Dear Colleagues,

It has been an honor to serve as the interim director during this period of transition, growth, and re-visioning of the Teaching and Learning Center (TLC). The purpose of this portfolio is both to give an overview of the key activities and collaborations of the TLC and its subunits (the QSC and the WaCC) during the past year as well as to add to the rich conversations on how to best support teaching and learning across all of the units at UW Bothell.

The last time the TLC underwent a re-design was in 2012. After engaging with a strategic planning consultant and a wide range of stakeholders, the TLC revised its mission, vision, goals, and strategic priorities. The mission and vision that resulted from that process is as follows (please see Appendix F for the complete Strategic Plan):

The mission of UW Bothell’s Teaching and Learning Center is to foster learning in the UW Bothell community by supporting learner-educators in the enrichment of pedagogical knowledge, skills, and practices. We strive to be a vibrant hub of learner-educators working on transformative pedagogy in service of diverse students and comprehensive learning at UW Bothell.

In the accompanying appendices we provide examples of the TLC’s work over the past year. We have organized this work around the campus 3 Cs: Cross-disciplinarity, Connected learning, and Community engagement.

Cross-Disciplinarity

Appendix A: Facilitated Faculty Learning Community on Reflective Teaching
Appendix B: Quantitative Skills Center: Usage, Assessment, and Impact on Peer Tutors
Appendix C: Writing and Communication Center: Usage, Assessment, and Impact on Peer Tutors
Appendix D: New Faculty Orientation
Appendix E: Cross-Disciplinary Faculty Development Workshops
**Connected Learning**

Appendix F: TLC Strategic Plan  
Appendix G: Faculty Consultations on Teaching and Learning  
Appendix H: Small Group Instructional Diagnostics  
Appendix I: Teaching In Progress Seminars  
Appendix J: Synergies in Faculty and Tutor Development

**Community Engagement**

Appendix K: Global Learning Community  
Appendix L: CBLR Collaboration  
Appendix M: Voyager Middle School Collaboration  
Appendix N: Open Mic Events

I would like to thank the TLC team who made all of the above accomplishments possible: former TLC Director Dr. David Goldstein, WaCC Director Dr. Karen Rosenberg, former WaCC Manager Kim Sharp, current WaCC Manager Erik Echols, QSC Manager Amber Parsons, and TLC Program Coordinator Robyn Smidley. I would like to extend a special thank you to Karen Rosenberg for her considerable contributions to this report.

On behalf of the entire staff of the TLC, we look forward to our continued work to best support student learning at UW Bothell.

All the best,

Erin Hill, Ph.D.  
Teaching and Learning Center Interim Director  
Quantitative Skills Center Director  
Science, Technology, Engineering, and Mathematics School Lecturer
Appendix A: Facilitated Faculty Learning Community on Reflective Teaching

Summary
In collaboration with three other STEM faculty members, Dr. Erin Hill (see Appendix 1 for Bios) led the development of a two-quarter model for a Facilitated Faculty Learning Community (FLC) on Reflective Teaching. The Fellows engaged in active, collaborative work in order to enrich their teaching and learning knowledge, skills, and practices. Specifically, they collaboratively identified teaching challenges and topics, and addressed the challenges and topics through reflection, design, implementation and assessment activities. In autumn 2015, Dr. Hill launched the inaugural FLC on Reflective Teaching as the head facilitator. Dr. Hill and the ten Fellows – composed of faculty across disciplines and ranks – divided into three subgroups to focus on: Scholarship of Teaching and Learning (SoTL), assessment of in-class group work, and students taking responsibility for their own learning/student motivation.

The FLC was highly successful in bringing faculty across disciplines and ranks together to form a sense of community, sharing teaching and learning strategies, and creating new studies in teaching and learning.

- Members of the SoTL group prepared and submitted abstracts for conference presentations related to their projects.
- The assessment group presented their work at the Teaching and Learning Symposium at UW Seattle this spring (see Figure 1).
- The motivation group is continuing to work together to analyze their data on student learning strategies in order to produce a publication.

The FLC has been made a permanent part of Teaching and Learning Center services, and the second annual FLC is slated to begin in Autumn Quarter 2016 with Dr. Hill as the head facilitator.

Figure 1: Drs. Ursula Valdez and Jeff Jensen (Assessment Group) at UW Seattle’s Teaching and Learning Symposium
Program Overview

Prior to the formation of a facilitated faculty learning community, the Teaching and Learning Center (TLC) had connected faculty with similar teaching and learning interests via un-facilitated learning communities. These were arranged via email and participants were expected to get together to discuss their topic of interest. Dr. Hill attempted to take part in several of these, but found that, while participant interest was high, the groups often failed to gain traction due to conflicting schedules and a lack of structure. Having experienced the successful facilitated learning communities through UW Seattle's Center for Teaching and Learning, Dr. Hill proposed pursuing a similar program for UW Bothell in order to collaborate across disciplines and improve student learning through not just discussion of ideas, but implementation of those ideas. Dr. Hill led brainstorming sessions with Dr. David Socha, Mr. Mark Kochanski, and Dr. Brandon Finley to identify the goals, structure, and outcomes of a facilitated faculty learning community for UW Bothell.

Goals

1. Construct, re-construct, and add to teaching and learning knowledge
2. Formulate questions, explore, learn equally from successful and unsuccessful ventures, and learn different assessment tools, theories, and techniques
3. Build a sense of community across disciplines
4. Increase reflection and excellence of teaching and learning across the campus

Outcomes

1. Identify and analyze teaching and learning challenges experienced in order to seek out solutions [Bloom’s Level: Understanding]
2. Solve teaching and learning challenges using evidence-based approaches in order to improve student learning [Bloom’s Level: Applying]
3. Formulate testable plans and implement these plans in class(es) in order to assess the effectiveness of the teaching and learning method [Bloom’s Level: Creating/Evaluating]
4. Troubleshoot and revise unsuccessful attempts in order to learn from and correct mistakes [Bloom’s Level: Evaluating]
5. Create a poster, paper, or workshop session based upon completed work in order to share knowledge gained with others either inside or outside the UW Bothell community [Bloom’s Level: Creating]
6. Collaborate with group members in order to function effectively in a diverse team environment, build community, and learn from others

Bloom’s Taxonomy: Originated in 1956 as a way to identify and promote higher levels of thinking in education. (See Figure 2; Anderson et al. 2001).
Alignment with Campus Priorities
The Faculty Learning Community helps further the campus priorities outlined in the 21st Century Campus Initiatives and the 3Cs Framework. In particular, it directly addresses innovation, cross-disciplinarity, and connected learning as it brings together faculty across disciplines and ranks to work together on teaching and learning topics and challenges in order to seek out innovative solutions. These solutions are then shared with the UW Bothell community, and local and national audiences through the presentations, posters, and papers produced.

Structure
Fellows were expected to meet weekly in their subgroups in the first quarter and biweekly in the second quarter. The first quarter was spent investigating the subgroups’ chosen topics and deciding what intervention or activities the groups wanted to implement in the second quarter. As head facilitator, Dr. Hill not only worked with her subgroup, but checked in with the other subgroups on their progress, and organized the timing and locations of whole- and sub-group meetings. In addition, Dr. Hill obtained any required materials for the groups to accomplish their respective teaching and learning plans. At the conclusion of the second quarter, Fellows are provided a year to produce a teaching and learning deliverable related to their subgroup work: a poster, paper, or workshop at either the campus, local, or national level.

Results
SoTL Group
The Scholarship of Teaching and Learning Group chose to pursue individual teaching and learning research questions while supporting each other’s work through brainstorming and feedback sessions. The members consisted of: Dr. Linda Watts, Dr. Greg Crowther, Dr. Amy Lambert, and Dr. Kristin
Gustafson. They helped to develop each other’s ideas, shared abstracts of their projects, talked through methodology, worked on articulating the significance of their work, and named gaps that their research addressed. They also found that the deep reflection time on their teaching changed their teaching and learning approaches in their courses, making them more thoughtful and intentional instructors.

Here are a few examples of their SoTL projects: Dr. Greg Crowther reflected on his work with incorporating original jingles – short, content-rich songs intended to help understand and retain concepts and relationships – within science education. He also shared from an emerging project on promoting proper image attribution in instructional materials; work he is conducting in partnership with one of our librarians. Dr. Kristin Gustafson explored ways of framing her work incorporating community-based learning (with ethnic newspapers) within her introductory journalism course. She co-presented her research question, design, and method with Dr. Kara Adams – UWB’s Community Based Learning and Research Interim Director – at the 8th Annual Connecting Campuses with Communities in Indianapolis, and they will begin collecting data via interviewing students and practitioners this summer. Dr. Amy Lambert further developed her approach to conducting and disseminating her SoTL work around the relationship between restoration and art. She presented a poster of her work at the 2016 Regional Conference – Society for Ecological Restoration in Portland, OR. Dr. Linda Watts shared her ideas about responding to student work, a project she presented in February at the Praxis Conference on Transformational Teaching.

Assessment Group
The Assessment Group consisted of Dr. Ursula Valdez and Dr. Jeff Jensen, who decided to pursue assessment of group dynamics and efficiency of collaborative assignments. Working in group assignments can be challenging as students struggle due to different working strategies, commitment levels and approaches to complete tasks. Designing efficient and engaging group assignments is also challenging for instructors, as those differences need to be considered and group assignments should be efficient and engaging.

Drs. Valdez and Jensen designed a pilot assessment of the efficiency and effectiveness of in-class group assignments using two group assignments in each of their respective winter 2016 courses. Their study addressed the following question: Is group work more productive, efficient, and positively perceived by students when roles are pre-assigned, or when student roles are self-assigned for in-class group activities? Before working on each assignment students completed a pre-survey regarding their perceptions of group work efficiency and their choice of potential roles. The instructors then split the class randomly into two groups. One half was assigned roles and the other half self-assigned. At the end of the exercise Drs. Valdez and Jensen conducted a post-survey about the group dynamics and asked 3 content questions. In their pilot, they found that students were highly engaged during group work, and that whether student roles within a group were self-assigned or assigned by the instructor did not affect student perceptions of their individual contributions or the effectiveness of the group as a whole. They did, however, find a statistically significant increase in post-group-work performance in groups with instructor assigned roles relative to groups with self-assigned roles.

Drs. Valdez and Jensen plan to refine and test their model within their colleagues’ courses, and hope that they can contribute a tool that enhances efficiency in group assignments and student engagement.
**Motivation Group**

The Motivation Group consisted of Dr. Erin Hill, Dr. Brandon Finley, Mr. Mark Kochanski, Dr. Laurie Anderson, and Dr. Cinnamon Hillyard. After discussing several topics related to students taking on responsibility for their own learning, the Motivation Group ultimately asked what learning strategies students were using in their respective courses and what obstacles the students face. The courses included: technical writing for computer science students, introductory calculus-based physics, introductory chemistry, first-year general education, college algebra, introductory statistics, and an interactive media and design 400-level course. The group wanted to investigate what changes students make to their learning strategies that affect their motivation, preparedness, and how they perform in a course. A brainstorming activity was devised around learning strategies and obstacles that required students to provide a list via post-it notes and small group discussion. Once the lists were created, they were used as the basis of the surveys that students took after each exam or paper (see Appendix 2 and 3 for examples). In between the exams and papers, the instructors reported summarized results of the survey data to their students to apprise the students of what strategies successful students were using.

