Cover sheet

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Project Title: Phase One of a Developmental Evaluation of a New Master of Science in Product Stewardship Program: Development of a Conceptual Framework for Curricular Mapping

Project Dates: 1/01/18 - 12/31/18

Project Checklist:

__x__   Statement of support from the department chair or school dean by e-mail to Linda Houser (lhouser@iupui.edu) - as a separate file not included in the proposal.
__x__   Simple budget : A detailed budget is not necessary. Nevertheless, please include a brief paragraph/details indicating how you intend to spend the grant money.
__x__   IRB (Institutional Review Board) approval is not required for the proposal, but must be obtained prior to transfer of funds if the proposal is selected.

Abstract. This project is the first phase of developmental evaluation of the new Master of Science in Product Stewardship program. We will interview product steward stakeholders to develop a program conceptual framework, which will be tied to future curriculum mapping exercises, and to the development of metrics for measuring program and student learning goals. Because this is both a new academic program and a new profession which are evolving in tandem, it is vital to establish procedures and a baseline for tracking developments and influences on student learning. It will also facilitate meaningful engagement of our distributed, fully associate faculty.

Purpose of project. The IU Fairbanks School of Public Health (FSPH) at IUPUI has a new Master of Science in Product Stewardship (MSPS) degree, and has welcomed its first inaugural class of 10 students this fall. Product stewardship is the "responsible management of the health, safety, and environmental aspects of raw materials, intermediate, and consumer products throughout their life cycle and across the value chain in order to prevent or minimize negative impacts and maximize value".[1] Product stewardship is an emerging and evolving profession which addresses local, national, and global issues relating to the environment, worker health and safety, and social accountability as they relate to the design, use and disposal of everyday products. The entirely online, 30 credit Master of Science degree in Product Stewardship will train future leaders in this field. The courses in the MSPS are currently taught by two full-time faculty members (courses used in more than one degree program) and nine part-time, associate faculty members. Additional full-time faculty members will be hired as program enrollment grows. This is currently the first and only program of its kind in the country, and has been

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[1] Product Stewardship Society. (2014). Core Competencies for the Product Stewardship Professional.Retrieved from http://www.productstewards.org/Resources/Pages/Core-Competencies.aspx.

developed in response to a recognized need for a new type of professional. Because it represents an academic training response to an emerging profession, the program faculty are working product stewards who participate in this program as geographically-distributed associate faculty.

   The purpose of this project is to lay the groundwork for ongoing developmental evaluation of the program and to establish a baseline against which to track curricular goals, monitor student learning toward those goals, and develop reflective practices among program staff and faculty as the program matures. Because this is both a new academic program and a new field which are evolving in tandem, it is especially important to establish procedures and metrics for tracking developments and influences on student learning now. We have envisioned a three-phase process for assessment in the early years of this program. This project encompasses Phase 1.

Intended outcomes of the project. By the end of this project, we will have a visual conceptual framework of the product stewardship program which depicts its fit within broader social and economic systems. This framework will serve as our primary tool to map our curriculum to that framework, and to develop metrics to track progress in program development and student learning. We intend to apply for a Curriculum Enhancement Grant in 2018 to do the work of curricular mapping and developing student learning metrics. The aim of the overall effort is twofold: First, it will provide a baseline early in the program, setting us up to purposefully develop over time, and to speak to what we are doing with metrics. Second, it will help us develop a 'learning organization' culture, one which makes a progressively greater portion of program decisions based on evidence. This program environment is vital to maximizing development over time, but is also a challenge with a distributed program faculty and staff.

Assessment method(s) that will be used in the project. The novelty of the program's development in sync with the formation of a new profession means that we must not only define our program's goals and track progress toward them, but also do so in an atmosphere of change and innovation in the profession that this degree program serves. Developmental evaluation is an approach to evaluation which was developed precisely for thoughtful, ongoing assessment of innovations[2]. The term *developmental evaluation* describes the *purpose* of the evaluation rather than its methods or activities; the latter are defined within the developmental approach and described below. In developmental evaluation, evaluators are "embedded" as part of the team and understand the overall purpose of the project. Of particular relevance to this proposal, this approach to evaluation is appropriate when the innovation under study is still evolving. In those cases, the evaluator's task is to document all decisions, processes, functions, and strategic directions, and to revise evaluation plans in response. The goal is to systematize learning gained from early phases of program development, and to work to develop measurable indicators of success for later phases of study.

