THE USE OF EPORTFOLIOS TO INCREASE THE VALUE OF THE STUDENT PLACEMENT EXPERIENCE IN THE DEPARTMENT OF BIOLOGY.
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INTRODUCTION:

Placements can be an important part of a student's academic experience. It is an opportunity for a student to volunteer in a research lab or become involved in a community project. It is the perfect chance to introduce students to the culture of scientific discourse, in the research lab or in the field, early in their academic career. The Department of Biology is hoping to increase the number of program students who seek to enroll in a laboratory placement within our Department. Towards this end, we have introduced a Biology 3EP3 Experiential Placement course.

The Department of Biology would like a placement to be a positive and valued experience for our students. We want to (1) encourage students to find an experience that is most relevant to their career aspirations, (2) clarify our goals and expectations for our students, (3) ask our students to reflect upon the placement experience within their program goals, and (4) simplify the evaluation for placement advisors and so encourage faculty participation.

Towards these goals, we would like to introduce **ePortfolios** as a tool for the students to plan their Biology 3EP3 Placement, track their goals and experiences, reflect upon the value of the experience, and share their experiences with their placement advisors and other faculty members. The *Forward with Integrity* agenda has indicated that the learning portfolio is a valuable tool that students can use to steer their own learning outside of the lecture hall. Our Department seeks to balance the value of self-evaluation and the high academic standards characteristic of our programs.

To analyze our experiences with the ePortfolios, we will seek dedicated undergraduate honors students who will use the ePortfolio pilot as the foundation for a research project. We will evaluate the effectiveness of the portfolios for the Biology 3EP3 students and for our own program goals and expectations. These will be students with an interest in pedagogical research who will be introduced to the basic tools used in educational research to evaluate the effectiveness of the portfolios. The students, Dr. Daniel, and I will disseminate the results with the McMaster community at academic conferences and seminars on campus (e.g. McMaster's Research on Teaching and Learning conference hosted by the Centre for Leadership in Learning) and with other Biology Departments at the Ontario Biology Day symposium held annually in March.

STUDENT PORTFOLIO OUTCOMES:

1) Demonstration of skills development (including Undergraduate Degree Level Expectations, UDLEs)
- Scientific literacy including an understanding of scientific concepts and mechanisms
- The ability to engage in scientific discourse with evidence-based arguments with lab peers
- The ability to read primary research literature and to analyze and interpret data

2) Demonstration of an academic plan
- Reflection upon their experience in the research environment and their plans for thesis research
- Rationalization of program and course selection within a framework of career planning

3) End product
- A living portfolio that can be shared with potential thesis advisors, graduate program advisors, and faculty providing letters of support for graduate and professional programs

PROJECT IMPLEMENTATION:
The project will be implemented in two phases. Phase I will occur in Summer 2013 and will focus upon the development of online tutorials and instructive media to be used by students to create their personal ePortfolio as they begin and progress through the Biology 3EP3 Placement course. Phase II will occur in Fall and Winter 2013 when two Biology students will be accepted for placements during which they will critically evaluate the effectiveness of the ePortfolios in our program.

PHASE 1: DEVELOPMENT OF EPORTFOLIOS, SUMMER 2013
OVERVIEW: We would like to (1) determine how Biology Faculty perceive the ePortfolio and how it might assist in the progression and evaluation of a student placement, (2) determine how students perceive the value of the ePortfolio, and (3) develop online tutorials and tools to allow students in diverse placements with varied advisors to create their own ePortfolio.
IMPLEMENTATION: Student project developers will be hired in Summer 2013 to engage in interviews with faculty and online focus groups with students to assess how the ePortfolios are best implemented within the course. They will also develop the tools and protocols that students will need in Fall 2013 and Winter 2014 to create their own ePortfolios.
BUDGET: The requested support is for the salary of two students for 35 hours per week for six weeks. Two work-study students at a rate of $10.50/hour will cost $2205.00/student or a total budget request of $4410.00. (Note: we are on the waiting list for Student Work-Study subsidy of $4/hour). We also intend to request support from the Centre for Leadership in Learning (including information on and implementation support for ePortfolios, instructional design, and multimedia).

PHASE 2: EVALUATION OF THE EPORTFOLIOS, FALL 2013 AND WINTER 2014
OVERVIEW: Student portfolios are tools that provide a forum for students to develop the aptitudes, skills, and habits that come from critical reflection (Zubizarreta, 2004). We would like to evaluate whether these goals are being achieved by our Biology 3EP3 Placement students.
IMPLEMENTATION: We would like two dedicated students to engage in placement projects that introduce them to the process of pedagogical research as they evaluate the use of ePortfolios in Biology. One student each term will evaluate the success of the ePortfolios by interviewing the other in-course Biology 3EP3 students and their advisors. These two placement students will be introduced to the tools and methods of pedagogical research and to the ethical process of conducting educational research on student subjects.
BUDGET: There is no requested monetary support as we wish to supervise two placement students in this phase of development.

CONCLUSION: Student portfolio development encourages self-exploration, dialogue, and critique, all while offering them a way of experiencing themselves as both knowledgeable and skilled (Michelson & Mandell, 2004). Students will submit the ePortfolio to the Department of Biology at the completion of their placement to provide an opportunity to discuss the placement experience. Regardless of the nature of the placement, students will garner common skills in scientific discourse and self-evaluation that they will value long after program completion.

TOTAL FUNDING REQUESTED: $4410.00 for salary to support two undergraduate students who will develop the supporting materials (i.e. online tutorials, protocols) for student guidance on the use of personal ePortfolios.

REFERENCES
Michelson E. & Mandell, A. (2004). Portfolio development and the assessment of prior learning. Sterling VI: Stylus
Zubizarreta, J. (2004). The learning portfolio: Reflective practice for improving student learning. Bolton: Anker.