The data accumulated from the learning strategy surveys have been collated into a database for analysis. The Motivation Group will be analyzing this data and writing a paper together in spring and summer. In addition, based on preliminary data analysis, the group already has further research questions that will require additional studies to find answers that will enhance student learning.

**Feedback**

Feedback on the FLC was obtained through a survey with short-answer questions. Overall, Fellows valued the small, subgroup work, gathering insights into teaching and learning across disciplines, taking on a more rigorous approach to instruction and assessment, scheduled reflection and work time that were tied to expectations from the head facilitator and their colleagues, and making connections and opening communication lines across Schools.

The Fellows provided a few ideas for improvement of the FLC, including: more time for subgroup work and fewer whole group meetings, a permanent monetary commitment that is reflective of the energy and time commitment, additional formal facilitators for each subgroup, and arriving at topics for each subgroup more quickly.

Here are a few quotes from Fellows:

> “[The FLC] was an excellent mechanism to encourage faculty to take on a project and see it through to a presentation/publication.”

> “I previously knew and had worked with approximately half of the FLC faculty. Since joining the FLC, I have worked with some of these faculty in other contexts and have found my interactions were greatly eased by having met them in the FLC first. It was also interesting to me to see the very different approaches of my colleagues in other schools.”

> “I think that each of the group’s members had ‘Ah Ha’ moments that were made possible because of the opportunity to stop and consider their teaching. And these moments when we shared our experiences were able to be witnessed and examined by each person within their own teaching.
This is extremely valuable as we are slammed with all the work that it means to be part of the UWB community, school, division, etc."

“I think the impact was fairly big for the time investment.”

“There IS VALUE in these discussions, even if it does not ‘publish.’ This is a method through which non-tenure-track faculty can show career development and personal growth that are necessary for merit/promotion. Understanding the mechanics of teaching and learning is just as valuable for a University (i.e. it’s an ASSET) to show that they are devoted to excellence in teaching and education, not just research. Developing community, especially across disciplines, begins with meeting and talking to people. This is an EXCELLENT place to do both things.”

“Having this kind of faculty support was great not only to develop a specific project and tasks, but also as a way to grow as an instructor and colleague. I really like the teamwork and having this experience also gave me a perspective of the positive experiences and challenges that our students deal with group assignments.”

“Instructional and professional development should be built-in, permanent line items in unit and campus budgets. Institutions arrive at different formulas for calibrating this investment, but if such things are only done sporadically or locally, they have much less effect.”

**Conclusion, Revision, and Next Steps**

Based on the reported changes to faculty members’ teaching, the quality of community built, and the quantity and quality of work accomplished – as well as the work that is continuing – the inaugural FLC on Reflective Teaching was highly successful. In response to the Fellows’ feedback, Dr. Hill has made the following revisions for the 2016-2017 FLC:

- Whole group meetings have been reduced to three: one each at the beginning and end of autumn, and one at the end of winter. All other meetings will be subgroups only to maximize work time.
- Dr. Watts and Dr. Anderson have agreed to facilitate two of the three subgroups while Dr. Hill will continue to facilitate the third in order to provide more structured work and support to the subgroups.
- Dr. Hill shifted some TLC funds in order to permanently fund ten FLC Fellows and two subgroup facilitators each year, as well as to make the spending credit better reflect the energy and time investment by the participants.
- The new call for Fellows includes a list of potential topics that applicants can select from, as well as an optional write-in, in order to aid in subgroup formation so that work can begin more quickly.

The call for Fellows for the 2016-2017 FLC on Reflective Teaching has been sent out to UW Bothell faculty. Decisions will be made by the end of July and the next cohort will start work at the beginning of Autumn Quarter. In the meantime, projects and connections that began with the first FLC are continuing to impact the teaching and learning that occurs at UW Bothell and beyond.
Citations
Appendix 1: FLC Fellows and Facilitator Bios

**Dr. Laurie Anderson** is a senior lecturer. Her teaching focus is in technical writing, Women in STEM, ethics of technology, and various courses special to the Applied Computing degree. Her research focus is in student motivation and removing obstacles to student success. Before she joined the Computing and Software Systems program at the University of Washington Bothell, she worked for two decades in the computer technology industry as a software developer, network manager, competitive analyst, product manager, and technical and marketing writer. She has experience in all aspects of the product development cycle with mini-, micro-, and personal-computers, operating systems, networking, and computer security, while working in small and large computer organizations, including DEC, SUN, and IBM. Her varied experience brings a practical, real-world view of computer technology and business communications that she applies to her teaching.

**Dr. Greg Crowther** earned a B.A. in Biology from Williams College and a Ph.D. in Physiology & Biophysics from UW-Seattle. He did postdoctoral laboratory research on methylocrotrophic bacteria and infectious disease drug development at UW-Seattle. More recently, he has been teaching anatomy & physiology (“A&P”) to biology majors and pre-nursing students at UW-Bothell. His pedagogical interests include the incorporation of primary literature and content-rich music into STEM courses.

**Dr. Brandon Finley** graduated from the University of California, Irvine with a Ph.D. in Earth System Science. He is currently a full time lecturer in the Physical Sciences Division of the School of STEM at UW Bothell and the lab coordinator for the general chemistry labs. After a decade of research in atmospheric oxidation processes, he has spent the last six years as a chemistry lecturer. His goal is to excite students and show them the relevance of chemistry and learning to their professional and personal aspirations. He is also a passionate believer that to teach well you must continue to challenge yourself with new tools and techniques and you must understand how people learn. Opening minds can only work if you have the key.

**Dr. Kristin Gustafson** is a lecturer in the School of Interdisciplinary Arts and Sciences. She obtained a PhD in Communication from the University of Washington Seattle and an M.A. from the University of Minnesota School of Journalism and Mass Communication. Her research and teaching are at the intersection of journalism history, ethnic/community media, archives, and activist movements. Her scholarship on teaching and learning project examines student and practitioner experience with reciprocity, diversity, and civic engagement.

**Dr. Erin Hill** graduated from the University of California, Irvine with a Ph.D. in Physics. She is currently the Director of the Quantitative Skills Center (QSC), the Interim Director of the Teaching and learning Center (TLC), and a Lecturer in STEM. Most of her time is spent on faculty development on quantitative reasoning across the curriculum, and on teaching and learning research that she primarily uses to inform her teaching practices and to help other faculty do the same. Dr. Hill is passionate about student learning, particularly in relation to physics, and thoroughly enjoys assisting students in discovering their strengths, passions, and ability to learn anything to which they set their minds. Learning is an iterative process that does not stop for anyone, including instructors. We are all life-long learners!

**Dr. Cinnamon Hillyard** is an associate professor of mathematics in the School of Interdisciplinary Arts and Sciences at the University of Washington Bothell where she teaches mathematics, statistics, and
interdisciplinary research courses. Her research focuses on how people use quantitative information to make decisions and how undergraduate education can foster the development of quantitative literacy. She collaborates with the Carnegie Foundation for the Advancement of Teaching where she has lead multiple initiatives around the Pathways program including developing curriculum, working with a network of faculty to implement the curriculum, and studying its effectiveness across campuses nationwide. She has also held leadership positions in the National Numeracy Network and Math Association of America’s working group on Quantitative Literacy, and is currently directing the campus First Year and Pre-Major Program.

**Dr. Jeffrey Jensen** earned his Ph.D. in Organismic and Evolutionary Biology at Harvard University. After graduation, he stayed at Harvard for five years as a post-doctoral teaching preceptor. He then joined the biology faculty at the University of Maryland (UMD), College Park. At UMD he served as senior lecturer, Associate Chair, and Director of Undergraduate Studies for a program of 900 majors. He developed his love of teaching while a graduate student, inspired by an advisor who was both a gifted lecturer and very student-centered in his teaching. He arrived at UW Bothell in 2012, and teaches courses in ecology, evolution, physiology, and conservation biology. He is currently serving as Assistant Director of the Science Teaching Experience for Post-Docs (STEP) program. His research is on salmon conservation biology and biomechanics of marine fishes.

**Mr. Mark Kochanski** is a Senior Lecturer in the Division of CSS of School of STEM at UW Bothell. He uses 40 years of software development experience from industry to enhance his teaching of software engineering, cyber security, computing and society, interactive media, and databases. Over more than 15 years at UW Bothell, he has helped in the development and launching of many undergraduate and graduate degrees, minors, options, and certificate programs in computing and STEM related fields. Mr. Kochanski is passionate about the application of high-impact, flipped, student-driven, learner-centered, hybrid, and e-learning pedagogies to improve the quality of higher education for a diverse student population. Much of his recent research interests have focused on how to evolve higher education to address the needs and constraints of a 21st century society and a broader population.

**Dr. Amy Lambert** is an ecologist and sculptor. Her interdisciplinary teaching practice focuses on bridging the gap between ecological research and visual art. Her recent course Breaking the Ice: Art and Climate Change Ecology challenges students to transcend conventional representations of climate change by merging artistic and scientific epistemologies and methods to explore past, present and future climate scenarios. She received her PhD in Conservation Biology and Master of Science in Restoration Ecology from University of Washington and BFA in Visual Arts from Florida State University. Her research projects include both field-based research and public artworks. She is currently developing an innovative undergraduate program at the University of Washington Bothell that focuses on species-level conservation (rare butterflies and pollinators) as a part of her long-term research to conserve the rare island marble butterfly, in partnership with the US Fish and Wildlife Service and National Park Service.

