Comprehensive Instructional Profile Report - Multiple Semesters

May 14, 2020

How to Read this Report

This report is based on data collected through the Classroom Observation Protocol for Undergraduate STEM (COPUS) and the Teaching Practices Inventory (TPI) over several semesters. The report is divided into the following 4 sections:

1. An explanation of COPUS and the data it generates
2. Your results from the COPUS observations that were done in your courses
3. Your results from the TPI
4. Information about how the Engineering and Computing Education Core (ECEC) can help you

Throughout the report, comparisons are made between your data and the data the ECEC has collected on other instructors’ courses in the College of Engineering. This dataset contains only instructors who have participated in ECEC programs during or after the Spring 2019 semester and does not contain all teaching faculty in the college.

We encourage you to use the information contained in this report to engage in deliberate reflection on your teaching practices. There is a structured reflection packet available at https://engineering.unl.edu/ecce/resources-faculty/ that can guide you through this process. If you have any questions about this report or how to interpret its contents, contact Dr. Markeya Peteranetz.

Comprehensive Instructional Profile (CIP) for Sample

1. COPUS

Smith et al. (2013) developed a teaching observation procedure known as the Classroom Observation Protocol for Undergraduate STEM or COPUS. This protocol allows STEM faculty, after a short 1.5-hour training period, to reliably characterize how faculty and students are spending their time in the classroom.

Observers attend a course multiple times (50 minutes each) and used a COPUS form to mark behaviors in 2-minute intervals. The protocol has 3 main parts as listed below:
When interpreting the data generated from COPUS, the activities listed above under “Students are Doing” and “Instructor is Doing” are collapsed into 8 categories (4 for students and 4 for faculty). For students:

- “Receiving” is indicated by the code “L”.
- “Working” is indicated by the codes “Ind,” “WG,” “OG,” “Prd,” and “TQ”.
- “Talking” is indicated by the codes “CG,” “AnQ,” “SQ,” “WC,” and “SP”.
- “Other” is indicated by the codes “W” and “O”.

For faculty:

- “Presenting” is indicated by the codes “Lec,” “RtW,” and “D/V”.
- “Guiding” is indicated by the codes “FUp,” “PQ,” “CQ,” “AnQ,” “MG,” and “1o1”.
- “Administrative” is indicated by the code “Adm”.
- “Other” is indicated by the codes “W” and “O”.
Instructional Profiles

Based on Stains et. al (2018)’s research, analysis of COPUS observations results in three main categories (Instructional Profiles) represented by 7 clusters as shown below.

2. Your COPUS Results

Your CIP is based on your instruction in ENGR 000, and ENGE 001 in the semesters F19, and S20. The range of interrater reliability estimates (kappa) for the COPUS observations used for your CIP was from 0.697 to 0.908, which represents a range of moderate to near perfect reliability.

Instructional Profiles

Clusters 1 and 2 reflect Didactic Instruction. Both of these clusters have little active learning, with Cluster 1 being lecture-driven with minimal student involvement, and Cluster 2 having some clicker questions that are sometimes associated with group work.
Clusters 3 and 4 reflect Interactive Lectures. These clusters use more student-centered strategies, with Cluster 3 incorporating a few student-centered strategies on occasion, and Cluster 4 incorporating clicker questions and group work.

Clusters 5, 6, and 7 reflect Student Centered Instruction. These clusters supplement lectures with student-centered strategies in large portions. Cluster 5 supplements lectures with group-based activities and one-on-one assistance from the instructor. Cluster 6 incorporates group worksheets and assistance and questions from the instructor, and Cluster 7 is defined as represents a variety of group work strategies with less consistent usage.

Our goal is to have fewer than one third of courses sessions classified as a 1 or a 2. Your observed course sessions were classified as 2, 2, 2, 4, and 4.

The next two figures show COPUS results for all participating faculty in the College of Engineering. The first figure shows the proportion of College of Engineering faculty whose observed course sessions were classified into each of the seven clusters. The second figure shows the proportion of class time spent on each type of activity for each semester you have been observed along with the college average.
The next two figures show your individual data over the terms during which you have been observed. The first figure shows your profile classification for each observation. The dashed horizontal line at \( y = 3 \) represents our goal of having at least two thirds of course sessions across the college classified at 3 or above. **So far 40% of your observed classes have been classified as 3 or above.** The ECEC can support your efforts to meet this goal.

The second figure shows heatmaps for all COPUS observation data that has been generated from your courses. Each of the 2 columns shows a semester's observation data. Student activities are shown in blue/purple, and instructor activities are shown in red/orange. Darker shading indicates more activities from that category occurred during the 2-minutes period.
3. Your TPI Results

This inventory can aid instructors and departments in reflecting on their teaching. It has been tested with several hundred university instructors in STEM fields. Inventory results can be used to gauge the extent of use of research-based teaching practices. Keep in mind that no single course is expected to incorporate all of the things listed in the TPI and there is no single formula for high-quality instruction.

This chart shows a high-level comparison of how each of your responses to the TPI compare to those of other faculty in the college. The scoring of the TPI gives more weight to practices that are shown by research to be more beneficial to student learning. The perimeter of the chart represents the maximum possible value for each category.
This next chart shows differences in your TPI category scores across the different semesters. Keep in mind that you probably did not teach the same course during each of these semesters.
4. Next Steps

Specific recommendations for positive changes you can make to your instruction are provided in the individual semester reports that you have previously received. Contact the ECEC if you have questions or would like additional guidance related to those recommendations.

Contact the ECEC:

Email us at engr-ecec@unl.edu or visit the ECEC website

Our Instructional Designers can help you:

- incorporate more evidence-based strategies into your courses
- design, develop, implement, and evaluate new learning activities and innovative pedagogies
- integrate instructional technology into your teaching to enhancing learning

Our Learning Assessment Coordinator can:

- review your classroom assessment processes and provide recommendations
- teach you how to evaluate the quality of your classroom assessments
- help you develop new classroom assessments

Our ongoing faculty programs include:
• Faculty Teaching Fellows Program - engage in a variety of activities over multiple years that will help you improve your teaching and build relationships with other faculty focused on teaching excellence
• Learning by Design - learn the Backwards Design process as you develop or redevelop a course
• Peer Observation of Classroom Activities (POCA) - get feedback on your teaching and learn about how other instructors in the college approach teaching