Project Status Report

DECEMBER 2019

PROJECT YEAR ONE, Q1 AND Q2

This report covers Q1 and Q2, during which we focused on creating a foundation for a successful project. We worked through the administrative and implementation tasks to build the project team, established consulting and collaboration partnerships, aligned literature reviews and qualitative data collection for research lab contexts, embarked upon curriculum development, and moved toward a final graphic design for project materials.

Project Start-Up

Tasks and achievements advanced or completed this period include:

- Administrative/project management: we are building the NCPRE project team, including hiring key personnel and re-allocating and structuring the roles and responsibilities of current team members to support the HHMI project
- Establishing relationships with collaborators and consultants
- Starting research and data collection, including:
  - Structured interviews with six HHMI investigators
  - Introductory site visits to HHMI HQ and Janelia Research Center
  - Literature reviews to align data collection and instructional evaluation
  - Piloting focus group protocols and conducting focus groups with lab members at partner Institute for Genomic Biology (IGB)
- Starting content development process for Module One

Building Core Team

- Current NCPRE team re-allocated and structured to support project (See Project Personnel document)
- Virginia Lehmann joined the team August 26, 2019 as Science Advisor and Project Associate
- Search completed, offer made to and accepted by Susan Muirhead as senior project lead and content developer; Susan started work on October 2, 2019
- Elizabeth Luckman transitioned from post-doctoral researcher to Senior Academic Advisor as she accepted a faculty position; continues to work with NCPRE 10 hours a week
- Search completed, offer made to, and accepted by Alison Kerr, new Senior Post-Doctoral Research Associate; Ali started work on December 2, 2019
- Executive Producer of Media: hiring in process, hoping for permission to offer position on December 13, 2019, with aspirational start date on January 1, 2020, or as soon possible thereafter

Collaborating Partners and Consultants

- Collaborating consultants and partners relationships initiated to inform or enhance specific curriculum elements (diversity and inclusion experts, interactive exercises, iREDS protocol tested in randomized clinical trial for intra-lab discussions, etc.) (See Project Personnel document and Module One Overview description of roles)
- New graphic design direction identified; new designer identified; transition under way and work in progress
BULLETED PROGRESS STEPS

ORGANIZED BY PROJECT YEAR ONE MAJOR GOALS

RESEARCH AND DATA COLLECTION

Research is underway to provide a foundation for instructional development through structured interviews, focus groups, literature reviews, and archival data collection. The purpose of the interviews and focus groups is to hear from investigators and laboratory members to shape instructional content and video scenarios rooted in the HHMI environment and values. All information-gathering is conducted under an approved University of Illinois IRB protocol.

Qualitative Research - Focus Groups and Interviews
- IRB review and approval of focus group and interview protocols
- Interview protocol test pilot with NCPRE team member, Robert Easter (Professor and President Emeritus University of Illinois; swine nutrition research career)
- Pilot of focus group: September 13, 2019
- Interview protocol refinement based on pilot
- Initial focus groups with 2 of 3 identified pilot labs: November 13 & 14, 2019
- Begin qualitative data analysis for scenario alignment
- Site visits and interviews with six HHMI Investigators: Urbana-Champaign, Dallas, San Francisco
- Site visit by PI to HHMI and Janelia Research Center: September 23, 2019

Literature Reviews
- Creating “Cultures of Excellence”
- Diversity, inclusivity, and productivity in research settings
- Effectiveness of ethics/sexual harassment/incivility trainings, factors and findings

Additional Data Collection
- Archival approaches: initiated collection of lab manual examples
- iREDS collaboration: creating lab culture communication including ethical discourse
- The Center for Scientific Integrity (CSI) collaboration to identify scenarios of relevant research environment challenges: 13 cases from Retraction Watch data base identified and summarized this period
- External meetings, lectures, seminars (See complete list below)
CURRICULUM DEVELOPMENT

NCPRE is developing individual module draft outlines, each designed around specific learning objectives, with scenarios, skills, and research-based content. HHMI curriculum and/or core project teams will be involved in the development through an iterative process through sign-off for production, and then again for review and revision. During the period covered by this report, significant tasks for curriculum development included both overall curriculum design and delivery explorations, and development of Module One content.