**Dr. Ursula Valdez** is a Tropical Ecologist and Conservation Biologist, and currently a lecturer at UW Bothell. She instructs on courses in environmental sciences, ecology, natural history and conservation & sustainability. She also runs a UW study-abroad program and conducts ecological research on bird communities in Peru. More recently she has started a bird monitoring research project at the UWB wetlands. Dr. Valdez is currently the COIL international Collaboration Facilitator at UW Bothell.
Dr. Linda Watts is Professor of American Studies and Co-Director of the Project for Interdisciplinary Pedagogy in the School of IAS. She is the lead editor of Creative Learning in Higher Education: International Perspectives and Approaches (due out in August 2016 from Routledge/Taylor & Francis).
Appendix 2: Sample Exam Learning Strategies Survey

How well do you think the score you received for exam #1 matched your preparation? (Check only one)

☐ Matched very well
☐ Matched somewhat well
☐ Didn’t match very well
☐ Didn’t match at all

Which of the following strategies did you use to prepare for exam #2? (Check all that apply)

☐ Create your own practice problems to solve
☐ Do practice exam if available
☐ Explain main concepts/teach to someone
☐ Find/Develop a pattern within formulas and numbers/Observe trends
☐ Find errors and solve them
☐ Focus on more challenging material
☐ Go over review materials
☐ Look over ways to solve problems/write down strategies
☐ Look up unclear info online (e.g., Khan Academy, videos, etc.)
☐ Memorize facts/Make mnemonic devices
☐ Office hours
☐ Peer review
☐ Practice or learn the concepts/Make a list of concepts
☐ Practice problems
☐ Quantitative Skills Center (QSC)
☐ Read/re-read textbook
☐ Review exams and quizzes
☐ Review notes and class slides
☐ Review in-class examples
☐ Re-work incorrect problems
☐ Re-write notes and create summary sheet
☐ Study breaks
☐ Study during best time for individual (e.g., at night, in the morning, etc.)
☐ Study group
☐ Study in the best location for individual (e.g., outside of room, library, etc.)
☐ Time management
☐ Use flash cards/notecards
☐ View step-by-step solutions
☐ Write down formulas to memorize/Go over formulas and rules
☐ Other: _________________________
☐ Other: _________________________
☐ Other: _________________________

How prepared did you feel for exam #2? (Check only one)

☐ Very prepared
☐ Somewhat prepared
☐ Somewhat unprepared
☐ Very unprepared
☐ I don’t know
Which of the following got in the way of preparing for exam #2? (Check all that apply)

- Commute time/traffic
- Difficulty studying multiple topics within a course evenly
- Distractions
- Don’t know what to review
- Don’t know where to begin
- Dysfunctional study group
- Fear of what’s on the exam (different than notes, or more challenging)
- Feeling that studying isn’t necessary
- Food/Hunger
- Hobbies
- Homework
- Lack of understanding of the content
- Learning new material before the exam
- Library hours
- Low attention span
- Memorizing all of the material
- Music
- Nervousness
- Netflix/TV/Movies
- Noise
- Not enough energy/alertness
- Not finding examples
- Not knowing the correct answer
- Not wanting to study
- Phone (texting, calls, etc.)
- Poor study location/Finding a study location
- Prior commitments
- Procrastination
- Projects due around the same time
- Reading comprehension, e.g., weird wording
- Relaxing
- Repetition
- Sleep
- Social media (Facebook, Twitter, Instagram, Snapchat, etc.)
- Socializing with friends, partners, and/or family
- Sporting events
- Stress
- Studying for other classes
- Trouble-shooting incorrect answers
- Time management
- Video and/or computer games
- Websites/Internet (news sites, YouTube, etc.)
- Work
- Other: _______________________
- Other: _______________________
- Other: _______________________
Appendix 3: Sample Paper Learning Strategies Survey

1) Which of the following strategies did you use to revise your final assignment? (Check all that apply)

- Asked someone (e.g., writing group) to re-read revised work
- Ctrl + F problem words
- Check each section to see if it provides necessary material (rather than rely on other sections)
- Check the organization of the paper
- Check transitions
- Check sentence structure
- Double checked to see if the paper met its purpose
- Fix Page layout
- Looked at the assignment instructions again
- Looked at Lecture Notes on pattern for clarification
- Looked at the marked up rubric and draft paper to ensure all edits moved to the "Excellent" column
- Looked at the markup key to decipher shorthand marks
- Looked at paragraph headings to make sure everything flows
- Looked at the samples to follow
- Met with professor to ask questions and gain clarity
- Paragraph glossing
- Re-read (or proof-read) paper
- Read through paper out loud
- Revise for grammar, POV, spelling, verb tense, punctuation
- Revise by reading on paper
- Rewrite, restructure paper
- Use a colored pen/highlighter/font for corrections
- Use Spell check tool
- Use Grammar check tool
- Worked with the Writing Center (WaCC) tutors for assistance
- Wait – give time between revision work (e.g., take a walk, work on other things, eat)
- Other: __________________________
- Other: __________________________
- Other: __________________________
- Other: __________________________
- Other: __________________________

2) Which of the following got in the way of revising the final assignment? (Check all that apply)

- Bad peer editing
- Believe / assume paper already good/perfect
- Boredom
- Clutter (e.g., space, mind)
Confidence / perceived inability / scared to make changes

Did not fully understand the assignment, prompt, writing concept, paper structure, topic, content

Don't know if the reader can understand my work

Finding the right words

Food/Hunger

Health (e.g., sick, ailments)

Life distractions: video games, music, Netflix/TV/movies, phone/texting/calls, noise, football [Seahawks], etc.

Internet distractions: Facebook, Twitter, Instagram, Snapchat, websites, internet, news sites, YouTube, etc.

Laziness

Lack of interest

Low priority

Microsoft grammar check

Not interesting

Not enough brainstorming

Other homework / other classes

Overwhelmed with data, ideas, etc.

People problems

Personal time

Poorly written draft

Procrastination

Reading the professor’s handwriting

Reluctant to rework paper

Responsibilities / obligations (e.g., work, family)

Sleep/Tired

Socializing with friends, partners, and/or family

Stress

Time management / lack of time

Word count

Work

Other: ____________________________

Other: ____________________________

Other: ____________________________

Other: ____________________________

3) How well do you think your paper meets all the requirements? (Check one)

Meets very well

Meets somewhat well

Does not meet very well

I don't know

Does not meet
# Reflective Teaching Learning Community Program Outline

<table>
<thead>
<tr>
<th>Head Facilitator: Erin Hill, Ph.D.</th>
<th>Year <strong>2016-2017</strong> Quarter <strong>Fall &amp; Winter</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Subgroup Facilitators: Linda Watts, Ph.D. and Laurie Anderson, Ph.D.</td>
<td></td>
</tr>
</tbody>
</table>
| Email: Erin Hill: **ehill07@uw.edu**  
Linda Watts: **lswatts@uw.edu**  
Laurie Anderson: **lja3@uw.edu** | Spending Credit **$800** |
| Website: **Faculty Learning Community: Reflective Teaching**  
[https://canvas.uw.edu/courses/1010892](https://canvas.uw.edu/courses/1010892) | Meetings: **Fall: weekly, TBD 9/28-12/9**  
**Winter: biweekly, TBD ~1/3-3/10** |

## Description:
This Faculty Learning Community (FLC) is hosted by UW Bothell’s Teaching and Learning Center. The fellows of the FLC – composed of a maximum of ten faculty – will engage in active, collaborative work in order to enrich participants’ teaching and learning knowledge, skills, and practices. Specifically, we will collaboratively identify teaching challenges and topics. We will then address these challenges/topics through reflection, design, implementation and assessment activities. Three Sub-groups will be formed such that three to four fellows are grouped together to work on a chosen teaching and learning challenge or topic.

## Structure:
We will meet weekly during Autumn Quarter. We will identify common challenges/topics and research approaches to these challenges/topics. We will then create implementation and collaboration plans that will serve as our roadmaps for our work together Winter Quarter. The implementation plan(s) will specify how each fellow will carry out their chosen solution, and the collaboration plan will detail how the group will work together during Winter Quarter to provide accountability and support. It is expected that fellows will meet at least biweekly during Winter Quarter (subgroups can choose to meet more often).

### Your Role as a Fellow:
- Actively participate in all scheduled meetings (barring emergencies)
- Contribute to your group’s work: find and share resources related to your challenge/topic
- Create an implementation plan and enact that plan in Winter Quarter
- Assist in the creation of a collaboration plan and enact that plan in Winter Quarter
- Create at least one teaching and learning deliverable by Spring 2018 on your challenge/topic and solution/implementation: submit a paper, present a poster at the UW Teaching and Learning Symposium in April, facilitate a UW Bothell Teaching In Progress Seminar, or present a workshop or poster at a local or national conference

### Facilitator Role (1 head/sub-group facilitator; 2 sub-group facilitators):
- Facilitate whole-group meetings (head facilitator)
- Facilitate sub-group meetings (one facilitator each for the 3 sub-groups)
- Sub-group facilitators will send status updates of their groups’ work to the head facilitator
o Support the work of the fellows: obtain needed resources such as books, meeting locations, etc.
o Organize sub-group meetings including scheduling, agenda formation, and discussion of next steps at the end of each meeting
o Provide structure and direction when needed
o Head facilitator: track and disperse fellow spending credits in collaboration with the TLC Coordinator

Why: The implementation of a rigorous, facilitated learning community is in response to the desire to collaborate across disciplines, and to improve student learning through not just discussion of ideas, but implementation of those ideas. The FLC also provides the opportunity to share knowledge and skills gained with local and global communities.

Learning Goals:
1. Construct, re-construct, and add to teaching and learning knowledge
2. Formulate questions, explore, learn equally from successful and unsuccessful ventures, and learn different assessment tools, theories, and techniques
3. Build a sense of community across disciplines
4. Increase reflection and excellence of teaching and learning across the campus

At the end of this course, fellows will be able to:
7. Identify and analyze teaching and learning challenges experienced in order to seek out solutions [Bloom’s Level: Understanding]
8. Solve teaching and learning challenges using evidence-based approaches in order to improve student learning [Bloom’s Level: Applying]
9. Formulate testable plans and implement these plans in class(es) in order to assess the effectiveness of the teaching and learning method [Bloom’s Level: Creating/Evaluating]
10. Troubleshoot and revise unsuccessful attempts in order to learn from and correct mistakes [Bloom’s Level: Evaluating]
11. Create a poster, paper, or workshop session based upon completed work in order to share knowledge gained with others inside and/or outside the UW Bothell community [Bloom’s Level: Creating]
12. Collaborate with group members in order to function effectively in a diverse team environment, build community, and learn from others

Bloom’s Taxonomy: Originated in 1956 as a way to identify and promote higher levels of thinking in education. (See Figure at end; Anderson et al. 2000).

About the Head Facilitator: Erin graduated from the University of California, Irvine with a Ph.D. in Physics. She is currently the Director of the Quantitative Skills Center (QSC), the Interim Director of the Teaching and learning Center (TLC), and a Lecturer in STEM. Most of her time is spent on faculty development on quantitative reasoning across the curriculum, and on teaching and learning research that she primarily uses to inform her teaching practices and to help other faculty do the same. Erin is passionate about student learning, particularly in relation to physics, and thoroughly enjoys assisting students in discovering their strengths, passions, and ability to learn anything to which they set their
minds. Learning is an iterative process that does not stop for anyone, including instructors. We are all life-long learners!

About the Subgroup Facilitators:

**Dr. Laurie Anderson** is a senior lecturer. Her teaching focus is in technical writing, Women in STEM, ethics of technology, and various courses special to the Applied Computing degree. Her research focus is in student motivation and removing obstacles to student success. Before she joined the Computing and Software Systems program at the University of Washington Bothell, she worked for two decades in the computer technology industry as a software developer, network manager, competitive analyst, product manager, and technical and marketing writer. She has experience in all aspects of the product development cycle with mini-, micro-, and personal-computers, operating systems, networking, and computer security, while working in small and large computer organizations, including DEC, SUN, and IBM. Her varied experience brings a practical, real-world view of computer technology and business communications that she applies to her teaching.

