Year in Review

This document outlines the accomplishments of each of Learning Innovation's four teams throughout the 2021-2022 academic year. To see what we are currently working on, see our Year in Progress.

Teaching Innovation

The Teaching Innovation team consults with and advises Duke faculty on their teaching, leads development programs for educators and helps improve student learning at Duke.

- Supported the Summer Course Development Grant program including a three-day kick-off workshop May 17-19, 2022, monthly summer meetings and individual consulting as needed for 10 summer course design projects through August 2022.
- Offered the 2022 Active Learning Institute (June 6-10, 2022) to help instructors deepen learning and increase student motivation for all students in their classrooms by using active learning techniques.
- Initiated a second cohort of Collaborative Project Course Fellowship, May – December 2022, in partnership with Bass Connections (read about the first one here).
- Collaborated with Duke's Office of Interdisciplinary Studies to offer a Grad Academy on Inclusive Online Teaching, June 6-10, 2022.
- Collaborated with the Duke Kunshan University Center for Teaching and Learning to offer the sixth annual DKU Learning Innovation Fellows program, a teaching development and orientation program for new DKU faculty.
- Organized and led graduate student pedagogical development offerings: Digital Pedagogy course (GS762), Digital Education Leadership Series (read about 2021's Series) and the Bass Digital Education Fellowship Colloquium (GS772) in Spring 2022.
- Consulted with and actively supported faculty recipients of six of the "Carry the Innovation Forward" program awards.
- Supported Gradescope with faculty consultation, training, communication and vendor liaison activities, including supporting an upgrade to Gradescope's LTI1.3 in December 2021 to better integrate Gradescope and Sakai.
- Organized a public webinar "Creating Inclusive Learning Environments" with Rita Kumar and Brenda Refaei, editors of Equity and Inclusion in Higher Education: Strategies for Teaching.
- Offered and led Small Group Instructional Feedback sessions for Duke faculty.
- Conducted Fall 2021 and Spring 2022 Inclusive Teaching workshop series.

- Supported use of Labster during the 2021 pilot of the tool, and helped faculty transition off the tool (or to individually-funded licenses) at the end of the pilot in December 2021.
- Participated in the PULSE Vision and Change review of the Duke Biology Department.
- Authored new teaching guides including Creating an Inclusive and Equitable Course and Hybrid, HyFlex or Concurrent Courses.

Learning Technologies

The Learning Technologies team breaks down barriers between teaching, learning, and technology at the university.

- Grew Kits – the Duke Learning App store – displays to learners a unified interface for accessing the instructional tools used by their learning communities.
- Supported Gradescope, PlayPosit, and Voicethread with faculty consultation and training and vendor liaison activities.
- Provided ongoing support, communication and documentation of changes and features in enterprise tools that support Flexible Teaching — ex: Zoom, Panopto, Warpwire
- Conducted the Ed Discussions pilot – Ed has been licensed for the 22-23 academic year.
- Developed Sakai Conversations – new Sakai Q&A tool.
- Shut down product development for Nudge.
- Developed Sakai UI/UX.
- Led the edtech integrations working group with OIT, SISS, and others.
- Deployed Sakai update V21.
- Piloted Hypothes.is – Hypothes.is is a tool that lets users collaboratively annotate and discuss webpages and documents. Hypothes.is has been licensed for the 22-23 academic year.
- Migrated Coursera courses using Microsoft Azure to new Coursera infrastructure.
- Many updates for Fall 2021 to our learning technologies summarized in this blog post

Online Duke

The Online Duke team helps faculty develop online learning opportunities that offer flexibility to Duke students, reach the extended community of alumni and prospective students and extend Duke's global impact.

- Provided course design, education technology, and learner enrollment support for the Duke Summer Computing Institute for both Summer 2021 and Summer 2022.

