

Unit-level assessment in Biology department

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At the start of Spring 2018 semester

- Biology department formed our own Assessment committee under the initiative of Professor Lapik:
 - The committee currently has four full-time and one adjunct faculty
- Following discussion with members of biology assessment committee, we decided to continue assessment work in BIO 121, Introductory biology for science majors.

BIO 121, Introductory biology for science majors

- General biology course with a focus on cellular and molecular biology
- IAI transferable course
- Has highest number of sections in our department
- Pre-requisite for BIO 122 and all 200-level biology courses

Stage 1: Department buy-in and outcome definition

- Bio Assessment committee made a recommendation to focus only on certain SLOs of BIO 121 with the goal to design a survey consisting 15-20 questions.
- Twenty core concepts were chosen from the survey, designed and administered by Professor Lapik to all full-time and part-time biology faculty during her sabbatical in the Fall of 2017.
- All of the selected core concepts were shown as either emphasized or covered by all ten faculty that completed the survey.

20 core concepts taught in bio 121

- All twenty core concepts were closely aligned with the SLOs of BIO 121, focusing on the following fundamental topics:
 - basic principles of atomic structure, chemical bonds, organic macromolecules, cellular organization, major metabolic pathways, enzyme function, flow of genetic information, mutations and their role in cancer.

STAGE 2: Assessment research and design

- Reviewed current educational research literature on assessment of student understanding of fundamental concepts in Introductory Cell and Molecular Biology, student misconceptions in introductory biology, publishers' test banks.
- A pilot assessment survey consisting of 20 multiple-choice questions was designed.

Stage 3: Pilot assessment tools and processes

- The draft of the pilot assessment survey was shared with members of the Bio assessment committee.
- All of the feedback and suggestions were incorporated into the pilot assessment survey.

Stage IV: Administer Specific assessment

- The pilot assessment survey was administered in 5 sections of BIO 121 during weeks 15 and 16 of Spring 2018 semester.
- Faculty who volunteered were given instructions on how to administer assessment and why is it important.
- Students were also given instructions on how to complete the assessment and explanation why they are taking it.
- Students were given 20 minutes to complete the assessment.
- Total of 94 students participated in the pilot assessment.

Stage 5: Data analysis

- In fall 2018 semester, data analysis of pilot assessment results will be performed using the analytics tool OpenBook with the help of research analysts from the Assessment Committee.
- Full-scale assessment is anticipated to be conducted at the end of fall 2018 semester with a bigger sample size (hopefully all sections of BIO 121).

QUESTIONs?

THANK YOU!!!