**Dr. Linda Watts** is Professor of American Studies and Co-Director of the Project for Interdisciplinary Pedagogy in the School of IAS. She is the lead editor of Creative Learning in Higher Education: International Perspectives and Approaches (due out in August 2016 from Routledge/Taylor & Francis).

**Texts, Media, and Materials**

Course Website: [https://canvas.uw.edu/courses/1010892](https://canvas.uw.edu/courses/1010892)  **Faculty Learning Community:**

**Reflective Teaching**

Groups will be able to request resources needed.

**Criteria to receive Spending Credit:**
At least one the following will be required to be completed by Spring 2018:

- Submit a teaching and learning paper to a journal
- Present a poster at the Teaching and Learning Symposium hosted by UWS in April
- Facilitate a Teaching In Progress Seminar (TIPS) workshop
- Present a teaching and learning workshop or poster at a local or national conference

**Conduct:** You will all be expected to follow the norms listed below. If someone in your group is not following these norms, your group will be expected to try to work through the problem before coming to any of the facilitators.

- Be open to others’ thoughts, feelings, and differences
- Be respectful: be responsive, show up on time, be supportive of each other, and come prepared
- Collaborate: participate in discussions and assigned work equally
- Come prepared to each session

**Respect for Diversity:** Diverse backgrounds, embodiments and experiences are essential to the critical thinking endeavor at the heart of university education. At UW Bothell, all are expected to respect individual differences which may include, but are not limited to: age, cultural background, disability, ethnicity, family status, gender presentation, immigration status, national origin, race, religious and political beliefs, sex, sexual orientation, socioeconomic status, and veteran status.
Anyone seeking support around these issues can find more information and resources at [http://www.uwb.edu/admissions/diversity-outreach](http://www.uwb.edu/admissions/diversity-outreach).

**Attendance:** Participation is vital for a successful experience; please arrive on time for meetings and attend all meetings (barring emergencies and one “free absence”). Due to the highly collaborative and interactive nature of the FLC, missing meetings means you will miss out on rich discussions that will help you solve your teaching and learning challenge. Late arrivals interrupt your peers’ in-progress activities and discussions. If you must miss a meeting, get in touch with your group and/or the facilitator to catch up on what you missed.

**Schedule of course meetings:**
The following table is a general schedule of meetings. Dates will be determined based on the schedules of the fellows.

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date</th>
<th>Autumn Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TBD</td>
<td>Cohort Meeting: Ice breaker and Determining topics and sub-groups</td>
</tr>
<tr>
<td>2</td>
<td>TBD</td>
<td>Small group meeting</td>
</tr>
<tr>
<td>3</td>
<td>TBD</td>
<td>Small group meeting</td>
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<tr>
<td>4</td>
<td>TBD</td>
<td>Small group meeting</td>
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<tr>
<td>5</td>
<td>TBD</td>
<td>Small group meeting</td>
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<tr>
<td>6</td>
<td>TBD</td>
<td>Small group meeting</td>
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<tr>
<td>7</td>
<td>TBD</td>
<td>Small group meeting</td>
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<tr>
<td>8</td>
<td>TBD</td>
<td>Small group meeting</td>
</tr>
<tr>
<td>9</td>
<td>TBD</td>
<td>Cohort Meeting: Check in and share out plans</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date</th>
<th>Winter Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TBD</td>
<td>Small group meeting</td>
</tr>
<tr>
<td>2</td>
<td>TBD</td>
<td>Small group meeting</td>
</tr>
<tr>
<td>3</td>
<td>TBD</td>
<td>Small group meeting</td>
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<tr>
<td>4</td>
<td>TBD</td>
<td>Small group meeting</td>
</tr>
<tr>
<td>5</td>
<td>TBD</td>
<td>Cohort Meeting: Check in and share out</td>
</tr>
</tbody>
</table>

**Inclement Weather:** Please check if the campus may be closed due to weather. Information about suspension of operations will be made public and available through the media. Faculty can learn of campus operations status from the website or by calling the Campus Information Hotline 425.352.3333. You may also sign up with an alert system that will contact you via email or text message if meetings are canceled. See the [UW Bothell emergency webpage](http://www.uwb.edu/admissions/diversity-outreach) for more information on the alert process. FLC activities will be rescheduled as needed, and activities/discussions may be completed online on the community website.

**Citations**
<table>
<thead>
<tr>
<th>remember</th>
<th>understand</th>
<th>apply</th>
<th>analyze</th>
<th>evaluate</th>
<th>create</th>
</tr>
</thead>
<tbody>
<tr>
<td>recognizing (identifying)</td>
<td>interpreting (clarifying, paraphrasing, representing, translating)</td>
<td>executing (carrying out)</td>
<td>differentiating (discriminating, distinguishing, focusing, selecting)</td>
<td>checking (coordinating, detecting, monitoring, testing)</td>
<td>generating (hypothesizing)</td>
</tr>
<tr>
<td>recalling (retrieving)</td>
<td>exemplifying (illustrating, instantiating)</td>
<td>implementing (using)</td>
<td>organizing (finding coherence, integrating, outlining, parsing, structuring)</td>
<td>critiquing (judging)</td>
<td>planning (designing)</td>
</tr>
<tr>
<td></td>
<td>classifying (categorizing, subsuming)</td>
<td></td>
<td>attributing (deconstructing)</td>
<td></td>
<td>producing (construct)</td>
</tr>
<tr>
<td></td>
<td>summarizing (abstracting, generalizing)</td>
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<td>inferring (concluding, extrapolating, interpolating, predicting)</td>
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<td></td>
<td>explaining (constructing models)</td>
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(Adapted from Anderson et al., 2001, pp. 67-68)
Appendix B: Quantitative Skills Center: Usage, Assessment, and Impact on Peer Tutors

Quantitative Skills Center (QSC) Overview
As part of the Teaching and Learning Center (TLC), the QSC helps to foster learning in the UW Bothell community by supporting learner-educators (faculty, staff, and students) in the enrichment of pedagogical knowledge, skills, and practice related to quantitative reasoning.

Faculty
We cross disciplines by assisting faculty with integrating quantitative reasoning into courses that are typically qualitative. The activities, workshops, and assignments designed in collaboration with the faculty members for these courses span the quantitative spectrum: from a discussion about numbers and what they mean to students, to data visualization, to analyzing or creating statistics in research articles.

Staff
We help staff with Excel, and data analysis and visualization questions.

Students
We help UW Bothell students develop skills and confidence with quantitative reasoning. We do this by offering free, drop-in and online tutoring across all quantitative disciplines (online tutoring began summer 2016). Our peer tutoring model involves asking a lot of questions, working through examples, and modeling the problem-solving process.

QSC Usage Data
The Quantitative Skills Center (QSC) has grown steadily to keep pace with the influx of STEM students, the expansion of the School of STEM, and the development of new majors that include quantitative classes in IAS. Figure 1 shows the breakdown of visits by quarter of the 2015 to 2016 academic year to both the main space in UW2, and requests for tutoring in the computing and software systems labs in UW1. The highest volume of the 12,648 visits took place during Fall Quarter. Given the larger number of quantitative course sections in fall compared to winter and spring, and the smaller student cohorts in the sequenced courses as the year progresses, the reduction in visits represented in Figure 1 is typical of an academic year. Within the 12,648 visits, math; computing and software systems; and physics courses account for nearly 76% (Figure 2).
Figure 1

QSC visits during the 2015 to 2016 academic year total 12,648 with the highest volume occurring in Fall Quarter.

Figure 2

Math, CSS, Physics, and Chemistry account for nearly 76% of QSC visits during the 2015 to 2016 academic year.
Students visit the QSC for quantitative tutoring, as a place to study alone or with others, and - as can be seen from the “With Friends” bar in Figure 2 - as a social, networking space. The QSC staff has worked hard to create a welcoming environment that provides a safe and accessible learning space where students feel comfortable, e.g., a family friendly space has been created within the Center, front desk staff welcome each visitor, and a room is available for those who require a quieter space to study. We feel that the “With Friends” data supports this ideal.

With the addition of an electronic queue, we are now able to determine that the average wait time for visiting students to see a tutor is less than 6 minutes. On average, QSC tutors assist students for 15 to 20 minutes. This is reinforced through training where we encourage the tutors to work with a student until they feel that the student has enough understanding to work on their own or in small groups for a time. This is to encourage students to become stronger and more confident in their quantitative knowledge and abilities rather than relying on tutors for constant help.

The QSC’s login system (only available in the main center and not in the computing and software systems labs) collects duration information as the students both sign in and out. When all visit durations are added up, we find that students have spent the equivalent of 2 years in the Center for the 2015 to 2016 academic year (Figure 3).
QSC Assessment Data
Observations completed by QSC tutors serve two purposes: 1) to develop tutors and 2) to collect assessment data. In observing their peers, tutors are better equipped to adjust their tutoring style as well as provide feedback to the tutor being observed. The assessment data enables us to determine whether or not we’re accomplishing our tutoring goals of helping students to “develop skills and confidence with quantitative reasoning.”

Out of 131 observed sessions, students completed the voluntary survey 81 times. Of those, 64 reported it being the first time they had completed the survey. All but one respondent reported feeling more confident in their understanding of the class material for which they had requested QSC tutor assistance. The one respondent felt their confidence was unchanged.

Of the 131 recorded sessions, 396 concepts were identified by the observing tutor. The distribution of differences in student understanding of the concepts from the start to the end of an observed session ranged from 0 to 4 with a mean of 1.2 and a median of 1.0, i.e., students with a 0 did not change their understanding, whereas students with a 4 shifted 4 levels up on the Likert-type scale scoring rubric. In every observed session students were reported to have an equal or increased understanding of the concepts related to their assignments at the end of the session as compared to the beginning (see Figure 4). Nearly 84% of the students increased in their understanding of each concept related to their problem by at least one point on our rubric.

Figure 4
**QSC Student Staff Testimonials**

The QSC student staff were asked to respond to at least one or all of several prompts such as: How has the overall mission of the TLC to develop learner-educators shaped your experience as a QSC employee? How has working at the QSC impacted your experience as a student? Their responses are below.

“The overall mission of the TLC to develop tutors as learner-educators has influenced my experience as a QSC employee by establishing an employee-centered work atmosphere. As an employee of the QSC, the tutor development orientation of the QSC fosters a personal sense of value and investment in myself and all of the tutors [in] the QSC. I believe all employees of the QSC feel they are viewed as more than just the labor they provide. In turn, this tutor development focus directly influences the quality of tutoring provided by the QSC, and thus has a distinct impact on the students who frequent the QSC by prioritizing the quality of service the QSC staff is able to provide.

