How Much Data is Enough?

When collecting data, the best practice is first to describe how the data will be used. Different uses will require different levels of detail in the data, which requires different collection strategies. Obtaining high quality data is critical for informed decision making at the course and program levels.

Program-level information for continuous improvement, as required by accreditation and the Program Review and Evaluation Committee (PREC).

- Student Learning Outcome (SLO) data is collected from each course in the program annually to enable at least five years of data review. A minimum of five years of data provides a robust foundation for trend analysis and informed program-level decisions
- This requires a minimum of one data point (assignment or assessment score) per SLO, per year. More than one data point will likely have to be used to fully represent student knowledge, skills, and abilities if the SLO is broad or complex.
- These SLO data points can be collected across different courses within the same program.
- Aggregate data is useful for identifying differential student subgroup performance, which helps address equity gaps and ensures that all student groups are achieving the intended learning outcomes.

Course-level data for continuous improvement practices in classroom curriculum, instruction and or assessments.

- This level of information requires more detail from the data.
- To determine the most effective instructional techniques and curriculum for promoting student growth it is critical to collect SLO data at multiple points during the course. Ideally, this data is gathered across all sections of the same course taught by different faculty to identify consistent trends and eliminate variability introduced by differing instructional methods.
- In addition to the program SLOs, individual SOLs may be broken down into smaller objective level components to yield more focused, actionable data. Breaking down a broad SLO like 'critical thinking' into measurable components such as 'identifying assumptions' or 'evaluating evidence' allows faculty to target specific areas for improvement.
- The highest quality data is produced when faculty teaching the same course share common resources. Ideally, this would include all curriculum, assignments and assessments to provide useful comparison points.

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- Having a common curriculum helps eliminate variables introduced by different curricula, thus ensuring all students are evaluated on the same content, enabling meaningful comparisons and shared strategies that can be implemented and then evaluated for improvement.
- Faculty can apply instructional modifications based on evidence and continue collecting data for continuous improvement cycles.
- High quality data will also help faculty identify areas that may benefit from professional development or changes to the overall course.

Effective data collection is essential for continuous improvement at both the program and course levels. Program-level data should focus on long-term trends, with at least one annual data point per SLO collected across courses to identify broad patterns and subgroup performance. Course-level data requires more detailed and frequent collection to assess instructional strategies and optimize student outcomes. Standardized curricula and common assessments across sections enhance the reliability of data and allow for meaningful comparisons. By using this data to inform instructional adjustments, identify areas for professional development and address equity gaps, faculty can ensure continuous progress in meeting SLOs.

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