

Final Report from Faculty Assembly, 2012-2013

Contents:

Final Report from *Executive Council* (pp. 2-4)

Final Report from *Academic Policy and Curriculum Committee* (pp. 5-6 pages)

Final Report from *Appointment, Promotion and Tenure* (pp. 7-9)

Final Report from *Faculty Affairs* (pp. 10-11 pages)

Final Report from *Strategic Budget Committee* (pp. 12-17)

Final Report from *Campus Fellows* (p. 18)

Annual Report from *Paulsen Committee* (p. 19)

Appendices (p. 20):

- **Appendix A:** Statement on Lecturer Contract, Hiring and Promotion Policies
- **Appendix B:** Class B Legislation on Faculty Oversight of Academic Units
- **Appendix C:** Distribution of Summer Funds
- **Appendix D:** Principles for Guiding Faculty Composition
- **Appendix E:** Class B Legislation Regarding Academic Misconduct
- **Appendix F:** Joint Faculty/Administrative Memo to Campus Regarding Academic Misconduct Policy and Procedure
- **Appendix G:** Class B Legislation Regarding Budget Advice to the Chancellor
- **Appendix H:** Faculty Input on Budget and Resource Allocations: Statement of Principles and Priorities
- **Appendix I:** Recommendations of the UWT Faculty Affairs Committee Regarding Merit and Raise Determination in Units
- **Appendix J:** Statement of Values that Guide the Awarding of Annual Salary Increases
- **Appendix K:** Writing Fellows Self Study For WPA
- **Appendix L:** Proposal to National Science Foundation from Quantitative Literacy Campus Fellows



Final Report from Executive Council, 2012 – 2013

By Katie Baird, Chair

The University of Washington Tacoma (UWT) Executive Council (EC) as a representative body of the University of Washington Tacoma Faculty Assembly (FA). The EC held meetings approximately twice per month, and the FA held three meetings during this academic year. The role of EC is to (1) support the efforts of the three Standing Committees (see year-end reports), (2) maintain ongoing communication with campus administration, the academic programs, and academic support units as appropriate, (3) provide advice and consultation on UWT's budget and financial matters, (4) ensure that the full faculty has the opportunity to vote on issues that either require their vote (e.g., bylaws changes, election of faculty senators) or those that the EC determines appropriate for a full faculty vote (even if not required), (5) maintain communication with the University of Washington (UW) Faculty Senate and other university-wide bodies, and (6) address emerging issues that fall under the purview of faculty governance.

Below I summarize the specific issues and related activities that EC addressed during the 2012 – 2013 academic year, and also describe the actions taken by the EC and the Faculty Assembly as a whole.

Lecturers

One priority this year, continuing from last, has been a focus on the experience of lecturers, in particular on the campus practices and policies surrounding lecturer contracts. For these, Faculty Affairs established a Lecturer Affairs subcommittee which undertook considerable work in these areas. Most important was the statement it drafted and EC approved on hiring practices (see Appendix A), one VCAA JW Harrington subsequently endorsed almost in its entirety. This statement became one of several considered by a tri-campus committee Provost Ana Mari Cauce established. With both Provost Cauce's support as well that of UWT's Chancellor made considerable progress on the competitive/non-competitive contract issue, and expect the campus now to phase out our past practice of hiring lecturers through noncompetitive channels. Faculty should anticipate more conversations about this over the '13-'14 academic year with the establishment of new hiring practices.

Faculty Governance within Academic Units

A second priority this year has been strengthening **faculty governance within academic units**. In November EC sponsored a workshop on this subject, led by UW's Senate chair and vice-chair. This workshop primarily focused on the process for faculty to provide advice on anticipated future raises. To this end, Faculty Affairs developed helpful resources to guide faculty through the salary process, and the Strategic Budget Committee also developed a document detailing guiding principles to facilitate these decisions (Appendix I).

On other fronts, Executive Council (EC) passed legislation that developed guidelines for faculty oversight of Office of Undergraduate Education and Global Honors (Appendix B). We also distributed to faculty detailed information about the distribution of summer funds to academic units over the last three years (Appendix C) and EC provided academic units with a guiding statement of principles on faculty composition (Appendix D).

Communication

With our steady growth in faculty, communication among faculty on issues of common concern and interest is a growing challenge. Thanks in large part to our new staff member, this year we started a monthly newsletter, and we have significantly revised our website to provide faculty with better and more timely information. With the goal of providing more opportunities for faculty to gather and socialize, we've also taken a more central role in organizing the Distinguished Faculty events. This year we also sponsored another year's worth of lunch hour discussions over topical readings related to the mission and direction of higher education. We have also increased our role in organizing and planning the fall New Faculty Orientation, some version of which will now be offered on a quarterly basis. Through closer coordinating with the program administrators in academic units, we've also worked on providing incoming faculty with common information. Through our coordination, UWT's Senators this year provided faculty with regular updates on discussions and votes taking place in the UW Senate, updates that we have posted on our website. Two times this year, leaders of the UW Senate came to UWT for presentations to the faculty, once in the fall (discussed above), and then this spring Senate Vice Chair Jack Lee discussed with us UW's plans for significantly revising faculty promotion policies. Finally, with seed money from the Chancellor's office, we now for the first time have a discretionary budget that will allow us greater latitude in sponsoring future events for faculty. Finally, we've been using Class B legislation as a way to formalize our decision-making process, and communicating these decisions with you. You can expect to see more decisions in the form of Class B legislation in the future, with issues and actions posted on the Faculty Assembly website and communicated in our monthly newsletter. Finally, this year Faculty Assembly leadership initiated weekly office hours to open up additional ways for faculty to communicate with us.

Academic Policy and Excellence

We've worked consistently this year to scale back Faculty Assembly's administrative functions to allow us to focus more exclusively on our central role of overseeing the university's academic mission by formalizing our roles and procedures in those realms. At the beginning of the year we oversaw the merger of the Curriculum Committee with the Academic Policy Committee, an important step in streamlining our committee work to increase our capacity to address substantive issues of academic policy. On another front, the chair of our Academic Policy and Curriculum Committee is now a member of the campus' Strategic Enrollment Management Committee, and we are establishing a process whereby faculty can play a meaningful role in both admissions decisions and the evaluation of those decisions. We've also established a new process whereby faculty will be providing oversight over and input into the campus' academic misconduct process (Appendix E), which was followed by a joint administration/faculty memo to campus on our new policy (Appendix F).

One of our most important innovations this year, reflective of our desire to focus more strongly on academic excellence, has been **Campus Fellows**. This year we constituted three groups of faculty to study campus-wide academic policy issues. Our Campus Fellows groups have been working on Writing, Quantitative Literacy, and Online Learning, and each soon will be presenting us with specific recommendations (see page 18 for their final reports, and also Appendices K and L). We expect Campus Fellows to serve as a model for how we collectively can work to assure and improve academic excellence on our campus. Look for more information on this in the fall.

Budget and Resource Advice

After numerous discussions over how to most effectively provide budget advice, this year Executive Council recommended returning this role to EC (Appendix G), which the faculty approved via a Class A legislation, legislation that simultaneously removed the campus' Strategic Budget Committee from its status as a standing committee of EC. This fall members of EC will be participating in budget training workshops, and thereafter EC will begin regularly advising the Chancellor on decisions over the use of campus resources.

During this year's process of budget consultation and input into significant uses of the campus' Reserve Fund, EC prepared a document identifying the principles we believe should guide the budget development process, and characterized the budget priorities we support (Appendix

Faculty Morale and Campus Climate

The results of the COACHE survey of faculty satisfaction should be available shortly; next year Faculty Assembly representatives will work with the Vice Chancellor for Academic Affairs to identify and implement strategies for improving faculty life at UWT.

Final Report from Academic Policy & Curriculum Committee 2012-2013

Nita McKinley, Chair

Committee members: Linda Ishem (Urban Studies); Diane Kinder (Education); Janice Laakso (Social Work); George Mobus (Institute of Technology); Lauren Montgomery (IAS), Doug Wills (Business), Alexis Wilson (Nursing); Nita McKinley (IAS), Chair; Andrea Coker-Anderson, ex-officio (Registrar); Patrick Pow, ex-officio (IT); Jennifer Sundheim, ex-officio (Library); Lynda West, ex-officio (Advising).

This year, APCC has made major changes in its structure, proposed major policy on faculty oversight of all academic areas, proposed a process for designating courses to meet the new University Diversity Course Graduation Requirement, reviewed new campus-level procedures for proposing new courses and programs, and formalized procedures for submitting and reviewing course and program proposals to the committee. In addition, APCC has reviewed many course and program proposals, as well as conducting other routine business, such as reviewing student graduation petitions. This report details some of the major accomplishments of this committee.

- ***Transition to New APCC and Clarifying Role of New Committee.***

Faculty assembly voted to restructure the old Academic Policy Committee (APC) and Curriculum Committee (CC) in Autumn 2012. The CC was disbanded and the new Academic Policy & Curriculum Committee (APCC) met for the first time in November 2012. The new APCC fulfills all the previous responsibilities of the old Academic Policy Committee, including reviewing program proposals and changes, attending to matters related to admission and graduation requirements, and providing guidance to the VCAA on “policies regarding the interpretation and administration of academic regulations on the campus.”

- ***Faculty Oversight of Academic Units***

The APCC examined the mechanisms for faculty oversight of academic areas that are not directly associated with a particular program, such as the Office of Undergraduate Education (OUE) and Global Honors (GH). These units propose and maintain curriculum. In March, GH proposed a minor in Global Honors. Setting admissions and graduation requirements and developing and maintaining curriculum is faculty purview, but these units had no institutionalized venue for this oversight. There is a long history of concern about faculty oversight of these programs. Part of the APCC role in considering course and program proposals is to ensure that appropriate faculty review/voting has occurred.

APCC proposed to the EC that a policy be implemented requiring all units that set admissions/graduations requirements and/or develop or maintain curriculum have a permanent council of faculty that is empowered to vote on these academic decisions. This policy was approved by the EC, with the addition of including a requirement for by-laws (see Appendix B). The policy is currently in the process of being implemented.

- ***Procedure to Designate Courses as Diversity Courses***

In consultation with Sharon Parker (Assistant Chancellor for Equity and Diversity), Julia Aguirre (member of the UWT Diversity Task force), and Jill Purdy (Vice Chair of the Faculty Assembly), APCC discussed and recommended a procedure for designating courses to meet the Diversity Course Graduation Requirement through the regular course proposal process. The goal was to ensure cross-program faculty oversight so that this designation remains meaningful and to avoid some of the problems that have emerged with the inconsistent way courses obtain the W or Q designation.

This process has been submitted to the EC for approval. An expedited review process is planned for Autumn 2013 to ensure courses are designated in time for the 2014-2015 academic year.

- ***Changes in Campus-level Curriculum and Program Review Procedures***

APCC reviewed curriculum and program process changes in consultation with Ginger MacDonald, and provided comments and questions about the processes. Particularly, APCC has requested a chance to review new program proposals earlier in the proposal process (as well as at the final approval stage) so that cross-program input can be given at an early stage of development for new programs. Development of campus review procedures is ongoing.

- ***Formalizing Procedures for Submitting and Reviewing Proposals***

APCC formalized procedures for submitting course and program proposals to the committee. The annual calendar with committee meeting dates and submission deadlines for proposals was distributed to the campus. The committee also arranged for a summer meeting so that proposals could be handled in a timely manner for Autumn curriculum deadlines.

APCC also began notifying all faculty about upcoming proposals via email. This has resulted in conversations across programs about proposed courses and programs, most of which were resolved prior to the APCC review.

- ***Curriculum and Program Review***

Proposal Type	Total Rec'd	Approved	Not Approved	Approved after Resubmission
New Program	3	1	2	2
Program Change	14	14		
New Course	76	74	2*	
Course Change	30	30		
New Prefix	2	2		

*Proposals were withdrawn.

Report from Appointment Promotion and Tenure Committee 2012-13

By Yonn Dierwechter and Rich Furman, Co-chairs

Committee Members: June Lowenberg Nursing; Ehsan Feroz, Milgard School of Business; Josh Tenenberg, Institute of Technology; Belinda Louie, Education; Mary Hanneman, IAS

The APT committee traditionally divides its work into three main components, roughly following the quarter system. In the Autumn quarter we review files for mandatory and non-mandatory cases and then make formal recommendations to the Vice-Chancellor's Office by early December for mandatory cases, and early January in the instance of non-mandatory cases. During the Winter quarter we co-organize information and development workshops on the appointment, tenure and promotion process. The Spring quarter is typically reserved for policy discussions.

Summary

Over the 2012-13 academic year, APT:

1. Reviewed and made recommendations on 14 files, including:
 - a. 9 mandatory cases for promotion to Associate Professor
 - b. 5 non-mandatory cases, broken down as:
 - Two promotion files to Professor
 - 1 promotion file to Senior Lecturer
 - 2 early promotion files to Associate Professor
2. Co-organized and held three workshops at the Anthem with the Vice Chancellor's Office for assistant and associate professors, as well as our very first workshop for lecturers (see below).
3. APT worked closely with the Vice-Chancellor to develop new handbook guidelines that describes promotion consideration for Lecturer to Senior Lecturer and Senior Lecturer to Principal Lecturer. While there are four general steps in the promotion process, most discussion has focused on how best to satisfy the requirements for external letters. Due to ongoing concerns with the proposed procedures, this document was not finalized.

1) Three informational workshops

APT worked with the VCAA's Office to prepare informational workshops held in the Winter Quarter. The first workshop was for assistant professors. This was an exceptionally well-attended event and included the active participation by at least three APT members. The second workshop was for associate professors. This event was also well-attended and included active participation by three APT members. Both events were held in a nearby coffee shop/wine bar and included early socializing over coffee and drinks. This venue was popular and should be repeated.

The workshops for assistants and lecturers were particularly well-attended, and we hope to encourage even greater participation next year among associates who might be interested in promotion to Full Professor. We believe the three workshops convey useful information to faculty, and also provide an opportunity for individuals from different programs to socialize, exchange experiences, and perhaps form new friendships and support networks.

Special mention should be made of the workshop for lecturers. APT members believe this was an important development in 'campus culture' and therefore looks forward to planning next year's workshop for lecturers, wherein issues of appointment, promotion and overall career trajectories are again highlighted and discussed.

2) Draft revisions for eventual inclusion in Appendix A re: lectures

In addition to the case review and workshop responsibilities of this committee, the work agenda this past year took up one of the two goals stated in last year's annual report, namely:

- 1) "Research, discuss implications, and perhaps begin to draft explicit guidelines that involve new language around the appointment and promotion of lecturers, who form an ever-larger percentage of the program faculties at UWT. This issue was addressed several times by the Executive Council and was also discussed in broad terms by the FCAPT. However, this issue needs to be taken up during 2012-13. This new effort should also be part of the process discussed at the May 4 Faculty Assembly, notably work done by the *Lecturer Experience at UWT Taskforce*, as well as the Faculty Affairs committee and a subgroup of faculty in IAS. In particular, the crucial issue of appointments may be influenced by New Class A legislation providing for the possibility of multi-year contracts for part-time lecturers in the UW Faculty Senate legislative process."

We did not take up extant concerns with diversity, as stated here:

- 2) "Research, discuss implications, and perhaps begin to draft explicit guidelines that involve new language (and values) that respond locally to the "diversity" proposals from the Class A Legislation-Diversity Committee of the Faculty Senate. These proposals will potentially impact Code Revisions to Chapters 24-31, 24-32 and 24-54 related to appointment and promotion of faculty."

Considerable progress towards a complete draft was made this past year. Accordingly the revisions developed by the APT and VCAA were ultimately taken to Executive Council for full discussion in May. EC members provided additional feedback, but also noted a number of concerns, particularly in regards to the problematic code requirements for external letters. The APT will continue to work on finalizing draft guidelines with the VCAA over the summer and early in the 2013-14 academic year.

3) Chair problems/full professor

In past years, the APT has struggled to maintain quorum due to research leaves, sabbaticals, conflicts of interest, etc. Fortunately this was not a major problem this year. In the main, all the

meetings scheduled by the chairs were attended by serving members. As in the past, a major effort was made to reduce the number of meetings needed by using electronic communication wherever possible. A few members were not able to participate in the informational workshops, but quorum was met for the crucial discussions and votes.

We have also made considerable progress in populating the committee with full professors, and we aim to make even more progress on this goal next year. Technically, as stated below, we are not required to populate this committee with full professors:

“d) Schools and Programs should be encouraged, but not required (given the small size and composition of some programs), to staff the council with representatives at the Full rather than Associate rank so as to provide greater insight during the review of non-mandatory cases”

However, the APT continues to believe that it is poor institutional practice when too many members must, by code, recuse themselves from promotion votes.