As a student, working at the QSC has had a profound impact on my academic performance. In the process of assisting students in the QSC with their coursework and understanding, I regularly review and refresh the foundational material of those courses, and continually make more and deeper connections between various topics. I believe this has allowed me to become a much stronger student and learner, and hopefully tutor that much more effectively.

The core of the QSC’s mission is to assist students in developing their quantitative reasoning abilities and learning strategies. This seems to fall under the purview of "learning", and thus it would seem that the QSC is most aptly structured to function under the TLC...While helping students improve their grades and academic performance is a welcomed outcome to the QSC’s mission, I believe it is vital to the student's academic progression that the focus of the QSC remain on student understanding, with any effect upon the student's academic success being a result of this essential mission.”

- QSC Tutor

“With the focus of teaching and learning we are able to help students in their understanding of concepts and ideas. It is not necessarily getting a question correct that defines an understanding of the question. How the QSC is now with emphasis on a deep understanding of concepts and helping students to
learn how to study/work on their own it is easy to communicate our ideas with students. As a tutor I have the students understanding of a problem in the front of my mind more than anything else, and the students know this. They know we are here to help them understand concepts and learn what is really going on rather than simply getting one homework question right or cramming for an exam.

Along with this I myself have learned a lot from working at the QSC with this emphasis. All of the trainings that I have had as a tutor have given me insight into these philosophies. I have gained knowledge of topics that I did not understand as fully before from helping students go through all the details and information they need. Gaining an understanding of courses and concepts should be the main goal and outcome from students getting help at the QSC.

- QSC Tutor
Appendix C: Writing and Communication Center: Usage, Assessment, and Impact on Peer Tutors

Writing and Communication Center (WaCC) Overview
The Writing and Communication Center (WaCC) provides student-centered, personalized support from trained, supervised peer consultants. This individualized attention extends the work that instructors do in the classroom and during office hours. Students bring writing and presentation assignments, questions, and drafts to their conferences. The WaCC offers face-to-face, phone, and online conference options to provide access for all students.

WaCC Usage Data
Though the majority of students choose face-to-face conferences, usage of online and phone services suggest that these are important modalities for students who cannot visit our office in person (see Figure 1).

![Graph showing WaCC conference modalities]

Figure 1
Over half of all WaCC conferences are with students who are non-native speakers of English. These students include international students, immigrants, and “1.5” generation students who grew up in the United States and speak a language other than English at home. Peer tutors receive training on working with these different groups of students. This
training includes readings, discussion, role-playing exercises, observations, and feedback from students.

**Figure 2**

**WaCC Assessment Data**

In Spring Quarter 2016 the WaCC administered a survey to all students who used WaCC services during the 2015-2016 AY. Eighty students responded (a 10.7% participation rate). Overall, students found WaCC services a useful learning support. Key findings from the survey are shown in Figure 3.
In the survey, the two most common suggestions for improvement were to make appointments longer and to increase availability of peer consultants. In response to this feedback, the WaCC piloted 90 minute conferences in summer 2016 (typically WaCC conferences are either 25 or 50 minutes). Student feedback on the 90 minute conference option was positive. We do not currently have the resources to make this option available for all students; however, we will offer the longer conferences as space opens up on the WaCC schedule and for EAL students who request longer appointment times.

To respond to the second piece of user feedback (to increase availability of peer consultants), the WaCC keeps a closer eye on the schedule to try and make sure that there are available slots as much as possible on the schedule. The manager and director block off time on their individual schedules to work with students during peak periods. The WaCC also maintains a wait list and contacts students in the event of an opening due to a cancellation on the schedule.

**WaCC Impacts on Peer Consultants**

Peer consultants describe the ways that tutoring students has contributed to their growth while at UW Bothell. For example, Evan Gilbert (IAS, 2016) eloquently explains how working at the WaCC enriched his education at UW Bothell as well as furthered his professional and academic opportunities:

> This position has contributed to many aspects of my growth at UW Bothell. Beyond the obvious training in grammar and academic writing, working as a writing consultant has benefited me professionally and socially. For example,
I had an amazing opportunity to serve as an intern for the state senate; the internship coordinators specifically mentioned this position as a major reason they offered me the job. But even ignoring the professional and academic development, this position has helped me become more connected to the campus community. I have now had the opportunity to serve in three different capacities on ASUWB, culminating in my current position as the Director of Government Relations. My experience at the WaCC has given me a deep appreciation for the student body and the campus at large, while also providing an alternative perspective for me to apply to student government decisions. And, as a final point, without this position (and the training and experience inherent in it) I would not be about to begin my Law School career at my dream school, NYU.

Katie Knutson (Business, 2016) reports that working at the WaCC “helped me grow as a writer. It has helped me understand assignments from a design perspective because I feel like I’m able to see what Professors are looking for in assignments. I also feel like it has helped me break out of my shell and connect with people; now, I can relate to any type of student that I encounter.”

Melissa Robinson (IAS, 2016) reports that:

I started as a student here with a lot of anxiety about everything, and the WaCC really helped alleviate that anxiety by being such a welcoming, friendly space with staff who were open about their own insecurities. Staff meetings especially were a great time for team building and learning about everyone’s approach to writing and communication, and these meetings really helped me to feel comfortable with the people I worked with. I’ve made friends here that I now see on a regular basis outside of the WaCC. Working with so many students has taught me so much about how to interact with communication styles and backgrounds that differ from my own, how to listen better, and how to not get hung up on “incorrectness” and find out what someone really wants to say. I’ve also learned that this kind of involved, one-on-one work works much better for me than working alone at a desk all day, and I’m trying to pursue work that engages me on a similar level.

Working at the WaCC has also benefitted graduate students. As Tracy Gregory (MFA, 2016) explains:

I have learned how to articulate myself in a more accessible and concise manner. My comprehension skills have also gotten better, which helps on a personal and professional level. Working at the WaCC also influenced the way I interacted with students in my cohort, particularly when we
workshopped each other's work...I was better able to respond with open-ended questions and provide various types of feedback, rather than make snap judgments and give responses having to do with personal taste rather than a critical understanding of the work.

I also feel better equipped to interact and understand all types of people, since we worked with students from various backgrounds and areas of study.
Appendix D: New Faculty Orientation

The Teaching and Learning Center, in collaboration with the UW Bothell Library, the Office of Research, and Organizational Effectiveness and Human Resources, designed and delivered the two-day UW Bothell New Faculty Orientation. Open to faculty and teaching staff from all ranks, the orientation serves as the key onboarding event for new faculty. The planning team designs the orientation to foster stellar teaching practices, cross-disciplinary community building, and knowledge of UW Bothell faculty resources. The team also models active learning strategies in the delivery of the orientation. Each year’s agenda reflects modifications based on feedback from previous participants. Features of the 2015 agenda (below) that arose in response to participant feedback include hearing from current faculty and students and devoting a long session to Learning Technologies with a focus on Canvas.

2015-2016 NEW FACULTY ORIENTATION AGENDA

WEDNESDAY, SEPTEMBER 16, 2015

9:00 – 9:15 Registration, Coffee/Tea
Disc 252

9:15 – 9:30 Welcome
David Goldstein, Director
Teaching and Learning Center (TLC)

9:30 – 10:15 Introductions
Leslie Hurst, Head of Teaching and Learning
UW Bothell Library

10:15 – 10:30 Coffee Break

10:30 – 11:15 Transformative Teaching
Kim Sharp, Interim Director
Writing and Communication Center (WaCC)

11:15 – 12:00 Introduction to Canvas
Erin Hill, Director
Quantitative Skills Center (QSC)

12:00 – 12:45 Lunch

12:45 – 1:30 Getting to Know Each Other
Caroline Brennan, Assistant Vice Chancellor
Office of Research

1:30 – 2:15 Introduction to Organizational Excellence
Beth Beam, Organizational Excellence and Human Resources
Administration and Planning

2:15 – 3:00 Panel Discussion: Reflections from Current Faculty

3:00 – 3:15 Coffee Break

3:15 – 4:00 Learning Technologies with a Focus on Canvas

4:00 – 5:00 Closing Remarks

3:00 – 5:00 Closing Remarks
10:15 – 11:45  Teaching and Learning Workshop  
Part 1: Backward Course Design  
David Goldstein, TLC Director  
Campus-Wide Learning Goals & Outcomes  

11:45-12:00  Welcome from UW Bothell Chancellor  
Bjong Wolf Yeigh  

12:00 – 12:05  BREAK  

12:05 – 1:45  Lunch  
part 1: Faculty Frequently Asked Questions/Breakout Tables  
part 2: Walk and Talk (30 minutes)  

1:45 – 3:00  Teaching and Learning Workshop  
Part 2: Assessment  
Linda Watts, Professor of American Studies  
School of Interdisciplinary Arts and Sciences  

3:00-4:30  Benefits presentation  
UW Benefits Office  

THURSDAY, SEPTEMBER 17, 2015  

9:15 – 9:30  Registration, Coffee/Tea  
Disc 252  

9:30 – 11:30  Teaching with Tech Workshop  
UW2-105  
Andreas Brockhaus, Director  
Learning Technologies (LT)  
Break-out Sessions  
Joe Shelley, Assistant Vice Chancellor & CIO  
Information Technologies (IT)  
Mary Bold, CIO/eLearning Strategist  
Information Technologies  
Salem Levesque, Digital Media Coordinator  
Information Technologies  
Adri Sanchez-Magdall, Helpdesk Coord.  
Information Technologies  
Information Technologies staff  
Learning Technologies staff  

11:30 – 1:00  Lunch and Student Panel  
Disc 252  

1:15 – 2:45  Interactive Theater as Pedagogy  
“Building Bothell Community”  
Theresa Ronquillo  
Tikka Sears
2:50 – 3:10 Wrap-up and Next Steps

David Goldstein, TLC Director
Leslie Hurst, Library
Erin Hill, QSC Director
Kim Sharp, WaCC Interim Director
Beth Beam, Administration and Planning
Appendix E: Cross-Disciplinary Faculty Development Workshops

The TLC, QSC, and WaCC directors collaborate to bring a rich cross-disciplinary approach to faculty development work. This cross-disciplinary partnership clusters around three areas. First, this collaboration helps reach faculty in different disciplines. For example, the QSC director helped the WaCC director understand the priorities and concerns of STEM faculty. This helped the WaCC director tailor her approach to faculty development in STEM disciplines so that it would be more relevant to discipline-specific teaching goals and challenges. Second, collaborating in faculty development efforts deepens each director’s individual work with faculty. For example, after learning about the theory and practice of “writing-to-learn” activities from the WaCC director, the QSC director suggests these activities, as appropriate, with faculty she works with individually. Finally, the QSC and WaCC directors model cross-disciplinary teaching in the workshops they create and conduct in both undergraduate and graduate courses. The worksheet below is an example of an in-class activity they created to help students understand the qualitative and quantitative aspects of a research article.

