Testing Q-bits in the Classroom

A primer for faculty on testing Q-bits
Overview

• What are Q-bits? (a brief tour)
• Options for using Q-bits with your students
• The research goals for our pilot project
• How to get started and support
• Questions
What are Q-bits?

• Online modules in your LMS that provide students with the opportunity to review and practice their quantitative skills with examples from different disciplinary contexts.

• Three Q-bits will be tested in Fall 2017:
  – Logarithms
  – Linear functions
  – Choosing a graph to visualize data
What are the components of a Q-bit?

<table>
<thead>
<tr>
<th>Pre-check</th>
<th>Multiple choice questions along with confidence ratings</th>
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<tbody>
<tr>
<td>Intro context video</td>
<td>Video by LACOL faculty member highlighting how the quantitative skill is relevant in their discipline</td>
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<tr>
<td>Instructional video</td>
<td>Curated instructional videos or other packaged presentation of quantitative content</td>
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<tr>
<td>Application problems</td>
<td>3 or more example problems for students to work demonstrating the relevance in various disciplinary contexts</td>
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<tr>
<td>Post-check</td>
<td>Multiple choice questions along with confidence ratings</td>
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What are the components of a Q-bit?

Logs Q-bit

https://moodle.carleton.edu/course/view.php?id=26144
Using Q-bits with your class

Q-bits can be used in your course in any number of ways:
• Link to relevant Q-bit(s) from your course page
• List Q-bits as a resource on the syllabus
• Incorporate Q-bits in a student assignment prompt
• Make Q-bits part of a class activity (required or optional) for individual students
• Ask students to look at a Q-bit outside of class and use it as the basis for in-class discussion or activities
• Other options...
Collaborative Research Goals

LACOL QS Research Goals, Fall 2017

• Do students use Q-bits when offered?
  • How do the demographics of the students who choose to use Q-bits instructional modules compare to the overall student demographics in a particular course?
  • Are there differences in the extent the modules are used that relate to how instructors makes Q-bits available?
• What impacts, if any, are possible to detect with this small intervention?

• By collecting data across colleges and courses, we gain better evidence about how instructors use the Q-bits, the effectiveness of Q-bits, and how to improve them

• We plan to apply for NSF IUSE funding in December 2017
How to get started using Q-bits

• Let us know what Q-bits you would be interested in testing: https://serc.carleton.edu/qbits/test_plan.html

• Contact your IT liaison to make sure the appropriate Q-bits are set-up in your school’s LMS:

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<thead>
<tr>
<th>College</th>
<th>Contact</th>
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<tbody>
<tr>
<td>Amherst College</td>
<td>Andy Anderson</td>
</tr>
<tr>
<td>Bryn Mawr College</td>
<td>Christine Boyland</td>
</tr>
<tr>
<td>Carleton College</td>
<td>Carly Born</td>
</tr>
<tr>
<td>Haverford College</td>
<td>Sharon Strauss</td>
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<tr>
<td>Swarthmore College</td>
<td>Andrew Ruether</td>
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<tr>
<td>Vassar College</td>
<td>Christopher Gahn</td>
</tr>
<tr>
<td>Washington &amp; Lee University</td>
<td>Brandon Bucy</td>
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<tr>
<td>Williams College</td>
<td>Jonathan Leamon</td>
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• Early in your course, give your students an overview of Q-bits; explain how and why you would like them to use Q-bits in the context of your course.

• Ask every student in your course to complete the online consent form (whether or not they use the Q-bit)
Fall term testing

• Use Q-bits as you see fit

• Ask all students who have used Q-bits to complete the student reflection survey by mid-November

• Complete faculty reflection form by mid-November

• For detailed information see the Q-bit testing guide: https://serc.carleton.edu/qbits/test_guide.html

• Contact Monica Bruckner mbruckne@carleton.edu for support
Questions?

Sign up for testing: https://serc.carleton.edu/qbits/test_plan.html
Tester’s guide: https://serc.carleton.edu/qbits/test_guide.html
Support contact: Monica Bruckner mbruckne@carleton.edu