4) Work agenda/recommendations for 2013-14

In addition to the case review responsibilities of this committee, the work agenda next year should take up the following two issues:

- Continue to work with the Vice Chancellor to complete guidelines for lecturer appointment and promotion .
- Take up (if required) any APT implications stemming from the “diversity” proposals from the Class A Legislation-Diversity Committee of the Faculty Senate. These proposals will potentially impact Code Revisions to Chapters 24-31, 24-32 and 24-54 related to appointment and promotion of faculty.

5) June Lowenberg

The APT Committee would also like to note for the record the outstanding service of Dr. June Lowenberg, Nursing, who retired June, 2013 after many years of service to the campus and to the APT Committee.

Annual Report of the Faculty Affairs Committee, Academic Year 2012-13

By Donald Chinn

Committee members: Donald Chinn (Chair), Katie Adamson, Chris Demaske, Rupinder Jindal, Matthew Weinstein, Anne Wessells

This report describes the accomplishments of the Faculty Affairs committee of the Faculty Assembly at UW Tacoma this past academic year. Following the Executive Summary, more details are provided on each work item. Committee minutes can be found on the committee's web page.

Executive Summary

The main accomplishments of the Faculty Affairs committee in academic year 2012-13 include:

- **Merit/raises.** Because this was the first year in several that there has been money to provide faculty raises, the committee investigated policies and procedures surrounding merit determination and raises. It provided a report that summarizes University policy (as described in the Faculty Code) and current practice that implements the policy (Appendix G).
- **Lecturer Affairs Committee.** The Faculty Affairs committee oversaw the work of the Ad Hoc Lecturer Affairs Committee. The Lecturer Affairs Committee addressed a number of issues regarding Lecturer hiring and evaluation. The most difficult issue was dealing with the distinction in Academic Human Resources between competitively hired and non-competitively hired Lecturers (see Appendix A).
- **Faculty Awareness of the COACHE survey/process.** In Autumn 2012, faculty took a survey intended to measure faculty satisfaction with their work. The chair of the Faculty Affairs committee was a member of the COACHE team, and the Faculty Affairs committee helped raise faculty's awareness of the COACHE process, and reported preliminary COACHE results. The COACHE process is a three-year process, and the reporting and discussion of the survey results will continue next year.

Merit Determination and Raises

See the attached report (Appendix I) for a complete description, discussion, and recommendations of the committee regarding merit determination and raises.

Lecturer Affairs Committee

To continue the work the committee did to investigate the working conditions of Lecturers at UWT, the Executive Council authorized the Faculty Affairs committee to form an *ad hoc* Lecturer Affairs Committee. The basic charge of this committee was to investigate a number of issues related to hiring and evaluation of Lecturers (both full-time and part-time). The complete charge can be found on the committee's web page.

Accomplishments of the committee (for which the Faculty Affairs committee provided oversight) include:

- Informal recommendations on a part-time lecturer center in the Keystone building.
- Informal recommendations on the evaluation of lecturers.
- Proposal for future Lecturer hires and existing lecturers (approved by Faculty Affairs and modified slightly and approved by the Executive Council), including issues of competitive vs. non-competitive hiring and one-year vs. multi-year contracts (see Appendix A).
- Participation in tri-campus discussions on lecturer hiring issues, which included making proposals to the Provost.

Because there are a number of implementation issues that need to be resolved, Faculty Affairs voted that this ad-hoc committee continue next academic year to finish the work started this academic year. All of the work of the committee can be found on the Lecturer Affairs web site, which is located on the Faculty Assembly web site (<http://www.tacoma.uw.edu/faculty-assembly/lecturer-affairs-0>).

Possible Agenda Items for Academic Year 2013-2014

- Revisit the issue of reporting the adjusted median scores in addition to the median scores on the student teaching evaluations of faculty. This would likely be part of a larger discussion of how teaching is assessed at UW Tacoma. Another issue is whether online student assessment provides better feedback or assessment of teaching effectiveness.
- Investigate the new model(s) of merit and raises that were proposed and are being discussed at UW Seattle.
- Investigate transparency at the university level. This raises a number of issues including what responsibility the faculty has to be informed about issues as they arise (such as the Lecturer issues from this academic year). This also raises the issue of how to encourage faculty to be more involved in university service.
- Rethink growth. As UW Tacoma grows, it is likely that structural changes will be needed. We could look to UW Bothell for ideas for how to cope with growth. UWT could revisit reorganization into schools and colleges and/or the creation of new campuses. Another set of issues includes physical plant growth, space, and faculty movement among offices.

Strategic Budget Committee, Final Report 2012-2103

by Zoe Barsness

The University of Washington Tacoma (UWT) Strategic Budget Committee (SBC) was established in September 2011 under the direction of Chancellor Debra Friedman. Its charge is as follows:

The Strategic Budget Committee shall advise the Chancellor and shall inform the Faculty Assembly on the short-and long-range strategic goals and budget issues. The committee consults with the Executive Council and the Faculty Assembly on matters of policy. It shall be the responsibility of the Chair of the Strategic Budget Committee to report committee activities on a regular basis to, and to seek advice from, the Executive Council and the Faculty Assembly. The Chair shall be a member of the Executive Council.

Membership on the SBC reflects representation from the Chancellor's Management Team (as determined by the Chancellor), academic leadership (as determined by the Dean/Directors), faculty (as determined by the UWT Faculty Assembly By-laws), staff (as determined by the UWT Staff Association), and students (the current president and finance chair of the Associated Students of UWT). The SBC is chaired by the immediate past chair of the UWT Faculty Assembly (FA).

In 2012-2013, the SBC met bi-weekly from September through May. Throughout the course of the year, we continued to work to define the focus of our efforts. Our activities, discussions and actions for the 2012-2013 academic year are described below.

Fall 2012

In anticipation of the first raises in five years occurring in the fall of 2013, Chancellor Friedman asked the SBC to focus its fall quarter efforts on articulating those UWT values that should guide the awarding of annual salary increases. Previously established practices had lain dormant and UWT had grown significantly as an institution during the previous five year period without raises, welcoming many new staff and faculty to its ranks who were not familiar with past salary review and increase practices. The Chancellor and committee members thought it important and timely to develop principles and values that could transcend recent changes and could be communicated clearly and consistently across time to all organization members. The committee members also thought it appropriate to articulate this set of principles in advance of any salary increase discussions actually taking place in the units. The committee's goal was to identify a set of values that would serve as a guide to which units could refer as they reviewed and updated their existing salary review and increase procedures in anticipation of future salary increases that subsequently occurred in the September 2013. The statement that was developed was and is intended to serve only as an articulation of the values SBC hopes to see embedded in practices developed at the unit level by unit members to serve their own particular needs and circumstances, and not as a template for a specific salary review and increase procedure.

It was in this context and spirit that the SBC focused its efforts, including research and lengthy discussions, on developing the attached *Statement of Values that Guide the Awarding of Salary*

Increases (See Appendix J). The first set of values focuses on the *content* that informs salary increase decisions. The second set focuses on the *process* by which salary increase decisions are made. The SBC worked with the Chancellor to disseminate this statement of values to the faculty in January 2013. The SBC also worked with Executive Committee of the Faculty Assembly to encourage and support discussion and review within each campus unit of its salary review practices and procedures. These unit level discussions occurred throughout the winter quarter of 2013. The SBC intends to revisit and update this statement of values on a yearly basis. The current statement has been approved by the SBC, endorsed by the Executive Committee of the Faculty Assembly and accepted by the Chancellor.

Winter 2013

In January, the Chancellor provided a report to the SBC summarizing UWT FY2013 budget decisions and outlining the intended strategic focus of investments and cuts that were made during the FY2013. She identified two budget goals as informing her decisions in FY2013: 1) create a condition for faculty and staff to do their best work and 2) ensure a firm financial foundation for UWT's future. The committee also discussed with the Chancellor the intended focus of investments in FY2014, including the number and nature of faculty searches underway during the current academic year and projected for the 2013-2014 academic year. The Chancellor indicated the following spending priorities for the upcoming fiscal year (FY2014). These are: 1) the Chancellor's proposed list of faculty hires for FY14 (which was later presented and discussed during the March 5, 2013, SBC meeting), 2) a \$4 million match of the Services and Activity Fee Committee to fund the Student Recreation Center (which was discussed during the February 5, 2013 SBS meeting) and the need to 3) closely monitor salary and benefits because it does impact the budget. For a more detailed discussion of the Chancellor's FY2013 budget report please refer to the January 31, 2013 SBC minutes.

In February and March, the committee discussed how the changed landscape of higher education funding has and will continue to impact facility services and the future growth and continued maintenance of our campus physical plant. The Chancellor communicated to the group that there is no state funding for new buildings so alternative ways to build new facilities must be explored because we must continue to build in order to support and nurture growth. In view of these changes, the Chancellor consulted the committee for advice regarding the proposed partnership with the YMCA to build the Student Recreation Center. This discussion also touched upon the proposal to match \$4 million in Student funds already committed to the project from our current reserves. After a robust discussion, which included an examination of the current state of UWT's reserves, the SBC voted to support the proposed partnership and matching grant. Since we do not have a capital budget, but we do have the reserve funds which exist for contingencies such as emergencies, non-negotiable contingencies, and matching student's contribution, there were some initial discussions about the reserves and how they might best be leveraged and sustained.

Spring 2013

During the spring quarter, the committee turned its attention to other ways in which we might: (1) meet the demand for growth; (2) enhance the utilization rates of our physical plant; (3) increase our ability to facilitate our students' ability to complete their degrees in a timely way;

and (3) enhance student growth and learning opportunities on campus. The initial focus of our discussions was to understand better the current state and nature of our summer operations. Areas of our investigation included: summer enrollment; course offerings; cross-campus enrollment numbers; summer course staffing patterns, financial need constraints and facilitators for students seeking to enroll in summer school; and the timing, revenues and resource demands associated with other summer activities such as orientation, conferences, certification programs and the bridge program. Our focus during the remainder of spring continued to be exploratory. The committee developed a brief questionnaire to distribute via the ASUWT monthly student survey. The survey is designed to collect student data that will assist the committee to develop a better understanding of what motivates students to enroll in summer courses and identify better those factors that facilitate or inhibit students' ability to participate in summer courses and other activities. The SBC intends to continue these investigations and broad operational considerations into 2013-2014. The committee seeks to identify opportunities to expand our offerings during summer in novel ways. These exploratory investigations are not focused on changing what we are currently doing, but rather exploring how else we might use this time of the year to enhance student growth and learning opportunities in new ways. In the interim, based on the committee's research and discussions, SBC members collectively agreed that new students who are admitted (primarily new transfer students) should be allowed to enroll in the summer, as they are now allowed to do in the spring. This recommendation was provided as formal advice to Chancellor Friedman, who formally accepted the SBC's recommendation.

SBC Going Forward

Throughout the year, the Faculty Assembly leadership, members of the SBC and members of the Executive Committee continued discussions with Chancellor Friedman about the focus of the SBC's efforts and its charge. As a result of these discussions, it was determined that faculty advice and consultation on the budget should primarily occur within the venue of the Executive committee. This shift in focus and responsibility for the Executive committee and redefinition of the SBC's charge will require new Faculty Assembly legislation in 2013-2014. As a consequence of this determination, moreover, the Executive Committee took responsibility for budget consultation with the Chancellor during spring 2013. The SBC, during this same period, turned its focus to longer term visioning activities as described above. While the future focus of the SBC clearly needs further refinement and even redefinition, committee members felt the SBC, because of the broad representation across staff, faculty, and students captured it offers, provides a unique forum in which to address issues that range across broad areas of strategic and operational concern to the campus—such as the variety and focus of activities offered on campus during summer term.

The following suggestions are made in the spirit of enhancing transparency and shared governance through the work of the Strategic Budget Committee.

- **Articulate the focus and scope of SBC activities going forward.** This will require refining the SBC's existing charge and/or developing a new charge.
- **Revisit the membership of the SBC.** The current breadth of membership offers the SBC a significant advantage, but the current size makes scheduling meetings

problematic. A slightly smaller size might better support discussion and the body's efforts to focus on long-term planning and visioning activities at a campus level.

- **Articulate the returns that have been realized on strategic investments made so far.** While the SBC will shift its focus in a new direction, it is important to support visioning and long-range planning efforts with a robust understanding about the nature and outcomes associated with current and past strategic investments across campus.
- **Assure that the SBC has access to updated strategic plans for each of the academic units and campus.** This will enable the SBC to assess the areas of alignment and potential misalignment or anticipated demand on campus level resources. By being so informed, the committee will be able to provide more informed advice and consultation to the Chancellor in regards to long term campus-level strategic allocations and work more effectively to identify emergent opportunities and threats at the campus level.

As I complete my term as chair of this young committee, I think it is critically important for faculty to engage actively with the SBC as it redefines its role. I also believe it is critical that regular and effective avenues of communication between the SBC and Faculty Assembly Leadership and the Executive Committee be established. Given that the Executive Committee is now identified as the proper body in which faculty fulfill their responsibilities to provide budgetary advice and consultation, the visioning and long-term planning activities envisioned as the focus of the SBC going forward will clearly be relevant to the Chancellor's and Faculty's more immediate budget discussions. The SBC has provided an important venue for administration, members of the faculty and staff, and to some extent students, to share perspectives related to growth. I hope that the Faculty Assembly leadership, members of the SBC, the Executive Committee and Chancellor's management team continue to work collaboratively to define an appropriate structure and role for the SBC as it has the potential to foster UW Tacoma's core values of excellence, community, diversity, and innovation.

2012-2013 SBC Membership

Management Team (ex-officio members with vote)

- Vice Chancellor for Academic Affairs, JW Harrington
- Vice Chancellor for Administrative Services, Harlan Patterson
- Associate Vice Chancellor for Finance, Jan Rutledge
- Registrar, Andrea Coker-Anderson
- Vice Chancellor for Advancement, Josh Knudson

Academic Leadership Representatives

- Director, Karen Landenburger (2011-2013)
- Dean, Shahrokh Saudagaran (2012-2014)

Faculty Representatives

- Immediate Past FA Chair, Zoe Barsness (ex-officio member with vote)
- FA Chair, Katie Baird (ex-officio member with vote)
- FA Vice-Chair, Jill Purdy (ex-officio member with vote)
- Cheryl Greengrove, Representative at Large (2011 – 2014)
- Tracy Thompson, Representative at Large (2011 – 2013)

Staff Representatives

- Sandra Spadoni, Staff Association Co-Chair (ex-officio member with vote 2011-2013)
- Curtis Black, Staff Association Co-Chair (ex-officio member with vote 2012-2014)

Student Representatives

- Elizabeth Pierini, President, Associated Students of UWT (ex-officio member with vote)
- John Heller, Finance Chair, Associated Students of UWT (ex-officio member with vote)

Campus Fellows Final Report, 2012-2013

Writing Fellows

Members: Alison Cardinal, IAS (chair), Michael Kula, IAS, Deirdre Raynor, IAS, Nicole Blair, IAS

The Writing Fellows decided to bring consultants to campus from the Council of Writing Program Administrators this fall. WPA is national association of writing professionals that provides consulting services to campuses seeking to improve their writing. In advance of this visit, the Writing group prepared a self-study of writing at UWT which will in part be based on a faculty survey that it undertook in the spring (see Appendix K). The group anticipates making recommendations on the sequencing of writing assignments in classes; the writing requirements for transfer students; the resources needed to help faculty incorporate writing into their courses; and possibly around the need to hire a Writing Across the Curriculum coordinator. The two WPA consultants will be visiting our campus November 3-5.

Quantitative Literacy

Members: Doug Wills, Business (chair), Cynthia Stanich, IAS, Peter Selkin, IAS, Julie Eaton, IAS, Linda Dawson, IAS

The QL Fellows organized The First Annual South Puget Sound Multi-campus Quantitative Literacy Meeting, which included attendees from all of our major sources of transfer students across the south Puget Sound area. Two speakers started a conversation among faculty about faculty driven student support services and scientific research into quantitative. Subsequent to that, the QL group prepared a grant proposal to NSF identifying ways to improve students' preparation in STEM content (see Appendix L). The proposal identifies practices, policies and resources that would improve QL among UWT students. Some examples include: creating a quantitative steering committee on campus; expanding the Summer Bridge program to offer a Quantitative Refresher course; including quantitative SLOs in the UWT Core curriculum; developing more collaborative opportunities between faculty and the TLC; and establishing a quantitative intensive (QI) designation for courses. They are looking to broaden the responsibility for QL on campus through instructional change, and improving support for students and faculty engaged in quantitative coursework.

On Line Learning

Members: Matt Kelley, Urban Studies (chair), Jeff Cohen, Social Work, Jenny Quinn, IAS, Ruth Vanderpool, IAS, Sushil Oswal, IAS

The Online group is developing recommendation for the campus' online learning policy. Sixty faculty members participated in an online learning survey during the spring, and based on those results, members are identifying the key topics to address. Next year the group will supplement this with a survey of students. This fall the group will 1) study the issues that emerged from the faculty survey in more depth, and 2) collect a more complete set of student data, with an eye toward developing recommendations for our campus.