Unpacking a Scholarly Article

Names of group members: _____________________; _____________________;
_______________________; _____________________;
_______________________; _____________________;

Author and title of article:

Part I. Find the Claim:

Thesis/position/argument/claim

What question does the author pose? What is the primary argument made by the author? Where do you first find the argument? What language indicates to you that this is the primary argument?

Context

Why is the argument significant?
What other positions does the author indicate are debated regarding the topic?

When was the article written? Where was it published? Who was the intended audience?

**Part II. Assess the strength/validity of the argument:**

**Evidence**

What evidence, qualitative and quantitative, does the author offer in support of the position put forth?

What is the nature of each piece of supporting evidence? For example, is it based on empirical research, ethical considerations, common knowledge, anecdote?

What is the sample size? How was the sample selected? Describe who was in the sample.

To what population do the authors generalize? In other words, what larger group is the sample selected from?

What terms or numbers would you need clarified in order to explain these results to someone else?

How good/convincing is the evidence? Does it address the question posed? Is there any significant information that is omitted? Have you read/heard anything on this subject that confirms or challenges the evidence? Can you identify any rival causes that would produce their results?

**Counter Arguments**

What arguments made in opposition to the author’s views were described?
Were these arguments persuasively refuted?

What evidence was used in the refutation?

**Effectiveness**

What were the strengths of the article?

How well is the conclusion supported by the statistics? Explain.

Was it difficult to read and understand? Did the structure and overall organization guide you and help you follow the author’s intent? Explain.

Did all the material seem relevant to the points made?
Appendix F: TLC Strategic Plan 2012-2015

Process
In 2012, the Teaching and Learning Center (TLC) management: David Goldstein, Karen Rosenberg, and Erin Hill, began a strategic planning process with the goal of constructing a 3 year plan for the TLC, Quantitative Skills Center (QSC), and Writing and Communication Center (WaCC). Strategic planning consultants were interviewed and one was selected in order to inform the process and create an effective plan. The consultant helped to define and clarify the multiple aspects of a strategic plan, advised on steps to take throughout the process, facilitated discussions, and assisted in the identification of key stakeholders for each step. Key stakeholders interviewed were: Susan Jeffords, Gray Kochhar-Lindgren, Betsy Tippens, Kris Kellejian, Martha Groom, Sharon Crowley, Kelvin Sung, Cinnamon Hillyard, and Carol Leppa. Based on this work, the following strategic plan was developed by the TLC team as a living document that was frequently consulted and revised.

Mission
The Teaching and Learning Center fosters learning in the UW Bothell community by supporting learner educators in the enrichment of pedagogical knowledge, skills, and practice.

Long-Range Goal 1
Create and deepen transformative pedagogies with learner-educators that include high-impact practices, intellectual risk-taking, and play.

Strategies for Long-Range Goal 1:

Completed or Continuing:

- **Strategy 1:** Work directly with faculty by initiating and continuing cohort-based, long-term Fellows faculty development institutes/learning communities
  - **SMART Goal 1:** Provide support for at least one Hybrid Course Development Institute for at least five faculty members (Andreas and Ian) [completed]
  - **SMART Goal 2:** Mount year-long Seminar for New Faculty for at least ten faculty members (David, Erin, and Karen) [completed]
  - **SMART Goal 3:** Design and implement a facilitated faculty learning community (Erin in collaboration with faculty) [continuing]
  - **SMART Goal 4:** Hold Faculty Office Hours in the Truly House in collaboration with topic experts from across campus, e.g., student conduct, global initiatives, assessment, etc. (Erin) [continuing]
• **Strategy 2:** Work with Programs and Schools across campus to integrate learning goals and to ascertain Program/School faculty development goals and needs
  - **SMART Goal 1:** Meet with GFO Executive Council to assist with learning goals follow-up to be reported at learning goals briefing memo by June 30 (David) [completed]
  - **SMART Goal 2:** Meet with each Program/School Director to assist with learning goals follow-up to be reported at learning goals briefing memo by June 30 (David) [completed]
  - **SMART Goal 3:** Offer quarterly TIPS (Teaching in Progress Seminars) (Erin) [continuing]
  - **SMART Goal 4:** Work with faculty groups in each program/school on literacy goals (in collaboration with library), e.g., ATP, BIS 300 (Karen and Erin) [continuing]

• **Strategy 3:** Develop peer educators
  - **SMART Goal 1:** Arrange for at least four faculty members to meet with relevant peer educators to discuss pedagogy for their courses (Amber and Kim) [continuing]
  - **SMART Goal 2:** Design peer educator course (Erin) [completed]
  - **SMART Goal 3:** Design ongoing training for new peer educators (Amber and Kim) [completed]

**Possible Future Strategies:**
  - **Strategy 1:** Work directly with faculty by initiating and continuing cohort-based, long-term Fellows faculty development institutes/learning communities
    - **SMART Goal 4:** Implement 9 month fellows program focused on Writing Across the Curriculum
  - **Strategy 2:** Work with Programs and Schools across campus to integrate learning goals and to ascertain Program/School faculty development goals and needs
    - **SMART Goal 5:** Survey faculty to find out which faculty development topics are most important to them and create programming around most requested topics, or include in existing programming
  - **Strategy 3:** Develop peer educators
    - **SMART Goal 5:** Survey faculty involved with peer facilitators to get input
    - **SMART Goal 6:** Pilot Peer Educator Course after any edits from faculty survey
  - **Strategy 4:** Increase participation in teaching and learning conferences
    - **SMART Goal 1:** Send at least two campus teams to teaching and learning conferences, with built-in commitment to follow up
  - **Strategy 5:** Help faculty members create more effective syllabi
• **SMART Goal 1:** Provide at least five online resources for effective syllabus writing

• **SMART Goal 2:** Workshops / institutes / groups / on making an effective syllabus providing templates, critiquing syllabi, include students

• **SMART Goal 3:** Create a syllabus template with each day of lecture in it so instructors can input the days lecture and then get feedback on what worked

• **SMART Goal 4:** Make campus wide standards for how to make useful syllabi

**Long-Range Goal 2**

Develop learner-educators’ skills to reflect on, assess, and share teaching practices and resources.

**Strategies for Long-Range Goal 2:**

**Completed or Continuing:**

- **Strategy 1:** Foster robust assessment of student learning in courses and in Programs/Schools
  - **SMART Goal 1:** Train at least five new SGID consultants (David) [completed]

- **Strategy 2:** Foster a culture of sharing and reflecting
  - **SMART Goal 1:** Offer at least two postings per week on TLC Facebook page (David, Karen, and Erin) [continuing]
  - **SMART Goal 2:** Create a resource exchange and repository of teaching and learning practices and scholarship, with aggregated, consolidated resources from on campus and off campus, including from TLC grant recipients on TLC website (Karen and Erin) [continuing]
  - **SMART Goal 3:** Set up online sign-ups for various services, such as SGIDs, events, etc. (David) [completed]

- **SMART Goal 4:** Align the three Center websites with each other and with Academic Services; QSC site first (Erin) [continuing; QSC complete]

- **SMART Goal 5:** Post TLC banner on Truly House (David) [completed]

- **SMART Goal 6:** Produce monthly TLC newsletter (All) [continuing]

- **SMART Goal 7:** Require faculty who travel to teaching and learning conferences with TLC travel funds to write a paragraph on experience to share in TLC newsletter [continuing]

- **Strategy 3:** Create a more cohesive and creative TLC space that is highly visible
  - **SMART Goal 1:** Consult with campus space planners on a physical space that is more conducive to creativity and play, and which is attractive to faculty,
students, and staff (to be implemented in Year 2) (David and Robyn) [completed]

- **SMART Goal 2**: Create an environment that supports the work of part-time faculty by redesigning the first floor of the Truly House: obtain financial support, provide hard and soft seating, and maximize desk and computer space. (Robyn) [completed]

**Possible Future Strategies:**

- **Strategy 1**: Foster robust assessment of student learning in courses and in Programs/Schools
  - **SMART Goal 2**: Gain access to already produced assessment tools (surveys, research, etc.) to have a broad stakeholder voice when improving programs
  - **SMART Goal 3**: Meet with each Program/School Director to suggest ways of assessing achievement of student learning goals
  - **SMART Goal 4**: Send teams to institutes or workshops on best assessment practices annually (e.g., IUPUI)
  - **SMART Goal 5**: Help faculty interpret student assessments – provide resources for improvement depending on assessment results
  - **SMART Goal 6**: Provide spaces (events, discussions, etc.) for faculty-student dialogue that encourages reciprocal learning developments/Student roundtables or other ways for faculty to hear student perspectives

- **Strategy 2**: Foster a culture of sharing and reflecting
  - **SMART Goal 8**: Publish at least six SoTL book reviews on TLC Facebook page and/or website
  - **SMART Goal 9**: Offer at least one TED-style talk session per year as part of TIPS series and feature videos on TLC website
  - **SMART Goal 10**: Establish TLC SoTL Grants for writing retreats at Whiteley Center
  - **SMART Goal 11**: Conduct at least one workshop on SoTL
  - **SMART Goal 12**: Set up a “teaching in action” (TIA) program similar to Cascadia’s “classroom exchange”
  - **SMART Goal 13**: Develop collaborations / networks outside campus to resources offered to faculty (example – peer mentoring system that engages with faculty from other campuses)
Appendix G: Faculty Consultations on Teaching and Learning

The Teaching and Learning Center (TLC) offers one-on-one or small group consultations on all areas of instructional support: course, syllabus, assignment, and assessment design and implementation. These consultations have been accomplished in two primary ways: on request from a faculty member, and through office hours for faculty. The former relies on faculty to contact the TLC with pedagogical questions, concerns, and challenges. If it's determined that further expertise in particular areas such as information literacy, writing and communication, learning technologies, etc. are needed, the corresponding specialist from campus is brought in to consult. The faculty office hours were started in spring 2016 by the Interim TLC Director, Erin Hill. The office hours were co-facilitated by Dr. Hill and an expert from the UW Bothell campus on multiple topics: classroom management, global learning, assessment, writing, etc. Both approaches place an emphasis on articulation of clear learning goals and outcomes and activities, assessments, and assignments that accomplish the goals and outcomes, i.e., backward course design.

Example
A part-time faculty member sought consultation on their electrical engineering course. In the first face-to-face discussion, it was determined that the instructor's main goal was to have their students think like design and test engineers. The conversation led to the instructor revising their course goals to better reflect this overall goal.

Original Learning Objectives
1. Learn the theoretical and practical aspects of metrology and design for testability.
2. Understand the various types of tests: unit, functional, parametric and fault oriented testing.
3. Learn the principles of design-for-testability (DFT) of modern micro-electronic circuits.
4. Use hands-on exercises in lab to develop a deeper understanding of testing of sequential circuits.
5. Learn to use build-in-self-test (BIST) methodology in digital systems design.
6. Be able to design maximum length test generation and signature analyzer based on primitive polynomial.
7. Develop familiarity of scan-path and boundary-scan design techniques for sequential circuits/systems.
8. Expose to software verification and testing.
9. Understand mixed-analog-digital signal testing issues and some of the techniques used such as DSP testing.
These learning objectives focus primarily on direct content.

