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October 15, 2015

To: Carolyn Hoessler
              Vice-Chair, Professional Development
              Educational Developers Caucus

From: David Hutchison, PhD, PMP
              Director, Centre for Digital Humanities

Re: Educational Developers Caucus Grant Proposal

Title

Strengthening Project-based Learning through Project Management Best Practices: A Facilitation Guide for Educational Developers

Contact Information

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Mini-description

Project-based learning (PBL) is a popular instructional approach in university courses that promote student collaboration. Yet the educational development literature for PBL largely focuses on K-12 education. I propose to develop a handbook for educational developers which addresses higher education PBL best practices as informed by professional project management principles.

Full Description

Project-Based Learning: A Primer

Project-based learning (PBL) is an instructional strategy which fosters 21st century habits of mind. At the 2013 *Equinox Summit: Learning 2030* conference hosted by the University of Waterloo, the invited international participants envisioned a worldwide transformation in education, grounded in the principles of PBL.[i]

PBL has no one agreed upon definition. In the workshops I have led[ii], I have suggested the following definition which incorporates several of the key principles that have come to define PBL in the literature: *Project-based learning empowers learners to collaborate in teams, mentored by their teachers, as they research real-world questions, pose solutions to real-world problems, and design real-world products in a rigorous way.*

Depending on the instructional context, a project can be initiated by an instructor, proposed by a group of students, or sponsored by an outside organization. A project topic is often interdisciplinary and guided by a 'driving question' which is a carefully crafted and open-ended question that directly captures the focus of the project.[iii]

To answer their driving question, a group of students collaborate on a project team. They co-plan their learning with the support of the instructor, research the literature and, as appropriate, meet with outside experts, build prototypes, and conduct surveys and experiments, among other learning activities, leading to the creation of a final product that answers their driving question.

The final product is presented to a public audience beyond a project team's instructor and classroom peers. The formative assessment of learning is ongoing. Students monitor and regularly report on their individual and project team's progress which allows instructors to track student learning on an ongoing basis.

Rationale

At the K-12 level, the educational development literature for PBL is expansive. Education centric websites (e.g., bie.org and edutopia.org), feature a multitude of practitioner advice that is of relevance to K-12 teachers.

Some of this advice also applies to university instructors. However, the post-secondary context is rarely directly addressed. Nor are the unique needs of adult learners. The issue is exacerbated by the fact that, at the higher

education level, project-based learning is often conflated with problem-based learning which, although related, is not analogous to project-based learning.[iv]

There is a need for a more direct focus on PBL in higher education. This is especially true given the increasing number of fourth year capstone courses, field based co-ops/internships, and university-based entrepreneurial incubators that rely on PBL as part of their foundational philosophies. The unique needs of adult learners need to be taken into account[v], as do the institutional contexts of universities which are different from those of K-12 schools.

Project Deliverable

Drawing on my PBL SoTL scholarship[vi] and experience as the author of four teacher education books, I am proposing to write a PDF handbook that will be digitally distributed (at no cost) to university-based educational development centres across Canada. The handbook will help educational developers facilitate PBL professional development workshops with colleagues.

Tentatively titled *Strengthening Project-based Learning through Project Management Best Practices: A Facilitation Guide for Educational Developers*, the handbook will be approximately 10,000 words in length.

Notably, the K-12 PBL educational development literature has recently begun to draw on the principles of professional project management theory as a means for improving the effectiveness of PBL in elementary and secondary schools.[vii] With this in mind and drawing on my background as a certified Project Management Professional (PMP), the handbook will address key project management topics including:

- writing project proposals;
- building collaborative project teams;
- supporting student project managers;
- working with external sponsors;
- drafting schedules and timelines;
- delineating project tasks;
- managing risks and constraints;
- managing, monitoring, and modifying projects;
- implementing formative and summative assessment strategies;
- publicly disseminating project deliverables;
- fostering 21st century learning priorities through PBL.

In addition to the feedback received at the upcoming 2016 EDC conference (for which I have submitted an interactive presentation proposal) and focus groups with colleagues (see the "Project Milestones" section below), the handbook will benefit from best practices derived from the Brock University Design Studio (BUDS) which I initiated in consultation with colleagues in 2014. Modelled on PBL principles, BUDS teams up Brock students (across a range of disciplines)

who collaborate on client-sponsored interactive design projects as part of their coursework.

Connections to the EDC Living Plan

The project will directly address the following EDC Living Plan themes:

- *"facilitating curriculum development and reform (including signature pedagogies/content-specific pedagogy)"*;
- *"advocating for and facilitating the enhancement of teaching and learning quality"*;
- *"sharing evidence based strategies, practices, and tools, to develop high quality teaching and learning programs"*.