**Report to the Executive Council on
The Arthur R. and Anna Mae Paulsen Endowed Visiting Chair in Public Affairs**

by Jill Purdy, Chair

The 2012-2013 Paulsen committee consisted of faculty members Nicole Blair, Lisa Hoffman, Matthew Kelley, Jill Purdy (chair), staff member BrieAnna Jaiteh (representing the Office of Advancement), and student Michael Lockwood (representing ASUWT). No family or community representatives were appointed to the committee this year.

Following the recommendation of the previous Paulsen Committee members, we seek to fill the Endowed Visiting Chair in the autumn of odd-numbered years. This practice allows funds to accumulate in the endowment such that speakers of the caliber envisioned by the Paulsens can be invited to campus.

The Paulsen Lecture committee met in March to discuss the budget, process and possible candidates for the Paulsen chair. After a discussion of possible speaker topics, the committees decided to create a Catalyst survey to solicit input from students, faculty, alumni, and community members. The survey was administered by Michael Lockwood in late March and garnered over 100 responses with 47 suggestions for possible speakers. Survey results suggested that topics of greatest interest to the campus as a whole were Education and Schools, and Human Rights, with no strong preference for a domestic- versus an internationally-focused speaker.

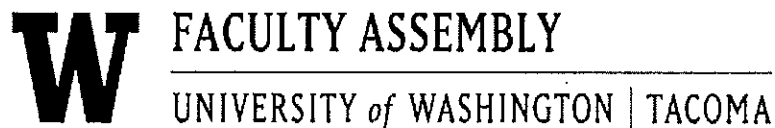
In April the committee generated a list of prospective candidates drawing upon members' input as well as survey results. Noting that the prior two Paulsen lecturers were Caucasian males, the committee worked to identify female candidates and persons of color. BrieAnna conducted research on over a dozen names to determine which candidates fit the budget.

Short list finalists included Diane Ravitch, Rachel Maddow, Andrew Sullivan and Hanna Rosin. Given budget and scheduled limitations, the former two candidates were eliminated. While previously unfamiliar with Hanna Rosin, the committee felt that her work would be of interest to the campus community and that she would present a different perspective from prior Paulsen Lecturers. In July BrieAnna recommended Hanna Rosin to the Chancellor as the Paulsen Lecturer on behalf of the committee. A remaining task is to identify a class or small group setting in which Ms. Rosin can participate while she is Visiting Chair. Ms. Rosin's public lecture will occur at 7:00 pm on October 15.

Challenges with getting timely information about the affordability and availability of candidates hampered the committee's ability to work together to make an informed group decision. Toward the end of the process, our discussions were limited to e-mail exchanges with limited insight into which candidates were still viable and why. We suggest that future Paulsen committees strive to begin the process of information gathering about candidates earlier, and establish specific deadlines for sharing information and making decisions about candidates.

APPENDICES

Appendix A: Statement on Lecturer Contract, Hiring and Promotion Policies



March 21, 2013

To: JW Harrington, Vice Chancellor, Academic Affairs

From: Faculty Assembly Executive Council

The document presents our recommendations around future and existing full-time lecturers in job class codes 0179 (“competitive”) and 0115 (“noncompetitive”). Some of the principles expressed could easily pertain to part-time lecturers as well, and it is our intention that where relevant, the spirit of the recommendations extend to them as well.

CHARGE

UWT, along with both UWB and UWS, has been charged by Provost Ana Mari Cauce to make recommendations about the hiring practices surrounding these two job categories (0179 and 0115) by the end of the Winter quarter. Faculty Affairs’ ad hoc Committee on Lecturer Affairs worked with you to develop these recommendations; these were approved first by Faculty Affairs and today by Executive Council.

We identified the need to make recommendations on the following five issues:

1. The criteria for new lecturer hires (both 0179 and 0115).
2. The criteria for meeting the definition of a competitive (or “open”) search leading to a competitive lecturer hire (0179).
3. The criteria and process by which noncompetitively-hired *lecturers* (classified as 0115) can be considered for conversion to a competitive lecturer line (0179) by being granted a search waiver.
4. The criteria and process by which existing noncompetitive (0115) lecturer *lines* are converted into competitive lecture lines via a “competitive” or “open” search (as defined in #2 above).
5. The criteria for when any future noncompetitive lecturer line is converted into a competitive line.

RATIONALE

The primary reason for these sets of recommendations is to ensure that students have the best faculty possible, given budget constraints, and that university practices and policies are aligned with these objectives. According to our mission statement, UWT:

- *commits to excellence in teaching, scholarship, research and service;*
- *encourages student-faculty-staff interaction and a reciprocal exchange of knowledge;*
- *provides an environment where students can succeed*

RECOMMENDATIONS

With respect to the five issues identified above, we make the following recommendations:

1. Criteria for new lecturer hires (both 0179 and 0115).

We endorse JW Harrington's "Suggested guidelines for faculty recruitment by title," of March 5, 2013. We request that his proposal also state:

- a. That future 0115 hires be as transparent and consistent as possible.
- b. That future "noncompetitive hires" (full-time and part-time) be advertised widely (such as posted on the UW AHR website) to the extent possible given time constraints associated with noncompetitive hires.
- c. That changes to the UW AHR language should be made regarding language that currently allows noncompetitive lecturers to be renewed "indefinitely." Instead we recommend that the language indicate a maximum of (for example) three years (two renewals) unless there are extenuating circumstances. The allowance for lecturers (0115) to be eligible for emeritus status should likewise be removed.
- d. That all hires should reflect UW's value in creating a diverse faculty. See <http://www.washington.edu/faculty/facsen/issues.html>

2. Criteria for meeting a clear definition of a competitive (or "open") search leading to a competitive hire (0179).

At a minimum:

- a. Electronic or print posting in a nationally-recognized outlet and on the AHR website for a minimum of 30 days.
- b. Applicants provide three letters of recommendation, demonstrate evidence of teaching effectiveness and potential, and provide a cover letter.
- c. A search committee interviews (via Skype, telephone, or in person) at least three candidates.
- d. Interviews may include a teaching demonstration in person or posted on the web for viewing, as determined by the hiring committee
- e. The interview committee provides a written evaluation of the candidates, a description of the process, and states their recommendation. Units then follow their internal voting procedures.

These criteria are similar to a tenure-track search for which standards are set.

(See, for example,

http://www.washington.edu/admin/acadpers/tools/ad_guide_rev060112.pdf,

<http://www.tacoma.uw.edu/administrative-services/human-resources/forms>,

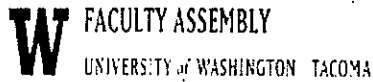
http://www.tacoma.uw.edu/sites/default/files/global/documents/ias/general_docs/ias_search_committee_guidelines.pdf and the Faculty Code, Section 24-52 (section 24-34 B addresses lecturers specifically).

3. **Criteria and process by which *existing* noncompetitively-hired full-time lecturers (currently classified as 0115) can be considered for conversion to a competitive lecturer line (0179) by being granted a search waiver. (NOTE: This criterion applies to all 0115 lecturers hired before the rules in #1 and #2 above become effective.)**
 - a. **Criteria:**
 - i. At least 5 years of service to UWT
 - ii. Excellent teaching record
 - iii. Good service record
 - b. **Process:**
 - i. 0115 Lecturer initiates request to his/her concentration/major faculty
 - ii. Committee of 3 higher-ranked faculty members (2 or more in candidate's area) writes up a recommendation.
 - iii. Vote by faculty of higher rank.
 - iv. Director's or Dean's recommendation
 - v. Appointment, Promotion and Tenure committee reviews
 - vi. Goes to Chancellor for approval.

4. **Criteria and process by which *existing* noncompetitive (0115) full-time lecturer lines may be converted into competitive lecture lines via a "competitive" or "open" search.**
 - a. **Criteria:**
 - i. A noncompetitive line has been filled consecutively (with same person or not) for three years or more.
 - ii. There is ongoing demand for that position
 - iii. Relevant faculty request a competitive search to their department faculty
 - iv. Vote by faculty as determined by unit.
 - v. Dean or director recommends search
 - b. **Process:**
 - i. Follow at least the minimum criteria for an open or competitive search.

5. **Criteria for when any future noncompetitive lecturer lines are converted into competitive lines.**
 - a. As noted above in #1, if AHR rules are changed such that a 0115 hire cannot be renewed more than twice (except under extenuating circumstances), this is a non-issue.
 - b. After three consecutive years, the line *must* be either converted to a competitive hire, to a tenure track hire, or eliminated.
 - c. Going forward, there will be no (or at least very few) "waivers" granted to candidates hired on a 0115 line. Rather, conversions will only be made to *lines* and not to *people*.

Appendix B: Class B Legislation on Faculty Oversight



Class B Legislation on Faculty Oversight of Academic Units

DATE: May 10, 2013
TO: Executive Committee (EC) of the Faculty Assembly
FROM: Academic Policy & Curriculum Committee (APCC)
RE: Faculty Oversight of Academic Units

The APCC recommends that the EC adopt the following policy to ensure that academic units that set admissions, develop and manage curriculum, or set graduation requirements have appropriate faculty oversight. This faculty oversight should be long-term, have expertise appropriate to the unit, and be faculty who has voting status in some academic program.

Faculty Oversight of Academic Units

Any academic unit that does not have faculty permanently associated with it (like Global Honors or OUE) and that has responsibility for setting admissions requirements, developing and managing curriculum, or setting graduation requirements (hereafter referred to as "the unit") must have a standing council of faculty and a set of by-laws detailing the procedures and processes for faculty oversight.

This council must consist of faculty who:

- are voting faculty in a UWT program;
- have expertise in the area(s) of importance to the unit; and
- are regularly associated with the unit

The faculty council should have responsibility for approving any decisions related to admissions, curriculum, and graduation requirements.

Passed by Faculty Assembly's Executive Council on May 15, 2013

Appendix C: Summer Funds

University of Washington Tacoma Summer Revenue Distribution

	2012 Allocations	2011 Allocations	2010 Allocations	
Business	\$ 113,773	\$ 87,071	\$ 65,093	
Education	\$ 189,980	\$ 147,856	\$ 135,501	
IAS	\$ 424,945	\$ 359,038	\$ 208,043	
Institute	\$ 63,092	\$ 21,209	\$ 8,611	
Nursing	\$ 108,086	\$ 39,580	\$ 44,480	
Social Work	\$ 199,739	\$ 123,160	\$ 100,078	
Urban Studies	\$ 37,486	\$ 29,486	\$ 23,639	
Port of Tacoma	\$ 149			
	\$ 1,137,399	\$ 807,398	\$ 585,445	
Allocation of Overhead				
Operation and Maintenance	\$ 355,133	\$ 269,720	\$ 217,939	
Equity and Diversity	\$ 17,750	\$ 13,490	\$ 10,899	
Admin Services	\$ 95,509	\$ 71,147	\$ 57,331	
Library Administration	\$ 32,390	\$ 49,233	\$ 39,777	
Teaching & Learning Center	\$ 32,390			
Enrollment Services	\$ 56,767	\$ 43,863	\$ 35,515	
Information Technology	\$ 58,062	\$ 44,848	\$ 36,311	
	\$ 648,000	\$ 492,301	\$ 397,771	
Chancellor's Fund	\$ 235,561	\$ 179,028	\$ 144,644	
	\$ 235,561	\$ 179,028	\$ 144,644	
Total Allocation	\$ 2,020,960	\$ 1,478,726	\$ 1,127,860	

**Statement Guiding Discussions on the Composition of Faculty within
Academic Programs**
3/11/2013

Overview: With the increase over the last five years in the hiring of full-time and part-time lecturers at UWT, the composition of faculty on our campus has been changing. Lecturers (full and part time) now are approaching half of all faculty, a significant increase from six years ago when they made up less than a third. Currently, two-thirds of lower division courses and half of upper division ones (on a student-credit hour basis) are taught by lecturers (see *Appendix A for detail*). This change in faculty mix (one we see nationwide) has been driven by at least three different factors: a reluctance to commit funds for longer than one year at a time; an interest in saving money; and rapid enrollment growth that has required hiring new faculty on short notice, without the time or processes in place to develop more systematic, long-term curricular planning.

While we value all faculty at UWT, and recognize the particular strengths that many lecturers bring to campus and to our students, we also believe that these changes in faculty mix have created a number of challenges that the campus should address. The Chancellor agrees, and has stated that conversations leading to strategies and criteria should begin with faculty within their respective academic units. We've prepared this document as a way to facilitate those conversations. Our hope is that out of those conversations emerges a campus-wide awareness of how faculty mix affects the quality of education we are able to provide, as well as practices that can improve that quality.

Challenges we see the current faculty mix presenting: One challenge is the fact that so many students are taught by faculty who in many instances are not adequately integrated into the faculty (and the curricular objectives, standards and expectations, and coordination of courses). While this is not true of all lecturers, of course, it is of some, and it is especially true of newly hired lecturers. Second, lecturers are often not well integrated into the UWT community, and thus are less able to communicate to students the full range of services and opportunities available to them. Third, lecturers' job status is often tenuous, which may be coercive and unfair on the one hand, and lead to less commitment to the institution on the other. Fourth, there are signs of a growing division among faculty between a tenure-track class of faculty on the one hand, and non-tenure track on the other, one that has become apparent (for instance) in UWT's reliance on the latter category for core and lower-division courses. Fifth, it becomes more challenging to uphold expectations that faculty engage in scholarship, and to have a campus culture that reflects those expectations. While many lecturers do keep up active research agendas, they are not expected to, are not judged based on scholarship, and moreover have suffer teaching loads than do tenure track faculty. Finally, it is difficult to maintain

robust faculty governance on campus when so many faculty members have temporary positions.

To begin addressing these issues, we in Faculty Assembly's Executive Council have prepared the following sets of questions that we hope will be asked (and answered) in academic units, and will help guide their hiring and budget proposals sent to the Chancellor. We would hope to see, campus wide, that over the next few years, the faculty mix in units reflects intentional, well thought out choices surrounding the quality of education we provide.

Objective: Our hope is that each academic unit articulates their strategy behind choices made over their faculty mix. The questions below are best seen as prompts for factors to consider, such as curricular considerations, pedagogical considerations, scholarly/research needs, flexibility needs, fairness and faculty morale, etc. There are undoubtedly tradeoffs that have to be made, but we hope those tradeoffs are made in an open, transparent way that places top priority on the quality of what we provide students.

Guiding Questions

Rationale for Different Faculty Contracts

1. Are there curricular and pedagogical reasons for using lecturers in the classroom, rather than tenure-track faculty, and what are these?
2. What areas of expertise related to your degree offerings are areas where you wish to have faculty dedicated to scholarship?
3. What courses or curriculum areas are most important to be staffed by faculty with scholarly expertise? For instance are lecturers best used for introductory courses?
4. What courses or curriculum areas are most important to be staffed by faculty with practical expertise, community linkages, or other kinds of expertise less likely to be found among tenure track faculty?
5. What are the particular reasons for and conditions under which it is best to hire PT lecturers? Under what conditions would it be best for those classes to be taught by someone on a continuing one-year (perhaps PT) contract, as opposed to hiring someone on a multi-year contract, or on a tenure track line?
6. PT faculty on campus are typically hired on a quarter-to-quarter basis. What objectives are met with these practices, as opposed to providing a year-long contract for such lecturers?

Future Planning for Faculty Mix

7. What are your future needs for teaching expertise?

8. What course areas will be most stable (classes offered regularly and consistently) and which areas require more flexibility (size, scope and nature of classes to be offered is uncertain or highly changeable)?
9. What is the level of uncertainty in demand for classes and curriculum, and does that level of uncertainty match up with the faculty mix (and the need for flexibility which quarterly, one-year, or multi-year, contracts provide)?

Practices

10. When you identify a full-time lecturer position, do you search nationally for that position, or do you only search locally?
11. Do you reevaluate these hires to see if it might be better to hire a FT lecturer, or possibly a tenure track hire? Do you know if your PT lecturers would prefer a FT contract?
12. If you re-hire a FT lecturer for a second one-year position, do you consider if that position might be one that should be filled by someone with a longer-term contract?
13. Do you have FT lecturers who are teaching classes for which you are fairly certain there will be a continuing need for those classes in the near to medium term?
14. How much uncertainty in course schedules and enrollments is created by quarter-by-quarter and one-year contracts?
15. What sort of faculty development opportunities are available to your lecturers? Is there a clear evaluation process for lecturers? Are they part of the merit evaluation and are they eligible for any merit funds that might be available?
16. What are ways that lecturers are treated differently from TT faculty, in terms of office space, access to resources and designated funds, presence on list serves, mentoring, and so on.

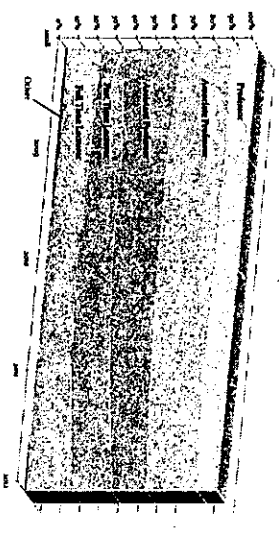
Approved by Executive Council (date?)

