 - Employ data analysis tools to analyze, interpret and derive conclusions from data
- b. LO 1.3 - Compare and evaluate various production systems

During the 2020-21 academic year, we assessed the following learning outcomes:

- a. LO 1.1 - Apply technology for smart automation and data acquisition in agriculture and related industries
- b. LO 2.1 - Apply management and organization theory concepts to develop strategic plans for managing technology
- c. LO 3.1 - Apply qualitative and quantitative research methods to formulate and conduct research.
- d. LO 4.2 - Communicate effectively using written reports

2. What assignment or survey did you use to assess the outcomes and what method did you use to evaluate the assignment?

For each outcome, the students were ranked from 1 to 5 with 5 being highest and 1 being the lowest. The expectation is students will score atleast a 3 on each of the outcomes.

During the 2019-20 academic year, we used the following instruments to assess the corresponding learning outcomes:

- a. LO 1.2 - In IT 216, we used the combination of projects to assess this outcome. Figure 1 below shows the performance versus expectation for this outcome. It can be seen that the outcome has met the expectations. However, there is room for improvement.

Performance versus Expectation in IT 216 (LO1.2) - Fall 2019

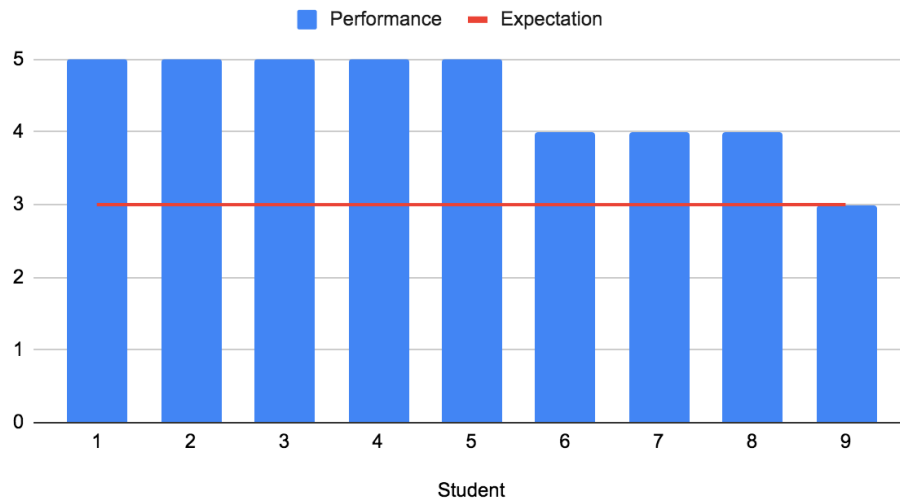


Figure 1 : 2019-20 LO 1.2 Assessment Graph

- b. LO 1.3 - The final project was used to assess this learning outcome. Figure 2 below shows the performance versus expectation. The performance has exceeded the expectations in this course.

Performance versus Expectation in IT 285 (LO1.3) - Fall 2019

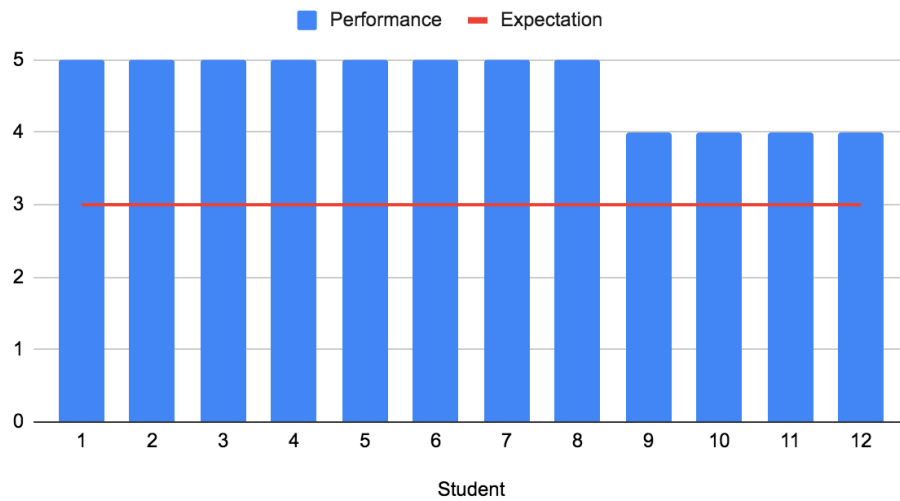


Figure 2 : 2019-20 LO 1.3 Assessment Graph

According to the MSIT SOAP, LO 4.2 - Communicate effectively using written reports was also supposed to be assessed. This learning outcome is usually assessed using the culminating project reports. During the 2019-20 academic year, the department had only one student graduate from its MSIT program. Hence, it was determined that this learning outcome will not be assessed during the 2019-20 academic year.

