IITG Project Outcomes Form - Report Outcomes

Name of person reporting outcomes
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IITG Project Title
2016-Oswego-Bichindaritz-An innovative educational…open educational resources (MOOC)

Access Keywords: Enrollment, Diversity, Capacity, Affordability
Our project provides a series of three MOOC-like courses, one being offered by Coursera, that learners can take to complete a certificate and receive an award of completion in Biomedical Data Analysis at an affordable cost. The access to the Big Data, Genes, and Medicine course in particular has expanded our educational reach to an amazing worldwide audience of currently 4,078 learners of varied backgrounds and socio-economic status.

Completion Keywords: Completion, Persistence, Transfer, Retention
Our project will allow us to better support students currently enrolled in our degree-granting programs in biomedical informatics by providing on-demand remedial educational resources. We designed these courses developed with our students in mind to bridge between varied backgrounds and disciplines.

Success Keywords: Applied Learning, Student Supports, Financial Literacy, Career Success
Our project teaches practical skills for biomedical and bioinformatics research that our students having undertaken applied learning through internships and biomedical research projects have greatly benefitted from. It provides an invaluable resource that we regularly direct students to study as they begin their research projects to bring them up to speed faster with the knowledge they need to succeed.

Inquiry Keywords: Scholarship, Discovery, Innovation, Mentoring
Several of our students, both graduates and undergraduates, participated in this project leadership by assisting in the preparation and delivery of instruction. Several students benefitted from the MOOC courses when working on their research projects over the summer, which have resulted in a poster to be presented in September 2017 and two conference articles in preparation.

Engagement Keywords: START-UP New York, Commercialization, Workforce Development, Alumni/Philanthropic Support, Community Service.
The courses developed as MOOCs and corresponding open educational resources demonstrate our engagement in community service as many workers and alumni will benefit from the sharing of our expertise freely or affordably.

This IITG project has already started to bring in revenue in the form of learners enrolled in the Big Data, Genes, and Medicine Coursera course. 161 learners have paid $49 for this course over 11 months, for a revenue of $7889. It is expected that the course will continue to bring revenue at least at the same rate. The research projects in which students have participated with the support from this grant are also expected to facilitate the obtention of additional grants through the preliminary results obtained.

1st Choice:
Instructional Technologies

Instructional Technologies

- Open Educational Resources (OER)

2nd Choice:
Instructional Design

Instructional Design

- Online Education

3rd Choice:
Assessment, Understanding, Monitoring Student Progress

Assessment, Understanding, Monitoring Student Progress

- Learning Analytics
- Peer Assessment

What recommendations would you make to scale-up or share your project more broadly (within an educational sector, or perhaps SUNY-wide)?
It would be helpful to have an open learning management system (LMS) that would allow linking between the open LMS and Blackboard and other academic LMSs in a manner similar to Coursera. One can link Coursera videos and modules to the institutional LMSs because Coursera provides Web links for each of the components of its courses that allow embedding them into institutional LMSs, unlike for example OpenEd. This open linking allows to intersperse and integrate Coursera instructional material into our academic courses, thus making Coursera a platform suited to serving open educational resources.

If you would like to create a community of practice within the SUNY Learning Commons, please describe "members of your community" who would be most interested in your outcomes. Please be specific (e.g., math faculty, instructional designers, student services, registrars, administrators, accreditation or assessment specialists).
I would like to create a community of practice in data science or biomedical data science.
Members of my community could be health science faculty, statisticians, computer science faculty, math faculty.

Do you intend to create an ongoing "Community of Practice" within the SUNY Learning Commons to continue work and dialog regarding this project?
Yes

Overall, how successful was IITG in meeting your project goals? (You may elaborate on your response in the final question if not addressed elsewhere.)
Extremely successful

Do you wish your current abstract to be used?
No

If you wish to re-word the abstract to reflect updates or outcomes, you may do so in this text box (please keep it brief – less than 150 words - you can expand on this in your files and links)
SUNY Oswego has been an active participant in online learning since 1996 and was one of the early adopters of the SUNY Learning Network. SUNY Oswego features a Master's program and advanced certificates in biomedical informatics in Syracuse and on OpenSUNY. Technology serves as a catalyst for innovation and efficiency in all domains of society, causing a high-demand for technology-infused educational offerings. However, interdisciplinary programs have to nurture innovative pedagogy to cross discipline boundaries. This project has created open educational resources (OERs) as a source for a cascade of educational offerings to serve diverse learners in interdisciplinary fields with a test-bed focus on biomedical data science. These OERs and corresponding MOOC-like course offerings can be intertwined with academic programs to improve access, completion, and success. Learning analytics have been deployed to track student learning outcomes. The proposed model can be disseminated and made reproducible to other interdisciplinary and/or technology-infused domains.

File One Upload and Brief Description
Big Data, Genes and Medicine course on Coursera:
https://www.coursera.org/learn/data-genes-medicine

File Two Upload and Brief Description

Open Education (BB) courses:
https://openeducation.blackboard.com
1) Biomedical Statistical Analysis (Dr. Ampalavanar Nanthakumar – will be opened by September 10, 2017)
2) Biomedical Data Analysis with R (Dr. Isabelle Bichindaritz – will be opened by September 17, 2017)
3) Biomedical Research Methods (Dr. Ioana Coman – will be opened at a later date)

File Three Upload and Brief Description
Open educational resources:
These three courses will be exported as common cartridges, loaded on the project Web-site as an open educational resource, and indexed in SUNY Digital Repository and MERLOT.
The Coursera course will also be linked to the project Web-site.

Project Website Address (Hyperlink 1)
http://cs.oswego.edu/~bichinda/iitg

Hyperlinks to journal articles or campus/local/national press releases describing your project
Reneta P. Barneva, Isabelle Bichindaritz, Valentin E. Brimkov, Joaquin Carbonara, Sanjeena Dang, Federico Gelsomini, Kamen Kanev, Jeanette Sperhac, and Lisa Walters: A Multifaceted Approach Towards Education in Data Analytics. In: D. Luca et al. (eds.), Recent Advances in Technology Research and Education, Advances in Intelligent Systems and Computing 660, Springer, DOI 10.1007/978-3-319-67459-9_38

Any additional comments or resources you wish to share?
Last minute academic events have slightly delayed the final stage of the project. We will submit all materials within the timeframe indicated above.

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