APPENDIX A

**Lower Division
Percentage of SCH by Faculty Rank & Year**



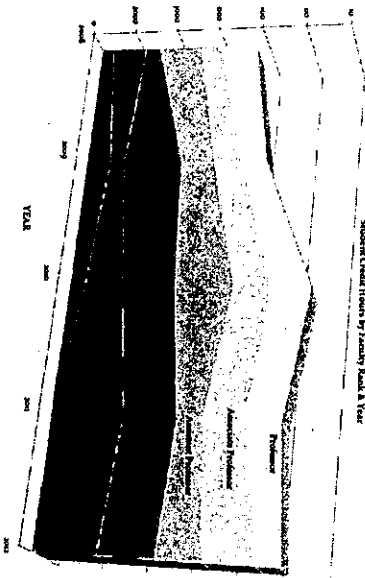
**Upper Division
Percentage of SCH by Faculty Rank & Year**



Graduate Level/
Percentage of SCH by Faculty Rank & Year

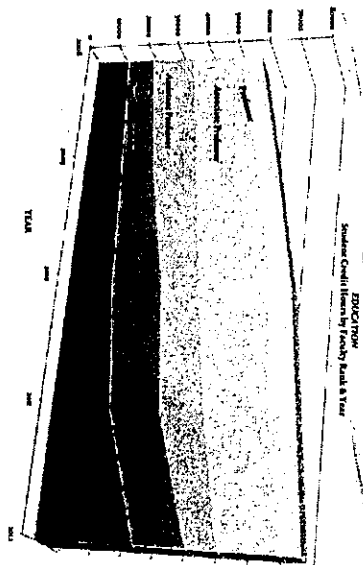


INSTITUTE OF TECHNOLOGY
Student Credit Hours by Faculty Rank & Year

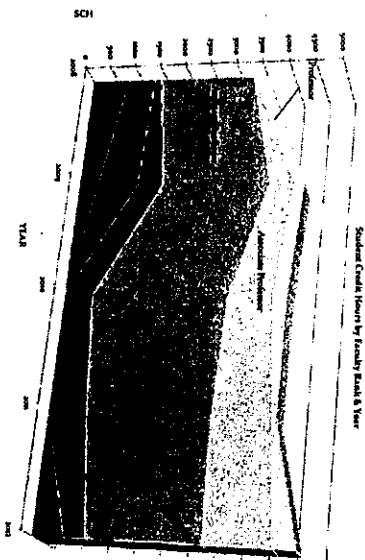


5

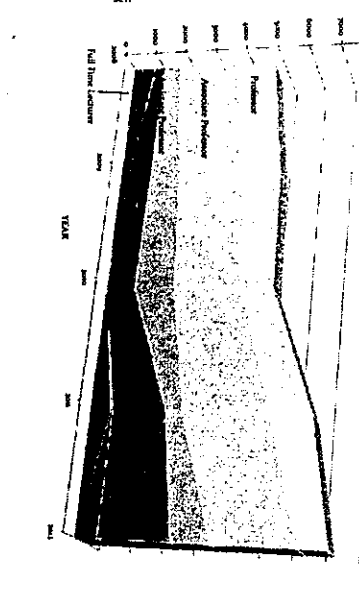
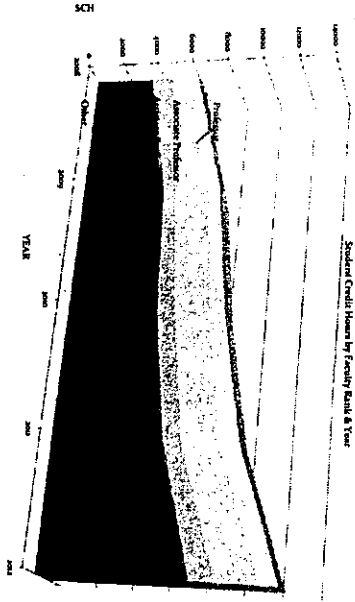
EDUCATION
Student Credit Hours by Faculty Rank & Year

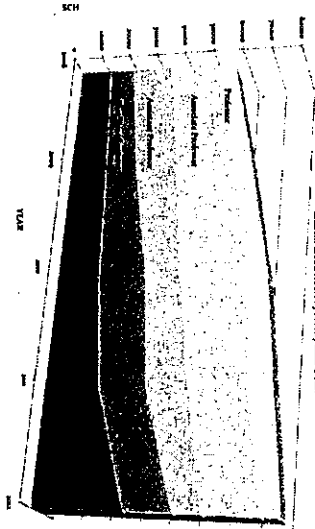


LIBERAL ARTS
Student Credit Hours by Faculty Rank & Year



6





Appendix E: Class B Legislation Regarding Academic Misconduct



Appendix B: Executive Council - Class B Legislation Regarding Academic Misconduct

Rationale:

In September 2010, a new policy and process for the handling of academic misconduct was announced to the faculty through a memo that came from the Chancellor's Office, Faculty Assembly, and the Office of Student and Enrollment Services. That policy was implemented for a short period, but sometime during the winter/spring of 2011 came to an end, without any notification of this change made to faculty. Over the subsequent 18 months, there have been a number of alleged cases of academic misconduct reported to Student Affairs that have not been acted upon, and many others where final decisions were not reported back to faculty or directors/dean. To ensure that the process and decision-making around alleged cases of academic misconduct are transparent and well understood by the UWT community, that UWT fosters a culture of academic integrity and honesty among our students, and that faculty engage in conversations around these issues, we make the following recommendations.

Proposed Legislation:

1. Staff members in the Office of Student and Enrollment Services continue to serve as Informal Officers for allegations of academic misconduct. Each quarter, the Office of Student and Enrollment Services will provide a report to APCC that summarizes the number of incidents reported, the number of cases handled and the outcome of those cases. Once a year the officer will meet with APCC to discuss changes that might improve the process and most importantly, improve practices so that the problem of academic misconduct at UWT is minimized.
2. Faculty Assembly and the Chancellor's office will send a joint communication to faculty to describe the new policy surrounding the handling of allegations of academic misconduct, and to acknowledge the past missteps that have occurred.

Appendix F: Joint Faculty/Administrative Memo Regarding Academic Misconduct Policy and Process

W UNIVERSITY of WASHINGTON | TACOMA

17 June 2013

To: UW Tacoma Faculty

From: Katie Baird, Chair, Faculty Assembly
JW Harrington, Vice Chancellor, Academic Affairs
Cedric Howard, Vice Chancellor, Student and Enrollment Services

Re: UW Tacoma Process for Allegations of Student Academic Misconduct

During Spring Quarter, UWT faculty and administrative leaders engaged in a collaborative effort to re-revisit and re-establish our campus policies around the handling of allegations of academic misconduct. This has been motivated by the realization that a past agreement reached between faculty and administrators several years ago had not been followed, and that some allegations of misconduct by faculty had not been acted upon.

Our expectation is that the changes we have instituted (described below) will better serve both students and faculty, and that the process will be a more collaborative and transparent one that supports the culture of high academic and behavioral standards on our campus that we all aspire to.

The Formal Process for Initiating Allegations of Academic Misconduct

Faculty wishing to lodge formal allegations of academic misconduct against a student should continue to send Incident Reports¹ to the Student Enrollment and Services office. These will be reviewed by the office's Informal Officer, as described in the Washington Administrative Code.² The Informal Officer or the student always has the option to refer the allegation to the University's Disciplinary Committee, which is a committee comprised of both faculty and students. In all cases, the Informal Officer will inform faculty and the director/dean about the outcome of the case.

In addition to informing the initiating faculty member, going forward the Informal Officer will also be presenting to Faculty Assembly's Academic Policy and Curriculum Committee (APCC) a quarterly report that summarizes the office's caseload and the outcomes of these cases. Once yearly the Informal Officer will also meet with APCC to discuss and review UWT's Academic Misconduct process; part of this discussion will involve identifying campus-wide practices that might better support academic success. Faculty Assembly will use its representatives, newsletter and website to keep faculty abreast of these reports and conversations.

¹http://www.tacoma.washington.edu/policies_procedures/Student_Conduct_Incident_Report_2013.pdf

²<http://apps.leg.wa.gov/WAC/default.aspx?cite=478-120>

We believe these new processes will help underscore for everyone on campus the importance of academic honesty, and ensure that we work collaboratively to improve our communication about it. If at any time you have comments and suggestions on this topic, we invite you to send them our way.

Copy: Debra Friedman, Chancellor
Ed Mirecki, Dean of Student Engagement
Jill Purdy, Vice Chair, Faculty Assembly

Appendix G: Class B Legislation Regarding Budget Advice to the Chancellor



Class B Legislation Regarding Budget Advice to the Chancellor

Executive Council - Class B Legislation Regarding Budget Advice

Rationale:

The Faculty Assembly passed Class A legislation in 2011 establishing in our bylaws the Strategic Budget Committee to serve as the source of faculty budget advice to the Chancellor. The structure and charge for the SBC were modeled after UW Seattle's mechanism for budget advice. In practice, the Strategic Budget Committee has provided strategic planning and advice that represents the views of multiple stakeholders rather than faculty. Congruent with the model of faculty budget advice in place at UW Bothell, the Executive Council has begun providing budget advice to the Chancellor during 2012-13. The Executive Council has provided consultation to the Chancellor regarding campus investment in the Y using reserve funds, and advice regarding the prioritization of faculty positions. Legislation is proposed to reflect the system of budget advice that is currently in place and to make this practice transparent to the faculty as a whole.

Proposed Legislation:

1. The Executive Council of Faculty Assembly agrees to serve as the body that offers faculty budget advice to the UW Tacoma campus administration.
2. The Executive Council will initiate changes to the Bylaws of the Faculty Assembly (Class A Legislation) prior to the end of 2013 to reflect this practice, subject to a vote of the full faculty.

Passed Executive Council on May 1, 2013

Appendix H: Faculty Input on Budget and Resource Allocations: Statement of Principles and Priorities



Faculty Input on Budget and Resource Allocations: Statement of Principles and Priorities March 27, 2013

Faculty have an important role to play in advising the Chancellor on matters affecting the general welfare of the campus, and on matters of academic policy, including priorities, resource and salary allocation, and budgets (Section 23-45B of the UW Faculty Code). Budget and resource allocation should be guided by the information, perspective, and priorities that faculty bring. Faculty offer diverse perspectives that can enhance decision making and facilitate transparency of information. While budgetary authority ultimately lies with the Chancellor, faculty have an important duty to fulfill in providing budget advice.

The university is a complex organization which to function well requires the good faith of people in different roles dedicated to a common purpose. At UWT, the faculty-administration relationship is one that will continue evolving as the university grows and matures. To be effective partners in guiding the institution, the faculty must:

- Regularly and frequently access and analyze budget and resource information
- Develop and maintain expertise regarding the complexities of budgeting and resource allocation
- Collaborate and communicate with administrators on both short term and long term campus plans,
- Provide timely queries, and receive timely responses
- Strive to advance the academic purpose of the institution through budget and resource advice.

Two unique characteristics make faculty input in budget decisions particularly valuable. First, faculty directly carry out the academic mission of the university and accordingly have information and expertise on the strengths and shortcomings of the institution in meeting this mission. Second, faculty tend to be the most enduring members of the university community, and a portion will spend their entire careers at this institution. Thus faculty can bring both continuity of vision and a long-term perspective to discussions of campus development and priorities.

Budget Advice Principles

I. Process Principles in Budget Development and Resource Allocation

1. Faculty within academic units should play a robust role in developing budget and resource allocation requests, and must be able to articulate what requests were made, which were not, and how and why those decisions were made.
2. Elected faculty at the campus level (Executive Council members) play a robust role in advising on the prioritization of resource allocation requests, and should be able to articulate what requests were funded, which were not, and how and why those decisions were made. SEC faculty play a central role in communicating campus-level decision making to faculty across campus.
3. EC faculty should solicit and utilize information from the Chancellor and academic unit leaders regarding the rationale for resource allocation requests, and should assess the fit of requests with the short- and long-term vision for campus and the academic units.
4. Faculty should consider all sources of revenue and costs when offering resource allocation advice rather than considering specific decisions in isolation.
5. The timing of resource decision-making will support a deliberative process with meaningful input from faculty. Faculty should understand the process and its timing well in advance of meaningful decisions.
6. Decisions should be communicated in a timely way with a clear rationale, particularly when they are not congruent with recommendations made by different constituencies.
7. The outcomes of decisions should be evaluated. Assessments about the effectiveness with which resources have been used should be used to inform subsequent decisions.

II. Content Principles in Budget Development and Resource Allocation

1. The academic mission, which encompasses teaching, learning, scholarship and academic support, is the university's highest priority.
2. Decisions regarding the faculty size and composition by rank should reflect the academic mission.
3. Budget requests should be made based on data, whether past or projected, and should be aligned with an articulated vision and strategy.
4. Academic planning should be aligned in scope and timeframe with resource planning.
5. Past resource allocation decisions should not always be prioritized over new ones.

Budget Priorities

In general, the faculty supports the following priorities:

- Proposals that strengthen our core academic mission.
- Proposals that strengthen our capacity to provide our region with intellectual leadership.
- Proposals that add to our reputation as an innovative institution.
- Proposals that reflect widespread input and inclusive deliberation, and that communicate a vision.
- Proposals where the rationale is clearly articulated, is based on evidence, reflects careful and thoughtful planning, and considers tradeoffs.

- Proposals where faculty hiring decisions reflect the longer term vision of units on the ideal composition of their faculty, including faculty diversity.
- Proposals that reflect the unit's vision and plans in terms of growth and the curricular changes.
- Proposals where evidence suggests that previous resource allocations have been used effectively to advance the campus and unit mission.
- Proposals that support growth aligned with the mission of the institution.

Approved by Executive Council

Appendix I

Recommendations of the UWT Faculty Affairs Committee Regarding Merit and Raise Determination in Units

Approved: January 14, 2013

Committee members: Donald Chinn (chair), Katie Adamson, Chris Demaske, Rupinder Jindal, Matthew Weinstein, Anne Wessels

1. Introduction

The Executive Council of Faculty Assembly at UW Tacoma charged the Faculty Affairs committee to investigate and report on the state of merit and raise determination in academic units at UW Tacoma and to provide recommendations for them. It is up to individual academic units to develop policies and procedures that are consistent with the Faculty Code. The purpose of this report is to provide information and guidance that can help units revisit and revise their existing policies and procedures. Note that the Faculty Code refers to academic “units,” which at UW Tacoma generally means programs, and we do so here.

The organization of the remainder of this document is as follows. Section 2 describes current policy regarding merit and raises as specified in the Faculty Code. The Code provides a framework for implementing practices within units. Section 2 also provides information on the budget principles that guide allocation of funds at levels above individual academic units. Section 3 provides suggestions for policy and practice through specific examples at UW Seattle and UW Tacoma. Section 4 provides a suggested list of questions that units should ask when they determine their merit and raise policies.

2. Faculty Code

The Faculty Code provides guidelines for units to develop policy and practice regarding merit and raise determination. The Faculty Code can be found online as part of what is now called the UW Policy Directory at <http://www.washington.edu/admin/rules/policies/>. Two important points: (1) The Faculty Code is state law, and (2) Determination of merit and raises is an important duty of university faculty and administration.

At the Faculty Assembly workshop on merit and raises held on Friday, Nov. 2, 2012, in the Tacoma Room, Jim Gregory (chair of UW Senate), Jack Lee (vice-chair of UW Senate) and Marcia Killien (secretary of UW Faculty) explained the merit and raise process. Academic units have flexibility within the framework specified by the Code.

There are five different pots of money that can go towards salary increases. They are:

1. Regular merit. This money is allocated to faculty who were deemed meritorious. Units do not have discretion (other than merit determination) with this money.
2. Additional merit. A unit can allocate this money any way it sees fit.
3. Unit adjustments. This money is additional money that a Dean or Chancellor can allocate to a specific unit for a specific reason (for example, to reward outstanding research or teaching, to

address compression issues within the unit, or to address inequity issues across peer institutions). The Provost has similar discretion in allocating money to schools and colleges.

4. Retention. This is money specifically earmarked for retaining faculty. (See Executive Order 64, which refers to Section 24-71 of the Faculty Code (see 24-71, B.3. in particular).)

5. Promotion. Money for raises when a faculty member is promoted in rank.

Notes:

- There is currently a proposal at the Provost level that all meritorious faculty shall receive no less than a 2% raise and that at least half of the total amount of money in pots 1 and 2 (regular and additional merit) must be allocated to pot 1 (regular merit). The “at least half” rule would only take effect if the combined allocation of pots 1 and 2 was greater than 4%. (Executive Orders 64 and 29 say that regular merit is the first priority in funding.) The Provost will be discussing this with the UW Senate Committee on Planning and Budgeting in mid-January.
- During the salary freeze, pots 1, 2, and 3 (regular and additional merit and unit adjustments) were frozen, but pots 4 and 5 (retention and promotion) still operated as usual. Pot 2 (additional merit) can be used in any way by a unit, including “extrameritorious” performance, compression, or any other inequity. Pot 3 (unit adjustments) often will be allocated by the Provost or Deans with specific recommendations for its use, and units typically consider this in their recommendations. Faculty recommendations at the unit level pertain to the money in Pots 1, 2, and 3.

