TILT Annual Report: Advancing Curricular Excellence

Level 1 Top Line:

Keys to advancing curricular excellence include effective use of technology, Scholarship of Teaching and Learning, best practices in course design and development, and High Impact Practices (HIPs)

Data:

- Online and Residential Instruction (RI) Faculty partnership = 163 = 13 (Collaboratory) + 70 (CDT online) + 5 (APLU faculty) + 75 (Tech from Chris/Stan)
- Online and RI Courses supported = 561 = 12 (Collaboratories) + 400 (online) + 9 APLU courses + 140 Courses for Service Learning (Mark)

IMPACT: The number of enrollments impacted through our work with faculty and courses = 15,499 = 2395 (APLU) + 2640 (Collaboratory) + 3500 (Service Learning Mark) + 1384 (CDT) + 5580 (IDD tech)

Level 2 Advancing Curricular Excellence
Academic Year 2016-2017

[Each item below is a link to more information.]

1. 13 Residential-instruction Faculty and 2640 enrollments in Provost's Learning Collaboratory for Course/Curriculum Redesign and Research on Learning **[Link 1]**
2. 2395 RI enrollments and 5 APLU faculty in Courses Using High-impact Practices (HIPs)/Adaptive Courseware **[Link 2]**
3. Approximately 70 Faculty Engaged in Online Course Design and Development Encouraging the Use of HIPs and Effective Instructional Design **[Link 3]**
4. 1384 Enrollments Impacted in Online Courses Designed and Developed Encouraging the Use of HIPs and Effective Instructional Design **[Link 4]**
5. 6964 Enrollments Impacted in Courses Integrating the Use of Technology **[Link 5]**
6. Approximately 400 Online Courses Continually Supported **[Link 6]**
7. 3500 Students Impacted by Service Learning Courses **[Link 7]**
8. 140 Faculty supported in the delivery of 140 Service Learning Courses **[Link 8]**

Commented [L1]: Mark

Level 3

[Link 1] Faculty were invited to apply for a Provost Learning Collaboratory Award to support course redesigns: (1) curriculum redesign for multiple courses or a single large enrollment course; (2) mini course redesigns supporting a redesign of some aspect of a course; and (3) research grants to investigate learning and teaching at CSU with the intention to apply what was learned. Provost Collaboratory Awards were provided in: Chemistry, English, Life Sciences, Math, Mechanical Engineering, Microeconomics, Natural Resources, Professional Languages, Psychology, Speech and Communication.

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Provost Collaboratory Awards			
Course(s)	**Faculty and Type of award**	**Redesign strategy**	**Enrollments impacted Sp '17 2640**
CHEM 245	Patricia Somers	Incorporated active learning, including investigations and manipulations of 3D models and problem-solving into class instruction by integrating Learning Assistants.	176
LFRE/LGER/LSPA 300 LFRE/LGER/LSPA 301 LFRE/LGER/LSPA 400	Frederique Grim	Integrating high-impact practices such as robust design, integrative learning, self-regulated learning, constructive feedback, metacognitive thinking, intellectual and practical skills, collaborative projects, cultural/global perspectives, and personal and social responsibility.	246
SPCM 100	Nick Marx	Implemented backwards design to revise course sequence of material delivery and all assignments and rubrics for SPCM, including learning objectives for the course, learning outcomes for assignments. 700 - 1000 enrollments take SPCM 100 each semester. Newly designed course being piloted Fall '17.	569
English First Year Experience E 192 (New course)	Pam Coke & Zach Hutchins	Undergraduate Education Committee curriculum reorganization. Facilitated focus groups as the first step in the process of redesigning the English major.	115

LIFE 203	Farida Safadi-Chamberlain	Integrated collaborative group project, revised rubric for the project, assigned and gave feedback to project in stages, and made rubric assessable to enrollments during the course of their work.	142
NR 220	Paul Doherty	Refined Pingree Park Field Guide App and integrated the app with 3-D map to display data collected by students. Assisted in launching Mountain Canvas for faculty and student use on the mountain campus. Shot, edited and published 12 videos on the use of map, compass and GPS units.	250
ECON 202 Principles of Microeconomics	Karen Gebhardt	C-ALT Faculty Fellows Implemented Learning Assistants. Assisted in conception of a study design to determine risk factors of online versus face to face course.	343
Embodiment in Math PSY 100 & MATH 155	Dan Graham (lead) - psych Jessica Witt - psych Anne Cleary - psych Mary Pilgrim - math	Dan Graham (Psychology) and Mary Pilgrim (Mathematics) are working collaboratively to implement embodiment activities into active learning situations. There is preliminary evidence that embodiment activities benefit learning of challenging topics in psychology and mathematics.	1164
MECH 103 Introduction to Mechanical Engineering	Tammy Donahue	Developed in-class, hands-on activities and data collection. Incorporated Learning Assistants into lab section to support students grappling with data analysis programs (Excel/MatLab).	49