**Revised Learning Goals**

1. **Play:** Learn different measurement tools, theories, and techniques, Explore different input keys (knobs) on each instrument, Try alternate ways/means to perform measurements and come up with comparisons for the suboptimal solutions.

2. **Be effective testers and identify circuit/system testing constraints as well as develop improvements to make them more testable.**

3. **Develop as a designer-tester:** Take responsibility for – and be active in – own testing skills, assisting designers (other team members) to do the same, and develop effective design for testability skills.

4. **Increase strength and confidence in understanding the differences between software and hardware (circuit/system) testing skills and design for testability concepts.**

**And corresponding Learning Outcomes**

1. Identify and analyze metrology concepts such as each instrument’s dynamic and static characteristics and build on knowledge of their limitations.

2. **Analyze and solve test problems using a design for testability criteria in order to identify problem areas and increase confidence in suggesting approaches for enhancing testability.**

3. **Communicate testing and design for testability knowledge gained in lab projects and class in order to convince design engineers to adopt changes in circuit/system to make them more easily testable.**

4. **Apply hardware testing concepts learned in class to software environment and vice versa, formulate design for testability questions, implement corresponding improvements, and make accurate tests and measurements in order to connect the quality of the software tested with the results of testing and to evaluate test’s limitations and interpretations.**

The new learning goals and outcomes are: related to skills (critical thinking, problem solving, etc.) needed to be an effective test and design engineer, are made relevant to students, and the outcomes are assessable. The original, content-oriented objectives will be used for unit goals within the course. After revising the course goals, the instructor proceeded to make adjustments to their class activities to better align the activities with the new goals. The instructor commented: “Thanks so much Erin for your stimulating inputs today and I could never thought of these ideas to improve student learning myself! It is like a beacon guiding me toward being a better teacher.”
Appendix H: Small Group Instructional Diagnostics

SGID Description
The Small Group Instructional Diagnostic (SGID) is a formative assessment technique used to obtain anonymous, mid-quarter feedback from students about an instructor’s class. A trained facilitator assists the instructor in creating questions the instructor would like to ask their students. The facilitator then visits the instructor’s class for thirty minutes while the instructor leaves the room, and collects anonymous answers to the prepared questions. The facilitator compiles the feedback into a confidential report and schedules a follow-up meeting to discuss the report with the instructor. The short turnaround time provides the instructor with an opportunity to go back to their students to reinforce their class learning goals, address any student concerns, and make changes to the course. SGIDs are a valuable tool in the professional development toolbox of all instructors, and in improving the learning experiences of students. The following SGID report example is used with permission from the instructor who requested the SGID.

SGID Report Example

General Themes:

- Students report that group work facilitates their learning
- The majority of students (around 2/3) prefer clickers to scratch-cards, though the remaining 1/3 felt strongly that they liked the scratch-cards
- Students have some questions about the WebAssign problems – level of difficulty, required problem-solving steps, and in-class follow-up
- Notably less discussion around lecture this year – one student even said that there was too much lecture in lab!
- Students identify that they can do more to facilitate their learning – e.g., using QSC, reading text, asking more questions

What is helping you learn in this class? Please give specific examples, e.g., activities, readings, assignments, labs, group discussions, class discussions, clicker questions, scratch-card questions, etc.

- In-class activities
- Lecture and how [the instructor] teaches and explains
- Examples during class
- Video examples are helpful to explain ideas
- Collection of questions from resource worksheet
● Taking pictures of group work and talking through it as well and resource worksheet
● Simulations on the computer (2)
● Demonstrations give us a visual assist
● Structure in way of solving problems
● Group work (6)
  o With white boards (2)
  o Group problems
  o Group problems and web assign both allow utilization of concepts learned
● Group discussions (7)
  o With questions
  o Group discussions with the questions are helpful but need more time with them
  o Class discussion helps
● Conceptual questions
● Clicker questions (7)
  o It helps that they're not graded
  o Process of clicker questions starting from what you think to what group thinks to what class thinks
● Scratch card questions (4)
  o in the sense that it fosters collaboration between groups
  o Hands and scratch cards are helpful as they are engaging
● Class is flipped
● Feedback on resource worksheets
● Web Assign (2)
● Students prefer clickers to scratch cards (roughly 2/3 of students preferred clickers). However, a minority of students felt strongly that they preferred the scratch cards.

What could you as students do to help improve your learning experience?

● Use office hours (2)
● Use the QSC (5)
● Take notes
● Ask questions (2)
● Attend a study group
● Be more prepared before coming to class (2)
● Actively participate in class
● Talk to teacher
● Talk to professor if you fully don’t understand
● Ask [the instructor] questions
● Do more lecture so we know more of the concepts
● We could read directions better
● More examples would be helpful as well as going over main concepts of each section.
● More time to do in-class work
● More class time
● Read the book (2)
● Read more before class
● Take notes on book
● Book: read instead of summarize
● Read textbook more thoroughly (2)
● Break problems into steps
● Not much to improve on
● Maybe maintain collaboration to maintain learning experience
● Use more resources outside of class
● Allow myself more time to complete the homework
● Write down equations and when to use them
● Internet (2)
● Watch videos to help us with certain problems
● Trying to understand concepts for homework rather than just searching for the answers
● Be more respectful when discussing differing viewpoints
● Put a lot of thought into reading and completing resource worksheets
● Follow directions so [the instructor] doesn’t have to waste time nagging the class
● Start doing homework questions before class is on that topic. Or at least look at the questions

What changes could be made to help you learn better?

● While in one subject area have all assignments focused on that one subject
● Work on one chapter at a time (WebAssign, resource worksheet, class activities, etc.)
● Make the in-class and homework questions more similar in terms of difficulty (in-class problems are much easier)
● Go over one WebAssign problem in class that everyone had a hard time with
● Work more with quantitative aspect in class (as opposed to conceptual aspect)
● Simplify the problem-solving process – some steps seem excessive
● Less repetition with clicker questions; perhaps offer greater variety of clicker questions
● Short lecture at beginning of class
● We need lecture
● Less lecture in lab
● WebAssign doesn’t provide enough guiding material
● Need more in class preparation for WebAssign problems
● More provided values for certain WebAssign problems
● Better correlation between in-class work and homework
● No scratch cards
● Stronger correlation between class and labs
● Detailed examples to solve problems
● Go over WebAssign problems in class (or at least one – the hardest)
● More general questions in class to better understand the actual concepts
● It would be helpful to go over the homework before and after it is due. It is hard to translate what we learned in class to quantitative problems. Also, a tiny lecture would help especially about quantitative aspect because a lot of the book assumes you have a background in physics.
● Better, larger tables, better airflow in the room
● Emphasize equations and derivation of the equations in lecture part of class
● Don’t use PowerPoint in lectures, use white board at front of the classroom more often
● Longer class times
● Tighter relationship with calculus
● More examples of problems, more lectures on main concepts and explanations of them
● Having new groups daily does not help us
● More of an explanation for problem-solving guidelines
● Limit number of problems required for problem solving guidelines (change from 3 to 1)
● The WebAssign written assignment requires all students to complete three random selected questions and write out a full problem solving guideline to solve the problem. That’s very redundant especially if you already know how to do the problem. It’s a great strategy, however, it shouldn’t be required
What skills are you learning in this class that will help you throughout college and in your future career?

- Working in random groups helps us develop group work abilities
- Collaboration (working with new people each time)
- Working with different people each time
- Collaboration (2)
- Communication (4)
- Teamwork
- Science
- Physics
- Physics concepts in general
- Group work– Responsibilities in a team
- Group work
- Systematic quantitative reasoning
- Problem-solving guide to help communicate through paper
- Quantitative problem-solving
- Explaining reasoning
- Problem-solving (3)
- A lot of the material is important
- Reading for important information
- Group working sessions; help to work with others
- Approaching problems in unconventional ways
- Time management

Key Changes made by the Instructor

- Incorporation of most difficult homework problems into class time to work on together in groups.

- Reminding the students that the mini-lectures in class are based on questions students include in their resource worksheets, so they should make sure to complete them.

- Clarification of aspects of the problem-solving guideline via an example problem, and reminding the students that the purpose of their homework is not only to help them learn, but to communicate their logic and understanding of a quantitative problem to others (instructor, future employer, teammates, etc.). In addition, a more complete introduction to the document was implemented the next time the course was taught.
• Implementation of an assessment of group work for the next class mid-quarter and at the end of the quarter with the mid-quarter results summarized for, and shared with, the students.

• Changing the textbook for the next class to a new edition that best aligns with the active, hands-on style of the class and one that is written for a student audience.

• After consulting with other instructors within the same discipline, the next time the course is taught, the instructor is going to try adding 10 min to each class (30 min per week) while reducing out-of-class time by 30 min per week due to several student requests over the years of more class time.
Appendix I: Teaching In Progress Seminars (TIPS)

TIPS are quarterly workshops facilitated by learner-educators (faculty, staff, or students) that provide an opportunity for learner-educators to share best practices and transformative pedagogies. TIPS were created by TLC Interim Director Erin Hill as one strategy to accomplish the TLC learning goal of “Create and deepen transformative pedagogies with learner-educators that include high-impact practices, intellectual risk-taking and play.” Topics have included: engaging students with culturally diverse backgrounds, critical thinking skills across disciplines, information literacy, assessing learning outcomes, English as a Second Language writing assessment, using simulations in the classroom, and activities in active learning classrooms.

Example Workshop Materials

Active Learning Activity – TIPS Workshop Autumn 2014

Activity Name: Create a Problem

Course: Physics 121: Introductory Mechanics Course; Cap of 48 students that will move to 60 in Winter Quarter; Primarily Sophomores, but have a handful of Freshmen and some Juniors.

Learning Goals:
- Construct, re-construct, and add to understanding and application of mechanics concepts
- Be effective problem-solvers and develop different approaches to and representations of the material
- Develop as a learner-educator: take responsibility for – and be active in – own learning, assist others to do the same, and develop effective study skills

Learning Outcomes:
- Identify and analyze misconceptions of mechanics concepts previously held in order to modify them and build on correct knowledge
- Analyze and solve physics problems using an expert approach in order to identify main concepts, logically progress through problems, and increase confidence and use of symbolic manipulation

Bloom’s Taxonomy Level: Creation

Activity Description: In groups, students are expected to create a physics question for an exam. One question out of the pool of questions that satisfy the given requirements is then placed on the exam. The benefits of this activity are: students are operating at the highest
level of Bloom’s Taxonomy, they have to know and study the material in class to be able to create a question, they have to figure out what information to provide in order for someone else to solve the problem, they get to contribute to the exam (this results in few to no complaints about the exam), they realize the difficulty in creating a question, it hopefully encourages students to study more for the exam as they have access to all viable problems, I have permission to choose a difficult question (students will frequently come up with questions that are more difficult than the ones I would write), and it engages all students (body language changes when I’ve done this activity, in addition to verbal engagement).