The relevant sections of the Faculty Code are the following:

- Section 24-55 (procedures).
<http://www.washington.edu/admin/rules/policies/FCG/FCCH24.html#2455>
- Executive Order 64.
<http://www.washington.edu/admin/rules/policies/PO/EO64.html>
- Executive Order 29 (suspends parts of EO 64).
<http://www.washington.edu/admin/rules/policies/PO/EO29.html>

Note: Section 24-55 (A.2.) specifically mentions that the salary of faculty members is to be used as part of the deliberations, since that is relevant to salary compression or inversion issues that a unit might address.

Here are some additional points Marcia Killien makes regarding the Faculty Code.

- Units should use caution if they develop their own policies and practices regarding “merit-based” salary increases and “market gap” salary increases. Since the Code does change from time to time, unit policies can fall out of compliance with the Code if they are not linked to the actual Code language.
- Each year the specific instructions on what factors need to be considered for salary increases might change, based on decisions by the legislature, the Provost, etc. Therefore any unit-level policies and practices need to take this into account.
- Salary increases are the result of several factors, some of which are required (“shall”) and some of which are possible, but are considered only if the Provost directs them to be considered in a given year (“may”). How the “mays” get considered and what proportion of funds are available to fund “mays” is determined by the Provost in his/her directions to the Deans and Chancellors.

- There is an important difference between “merit determination” (performance based) and “merit-based salary increases.” Merit determinations must be performed annually, whether or not there is any “merit based salary increase.”
- An individual’s merit must be considered in making a salary increase recommendation, but an individual’s current salary should NOT be used to determine merit.
- Merit is determined based on evaluation of an individual related to standards of performance and the individual’s goals (derived from annual/regular conferences with the chair/dean). See 24-55, first paragraph, and 24-57.

The following documents provide additional information regarding budget principles (as articulated by the UW Senate Committee on Planning and Budgeting) and the general principles and responsibilities of both the faculty and administration at UW Tacoma in the process (as articulated by the UW Tacoma Strategic Budget Committee).

Principles and Recommendations for Crafting UW’s 2012-13 Budget
Guiding Principles, UWT Budget

These two documents accompany this document as reference. Other documents on the Faculty Affairs web site provide suggestions and ideas for developing policy and practice.

3. Sample Practices

In this section, we provide some practices across the UW system (Seattle and Tacoma) to provide units some models and ideas as they develop or refine their policies and practices.

Perhaps the simplest approach is to allocate additional merit money (pot 2) equally (in terms of percentage raise in salary, not absolute dollar amount) among all faculty who are deemed meritorious. Units that do something more complicated need to address procedural issues in determining raises.

The Construction Management department at UW Seattle uses a system similar to the generic policy and procedure in Appendix A of this report. It is a relatively small department (10 full-time faculty and about 18 part-time lecturers).

By contrast, the Mathematics department at UW Seattle is large department (more than 50 faculty). They have a committee specifically formed for faculty evaluation. They qualitatively rate each faculty on a scale of 0 to 5 in increments of 0.5 on each of research, teaching, and service. These numbers are combined in a non-formulaic way to produce an overall merit number. The merit numbers, current salaries, and the amount of money available are used to calculate the raises for all faculty by an agreed formula. Some portion of the allocated money is used to address compression. A spreadsheet with all of the calculations is used to manage their formulas. They also have a formulaic way of calculating workload for each faculty member.

For more information, please refer to the ADVANCE PowerPoint slides that accompany this report.

In Appendix A of this document, there is a description of a generic merit and raise policy. What follows are ways in which some academic units at UW Tacoma differ from that generic policy. Although none of these practices are inconsistent with Faculty Code, the specific units associated with each item below are deliberately not identified here. In the process of revising their practices or policies, units might wish to adopt or adapt some of these.

- Tenured faculty at the Associate Professor and Professor ranks are not necessarily evaluated on their teaching every year.
- The current salaries of faculty are typically not disseminated as part of the deliberations.
- Determination of merit is done by ballot and online. No substantial face-to-face discussion occurs.
- Materials of *all* faculty members are available for review by *all* faculty (not just those above in rank), although only faculty above in rank are eligible to vote for merit and raise determination.
- The Director provides an independent recommendation (that is, independent from the recommendation provided by faculty higher in rank) to the VCAA/Chancellor.
- Extrameritorious determination is made through a nomination process. A faculty member can self-nominate or another faculty member within the unit can nominate. Whatever materials or justification for that nomination is made available as part of the deliberation process.

One of the important functions of a raise policy is to address inequities in salary due to compression or inversion within a unit and/or a significant deviation from salaries at peer institutions. Some challenges in implementing this aspect of a raise policy are:

- How is a need to address compression and inversion determined?
- If peer institutions are used to determine compression, which peers are used and how are the normative salaries calculated?
- What part of the money allocated to the entire raise process is allocated to address compression and inversion?

4. Recommendations and Questions to Consider

Each academic unit should develop policies and practices that suit its goals and culture. What follows is a list of questions and principles that can guide such development.

Determining Merit

1. How are collegial evaluations of teaching performed? Does every faculty member know what this process is?
2. Does your unit have a set of criteria in place to evaluate merit?
3. How specific is the criteria?
4. Do faculty know what this set of criteria is? Or, to put it another way, how often does the unit have substantial conversations about merit criteria?
5. What materials does each faculty member submit for evaluation?
6. What is the relative weight place on different kinds of research, teaching and service in the unit?
 7. What important elements do the current policies for merit not reflect or fail to take into account? Are these elements measurable? If so, how can they be measured and accounted for in the future merit/raise decisions?

8. Are any elements in your current merit review process over-emphasized? Is there a way to reduce their influence?

Determining Status Other Than Regular Merit

1. How are raises outside of regular merit decided?
2. How does your unit consider compression issues? If so, is that process transparent to the faculty?
3. Does your unit have an “extrameritorious” process? If so, what does that process entail?

Awarding Merit

1. How are the results of the merit discussion transmitted to individual faculty members?
2. Does the Director communicate the substance of the merit/raise discussion in his/her annual meeting with each faculty member?
3. Does the Director write a letter summarizing the substance of that meeting?
4. Are the results of all merit and raise determinations known to any faculty other than the faculty member and those above in rank?

A Generic Policy for UWT Units Regarding Merit and Raise Determination

The purpose of this Appendix is to describe a general policy regarding merit and raise determination within units at UWT so that we can more easily describe what sorts of policies and practices individual units at UWT have that might be of value or interest to other units. The intent is that units, as they deliberate on augmenting their current merit and raise policies, can consider ideas that other units have put into practice. The generic policy described here is, as far as is known, not the policy of any unit at UWT currently.

What follows is the description of the generic merit and raise policy. Throughout the description, the abbreviation “fmur” will refer to the faculty member under review.

Faculty submission of materials for review

- Each fmur submits to the Director/Dean or Program Administrator an annual activity report, which describes all the research, teaching, and service activities for that faculty member for the previous year.
- Each faculty member also submits a current cv.

Materials used for evaluation

- The cumulative academic record of the fmur, including collegial teaching evaluations.
- The current salary of the fmur. (Used for “market gap” salary increases.)

Collegial teaching evaluation

- The annual collegial teaching evaluation (as specified in the University Code) consists of a classroom visit by colleagues (called here the “teaching evaluation committee”) typically, but not necessarily, consisting of faculty senior in rank to the fmur.
- The evaluation also includes an evaluation of course materials the fmur uses and teaching reflections in the annual report.
- A discussion between the teaching evaluation committee and the fmur occurs.
- The teaching evaluation committee writes a report, summarizing their evaluation of the fmur.

Merit determination and salary increase determination

- Materials of a given faculty member are only made available to faculty higher in rank to the fmur.
- Materials are reviewed by all faculty higher in rank to the fmur.
- A face-to-face discussion occurs among all faculty higher in rank to the fmur. A decision of merit is made.
- Extramertorious: Any faculty higher in rank can nominate the fmur to be deemed “extramertorious” as part of the merit discussions.
- Based on the merit determination and current salaries, raises for all faculty are calculated.

Discussion with the Director/Dean

- The merit determination discussion (including raise information) and the Director/Dean’s own perspective form the basis of the face-to-face discussion between the fmur and the Director/Dean. This discussion includes past accomplishments and goals for the coming academic years and beyond.
- A formal letter is drafted by the Director/Dean that summarizes the substance of the discussion between the fmur and the Director/Dean. The letter may be composed through edit iterations between the fmur and the Director/Dean until consensus occurs. If no consensus is reached, then the Director/Dean writes a letter and the fmur may write a response letter. The resulting letter(s) will become part of the faculty member’s file.

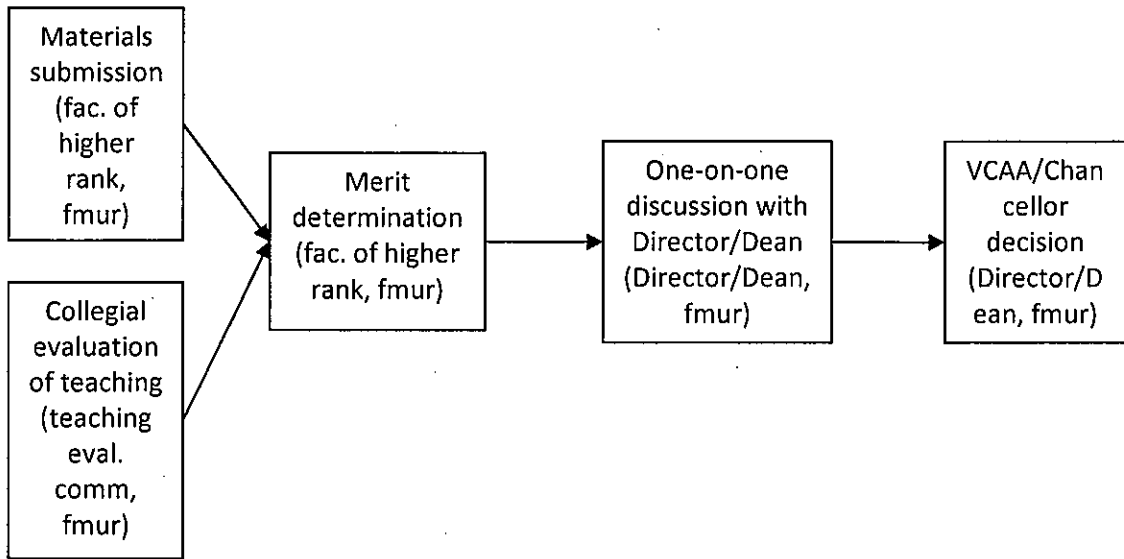
Applying the results of merit and raise determination

- The Director/Dean transmits the recommendation of merit to the VCAA/Chancellor, who then applies the recommendation as they deem appropriate. Since the product of the process is a recommendation, the VCAA/Chancellor may decide on a result different from the recommendation.

Notification to the faculty

- A letter from the VCAA/Chancellor summarizing his/her merit and raise decision is sent to the fmur, which becomes part of that person’s file.

The following diagram illustrates the process, along with (in parentheses) who has knowledge of the result of each stage of the process.



Appendix J: Statement of Values that Guide the Awarding of Annual Salary Increases

Strategic Budget Committee

Statement of Values that Guide the Awarding of Annual Salary Increases

Values that guide the CONTENT that informs decisions which are made:

1. We value outstanding performance commensurate with the University of Washington as determined by the merit review system for each campus unit.
 - The merit review system for faculty and staff should be guided by our campus values and reflect our commitment to:
 - Student development and success;
 - Knowledge creation and meaningful scholarship;
 - Community development and support;
 - Institution building and community capacity building consistent with an urban-serving university campus;
 - Collegiality and interdisciplinarity.
 - We value consistent performance and growth in effectiveness over time.
 - Individual performance should be assessed over the entire period since the last round of salary adjustments.
2. We value equity. Equity should be considered relative to:
 - Those of comparable discipline, level and/or rank within the individual's unit, with due consideration of each individual's cumulative record of salary progression based on performance;
 - Comparable departments/units at peer institutions.
3. We value inclusivity and diversity.
 - Increases and salary allocations should be free of bias. The salary system should not discriminate based on gender, sexual orientation, ethnicity, age, etc.

These content values should be reflected in the evaluation of salary increases for permanent and ongoing faculty whose employment record includes the preceding academic year and for permanent professional staff of all levels.

Values that guide the PROCESS by which decisions are made:

1. We value transparency in the merit review and salary increase processes. These processes should be clearly articulated, consistently applied and aligned with UWT's stated values.

- The methods and procedures of evaluation related to salary increases within each unit should be understood in advance by all affected staff and faculty.
 - The basis for evaluation related to salary increases (including performance goals, measures of performance, and scope of measurement) should be linked to the defined responsibilities of each individual's job or rank and should be understood in advance by each staff and faculty member.
 - Evaluation methods and procedures for salary increases should conform to the established standards of the University (such as the UW Policy Directory).
 - Decision making regarding salary increases should be conducted in such a way that unit members are confident that established methods and procedures for such processes are being followed.
2. We value accountability and continuity in the evaluation of staff and faculty to assure the consistency and transparency of the performance evaluation process across individuals and over time.
 3. We believe that merit review and salary increase decisions benefit from both data and judgment.

Approved by the Strategic Budget Committee on December 10, 2012
Endorsed by the Executive Council of the Faculty Assembly on December 12, 2012

Appendix K: Writing Fellows Self Study For WPA



Self Study

Prepared by the Writing Fellows Committee
Alison Cardinal (chair), Nicole Blair, Michael Kula, and Deirdre Raynor

Goals of the Consultation

The Writing Fellows committee was commissioned in winter of 2013 with the task of assessing writing and writing practices across campus. In response to this assessment, we were also asked to propose a list of recommendations for programs, resources, and support that would strengthen student writing on our campus. Our task is wide reaching, and thus the Writing Fellows committee has agreed that bringing in the WPA Consultant-Evaluators is necessary to help with the campus-wide assessment and recommendation process. Our hope is that the C-E's visit will help us identify the campus's strengths and also assess what the campus can do to improve student writing across the curriculum. Because our focus is broad, we would like the C-E's to examine not only the Writing Studies department, but also how writing is implemented across campus. We ask that the consultants examine the Writing Studies department as a working part of the overall mechanism of writing and writing instruction at UW Tacoma and not as a standalone unit. In line with this macro view of writing, we would ask the C-E's to first examine UW Tacoma's writing requirements and their current implementation. This would involve assessing graduation writing requirements, disciplinary and interdisciplinary-specific writing requirements, and the freshman Core writing requirements, which include first year composition and a new basic writing program. Secondly, we would like the C-E's to evaluate the resources available for units and individual faculty members and suggest additional resources UW Tacoma could offer faculty for the teaching of writing. Lastly, we want the C-E's to examine current resources available to students and help UW Tacoma strategically offer support for students, no matter their major or writing ability. The C-E's can best help UW Tacoma by helping the institution identify UWT's most pressing needs and plan strategically in a time of rapid change.

Campus Overview: Current Institutional Conditions and Challenges

The University of Washington Tacoma is a branch campus of the University of Washington and is an urban-serving university that primarily serves students from the surrounding area. The mission and values statement (See Appendix 1) of the university reflects UWT's commitment to serving our local community and the wide variety people who live there. It is UW Tacoma's mission to "educate[] diverse learners and transform[] communities by expanding the boundaries of knowledge and discovery," and specifically UWT "seeks out and supports individuals who may experience barriers in gaining access to college." The campus has seven units: Global Honors, Interdisciplinary Arts and Sciences, the Institute of Technology, the Foster School of Business, Nursing, Social Work, and Education and offers both graduate and undergraduate degrees. In the autumn of 2012, there were a total of 3,919 students. 389 of those students were incoming freshmen and 547 were graduate students (See Autumn 2012 Census

Day Report). Of the undergraduate student population, 1,768 of undergraduate students are transfer students from a surrounding community college, making transfer students about 52% of all undergraduate students. Many of our students are first-generation college students, including 32% of all incoming freshmen in 2012. We also have a significant number of students who are multi-lingual. While the exact number of multi-lingual transfer students is unknown, we do know that approximately a third of incoming freshmen in 2012 spoke a language other than English in the home. Our diverse student population enriches our campus and also offers a set of challenges for faculty, particularly when it comes to assigning, evaluating, and teaching academic writing.