- Completed the design and launch of UAS Applications and Operations in Environmental Science, a non-credit course series on drones technology from Duke Environment.
- Provided instructor and learner support for Duke Engineering's non-credit Coursera certificate, Blockchain Applications. The certificate serves as a pathway into Duke Engineering's Master of Engineering in Financial Technology.
- Launched the following Coursera Specializations in high-demand skills areas and emerging technologies:
    - Building Cloud Computing Solutions at Scale and Python, Bash and SQL Essentials for Data Engineering, developed in partnership with Duke's Master of Interdisciplinary Data Science
    - Decentralized Finance: the Future of Finance
    - AI Product Management, developed by Duke Engineering
- Improved the learning design of the second course of Duke's Java Programming Coursera Specialization, leading to a 58% increase in course completions for the course.
- Consulted on learning design and learning technology for a pastoral training program during COVID-19 led by the Community Craft Collaborative in Duke Divinity.
- Worked with faculty to design two hybrid for-credit courses for Duke Divinity's Certificate in Theology and Health Care.
- Provided learning design guidance, media production, and course site development for faculty in the Duke Global Health Institute (DGHI) for a course that was developed to serve both Duke students and students at a DGHI partner site at Moi University in Kenya.
- Developed educational video content for learning tracks and co-curricular learning as part of Duke CCT's educational mission.
- Completed media production and design for videos for modules on Git and Linux in the Software Engineering learning track developed by the Innovation Co-Lab and Duke's Center for Computational Thinking.
- Completed the design of 8 case-based modules for the American College of Surgeons on Machine Learning for Surgeons.
- Guided faculty in the Department of Anesthesiology in designing a course that trains health professionals on core concepts needed to carry out patient treatment using ECMO (extracorporeal membrane oxygenation).

Research, Evaluation & Development

The Teaching Innovation R&D Lab team supports research and experimentation on teaching and learning across the Duke community with an emphasis on early-stage projects and translational research.

- Organized the 2022 Pandemic Pedagogy Research Symposium (PPRS), an online conference showcasing new research on teaching and learning innovations that have emerged during the global pandemic. The conference was co-sponsored by Stanford University, the University of Michigan, the University of Pennsylvania NC State University, the University of Georgia, and Princeton University.
- Supported the Trauma-Informed Teaching, Learning, and Education Bass Connections team to conduct research on how student experiences of trauma affect teaching and learning at Duke.
- Collaborated with Mohammad Noor to conduct research on the effectiveness of using popular culture references (Star Trek Discovery) to teach college-level biology concepts
- Collaborated with administrative groups across campus to collect data on trends and changes at Duke in the number and distribution of temporary faculty members to improve outreach and teaching support
- Worked with Amanda Hargrove on a research-based seminar course (Chem 81S) for first year students that will help retain women and underrepresented minorities in STEM majors by giving them early-career access to hands-on research opportunities. Learning Innovation is helping Amanda develop the screening instrument that students will use to apply for this unique course.
- Presented a workshop for faculty on inclusive assessment practices (Fall 2021 and Spring 2022)
- Completed and submitted a manuscript on value-sensitive design in education technology development projects
- Conducted focus groups with students in quantitative science courses to understand the relationship between course elements and student engagement
- Supported Kip Coonley's research on using lab kits to facilitate student learning in electrical and computer engineering courses
- Provided data cleaning and management for Maria Tackett's research on student-developed apps for learning foundational statistics concepts

Recent Publications

Clemontina A Davenport, Steven Grambow, Tara Kramling, Nicholas Janes, Kim Manturuk, Quentin Ruiz-Esparza, Heather Hans, Gregory P Samsa, Jesse D Troy, Megan L Neely, L Ebony Boulware, Gina-Maria Pomann. 2022. "Preliminary Investigation of a Novel Hybrid Curriculum to Train New Investigators in Collaborative Research", Journal of Clinical and Translational Science, forthcoming.

Reavis, G., Antonicci, N. & Manturuk, K. (2021). "A lot has become muted:" Supporting LGBTQ+ students living at home during the covid-19 pandemic. In K. Bista, K., Allen, R.

M., & Chan, R. Y. (eds.), Impacts of COVID-19 on International Students and the Future of Student Mobility (pp. 91-103). Routledge.

Manturuk, K. & Reavis, G. (2021). Pedagogical implications of covid-19: A case study of what faculty learned about teaching well by teaching remotely during the covid-19 pandemic. In Bista, K., Allen, R. M., & Chan, R. Y. (eds.),The Impacts of COVID-19 on Higher Education: Global Perspectives (pp. 154-166). STAR Scholars. https://starscholars.org/product/global-education/

Fitzgerald, T.N., Muma, N. J. K., Gallis, J.A., Reavis, G., Ukachukwu, A., Smith, E.R., Ogbuoji, O., Rice, H.E. (2021). Development of an interactive global surgery course for interdisciplinary learners. Annals of Global Health, 87(1): 33, 1–14. doi: https://doi.org/10.5334/aogh.3178De Gagne, J. C., Koppel, P. D., Park, H. K., Cadavero, A., Cho, E., Rushton, S., Yamane, S. S., Manturuk, K., & Jung, D. (2021). Nursing students' perceptions about effective pedagogy: Netnographic analysis. JMIR Medical Education, 7(2), e27736. https://doi.org/10.2196/27736