During the 2020-21 academic year, we used the following instruments to assess the corresponding learning outcomes:

- a. LO 1.1 - The final project in IT 219 was used to assess this outcome. The performance in this course has met the expected outcome.

Performance versus Expectation in IT 219 (LO1.1) - Spring 2021

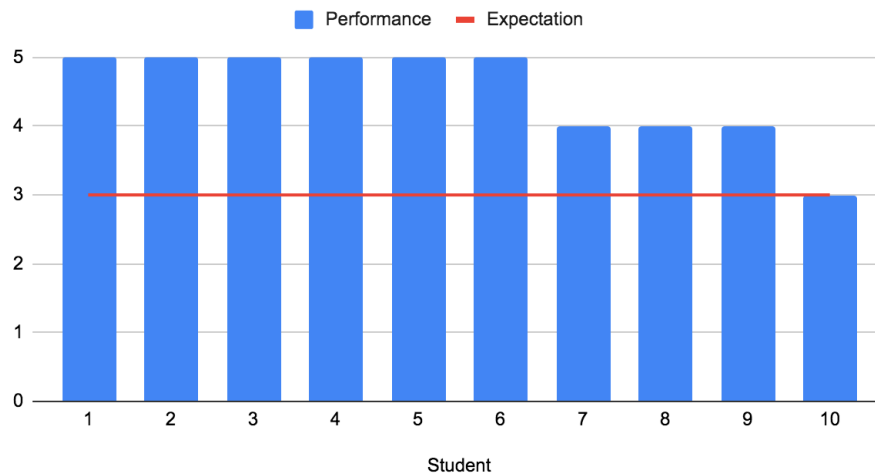


Figure 3 : 2020-21 LO 1.1 Assessment Graph

- b. LO 2.1 - A combination of homework assignments in IT 223 were used to assess this outcome. Clearly, the performance has exceeded the expectations in this course.

Performance versus Expectation in IT 223 (LO2.1) - Spring 2021

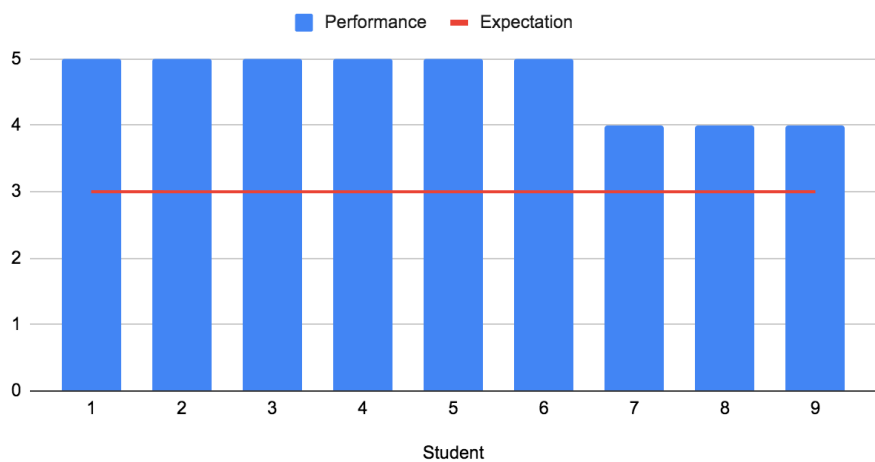


Figure : 2020-21 LO 2.1 Assessment Graph

- c. LO 3.1 - A combination of the two projects in IT 280 was used to assess this learning outcome. It can be seen from Figure below that the performance barely met the expectations. It was observed that there is still a lot of room for

improvement given that only 2 out of the 9 students met the highest score and one student fell below the expectation.