Along with the challenges that come with serving a diverse student body, the institution is in a state of rapid change. The dominant institutional change that impacts the writing program is the state of controlled growth in which the university is moving. Student enrollment is increasing by approximately 7.5% per year, and this has obvious implications for staffing courses in the writing program. This rapid growth has required the need for more faculty, particularly lecturers and part-time instructors. In Writing Studies alone, three new full-time lecturers were hired for the upcoming academic year mostly to teach first-year composition and writing support courses. In total there are six full-time lecturers, four tenure-track faculty, one emeritus professor teaching part-time, and a handful of part-time lecturers who fill gaps in the schedule when needed. Along with the need for more faculty, the increase in student enrollment has brought with it the perception that there are an increasing number of higher risk students, specifically non-native English speakers.

Beyond this and closer to home, the Interdisciplinary Arts and Sciences Department, which houses Writing Studies, likewise finds itself in a state of considerable growth, with more than 12 full time faculty set to be added in the coming year and is currently home to over 100 full-time faculty members. This growth has led to numerous governance challenges to IAS functioning as a department, as opposed to a school or a large unit, and as the governance structure changes, the supervision and oversight of the writing program will obviously be in flux. Currently the “writing program” is overseen by a collective group of faculty housed in both the Writing Studies Program within IAS (a major, with both Creative and Technical Writing tracks) and in the university’s Core program housed in the Office of Undergraduate Education, which is a closely related unit to IAS. The Writing Studies program’s most senior faculty member retired at the end of the last academic year. She had previously been the lead for doing WAC/WID training across campus, including the Writing Fellows program (not to be confused with the Writing Fellows Committee) that helped non-writing faculty implement writing into their courses. The sum of all the changes currently taking place within IAS and UWT in general is that the “writing program” has a widely shared set of overseers, yet no clearly delineated governance/oversight structure of its own and with no corresponding faculty member(s) charged directly with serving in this role.

Writing Requirements for Graduation

Though the campus is in a state of change for the past several years, the writing requirements for graduation have remained stable. Every student must take at least 5 credits in a C (composition) course, and they must take at least two W (writing-intensive) courses. The W requirement outlines the types of required writing courses students must take to graduate (Appendix 2). Not

all classes that assign writing qualify as a W course; they must meet specific criteria (Appendix 2). W courses must incorporate drafting, feedback on drafts from the instructor, in-class time spent on writing instruction, and must require at least 10 pages of revised work. According to conversations with faculty members, there is a sense that not all current W designated courses are meeting the requirements of the W policy, but whether or not this is true has not been verified. However, a few respondents to the survey stated that they were unfamiliar with the specifics of the W requirement, suggesting that all faculty, especially new faculty members, need more education on the policy and require support to implement it.

Perceived Difficulties and Challenges: A Faculty Perspective

To better understand the challenges faculty faced in their classrooms across the curriculum, the Writing Fellows committee held open roundtable discussions, collected syllabi, met with unit and department heads, and implemented a campus-wide survey. (See Appendix 5 for a detailed description of the survey participants and limits of survey data.) The data indicate several perceived challenges faculty face when incorporating writing into their courses. One of the most widely expressed concerns, as indicated by the survey as well as from faculty conversations, was that entering students exhibit varying degrees of preparedness upon entry to UW Tacoma (figure 1). For incoming freshmen, the data show that 60% of students would be required to take a basic writing course other than TCORE 101 if they were attending the Seattle campus based on their SAT and ACT scores. UW Tacoma is addressing the issue of underprepared incoming freshmen with its new set of support courses. The other issue, which the committee believes needs more attention, is the perceived under-preparedness of transfer students. Even though students are entering with their associate's degree, faculty report that many students are not ready for disciplinary writing and are unfamiliar with disciplinary-specific genres. This problem of under preparedness is magnified in the classroom, where faculty report that students have a wide range of writing skills, making it challenging to assign writing when certain groups of students require extra assistance. At present, transfer students can get assistance from the Teaching and Learning center to help them adjust; however, there are almost no writing courses in place to help students make the transition to upper division writing other than the writing course offered by the business school for contingently accepted business majors. Closely related to the perception that students are underprepared is the perception that many English language learners struggle with writing, especially grammar and mechanics (figures 1 and 2). Many faculty, especially those teaching in the freshman Core, have expressed deep concern for second language students who struggle to pass their freshman courses.

Along with the challenges that come with our particular student population, some faculty suggest that their large courses make it difficult to address the needs of their students (figure 1). In IAS, in conjunction with our survey data (figure 1), some faculty who teach upper division courses express frustration with class size. With no graduate assistants for help, faculty teach W courses with enrollments of 40 or more. Some changes have been made to address this issue: for instance, class size was recently lowered to 20 from 25 for the Intro to Academic Writing course. It should also be noted that what constitutes a "large" class is relative and the committee did not gather specific data about what constitutes too large of a course, and not every unit has identified large class size as a pressing issue.

Finally, faculty who took the survey identified quality of explanations, analysis, logical thinking, and clarity as a set of issues they see in student writing. Writing is one of the main ways UWT faculty ask students to apply concepts to demonstrate their mastery of course content. UWT faculty assign writing to assess if students have gone beyond rote memorization and are able to apply their knowledge, problem solve, or support an argument. The survey data suggest that faculty perceive students struggling to demonstrate their critical thinking through writing (figure 2). The remaining self-study will provide unit and program specifics, gathered largely from interviews with faculty.

Figure 1

What are the top three challenges you face in incorporating writing assignments in your classes?

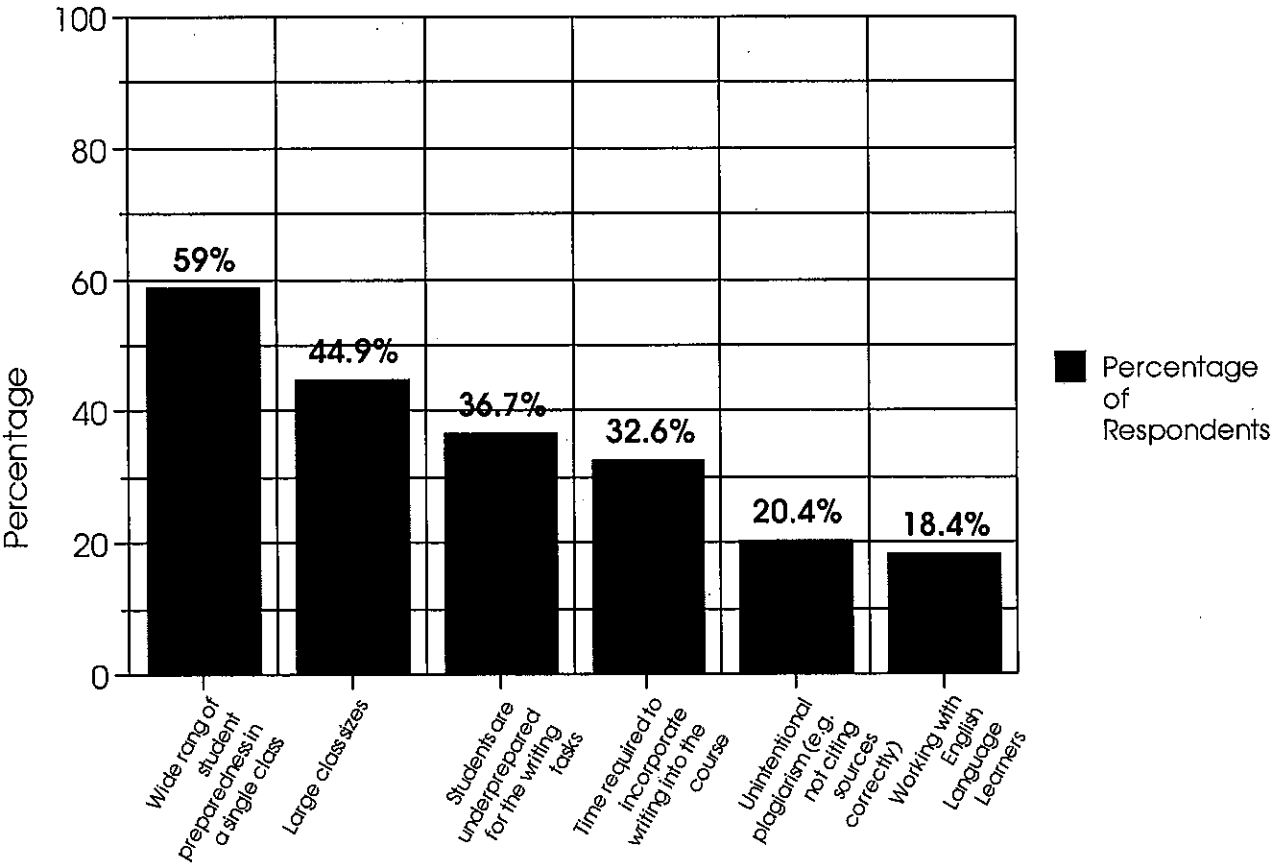
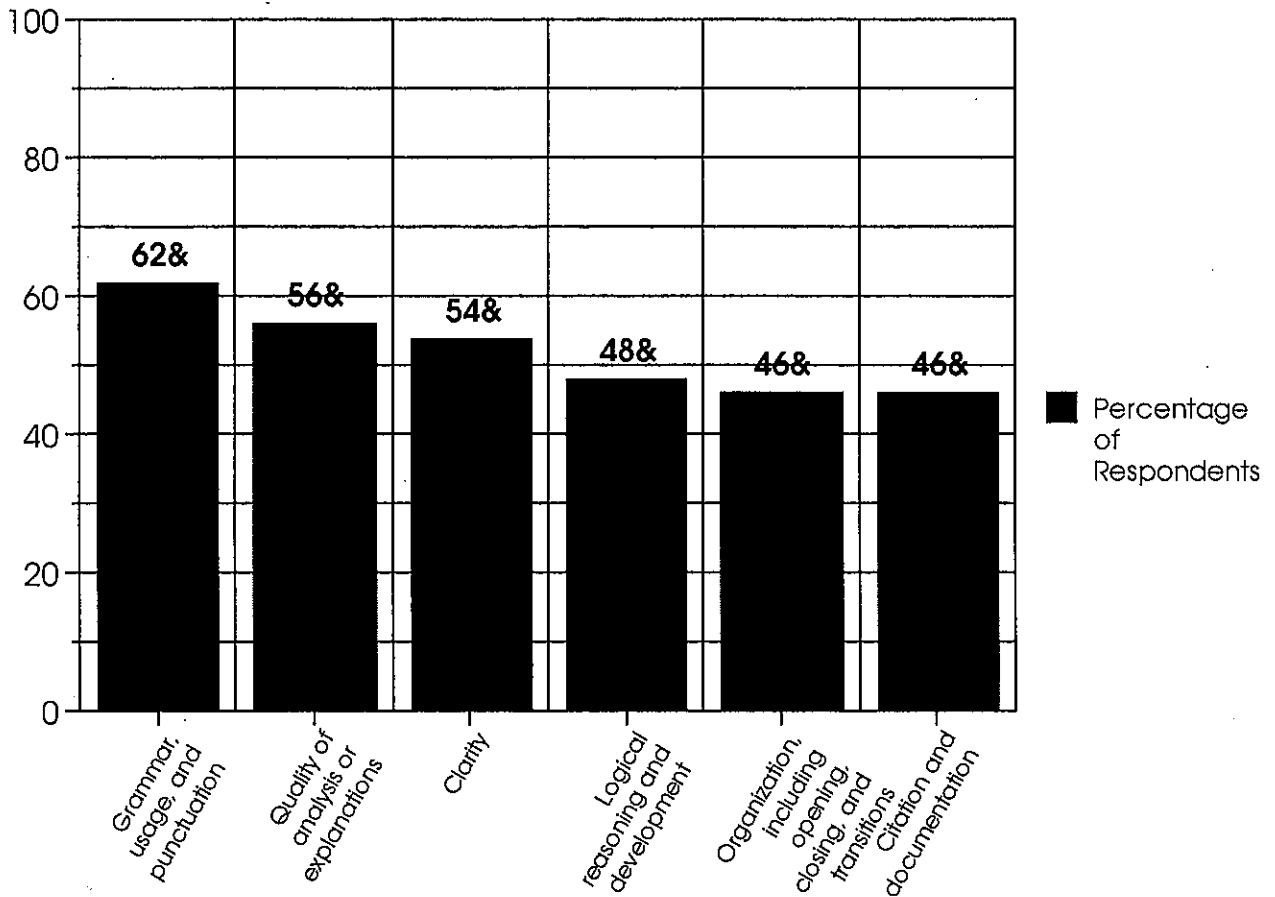


Figure 2

What five features of writing do students struggle with the most?



The Teaching and Learning Center

The Teaching and Learning Center houses the Writing Center and support for math. The Writing Center is staffed by Jeff Fitzgerald, the Writing Center Coordinator, and Kelvin Keown, the English Language Consultant. Becky Etheridge oversees the Teaching and Learning Center as Director. The Writing Center reports that 10-20% of students regularly use the Writing Center. Students make appointments with consultants or turn in their paper for an online consultation, but there is currently no drop-in. The Writing Center reports that it is not able to serve every student who wants a consultation during the busiest parts of the quarter. After week 4, appointments are 80% booked, and after mid quarter, 100% booked until the end of the quarter. Online consultations have expanded exponentially over the past few years. The Writing Center also offers consultations and visits classrooms, especially in the Freshman Core, to do workshops on various aspects of writing.

Student consultants support the work of the staff and are hired based on faculty recommendations. Consultants have the option of taking a Writing Center Theory course and have mandatory training in consulting methods and helping second language students. The Teaching and Learning Center staff report that they see the need to expand to meet current student demand and to expand hours for more options for students who have difficult schedules due to family and work obligations. Currently, the TLC reports to Academic Affairs and relies upon this entity for funding.

On the whole, TLC staff identify several recurring issues in student writing at UWT. First, it appears that transfer students who come in are having difficulty adjusting to the kinds of writing required at UWT. The Writing Center also serves many multi-language students, and while students show improvement if they come in often, the Writing Center believes students need to be supported curricularly alongside the consultations to better assist multi-lingual students. The TLC also sees a need to increase resources available for graduate students. Writing Center staff report that they have a strong relationship with Writing Studies faculty. The Writing Center hopes to expand their vital role on UWT's campus.

UWT Summer Bridge to Success Program

The summer bridge program began seven years ago to help high school students make the transition from high school to college. As part of the bridge program, students are enrolled in a 5-credit university course. Writing is an integral part of the bridge course; however, the type of writing assignments varies depending upon the course topic and the discipline. The writing assignments are designed to allow students the opportunity to think about writing in a holistic way (i.e. prewriting, focus, content development, organization, grammar, mechanics). The writing assignments are also designed to teach students how to use the library and to give students the opportunity to take advantage of support services offered by writing instructors in the TLC and peer mentors who have strong writing skills and act as peer reviewers of individual student papers. Writing is also a central part of the study-skills piece of the bridge and varies depending on the instructor. In general, students in the study-skills piece write response papers, reflective essays on who they are as learners, and keep journals on their experience as first year students.

Freshman Core Program

The curriculum for first year students, overseen by the Office of Undergraduate Education, is designed to address four areas of knowledge: 1) Natural World, 2) Individual and Society, 3) Visual Arts, Literature and Performing Arts, and 4) Composition. In each of these areas of knowledge, faculty require writing as a primary assessment of learning tool. The approaches to teaching writing vary within disciplines, and while Composition provides the primary set of courses through which writing instruction is implemented, each area of knowledge includes writing assignments on a regular basis. For instance, in one of the Natural World courses, "Where the water meets the road: examining the environmental impacts of urbanization on aquatic ecosystems," the instructor has asked for 1 major paper, but has also included a rough draft in his final assessment process. In an Individual and Society course, also on the 100 level, the instructor requires two précis and an "article evaluation paper," which includes a rough draft

as well. Finally, in one of the 100 level VLPAs, the instructor requires writing throughout the quarter, in the form of homework questions and papers. Freshmen are required to write in a wide variety of genres: essays, research papers, reflection papers, journals, blogs, reports, etc. Each of the faculty who teach these first year courses is also cognizant of the learning objectives for first year students and plans their courses accordingly (See Core Master Rubric). Instructors generally will utilize a rubric modeled from the student learning objectives for first year students as well as the learning objectives in their disciplines. In addition, faculty who teach in the Core also engage in a series of pedagogy workshops throughout the academic year, geared towards refreshing and improving the kinds of techniques and strategies that are most effective for first year students. Some examples include paper norming sessions, assignment scaffolding, and developing new methods to engage students in writing assignments that are meaningful both inside and outside the classroom.

Interdisciplinary Arts and Sciences

The largest department on campus, IAS houses faculty in the arts, social sciences, and humanities, with faculty taking an interdisciplinary approach to their scholarship. The majors and concentrations are also interdisciplinary; for instance, students can major in Politics, Philosophy and Economics (PP&E); Arts, Media, and Culture (AMC); or Environmental Studies, among others. IAS has historically integrated writing into every course. Upon its founding, all IAS courses were writing intensive, but as the department grew and class size increased, not all courses emphasized writing as they once did. Currently, IAS faculty choose whether or not to designate their course as a W (Appendix 2).