TILT Annual Report: Advancing Curricular Excellence

Testimonial

"Support from TILT and the Provost's Collaboratory program provided us with crucial expertise (particularly from Karen Falkenberg) and funding as we pursued a major overhaul of the English major. We drew on Karen's familiarity with establishing and moderating focus groups to gather data from faculty, students, and interdisciplinary partners, data which we are now using to develop a new, freshman seminar for incoming majors and to revise the larger curriculum."

[Link 2] Integrating Adaptive Courseware to Support High-Impact Educational Practices

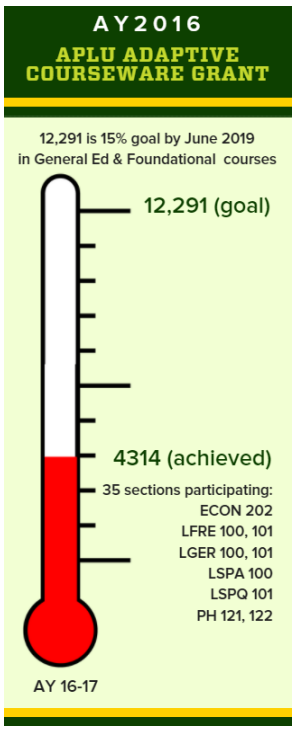
In an effort to augment the Student Success Initiative 2 (SSI 2) through High Impact Practices, TILT received the large grant: *Accelerating Adaptive Learning Courseware at Public Research Universities Grant* from the *Association of Public & Land-grant Universities (APLU)* for the grant period of July 2016 through December 2019. This funding was awarded to combine the integration of adaptive courseware with the integration of HIPs in class. Adaptive courseware promotes the development of robust learning of content and skills outside of class allowing instructors to implement the use of HIPs and active learning during class time. The grant supports the use of Adaptive Courseware in key courses to enhance Constructive Feedback, particularly large-enrollment courses. The grant requires that 15-20% of the general education enrollments are taught with an Adaptive Courseware component. The criteria used for identifying courses eligible for support include, among a willingness to incorporate HIPs:

- High enrollment.
- High D/F/W rates and/or high number of Pell recipients,
- Incorporation of an existing Adaptive Courseware platform.

Additional outcomes include:

- Faculty Partnership with TILT Instructional Designers
- Faculty Development Workshops and Consultation Sessions
- Assisting with redesign implementation
- Refining subsequent course offerings based on "lessons learned."
- Faculty Development Opportunities
    1. Faculty Collaboration Meetings
    2. TILT Summer Conference
    3. CSU Professional Development Institute
    4. Individual Consultations
    5. Intercollegiate collaboration among faculty through the APLU cohort.

Chris/Elaine, use the correct thermometer graphic. Do not use the one in this document.



AY 16-17 Adaptive Courseware Participants

Course	***Faculty***	***Efforts***	***Semester Enrollments***
Economics ECON 202	Karen Gebhardt	Developed active learning lessons Incorporated Learning Assistants Refined use of adaptive courseware Developed test question bank	1855
Languages, Literature & Cultures LFRE 100 & LFRE 101 LGER 100 & LGER 101 LSPA 100 & LSPA 101	Courtenay Biser-Suarez Gretchen O'Dell Frankie Wilcox	Implemented adaptive courseware Restructured course from meeting 5 days a week into 3 days a week.	540
Physics PH 121	Brian Jones	Developed active learning lessons Incorporated Learning Assistants	729

TILT Annual Report: Advancing Curricular Excellence

PH 122	Emily Hardegree-Ulman	Facilitated adaptive courseware selection Implemented adaptive courseware	

Side Bar Section: Quotes from Karen Gebhardt video

- "Adaptive Courseware has meant that I'm able to step up the difficulty and rigor of my class both in my class as well as on quizzes and other assessments."
- "The class is alive now...integrating active learning techniques..I'm spending less time lecturing, and instead I'm helping students become better learners and develop learning themselves."
- "I have received a ton of support from TILT and the Instructional Designers at TILT. They have fantastic knowledge about the types of assignments, how to integrate active learning into assignments, how to engage your students. That resource was, and has been, incredible."
- "Students are laughing in class and talking in class . . . they're learning with one another. They're not just sitting there."
- "One really great thing about this process is that integrating adaptive courseware and active learning into my classroom has really been a collaborative process between myself as well as TILT and the Instructional Designers but also my colleagues who are also integrating adaptive and active learning into the classroom… I know I can call on TILT at any time to get help and very targeted help when I need it… You're not alone in the project, it's incredibly supportive."

