Student-centered information literacy assessment in the sciences:
A constellation of choices

Setting:
Proteins & Nucleic Acids, a senior-level UG Biochemistry class

PROBLEM
How can we incorporate student-centered information literacy assessment into the curriculum in a way that will meaningfully impact the student as well as provide usable data for university administrators?

GUIDING PRINCIPLES
1. What do we want students to be able to do?
2. What are the students’ perceptions of the IL interventions?
3. What is the story being told by these assessments? (The big picture)
4. How do we intend to change as a result of assessment?

ASSESSMENT #1: ANNOTATED BIBLIOGRAPHY
What: A 19-source annotated bibliography on a trending Biochemistry topic. Split into 2 parts to create a pre and posttest.
Why: To determine learning gaps or weaknesses & provide an instructional intervention to eliminate them.

ASSESSMENT #2: LITERATURE REVIEW
What: 7-page lab report consisting of a short, interdisciplinary lit review, an extensive search methodology, discussion & conclusions.
Why: To encourage collaborative identification & assessment of multidisciplinary research and to facilitate critical reflection, by students, of their own research behaviors.

ASSESSMENT #3: FOCUS GROUP
What: An open discussion with students, without the professor, about the IL & writing components of the class.
Why: To capture richer responses from students & allow them an unstructured, non-judgmental forum for their thoughts. Also, to provide students a voice in the (future) construction of the class.

ASSESSMENT #4: SURVEY
What: An 8question survey to allow students an anonymous method for evaluating the effectiveness, execution, & value of the IL interventions.
Why: To allow students an anonymous method of feedback as well as to collect some quantifiable data.

IMPACT

STUDENT
Empowered students to speak out about desires & perceptions.

ANALYSIS
Offered valuable information for possible programmatic changes including more interventions earlier in the Biochemistry path of study.

STUDENT
Significant improvement, post-intervention, of citations & annotations. Student comment: “I would not have known how to do any of the research without the annotated bib.”

ASSESSMENT #2
Pre&post format allowed for numeric proof of student learning.

STUDENT
Empowerment of student in review of research processes.

ASSESSMENT #3
Data used for Chemistry major: SAC, Accreditation.

IMPLICATIONS
- Explore embedding IL components earlier & at multiple points in the curriculum.
- IL scaffolding revisions need to occur—thoroughly evaluate what is taught at each level.
- Though students expressed a desire to have interventions earlier in the curriculum, they did well with assignments after IL instruction.
- Add IL reflective component to lab journals.

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