Performance versus Expectation in IT 280 (LO3.1) - Spring 2021

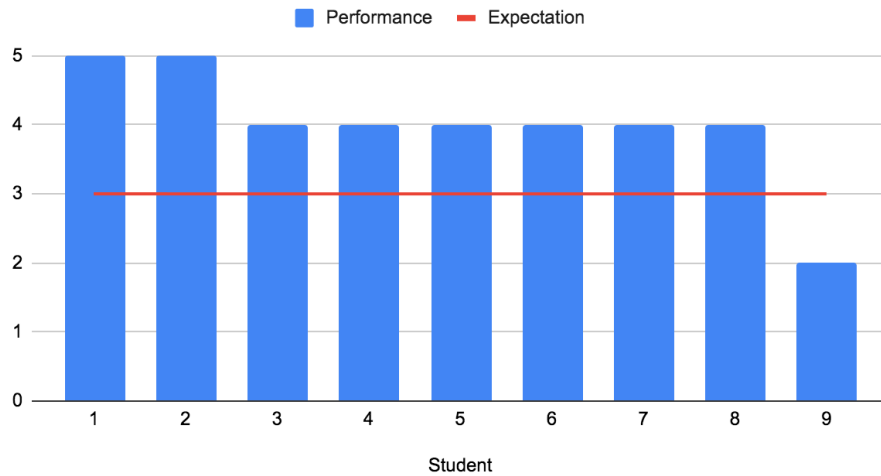
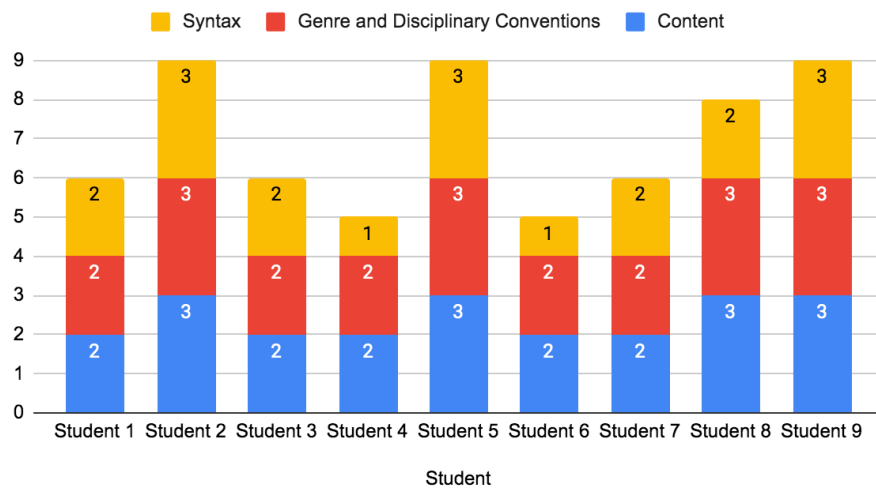


Figure 4 : 2020-21 LO 3.1 Assessment Graph

- d. LO 4.2 - The culminating experience (IT 298/299) reports were used to assess the effectiveness of this outcome. The graduate writing assessment rubric was used to rate the final reports. Figure 5 below shows the assessment results. The expectation was that students would score atleast a 2 on each of the three parameters. It can be seen that there is still work to be done in improving this learning outcome. The department is working on a strategy to improve overall writing performance.

Writing Assessment 2020-21



3. **What did you learn from your analysis of the data? Please include sample size (how many students were evaluated) and indicate how many were designated as proficient.**

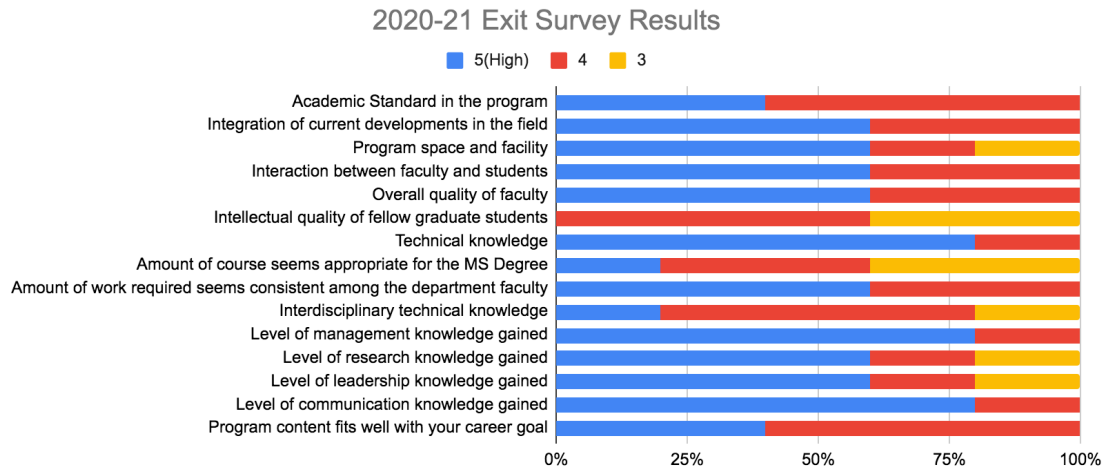


Figure 6: 2020-21 Exit Survey Results

Since the program is relatively small (however the largest within the college) compared to other programs on campus, the department has used all students to assess these outcomes instead of using a sample.