- Brian Jones, APLU Adaptive Courseware Project: "I am really grateful for the support of TILT throughout this. And we as a university are fortunate to have an outfit that encourage us to make these changes, helps us make these changes, and we have the institutional support to make it possible. I couldn't do this just anywhere and I feel very lucky to be here at Colorado State University to have access to facilities like this and for the people who help me figure out the changes I want to make, so thank you TILT."

Side Bar Section: Adaptive Courseware and Active Learning: Creating Opportunities for Student Engagement in the University Classroom

-Karen Gebhardt: ECON 202 -Brian Jones: PH 122

Commented [G2]: I think we have some initial outcomes data on the physics and languages courses. I'll look for and forward an email from Brian J. if IDD wasn't copied. Sean Burns had some initial outcomes data on the languages courses that we included in the presentation when APLU visited. It would be really helpful in this section to incorporate some initial outcomes.

Commented [G3]: Good! Can we have their photos above their names and course #s?

[Link 3] Online Course Development

- The online course development team works closely with faculty to fully design and develop a limited number of online courses, which CSU Online selects. Some advantages to working with TILT instructional designers (IDs) include:
  - IDs assist in creating courses where learning is more effective; instructor feedback is clear and frequent; content is well-organized, consistent and appealing; and key features of high-impact practices (HIPs) are achieved.

- IDs help faculty write measureable learning objectives; develop challenging, applied-learning assignments aligned to those objectives; generate a sense of community and opportunities for students to learn from each other and write clear instructions and a detailed syllabus.
- IDs are experts in the Canvas learning-management system (LMS) and are able to build online courses in the LMS that take advantage of its strengths and avoid its pitfalls.
- IDs excel in project management, helping to ensure that online courses are completely developed and reviewed before the courses begin.
- IDs provide additional services to faculty including technology expertise, guidance on accessibility and copyright compliance and video and graphics support.

Testimonials

"The things I learned working with you over the summer have also proven useful in teaching my other online courses."

Pamela Duncan, Political Science
Instructor for POLS 101 American Government and Politics

"I had SUCH a great experience teaching this semester. I now have a fond appreciation for rubrics, "check in's" for assignments and the whole online format. I wanted to let you know that pretty much weekly this semester I was silently thanking you. Just thought you should know that I could not have done this without you."

Gwen Koenig, School of Social Work
Instructor for Advanced Practice: Manager/Administrator

Collaborations Related to Online Course Development

- From Fall 2016 through Summer 2017, members of the online course development team:
  - Collaborated with the School of Social Work on its online/hybrid curriculum redesign for undergraduate and graduate programs.
  - Worked with CSU Online to develop a way to introduce faculty to the course-design process earlier and more substantively.
  - Continued discussions with the Access Center/Alliance Partnership about potential TILT instructional-design support for Alliance teachers. Tasks included attending annual Alliance Partnership High Schools' onsite spring meetings and developing a "stakeholder" survey as a formative evaluation of Alliance teacher needs.
  - Assisted with Academic Computing & Networking Services (ACNS) Open Labs, which instructors attend to gain assistance and guidance in using Canvas.
  - Provided assistance to faculty as a TILT Canvas Coordinator, answering questions about and troubleshooting in Canvas.

- Participated in the hiring process for the Department of Human Development and Family Studies (HDFS) online assistant professor at the request of the department.
- Attended School of Social Work discussions on the use of outcomes and portfolios in Canvas for the Master of Social Work program.
- Contacted Betsy Gilbertson, ID at Auburn University's Biggio Center for the Enhancement of Teaching and Learning, to discuss her Online Course Design Workshop as a potential professional-development opportunity for the TILT online course development team.

Partnerships Related to Online Course Development

- Partners of the TILT online course development team include:
  - CSU Online
  - ACNS

Online Course Development Projects

- From Fall 2016 through Summer 2017, members of the online course development team:
  - Shot, edited and produced videos and lectures.
  - Developed multimedia simulations including Flash and C# (ANTH 275, PSY 152).
  - Redesigned TILT's course design and development team Web site.
  - Created shareable, online bibliography of teaching and learning resources and research.