Consistent with the EDC's outreach goals, the project will be implemented in tandem with the soon-to-be-launched EduProject.org knowledge mobilization portal which I am spearheading. Funded through a Brock University Chancellor's Chair for Teaching Excellence grant, EduProject.org will feature PBL related news, research updates, and contributed monographs, with a special emphasis on the undergraduate level. (Over a dozen forthcoming PBL monographs are currently in development. Many are being written by university-based personnel across North America.)

One of the priorities of the EDC project will be to *"connect with other organizations with related passion[s],"* particularly the non-profit Project Management Institute Educational Foundation (pmief.org) which has recently begun to publish educational development resources for PBL at the K-12 level.[viii] (I am the 2015 recipient of the Project Management Institute's Professional Development Scholarship for Learning, Education, and Development. The competition for this award is worldwide.)

In addition to its core content, the PBL handbook will provide educational developers with *"structured opportunities for critical reflection,"* and field tested ideas for *"peer mentorship,"* including activities, exercises, and probing discussion questions that can be utilized in PBL educational development sessions.

Project Milestones

Date (2016)	Deliverable
January – February	Handbook outline.
February	Presentation and feedback at 2016 EDC conference.
February – May	Handbook draft, incorporating EDC conference feedback.
June – July	In partnership with Brock's Centre for Pedagogical Innovation, focus group testing of handbook activities.
August – October	Handbook redraft.

November	Handbook copyediting.
December	Handbook distribution.

Budget

Item	Cost ($)

EDC Conference
    - Conference Fee
    - Travel (736 km return (Brock-Windsor)
       @ $0.50/km (Brock rate)
    - Waterfront Hotel accommodation/parking
       (@ $135.60/night for 4 nights)
	$316.40
	$368.00
	
	$542.40

Focus Group Honourariums (@ $50 X 12)	$600.00
Handbook Copyediting In Kind: 2015-2018 Brock University *Chancellor's Chair for Teaching Excellence Grant*	$700.00 (In kind)
Handbook Printing/Binding (limited run of 50 copies)	$700.00
TOTAL	**$2526.80**

<mark>REVISED BUDGET (POST-REVIEW</mark>

Revised Budget

Item	Cost ($)	EDC grant

EDC Conference
    - Conference Fee
    - Travel (736 km return (Brock-Windsor)
       @ $0.50/km (Brock rate)
    - Waterfront Hotel accommodation/parking
       (@ $135.60/night for 4 nights)
	
	$316.40
	$368.00
	
	$542.40
		$350.00

Focus Group Honourariums (@ $50 X 12)	$600.00	$600.00
Handbook Copyediting In Kind: 2015-2018 Brock University *Chancellor's Chair for Teaching Excellence Grant*	$700.00 (In kind)	$700.00
Handbook Printing/Binding (limited run of 50 copies)	$700.00	$700.00
TOTAL	**$2526.80**	**$2,350.00**

Agreements

[x] I/We agree to provide the EDC community, who funds this grant, with access to resulting information and resources for which the copyright remains with the author(s).

[x] I/We acknowledge that I/we will submit an interim report and a final deliverable.

Endnotes

i Brooks, M. and Holmes, B. (2014). *Equinox Blueprint: Learning 2030*. Waterloo, ON: Waterloo Global Science Initiative. Retrieved from http://wgsi.org/equinox-summit/equinox-summit-learning-2030 .

ii Hutchison, D. (2015). Effectively managing undergraduate student projects. *Digital Pedagogy Institute Conference*. Toronto: August 20.

iii Larmer, J. (2009). *Project Based Learning (PBL) Starter Kit: To-the-Point Advice, Tools and Tips for Your First Project in Middle or High School*. Novato, CA: Buck Institute for Education.

iv Savery, J. R. (2006). Overview of problem-based learning: Definitions and distinctions. *Interdisciplinary Journal of Problem-Based Learning*, 1(1), pp. 1-11.

v Stefanou, C. et al. (2013). Self-regulation and autonomy in problem- and project-based learning environments. *Active Learning in Higher Education*. v. 14.2, pp. 109-122.

vi Hutchison, D. (2015). Project-based learning: Drawing on best practices in project management. *What Works? Research into Practice*. Toronto: Ontario Association of Deans of Education/Ontario Ministry of Education.

vii Partnership for 21st Century Skills. (2014). *21st Century Skills Map: Project Management for Learning*. Washington: Partnership for 21st Century Skills.

viii Trilling, B. (2014). *Project Management for Learning: A Foundational Guide to Applying Project Management Principles and Methods to Education*. Newtown Square, PA: Project Management Institute Educational Foundation.