The exit survey results from 2020-21 (Figure 6) show that students are generally satisfied with the program. One area of improvement is the intellectual quality of graduate students. We have increased our minimum GPA requirement for transfer students to 2.75. This has somewhat helped address this issue. We are also currently exploring ways to improve the quality of incoming students by revising our admission requirements.

From Figures 1 through 5, it was observed that while the expectations are being broadly met, there is room for improvement. Specifically, the department has found that the written communication can be improved and the department is working to identify strategies for the same. Some of these include having students write draft reports for feedback and then incorporate the feedback, require mandatory meetings with the graduate writing studio, and peer review. Some instructors have already incorporated these into their projects and anecdotal evidence suggests students feel that these efforts have helped them significantly.

4. **What changes, if any, do you recommend based on the assessment data?**

The department feels confident that current strategies are helping it achieve the expected performance in most of the outcomes. The one area of concern which is perhaps

pervasive across the campus as well is written communication. The department is exploring mechanisms to institutionalize some of the recommendations mentioned above across all faculty.

5. If you recommended any changes in your response to Question 4 in last year’s assessment report, what progress have you made in implementing these changes?

In the 2018-19 assessment report, the department had talked about providing more presentation opportunities to students to improve their professionalism and presentation skills. With the pandemic situation, it proved difficult to provide more such opportunities. However, the importance of professionalism is being emphasized by the graduate coordinator at every interaction with students. In Spring 2021, 3 students made their IT 298 presentations and Figure 7 below summarizes their ratings. The department has an expectation of students achieving 3 or better on all criteria. Although it might seem that the department has reasonably met those expectations, the department feels that it is a reflection of the pool of presentations. Hence, more work needs to be done to improve overall presentation quality.

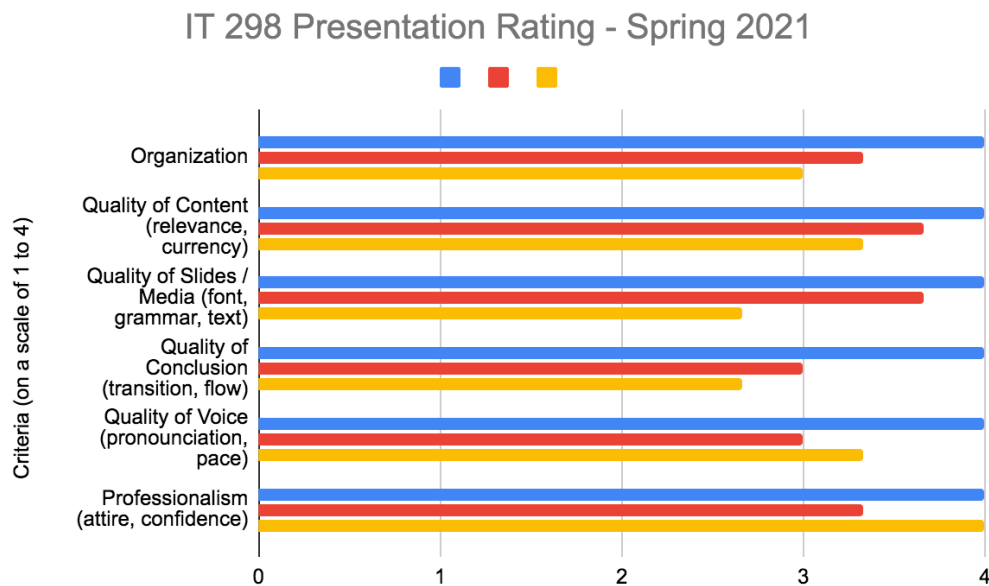


Figure 7: 2020-21 Presentation Ratings

6. What assessment activities will you be conducting during the next academic year?

This year, the department will be assessing the following learning outcomes:

- a. LO 1.1 - Apply technology for smart automation and data acquisition in agriculture and related industries
- b. LO 1.3 - Compare and evaluate various production systems

- c. LO 4.1 - Employ effective presentation techniques to make technical presentations
 - d. LO 4.2 - Communicate effectively using written reports
7. **What progress have you made on items from your last program review action plan?**
- In the 2019 Program Review Action Plan, the department had proposed the following action items:
- 1. Continue to gage currency and relevance of its curriculum and develop online graduate program
 - 2. Increase conversion from admits to enrollees and improve the mix of students
 - 3. Improve visibility of the program, its mission and vision within the department, college, campus and wider regional community.
 - 4. Incorporate more opportunities in curriculum for both written and oral communication.

Among these, the department has already put in place a system where the graduate coordinator reaches out to all admitted students multiple times in an effort to convert admits to enrollees (Action Item 2). The department is also working on flyers to improve visibility and help with outreach (Action Item 3).