**Activity Implementation:** Students are given an entire class period – 80 minutes – to create, and try to solve, a problem. For my physics course, the following requirements are given to the students: they must solve for only one variable/quantity, they must use at least three equations to solve for the one variable/quantity, the problem should describe a real-life situation or it should be creative, and they can’t use a problem or example straight from their textbook, class, or the Internet. A problem-solving guideline also must be followed when the students solve the problem they created. Once these are turned in, I vet each one to make sure the problems both meet the requirements, and are solvable, i.e., contain enough information to actually solve. All of the viable problems are then typed onto individual PowerPoint slides with their answer, but not the solution, and posted as a PDF to the course Canvas site for review by the students prior to the exam.
Appendix J: Synergies in Faculty and Tutor Development

The QSC and the WaCC provide both faculty development and student support services. This organizational structure has benefitted student learning in key ways. First, center directors keep current on relevant literature in the Scholarship of Teaching and Learning (SoTL) and use their own SoTL research to inform student learning. Second, student tutors act as strategic intermediaries between students and faculty. Tutors report common assignment challenges and misinterpretations to QSC and WaCC directors, who can then troubleshoot this information with instructors and deepen their faculty development work. Center directors also facilitate conversations between faculty members and tutors so that the tutors can gain a deeper understanding of faculty pedagogical goals and values. Tutors use this training to help students interpret and address assignments.

Second, QSC and WaCC directors incorporate insights gained through faculty development work into tutor training. For example, the WaCC director has worked with numerous faculty members to support them in teaching EAL (English as an Additional Language) students. The WaCC director can share strategies and challenges with tutoring staff to reinforce effective pedagogical practices. This organizational structure, with built-in links between faculty development and academic tutoring, contributes to a positive feedback loop where faculty and tutor development efforts inform assessment of student learning, which in turn enhances the Scholarship of Teaching and Learning (see Figure 1, above).
Appendix K: Global Learning Community

Association of Pacific Rim Universities (APRU) Sponsored Learning Community on Assessing Student Learning Readiness in Flipped Instruction

In the flipped classroom, students are asked to engage with learning materials (readings, videos, etc.) before class, thereby reserving class time for collaborative learning, activities that explore concepts more deeply, and skill development. The effectiveness of flipped instruction relies heavily on student preparation before class, or “student learning readiness.” The Center for Teaching and Learning at UW Seattle hosted a Global Learning Community that explored questions about student readiness. Specifically, participants identified and shared research, assessments, and experiences on student readiness in the flipped classroom. The Interim TLC Director, Erin Hill was one such participant representing UW Bothell.

Learning community questions and activities included:

1. What are best practices for preparing students for flipped instruction? An inventory of existing practices at participating institutions will identify what is currently being done and what works best.
2. Are there pedagogical approaches that increase student preparedness? These approaches may include improved instructional design of “flipped” materials, peer instructional models, guided preparation (by an instructor or teaching assistant), and others.
3. Are there teaching and learning tools that increase student preparation? Are there emerging technologies that would be useful, but are not sufficiently mature for deployment?
4. What assessment techniques and analytics can be used to measure student preparation effectively?
5. Finally, what evidenced based teaching “pilots” can be designed and conducted, with the goal of measuring the efficacy and impact of practices that promote student learning readiness.

Next Steps:
Five representatives from the Learning Community are giving a presentation at APRU’s 6th Education and Research Technology Forum in November 2016 in Singapore. The Forum’s theme is on “Sustainable Technology and Learning Across Institutional Collaborations.” Topics likely to be covered are active learning strategies, student-centric analytics, challenges in conducting online assessments, pedagogy and curriculum, and moving towards lifelong skills upgrading. The five presenters will share highlights of best practices for flipped/blended classrooms, including specific examples, context, challenges, strategies, and key take-aways.
Participants

Tsinghua University

- Xiuhua Huang -- Center for Online Education

Waseda University

- Yusuke Morita -- Center for Teaching, Learning & Technology; Faculty of Human Sciences
- Tomoki Oshika -- School of Commerce

University of Malaya

- Farazila Binti Yusof -- Department of Mechanical Engineering, Faculty of Engineering
- Nurhayati Binti Zainal Abidin -- Institute of Biological Sciences, Faculty of Science
- Zuraini Binti Md Ali -- Department of Building Surveying, Faculty of Built Environment

Hong Kong University of Science and Technology

- Nick Noakes -- Center for Education Innovation
- TC Pong -- Center for Engineering Education Innovation; Computer Science & Engineering

National University of Singapore

- Alberto Corrias -- Biomedical Engineering
- Adrian Lee -- Centre for Development of Teaching and Learning

University of Southern California

- Stephen Lu -- Manufacturing Engineering
- John Walsh -- Gerontology

University of Washington

- Blake Hannaford -- Electrical Engineering, UW Seattle
- Erin Hill -- Quantitative Skills Center; Teaching and Learning Center; School of STEM, Physical Sciences, UW Bothell
- Wei Zuo -- Center for Teaching and Learning, UW Seattle
- Karen Freisem -- Center for Teaching and Learning, UW Seattle
Appendix L: CBLR Collaboration

3-Part Workshop Series: Nuts and Bolts CBLR Pedagogy

Description
CBLR and the Teaching and Learning Center (TLC) collaborated to create an interactive, 3-part faculty development workshop series on the “nuts and bolts” of incorporating CBLR into a course. The impetus for this series came from faculty members who wanted workshops focused specifically on the logistics of integrating community engagement into their classes. Each workshop was co-facilitated by the CBLR Interim Director, faculty members, and other guests listed below. The three parts were:

1) Intro to CBLR Pedagogy and Syllabus Design, co-facilitated by Dr. Lauren Lichty
   a. Defining CBLR
   b. Elements of high-quality CBLR
   c. Myths about CBLR
   d. Benefits of CBLR for students: civic engagement, academic learning, professional development, and psychological well-being
   e. CBLR at UWB
   f. CBLR pedagogy: design, assignments, integration, examples, and principles of good practice
   g. Ethical and effective CBLR

2) Partnership Development, co-facilitated by Dr. Shauna Carlisle and community partner King County Information Technology
   a. Framing quality CBLR partnerships
   b. Community sectors
   c. Starting partnerships and partnership agreements
   d. Core characteristics of effective partnerships
   e. Community partner perspectives
   f. How the Office of CBLR can support partnerships
   g. Risk management

3) Reflection Integration, co-facilitated by Dr. Charity Lovitt, Dr. Lauren Lichty, and two students
   a. Defining reflection
   b. Kolb’s Learning Cycle: active experimentation, concrete experience, reflective observation, and abstract conceptualization
   c. Case examples
   d. Quality reflective practices

The series was offered in Winter Quarter with plans to repeat the series in autumn 2016 and winter 2017.
Results
The series was capped at 12 faculty members per session. The workshops were attended by a total of 15 faculty members at all ranks from the Schools of Science, Technology, Engineering, and Mathematics; Nursing and Health Studies; and Interdisciplinary Arts and Sciences. Six faculty members attended all three workshops and received a spending credit of $100 in compensation to use towards teaching related materials, conference costs, or projects related to CBLR.
Appendix M: Voyager Middle School

The Writing and Communication Center worked with Voyager Middle School to establish a new writing center. The Voyager Middle School writing center is staffed and used by middle school students. UW Bothell WaCC staff provided training, hosted visits at the WaCC, and served as mentors to the Voyager middle school students. This work was featured in the Inside UW Bothell article “Power In Partnerships” (Spring/Summer 2015).
SEVEN EAGER-EYED tweens stream into UW Bothell’s Writing and Communication Center, then break into small groups to review papers they’ve marked up as the staff at Voyager Middle School’s new writing center.

Annamarie Jordan, the South Everett seventh-graders’ literature and social studies teacher and writing center director, listens intently as her students huddle with their UW Bothell mentors, who offer pointers on how to highlight a paper’s strengths and suggest where there’s room for improvement.

One of those mentors is Annamarie’s daughter, Ayva, who inspired her mom to create the writing center during her sophomore year at UW Bothell. It’s just one aspect of a multi-faceted partnership that took root in 2014, when Annamarie created a college readiness curriculum for her middle schoolers called “Believe.”

Their assignment: to research a college degree that sounded interesting, find a college where they could pursue that degree, then write a letter to the school asking for a free t-shirt to help them stay focused as they pursued their dreams of one day earning a degree.

Voyager students have toured UW Bothell and learned about the school’s excellence in innovative, interdisciplinary studies. They’ve attended mock classes on campus taught by UW Bothell professors and organized by UW Bothell students as part of a community-based learning and research project.

The college students who organized the mock class also visited Voyager for a Q&A session with seventh-graders, answering thoughtfully prepared questions about everything from who inspired them when they were in middle school to what they think about the new national “common core standards” that are changing the way public school students are taught and tested.

UW Bothell’s students benefit from this partnership right alongside Voyager’s, learning about adolescent development, the public education system, and perceptions young people have about college – especially those who will be first-generation college students.
“Partnerships like this show how committed our students, faculty, staff and administrative leaders are to collaborating with our community to identify and address critical challenges like college access and education equity,” says Kara Adams, interim director of community-based learning and research at UW Bothell.

Like a sapling sprouting one new branch after another, Voyager’s partnership with UW Bothell keeps growing – as organically as it began.

A counselor at Voyager has teamed up with a group of UW Bothell students who are volunteering as Project Girl mentors through a self-esteem-building program. Annamarie and her students are starting to raise funds for a “We Believe” scholarship program to help Voyager students go to college.

Every ounce of motivation about their future makes all the difference to Voyager students – especially those who might fear a degree is out of reach because they’d be the first in their families to go to college. That’s true for most of Annamarie’s seventh-graders, including writing tutor Autum Cuddy.

“I used to think I couldn’t go to college because it would be too expensive, even though my parents kept saying they’d figure out a way to make it happen,” Autum says. “Now I know about scholarships and all kinds of ways you can pay for your education. I’m excited.”

UW Bothell Chancellor Wolf Yeigh recently hand-delivered dozens of purple and gold “Be Boundless” t-shirts to students at Voyager, most of whom had sent their “Believe” letters to UW Bothell. He encouraged students to embrace the idea of college as a journey of endless possibilities – a place to take bold steps and to relish mistakes as learning opportunities that can broaden their horizons.

“It’s the journey that makes the biggest difference,” the chancellor said. “Once you get there, you look for the next step.”

KARA ADAMS, UW BOTHELL INTERIM DIRECTOR OF COMMUNITY-BASED LEARNING AND RESEARCH
Appendix N: WaCC Open Mic Nights

The WaCC organizes and hosts quarterly Open Mic Nights which bring together students, faculty, and staff to share and celebrate the diverse, creative voices in the UW Bothell community. Each Open Mic includes a featured writer and a sign-up sheet for other writers. All levels of experience welcome and encouraged.