Another writing-related difficulty faculty face in IAS is that few classes have prerequisites. This means that in many cases a freshman could take a 300 or 400 level course, and in doing so, they do not have the knowledge background or the writing skills needed to complete the coursework successfully. While not requiring prerequisites helps students with difficult schedules and allows for a more interdisciplinary curriculum, this lack of sequenced courses does not allow students to progressively build their writing skills. The difficulties facing IAS can be summed up in this response from a survey participant:

“I spend a lot of time on writing in my courses, and I appreciate the support I have received to do this (Writing Fellowship with Anne [Beaufort], especially). I think it is fundamental to student success, and I am committed to continue to do it even in larger classes. However, there is a limit to what I can do effectively, and growing class size is definitely the largest impediment to teaching writing effectively. In addition, I wish there was a follow up writing fellows program for curricular groups to work on writing among courses. No one teaches writing in a vacuum, and I wish we did a better job of scaffolding skills and having multi-course SLOs to teach students over years instead of a quarter.”

General Writing Courses Offered by Writing Studies (Appendix 4)

Freshmen Writing Support Courses

In response to the perceived need at the freshmen level for expanded student support, a new series of support courses, designed by Alison Cardinal and Riki Thompson, is being launched

this year. Prior to these support courses, students were mainstreamed into their first-year composition courses regardless of their preparedness for college writing. The first course, TCORE 100, is a 2 credit course that students take before they take their first year composition course (FYC). This 2-credit pass/no credit course is designed to help students get acquainted with college writing before they actually take the FYC course. The second course, a studio entitled TWRT 111, is taken with their FYC course and offers two hours extra per week to workshop one's writing with a Writing Studies faculty member, who may or may not be their current FYC instructor. Students are placed in these courses via directed self-placement, and students scoring in the low range on standardized tests were highly encouraged to sign up, but the courses are not mandatory. A variation of TWRT 111 for graduate students is being taught this fall to support incoming graduate students at the Institute of Technology. Along with this new curriculum, Writing Studies is conducting a research study to assess the effectiveness of these courses on student writing ability and retention.

TCORE 101: Introduction to Academic Writing

This course, as previously discussed in this self-study, teaches argumentation, working with sources, and understanding general principles of academic discourse. Each instructor teaches their course based on a series of themed readings, such as popular-culture texts or on identity in the digital age. The group that teaches FYC meets to discuss common goals and learning outcomes during the Core faculty development workshops. The course is integrated into the Core program and is required for all incoming freshmen.

TWRT 211: Argument and Research in Writing

Other than TCORE 101, Writing Studies offers TWRT 211, Argument and Research in Writing. This course is not required for students to take, but it does fulfill the composition requirement for graduation. The course can be taken at any level, and half the spots in a section are reserved for freshmen and sophomores while the other half are reserved for juniors and seniors. The wide range of student ability makes this course challenging to teach, and its impact on student learning varies since some students find the course too difficult while others, especially seniors, find the course not challenging enough. Some TWRT 211 instructors teach writing in the sciences, writing in humanities, or writing in the social sciences. Regardless of the disciplinary focus, all courses attempt to include some aspect of interdisciplinarity in their research methods and assigned essays. The course used to be identified based on its disciplinary orientation, but currently it is not identified as such when students enroll.

Global Honors

Writing is an integral part of the Global Honors Program. All writing assignments are designed to help students think critically about the global honors curriculum and to prepare them for their research papers and capstone thesis or essay. In addition to writing research papers, capstone theses and essays, the global honors students are given writing assignments designed to help them understand the historical contexts from which various concepts including but not limited to cultural imperialism, colonialism, postcolonialism, capitalism, and globalization have emerged. The students also write response papers, theory papers, and literature reviews.

Nursing

Writing is an integral part of the nursing courses offered at UWT. Courses such as TNURS 350 Critical Analysis; TNURS 414 Health, Communities, and Populations; and TNURS 430 Interpersonal Communication for instance emphasize critical thinking and writing in nursing and healthcare.

Institute of Technology

For an undergraduate degree, the Institute requires expository analytical writing in TCSS 325 Ethics and Computing. Throughout their remaining coursework, students write primarily in service of documenting code. Overall, the Institute believes its students need more opportunities to write since communication is a vital skill for the workplace. The Institute has also run into difficulties with their international graduate students who are unfamiliar with Western standards of ownership of information and citation standards. The institute recommends actualizing interdisciplinarity as a way to strengthen writing by returning to team teaching. The Institute also suggests implementing more opportunities for students to write about quantitative data and apply them to real world contexts.

Business

The Milgard School of Business integrates writing throughout their curriculum, since communication, both written and oral, is obviously an essential piece of the business world and a stated learning outcome of the business school. To be accepted to the business school, students must first take a timed writing placement test that measures their writing ability; particularly in the way it relates to the kinds of writing required by the business school. Students that pass the timed writing assessment are admitted. Those that do not are conditionally admitted and must take BUS 311, a dedicated business writing course that focuses on the fundamentals of business writing along with style and mechanics. Writing is then integrated throughout the curriculum, starting with the core business courses and culminating in a senior capstone that requires an extensive written project. The main problems the business school reports encountering is students' difficulty with critical thinking and also students' difficulty transferring the skills they learned and genre knowledge from one course to another.

Social Work

In Social Work, writing is also assigned in every course, but the teaching of writing in that discipline is not addressed in the same way in every course. The director of Social Work has even asked that Writing Studies provide a course in that unit for writing in Social Work, but no such course is currently offered. Social Work is a small unit and thus finds it challenging to address all of the writing concerns within their discipline in every course.

Education

We have no information about Education at this time.

Urban Studies

We have no information about Urban Studies at this time.

Self Study Appendices

Appendix 1: Campus Mission and Values

Mission

The University of Washington Tacoma educates diverse learners and transforms communities by expanding the boundaries of knowledge and discovery.

Values

Our fundamental purpose is to educate students for life as global citizens. UW Tacoma is a distinctive expression of the University of Washington that provides access to an exceptional education for citizens who choose to live and learn in the South Puget Sound region. We recognize that an excellent education connects knowledge across disciplines. At UW Tacoma, excellence is founded on integrity, dedication and collaboration. We believe that learning is a vehicle that advances students toward fulfilling lives and meaningful careers. Our community of learners is strengthened by a diversity of voices. Listening to the UW Tacoma community, we have identified four core values that guide us: Excellence, Community, Diversity and Innovation. We share these values and strive to live by them.

Excellence

UW Tacoma...

- commits to excellence in teaching, scholarship, research and service;
- offers a curriculum that balances core knowledge and skills with responsiveness to student and community need;
- embraces an interdisciplinary approach to knowledge that instills problem-solving and critical thinking skills for meaningful lives;
- engages minds by connecting knowledge with experience, fostering wisdom;
- infuses global and local awareness into its thinking and actions;
- encourages student-faculty-staff interaction and a reciprocal exchange of knowledge;
- nurtures a community of learners and develops the whole person by offering opportunities to learn and grow both inside and outside the classroom;
- provides an environment where students can succeed.

Community UW Tacoma...

- celebrates the success of its people;
- fosters an atmosphere in which individuals work together to make their best contributions;
- preserves a culture of connection and collaboration as it grows;
- partners with communities to improve the human condition;
- cultivates mutually supportive relations with educational partners;
- contributes knowledge that serves diverse communities;
- honors the cultural and civic heritage of its community;
- serves as a catalyst for economic, technological and community development.

Diversity UW Tacoma ...

promotes an environment where diverse perspectives and experiences are expected;
seeks out and supports individuals who may experience barriers in gaining access to college;
stimulates a vibrant learning community by presenting lectures, events and performances that
inspire new views;
encourages and rewards intercultural competence;
aligns its values with its actions in support of justice and fairness;
attracts and retains a community of people and ideas representing diverse cultures and
experiences.

Innovation UW Tacoma...

generates new knowledge and embraces varied ways of knowing;
perpetuates the pioneering spirit of UW Tacoma's beginnings;
seeks new ways to create opportunity;
inspires creative ways of seeing and solving problems;
expands resources and makes thoughtful use of existing ones;
lives in harmony with the environment and is a wise steward of natural resources;
grows stronger through the collective wisdom of its community.

Vision

Within the next ten years, UW Tacoma will become a more comprehensive institution that will respond with distinction to the needs of the region, state, nation and the world. UW Tacoma will achieve distinctiveness as an urban campus of the University of Washington through its commitment to three principles:

- Access to an exceptional university education;
- An interdisciplinary approach to knowledge and discovery in the 21st century;
- A strong and mutually supportive relationship between the campus and its surrounding communities.

As the campus grows, UW Tacoma will strengthen its learning culture, research, institutional structures, and academic and co-curricular programs necessary to embody these three commitments and to uphold the standards of excellence, shared governance and academic freedom that are hallmarks of the University of Washington. It will also develop and implement assessment plans that serve as measurable benchmarks for institutional progress.

The core values of the institution — excellence, community, diversity and innovation — will shape the specific goals and methods UW Tacoma chooses to address these commitments and build its distinction as a campus.

Appendix 2: W Course Designation

Sect. 1: W Course Designation

Not all courses that include writing assignments qualify as W courses. Only those meeting the following criteria should be so designated. The faculty of each program or school should ensure that sufficient W courses are offered each year to allow students to meet W course requirements.

To be designated as a W course, the course must include:

- A) Out-of-class writing assignments in appropriate discipline-specific genres that account for 30% or more of the final grade, including either:
 - (1) At least two shorter writing projects (3-5 pages each), OR
 - (2) One longer writing project that includes developmental feedback during the term, such as instructor-supported pre-writing, drafting, peer review.
- B) Student revision of at least some portion of his/her writing. A revision process is important in order for students to reflect on writing feedback.
- C) Feedback on writing from the faculty member for out-of-class writing projects. Writing feedback should be limited to 2 or 3 areas for improvement (research shows this strategy to be most effective for improving student skills).
- D) Some class time dedicated to building writing skills needed for success in projects, for example, critical analysis skills appropriate to the subject matter, knowledge of genre conventions of the project, research skills as needed, standard conventions for paragraphing, etc.
- E) Occasional, brief, in-class, ungraded writing to promote critical thinking, fluency, and increased retention of subject matter. Examples of such writing may include responses to questions posed in class or summaries of key ideas from a discussion.

Appendix 3: Student Learning Outcomes: TCORE 101, TWRT 111, TCORE 100, and TWRT 211

TCORE 100 Introduces reading and composing skills needed for successful writing in interdisciplinary academic settings, including close reading, critical thinking, and writing in response to others' ideas. Also focuses on organization of ideas developing style, and improving writing skills for or academic audiences. Alison Cardinal, Riki Thompson

Reading

- Uses appropriate reading strategies when approaching non-fiction and scholarly texts.
- Locates the main argument of non-fiction and scholarly texts.

Critical Thinking

- Responds to the ideas in a text by making connections to previous knowledge.
- Synthesizes ideas among a group of related readings
- Develops the ability to assess one's writing
- Develops the ability to assess one's learning process

Writing

- Compose a 2-3 page thesis-driven essay.

- Cites sources with appropriate style.
- Revises and improves writing for organizational structure.
- Revises and improves writing for grammar and style.

TWRT 111 Discourse Foundations (2) □ Helps improve academic writing skills. Students must enroll concurrently in another writing course. Teaches reading skills to comprehend and analyze complex texts, review and analyze grammar structures as they appear in academic writing, and build advanced vocabulary skills. □ Instructor Course Description: *Kelvin Keown*

Learning Objectives

- Develop awareness of genre and genre conventions
- Develop metacognitive skills about your learning and writing
- Understand what professors want you to write and how to seek out that information if you don't understand what the professor wants
- Evaluate your own writing
- Evaluate your peers' writing and give concrete feedback
- Interpret a professor's comments and implement them to improve one's writing
- Become self-sufficient writers
- Seek out resources to address writing challenges
- Evaluate one's own writing and develop the ability to effectively revise
- Become familiar with the conventions of academic discourse

T CORE 101 Introduction to Academic Writing (5) C □ Introduces principles of argument, critical thinking, and analytical readings, and writing and research skill needed for academic writing. Covers skills for managing the writing process and how to transfer learning to other disciplinary contexts for writing.

Learning Outcomes

Reading

- Read 20-100 pages a week, depending on difficulty
- Locate key points and sub-points in scholarly and non-fiction texts

Research

- Choose the appropriate database for the task through UWT library

Critical Thinking

- Summarize main arguments in texts
- Synthesize readings in support of an argument

Writing

- Plan for composing and writing strategies
- Compose a 4-6 pg. thesis driven essay (2 papers for avg 10 pages of essay)
- Reference sources with appropriate style
- Revise and improve for structure
- Reflect on SLOs by creating a portfolio (assesses strengths and weaknesses)

TWRT 211 Argument and Research in Writing (5) C □ Focuses on writing critical analyses of texts in the arts and sciences. Emphasizes close reading, critical thinking, and developing well-supported arguments as well as advanced library research skills. Stresses managing the writing process so that good work can be produced within given time constraints. Prepares students for upper-division writing tasks.

Learning Objectives:

Close reading:

- ability to recognize and explain key points and subpoints of scholarly articles

Research:

- Ability to use at least 2 academic databases through UWT library website that are specific to field of study.

Critical thinking:

- Succinctly summarize the central point of scholarly and general trade books and article and analyze texts for credibility and persuasive techniques.
- Support a position with reasons and evidence.

Writing:

- Write thesis-driven critical analyses that are well-organized and clear.
- Use in-text and bibliographic citations in APA or MLA or another appropriate citation format.

Writing process skills:

- Do a major revision of a draft that entails changes in content and structure as well as sentence-level editing to improve the work.
- Give in-depth feedback on others' writing.
- Use appropriate pre-writing strategies to brainstorm and analyze subject matter before writing.

Appendix 4: Survey Data

The survey administered to faculty was 20 questions and was based almost entirely on a survey designed by Doug Hesse at the University of Denver. The goal of the survey was to gather specific information about what kinds of writing teachers are assigned in their classes and the types of classroom practices faculty utilize in their classrooms. We also wanted to know what features of writing instructors are privileging and what kinds of problems instructors are identify in student writing. Lastly, we wanted to understand what kinds of barriers instructors were encountering when they teach writing. 50 faculty responded to the survey, which means approximately 25% of full-time faculty responded. We also got a good spread of faculty, getting responses from every unit and at every rank, from part-time instructor to professor. There are limits, however, to the survey and the types of claims we can make about writing practices at UWT. It's clear that every respondent assigns some type of writing who responded. The data suggest that the faculty that chose to respond are those that already implement writing and are

invested in its practice. We theorize that the results are skewed in favor of those faculty that are already actively incorporating writing into their courses, but further research is needed to confirm this hypothesis. We also asked those that are a part of Writing Studies to take the survey, which might also account for the high level of writing required by those who filled out the survey. In hindsight, we would have included some kind of identifying questions to separate out those that teach in Writing Studies to help us better analyze the data. We should also mention that the unit that is the least represented is Education, with only one response. We also did not get as many responses from part-time faculty as we had hoped, so their contribution is also under-represented. We interpreted the survey data with generous help from statistician Su-Miao Lai.

Total submissions: 50

Multiple choice - one answer (button)

Question

In which college, school or department do you teach?

Total responses (N): 50 Did not respond: 0

<i>Numeric value</i>	<i>Answer</i>	<i>Frequency</i>	<i>Percentage</i>
1	Milgard School of Business	5	10.00%
2	Urban Studies	3	6.00%
3	Education	1	2.00%
4	Institute of Technology	5	10.00%
5	Nursing	3	6.00%
6	Social Work	4	8.00%
7	Interdisciplinary Arts and Sciences	29	58.00%

*Response statistics**

Mean 5.52

Median 7.00

Mode 7

Min/Max 1/7

Standard deviation 2.13

Multiple choice - one answer (button)

Question

What is your rank?

Total responses (N): 49 Did not respond: 1

<i>Numeric value</i>	<i>Answer</i>	<i>Frequency</i>	<i>Percentage</i>
1	Part-Time Lecturer	8	16.33%
2	Lecturer	10	20.41%
3	Multi-year Lecturer	2	4.08%
4	Assistant Professor	8	16.33%
5	Associate Professor	13	26.53%
6	Professor	8	16.33%

*Response statistics**

Mean 3.65

Median 4.00
 Mode 5
 Min/Max 1/6
 Standard deviation 1.79

Multiple choice - one answer (button)

Question

What was the level of this course?

Total responses (N): 50 Did not respond: 0

Numeric value	Answer	Frequency	Percentage
1	100	4	8.00%
2	200	5	10.00%
3	300	22	44.00%
4	400	13	26.00%
5	500	6	12.00%

Response statistics*

Mean 3.24
 Median 3.00
 Mode 3
 Min/Max 1/5
 Standard deviation 1.06

Multiple choice - one answer (button)

Question

What was the enrollment in the course?