Within our developmental evaluation frame, we will employ several methods for this project. In Phase 1, we will conduct interviews with program faculty, staff, and key stakeholders in the newly-formed international Product Stewardship Society[3]. The aim of the interviews is to elucidate key players/institutions/non-human actors (eg., policies/laws) which make up the universe of the product stewardship profession, and use that information to develop a visual conceptual framework which shows how each of these are connected.

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[2] Patton, M.Q. (2011). Developmental Evaluation: Applying Complexity Concepts to Enhance Innovation and Use. New York: The Guilford Press.
[3] Product Stewardship Society, www.productstewards.org

Our approach to interviews will be semi-structured using an interview guide, and informed by Actor-Network Theory[4,5] (ANT). Actor-Network Theory posits that social systems are comprised of actors, which are both human and not, connected to each other and which interact and influence each other through interaction and feedback loops. The actors and their networks create the reality of that system and determine behavior within it. We will ask people about the kinds of problems they work on as product stewards, regulations which bound their work, institutions with which they interact, what ideas they have, and how all of these things relate to each other. Their answers will identify components of the network and the ties between those components. Interviews will be completed by video conference or telephone.

Data analysis. Interviews will be audio recorded and transcribed in clean verbatim format and analyzed using directed content analysis[6]. Initial coding schemes to index the data will be based upon the interview guide, and include codes to represent actors, processes, links, networks, and systems. In subsequent phases of analysis, we will use memos and code trees to visually represent the system described by interviewees[7]. Finally, we will develop a preliminary conceptual framework which depicts the niche that this academic program fills within a larger system in which product stewards operate.

Evaluation and dissemination of the results. Our conceptual framework will be evaluated using participant checks[8]. Participant checking serves to check the trustworthiness of the

[4] Latour, B. (1992). Where are the Missing Masses? The Sociology of a Few Mundane Artifacts. In: *Shaping Technology/Building Society: Studies in Sociotechnical Change.* Wiebe E. Bijker and John Law, Eds. Cambridge: MIT Press.

[5] Latour, B. (2005). Introduction: How to Resume the Task of Tracing Associations. In: *Reassembling the Social: An Introduction to Actor-Network Theory*. Oxford: Oxford University Press.

[6] Hsieh, H. & Shannon, S. Three approaches to qualitative content analysis. *Qual Health Res* **15,** 1277–1288 (2005).

[7] Miles, M., Huberman, A. & Saldana, J. *Qualitative Data Analysis: A methods Sourcebook*. (SAGE Publications, inc, 2014).

[8] Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods*. Thousand Oaks, CA: Sage Publications.

analysis of data and summary of results with those who actually provided the data. Corrections and modifications will be incorporated to the conceptual framework. We have also planned two types of dissemination for our results. First, we will summarize our findings in a blog post on the Product Stewardship Society Full Circle Blog, which is read by product stewards globally. Second, we will pursue publication in traditional venues for scholarship.

Use of findings for program improvement. The proposed project represents the first phase of a broader plan for program assessment and improvement. It is vital to establish a baseline early in the life of this new program. Product Stewardship faculty are currently engaged in assessment of their individual courses using Quality Matters. Following this project, we will undertake the first map of our current MS in Product Stewardship curriculum, determining content, overlaps, and gaps. We will then tie the conceptual framework created in this project to our curricular map. Doing so will help us to further highlight and identify skills and competencies which our program can provide to the larger development of a profession. Our framework will also be used to engage faculty in developing metrics of program development and student learning so that we may track our progress over time. We plan to ask for a Curriculum Enhancement Grant to perform next phases of our developmental evaluation, while also furthering the goal of engagement and reflective practice in our distributed associate faculty.

Budget and narrative.

Item	Cost
Program Coordinator (2.5% effort + fringe, 1 yr.)	$2,196.00
Transcription services (15 interviews @60 min.; $.79/min*900 minutes)	$711.00
Total cost	$4,579.00