

ACDS FELLOWSHIP: ASSURING STEM EDUCATION: DATA, CURRICULUM QUALITY ASSURANCE AND SCHOLARSHIP

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Our claim

We can learn a lot about how to assure the quality of curricula and delivery by reflecting on the characteristics of processes of change that worked well, as well as those that did not. Reflecting on processes of change also allows us to identify factors that we failed to consider in implementing change, and to identify strategies and processes that would have been useful to have in place.

We believe that systematic and planned collection and analysis of data, as part of an ongoing analysis of Quality Improvement (QI) and Quality Assurance (QA) is a necessary component of risk mitigation strategies, that enables us to assure curriculum quality. This applies, in times of rapid change in response to sudden events, such as the response to COVID-19, but also throughout the normal cycle of curriculum design and implementation.

Intended audience

The workshop is relevant to educators who are interested in contributing to development of a sustainable and effective approach to educational evaluation and scholarship in STEM curriculum at the level of the degree. This includes teaching staff and/or teaching teams, degree, and unit coordinators, as well as Deans and Directors of Learning and Teaching.

Learning outcomes

By participating in this workshop, you will contribute to a round-table discussion that will build your knowledge of approaches and strategies to:

- Enable and underscore the importance of collegial, scholarly activity directed toward learning and teaching.
- Embed interacting cycles of QI, QA and Scholarship of Teaching and Learning (SoTL) processes into teaching practice and curriculum design at the level of a degree.
- Develop capacity, teamwork, and leadership to integrate QA, QI and SoTL into the design, development, and delivery of curricula.
- Identify resources needed to support a data-driven approach to quality curriculum design and delivery.
- Identify ways to embed processes to gather natural data and deal with ethical issues into curriculum delivery and to use these data as part of an ongoing and continuous process of QI, QA and SoTL throughout the life of a course curriculum.

Focus - main points

This workshop focuses on the role of data in STEM education and on the value of planning and systematic implementation of evaluation and research as a key component of ongoing cycles of QI, QA and SoTL to ensure the best possible learning outcomes for students.

Drawing on the unique strengths of STEM disciplines, we will consider strategies for:

- embedding evidence-based, strategies into STEM education decision-making, curriculum design, development, and delivery
- Identifying questions that focus scholarly attention on
 - quality improvement (issues and innovations),
 - quality assurance against standards and
 - student learning and engagement (impact and effectiveness of curriculum over time).

- Identifying the types of data that should be routinely collected and analysed
- Identifying strategies for data collection and analysis to ensure quality of curriculum and teaching.

Time frame

2 hours, Including a 10 min break at the one-hour mark.

Format

Short presentation, structured collaborative discussion supported by breakout rooms and Google Docs shared document (one each breakout group; collated summary document).

Method of interaction

Using structured conversations in small groups (breakout rooms) and reporting back to whole group. Each breakout group will have a shared 'google doc' to record key points from their discussion, to be collated and shared with all participants post workshop.

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