Testimonial

Course Development Team: Testimonials Video [4:44]

[Link 4] Student Impact

- For Online Courses Developed from Fall of 2016 through Summer of 2017:
  - Impacted an estimated total of 1,384 enrollments in TILT-built courses.
    - 312 enrollments in Spring 2017
    - 560 enrollments in Summer 2017
      - Of these enrollments, 381 (68%) are residential instruction enrolled in an online course for the summer.
    - 512 enrollments in Fall 2017

Testimonial

"NR567 is going very well. I have had a great retention rate compared to last year with 22 students still participating in the course.
Your suggestion for reducing the number of assignments per week (getting rid of the summary) has improved the discussion posts a great deal. Students' posts are much more substantive and

well researched. …has allowed me the time to make more detailed comments and to interact with my students…more…."

Kathie Mattor, Warner College of Natural Resources, Department Of Human Dimensions of Natural Resources Instructor for NR 567 Analysis of Environmental Impact in the Master of Natural Resources Stewardship

[Link 5] Students and Faculty Impacted in Courses Integrating the Use of Technology

- Online Course Development from Fall of 2016 through Summer of 2017:
    - Developed or enhanced approximately 70 academic courses in the Canvas learning management system (LMS).

- Technology Enhancements for Residential Instruction (5580 enrollments and 75 faculty partnerships impacted)
    - LMS Integration
        - Coordinated a standalone instance of Canvas for NR 220 at the Mountain Campus (500 enrollments)
        - Consulted with Semester at Sea IT staff on the possible implementation of a standalone instance of Canvas for SES as was accomplished for NR220
        - Representation on the Digital Tool Integration Committee
        - Consulted on accessibility issues in Canvas
    - 3D Printing: 650 enrollments
        - Biochemistry and Molecular Biology: built a custom, multi-use 3D printer
        - Natural Resources / CSU Ventures: grant involving the printing of large scale relief map, development of a projection system and the development of GIS software for projection.
        - The Outdoor Program at Colorado State: printing a large scale topography
        - Civil Engineering: printing a large scale hydrographic topography
        - Partnering with a post-doc in Civil Engineering on printing a large scale hydrographic topography for research and student use.
    - Courseware
        - Math 160 (792 enrollments): implementation of the Ximera Courseware platform and open textbook
        - Unizin Engage: Recruitment of faculty for the eText pilot (13 courses and 3173 enrollments in Fall 2017). Courses include: **CO 150, CO 301B, GEOL 120, LIFE 210, BC 353, STAT 301, MATH 155, CS 163, CS 164, CIS 355, FIN 342, FIN 470, FIN 603**
    - Mobile App Dev: 475 enrollments
        - Todos Santos faculty of Natural Resources: CSU Baja Field guide

        - Environmental and Radiological Health Sciences: Environmental Health App
        - NR 220: Pingree Park Field Guide
    - Virtual Reality: still under development
        - BioChemistry and BioMedical Sciences: integration of Virtual Reality technology into undergraduate courses
    - Accessibility
        - Worked with a student who is blind, on **Canvas accessibility** issues in conjunction with the CDT team

Testimonial

"Chris, I was just talking to yet another person who saw the recording of the DICOM seminar you did with my staff. She now wants to try teaching very difficult concepts a whole new way. I am reminded again of the incredible impact you have on our campus in so many ways, some visible and some behind the scenes. I sometimes have the pleasure of listening to you collaborate with my 3D printing lab staff, and with scientists who come through my lab, and it's obvious that your rare pioneering attitude and engaging spirit is what makes us all better at what we do. Someone must be in front, leading people to do things they never knew were possible, and teaching them how to get there. This is you.
So, I want to take a moment to acknowledge the great contributions you make to my lab and to the CSU community, and thank you for our collaboration, which my staff and I truly treasure."-
David Prawel, Director, "Idea-2-Product" 3D Printing Laboratory, Associate Director, Biomaterials Research & Engineering Laboratory

[Link 6] Online Course Support

- Daily Support:
    - Continued support of all TILT-developed online courses—approximately 400 total. This support includes:
        - Completing minor edits, updates and enhancements regarding course organization, materials, assessments, videos, learning objects and technology.
        - Troubleshooting and resolving issues with content, videos, learning objects, technology and the Canvas LMS.
        - Providing solutions and advice related to instructional design and online course development.
        - Responding to questions related to the Canvas LMS, grading, course setup, materials, assessments, technology and best practices in instructional design and online course development.
- Massive Open Online Courses (MOOCs):
    - Continued support of two MOOCs for faculty and enrollees:
        - Science of Relationships: Fall 2016 (1,183 enrollments)
        - Exploring the Student Affairs in Higher Education Profession: Fall 2016 (874 enrollments)
- Master of Tourism Management (MTM)-China:

- Continued support of 13 Mandarin online courses for faculty and students.
- Collaborated with two faculty members and impacted 21 students from Fall 2016 through Summer 2017.

[Link 8] To be written by Mark et al

[Link 9] To be written by Mark et al