General Curriculum Development
Curriculum development this period was focused on branding and customizing print material design, website development, technology-based eLearning program testing and selection, and general and specific instructional content development.

- Branding and print materials design
- Website development, https://labsthatwork.web.illinois.edu/
- Delivery platform explorations: testing Learning Management Systems (LMS)
  - Researching professional development platforms
  - Collaboration with Gies School of Business to identify latest initiatives in LMS
  - Testing Thinkific platform for initial piloting
  - Exploring promising innovative technologies (Gooru, Wiki, Apps, VR, AR, ePortfolios)
  - Casting agency contract initiated to provide production support and Screen Actors Guild (SAG) actor casting

Module One Development
Instructional development this period was focused on Module One content, design, and delivery decisions. (See Module One Overview for more detailed Module One overview

- New title adopted: Cultures of Excellence
- Learning competencies defined, refined
- Skills/tools to be incorporated and identified
- Scenario narrative development underway
- 2-Minute Challenge (2MC) inventory review
- Video review and analysis assessing effective elements to incorporate into pedagogy
- Exploration of lessons learned from live actor interventions in academic settings
NEXT PERIOD GOALS

1. Continue Module One Development
2. Complete website
3. Finalize LMS Platform decision
4. Establish evaluation strategy

ONGOING/NEXT STEPS

YEAR ONE MAJOR PROJECT GOALS

Research and Data Collection

- Site visit January 8, 9, 10, HHMI Headquarters and Janelia
- Focus group data collection: continue with additional lab focus groups
- Continued interview data collection: structured one-on-one interviews with individual participants
- Analysis of current data from focus groups, interviews: data mining for critical stories
- Survey data development and collection: pilot with IGB labs and at Janelia Research Center
- Conclusions, lessons, ideas for exercises, scenarios, modules documented

Literature Reviews

- Instructional evaluation aligned with project objectives
- Instructional motivation and engagement including technology/user interface engagement
- Lab manuals to inform participant portfolios and instructional design

Curriculum Development

- Select and test e-learning platform
- Module One development
- Pilot test Module One segments
  - Reactions to scenarios and exercises in additional focus groups/interviews
  - IGB pilots as well as select Janelia groups and/or close-by HHMI Investigator laboratories

Pilot Testing and Formative Evaluation

- In process of conducting formal Training Needs Analysis tracking to inform content, design, delivery, and training evaluation selection
- Continue focus groups and site visits to establish evaluation objectives
- Monthly meetings with third party evaluator: Dr. Rodney Hopkins, University of Illinois College of Education
- Initial evaluation of pilot by HHMI collaborators
- Incorporate feedback into Module One development
RELATED INFORMATION

**External Events, Meetings, Lectures, Seminars**

- Inclusive Lab Leaders Session 4: Creating sustainable systems to support our work. December 13, 2019.
- Disability Ally Program, Disability Resources and Educational Services (DRES), December 3, 2019, Noyes Laboratory
- Paul Gorski, Why we need racial equity literacy more than we need cultural competency: Principles for Antiracist Actions in P-20 education, College of Education Dean’s Diversity Lecture, November 18, 2019
- Racial Justice Allies 1.0 Training, Office of Inclusion and Intercultural Relations, November 15, 2019, Asian American Cultural Center
- Michelle Rodrigues, Stressors and Social Coping in Women of Color Scientists, Beckman Institute Director’s Seminar, November 7, 2019
- Transdisciplinary Research on Incivility in STEM Contexts (NSF funded), Beckman Institute, October 17-18, 2019
- American Geophysical Union, ARC Network’s Equity in STEM Community Convening, October 6-8, 2019, Westin Cleveland Downtown Hotel, in Cleveland Ohio
- Jan Heemstra, Why Success is More Likely When You’re Willing to Fail, September 18, 2019