Total responses (N): 50 Did not respond: 0

Numeric value	Answer	Frequency	Percentage
1	15 or fewer	5	10.00%
2	16-24	10	20.00%
3	25-40	31	62.00%
4	41-60	4	8.00%
5	61 or more	0	0.00%

Response statistics*

Mean 2.68
 Median 3.00
 Mode 3
 Min/Max 1/4
 Standard deviation 0.77

Multiple choice - one answer (button)

Question

Was the course a W (Writing Intensive) designated course?

Total responses (N): 50 Did not respond: 0

Numeric value	Answer	Frequency	Percentage
1	Yes	17	34.00%
2	No	31	62.00%
3	Not sure	2	4.00%

Response statistics*

Mean 1.70

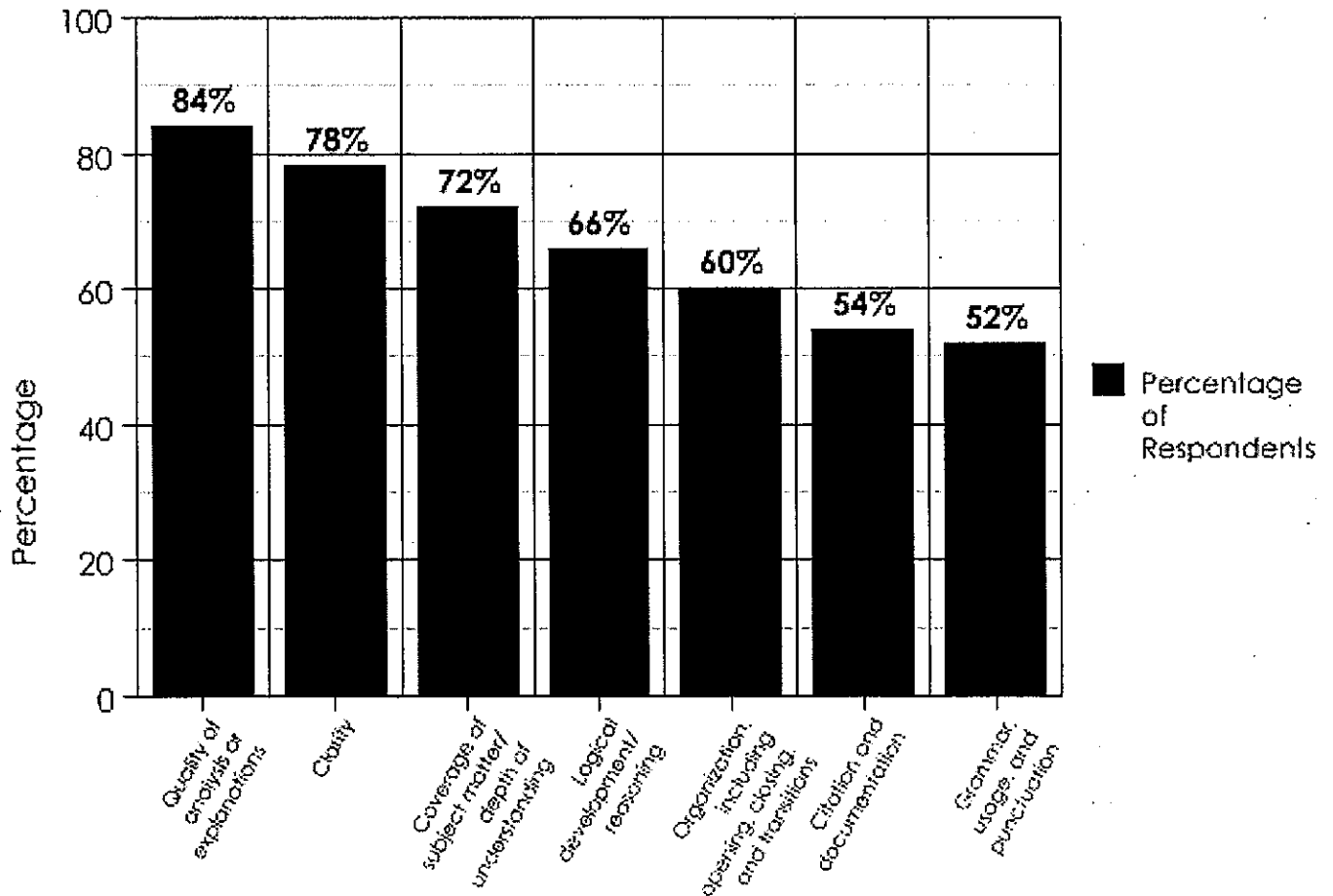
Median 2.00

Mode 2

Min/Max 1/3

Standard deviation 0.54

What are the top seven criteria do you use to evaluate student writing?



Appendix L: NSF Proposal by Quantitative Literacy Campus Fellows

**02 INFORMATION ABOUT PRINCIPAL INVESTIGATORS/PROJECT DIRECTORS(PI/PD) and
co-PRINCIPAL INVESTIGATORS/co-PROJECT DIRECTORS**

Submit only ONE copy of this form for each PI/PD and co-PI/PD identified on the proposal. The form(s) should be attached to the original proposal as specified in GPG Section II.C.a. Submission of this information is voluntary and is not a precondition of award. This information will not be disclosed to external peer reviewers. **DO NOT INCLUDE THIS FORM WITH ANY OF THE OTHER COPIES OF YOUR PROPOSAL AS THIS MAY COMPROMISE THE CONFIDENTIALITY OF THE INFORMATION.**

PI/PD Name: Peter Selkin

Gender: Male Female
Ethnicity: (Choose one response) Hispanic or Latino Not Hispanic or Latino

Race:
(Select one or more)
 American Indian or Alaska Native
 Asian
 Black or African American
 Native Hawaiian or Other Pacific Islander
 White

Disability Status:
(Select one or more)
 Hearing Impairment
 Visual Impairment
 Mobility/Orthopedic Impairment
 Other
 None

Citizenship: (Choose one) U.S. Citizen Permanent Resident Other non-U.S. Citizen

Check here if you do not wish to provide any or all of the above information (excluding PI/PD name):

REQUIRED: Check here if you are currently serving (or have previously served) as a PI, co-PI or PD on any federally funded project

Ethnicity Definition:

Hispanic or Latino. A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race.

Race Definitions:

American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Black or African American. A person having origins in any of the black racial groups of Africa.

Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

WHY THIS INFORMATION IS BEING REQUESTED:

The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity, or disability of its proposed PIs/PDs. To gather information needed for this important task, the proposer should submit a single copy of this form for each identified PI/PD with each proposal. Submission of the requested information is voluntary and will not affect the organization's eligibility for an award. However, information not submitted will seriously undermine the statistical validity, and therefore the usefulness, of information received from others. Any individual not wishing to submit some or all the information should check the box provided for this purpose. (The exceptions are the PI/PD name and the information about prior Federal support, the last question above.)

Collection of this information is authorized by the NSF Act of 1950, as amended, 42 U.S.C. 1861, et seq. Demographic data allows NSF to gauge whether our programs and other opportunities in science and technology are fairly reaching and benefiting everyone regardless of demographic category; to ensure that those in under-represented groups have the same knowledge of and access to programs and other research and educational opportunities; and to assess involvement of international investigators in work supported by NSF. The information may be disclosed to government contractors, experts, volunteers and researchers to complete assigned work; and to other government agencies in order to coordinate and assess programs. The information may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records", 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records", 63 Federal Register 268 (January 5, 1998).

**02 INFORMATION ABOUT PRINCIPAL INVESTIGATORS/PROJECT DIRECTORS(PI/PD) and
co-PRINCIPAL INVESTIGATORS/co-PROJECT DIRECTORS**

Submit only ONE copy of this form for each PI/PD and co-PI/PD identified on the proposal. The form(s) should be attached to the original proposal as specified in GPG Section II.C.a. Submission of this information is voluntary and is not a precondition of award. This information will not be disclosed to external peer reviewers. **DO NOT INCLUDE THIS FORM WITH ANY OF THE OTHER COPIES OF YOUR PROPOSAL AS THIS MAY COMPROMISE THE CONFIDENTIALITY OF THE INFORMATION.**

PI/PD Name: Julia Aguirre

Gender: Male Female
Ethnicity: (Choose one response) Hispanic or Latino Not Hispanic or Latino

Race:
(Select one or more) American Indian or Alaska Native
 Asian
 Black or African American
 Native Hawaiian or Other Pacific Islander
 White

Disability Status:
(Select one or more) Hearing Impairment
 Visual Impairment
 Mobility/Orthopedic Impairment
 Other
 None

Citizenship: (Choose one) U.S. Citizen Permanent Resident Other non-U.S. Citizen

Check here if you do not wish to provide any or all of the above information (excluding PI/PD name):

REQUIRED: Check here if you are currently serving (or have previously served) as a PI, co-PI or PD on any federally funded project

Ethnicity Definition:

Hispanic or Latino. A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race.

Race Definitions:

American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Black or African American. A person having origins in any of the black racial groups of Africa.

Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

WHY THIS INFORMATION IS BEING REQUESTED:

The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity, or disability of its proposed PIs/PDs. To gather information needed for this important task, the proposer should submit a single copy of this form for each identified PI/PD with each proposal. Submission of the requested information is voluntary and will not affect the organization's eligibility for an award. However, information not submitted will seriously undermine the statistical validity, and therefore the usefulness, of information received from others. Any individual not wishing to submit some or all the information should check the box provided for this purpose. (The exceptions are the PI/PD name and the information about prior Federal support, the last question above.)

Collection of this information is authorized by the NSF Act of 1950, as amended, 42 U.S.C. 1861, et seq. Demographic data allows NSF to gauge whether our programs and other opportunities in science and technology are fairly reaching and benefiting everyone regardless of demographic category; to ensure that those in under-represented groups have the same knowledge of and access to programs and other research and educational opportunities; and to assess involvement of international investigators in work supported by NSF. The information may be disclosed to government contractors, experts, volunteers and researchers to complete assigned work; and to other government agencies in order to coordinate and assess programs. The information may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records", 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records", 63 Federal Register 268 (January 5, 1998).

**02 INFORMATION ABOUT PRINCIPAL INVESTIGATORS/PROJECT DIRECTORS(PI/PD) and
co-PRINCIPAL INVESTIGATORS/co-PROJECT DIRECTORS**

Submit only ONE copy of this form for each PI/PD and co-PI/PD identified on the proposal. The form(s) should be attached to the original proposal as specified in GPG Section II.C.a. Submission of this information is voluntary and is not a precondition of award. This information will not be disclosed to external peer reviewers. **DO NOT INCLUDE THIS FORM WITH ANY OF THE OTHER COPIES OF YOUR PROPOSAL AS THIS MAY COMPROMISE THE CONFIDENTIALITY OF THE INFORMATION.**

PI/PD Name: Julia R Eaton

Gender: Male Female

Ethnicity: (Choose one response) Hispanic or Latino Not Hispanic or Latino

Race:
(Select one or more)

American Indian or Alaska Native
 Asian
 Black or African American
 Native Hawaiian or Other Pacific Islander
 White

Disability Status:
(Select one or more)

Hearing Impairment
 Visual Impairment
 Mobility/Orthopedic Impairment
 Other
 None

Citizenship: (Choose one) U.S. Citizen Permanent Resident Other non-U.S. Citizen

Check here if you do not wish to provide any or all of the above information (excluding PI/PD name):

REQUIRED: Check here if you are currently serving (or have previously served) as a PI, co-PI or PD on any federally funded project

Ethnicity Definition:

Hispanic or Latino. A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race.

Race Definitions:

American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Black or African American. A person having origins in any of the black racial groups of Africa.

Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

WHY THIS INFORMATION IS BEING REQUESTED:

The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity, or disability of its proposed PIs/PDs. To gather information needed for this important task, the proposer should submit a single copy of this form for each identified PI/PD with each proposal. Submission of the requested information is voluntary and will not affect the organization's eligibility for an award. However, information not submitted will seriously undermine the statistical validity, and therefore the usefulness, of information received from others. Any individual not wishing to submit some or all the information should check the box provided for this purpose. (The exceptions are the PI/PD name and the information about prior Federal support, the last question above.)

Collection of this information is authorized by the NSF Act of 1950, as amended, 42 U.S.C. 1861, et seq. Demographic data allows NSF to gauge whether our programs and other opportunities in science and technology are fairly reaching and benefiting everyone regardless of demographic category; to ensure that those in under-represented groups have the same knowledge of and access to programs and other research and educational opportunities; and to assess involvement of international investigators in work supported by NSF. The information may be disclosed to government contractors, experts, volunteers and researchers to complete assigned work; and to other government agencies in order to coordinate and assess programs. The information may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records", 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records", 63 Federal Register 268 (January 5, 1998).

**02 INFORMATION ABOUT PRINCIPAL INVESTIGATORS/PROJECT DIRECTORS(PI/PD) and
co-PRINCIPAL INVESTIGATORS/co-PROJECT DIRECTORS**

Submit only ONE copy of this form for each PI/PD and co-PI/PD identified on the proposal. The form(s) should be attached to the original proposal as specified in GPG Section II.C.a. Submission of this information is voluntary and is not a precondition of award. This information will not be disclosed to external peer reviewers. **DO NOT INCLUDE THIS FORM WITH ANY OF THE OTHER COPIES OF YOUR PROPOSAL AS THIS MAY COMPROMISE THE CONFIDENTIALITY OF THE INFORMATION.**

PI/PD Name: Cynthia A Stanich

Gender: Male Female

Ethnicity: (Choose one response) Hispanic or Latino Not Hispanic or Latino

Race:
(Select one or more)

American Indian or Alaska Native
 Asian
 Black or African American
 Native Hawaiian or Other Pacific Islander
 White

Disability Status:
(Select one or more)

Hearing Impairment
 Visual Impairment
 Mobility/Orthopedic Impairment
 Other
 None

Citizenship: (Choose one) U.S. Citizen Permanent Resident Other non-U.S. Citizen

Check here if you do not wish to provide any or all of the above information (excluding PI/PD name):

REQUIRED: Check here if you are currently serving (or have previously served) as a PI, co-PI or PD on any federally funded project

Ethnicity Definition:

Hispanic or Latino. A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race.

Race Definitions:

American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Black or African American. A person having origins in any of the black racial groups of Africa.

Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

WHY THIS INFORMATION IS BEING REQUESTED:

The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity, or disability of its proposed PIs/PDs. To gather information needed for this important task, the proposer should submit a single copy of this form for each identified PI/PD with each proposal. Submission of the requested information is voluntary and will not affect the organization's eligibility for an award. However, information not submitted will seriously undermine the statistical validity, and therefore the usefulness, of information received from others. Any individual not wishing to submit some or all the information should check the box provided for this purpose. (The exceptions are the PI/PD name and the information about prior Federal support, the last question above.)

Collection of this information is authorized by the NSF Act of 1950, as amended, 42 U.S.C. 1861, et seq. Demographic data allows NSF to gauge whether our programs and other opportunities in science and technology are fairly reaching and benefiting everyone regardless of demographic category; to ensure that those in under-represented groups have the same knowledge of and access to programs and other research and educational opportunities; and to assess involvement of international investigators in work supported by NSF. The information may be disclosed to government contractors, experts, volunteers and researchers to complete assigned work; and to other government agencies in order to coordinate and assess programs. The information may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records", 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records", 63 Federal Register 268 (January 5, 1998).

**02 INFORMATION ABOUT PRINCIPAL INVESTIGATORS/PROJECT DIRECTORS(PI/PD) and
co-PRINCIPAL INVESTIGATORS/co-PROJECT DIRECTORS**

Submit only ONE copy of this form for each PI/PD and co-PI/PD identified on the proposal. The form(s) should be attached to the original proposal as specified in GPG Section II.C.a. Submission of this information is voluntary and is not a precondition of award. This information will not be disclosed to external peer reviewers. **DO NOT INCLUDE THIS FORM WITH ANY OF THE OTHER COPIES OF YOUR PROPOSAL AS THIS MAY COMPROMISE THE CONFIDENTIALITY OF THE INFORMATION.**

PI/PD Name: Douglas T Wills

Gender: Male Female

Ethnicity: (Choose one response) Hispanic or Latino Not Hispanic or Latino

Race:
(Select one or more)

American Indian or Alaska Native
 Asian
 Black or African American
 Native Hawaiian or Other Pacific Islander
 White

Disability Status:
(Select one or more)

Hearing Impairment
 Visual Impairment
 Mobility/Orthopedic Impairment
 Other
 None

Citizenship: (Choose one) U.S. Citizen Permanent Resident Other non-U.S. Citizen

Check here if you do not wish to provide any or all of the above information (excluding PI/PD name):

REQUIRED: Check here if you are currently serving (or have previously served) as a PI, co-PI or PD on any federally funded project

Ethnicity Definition:

Hispanic or Latino. A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race.

Race Definitions:

American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Black or African American. A person having origins in any of the black racial groups of Africa.

Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

WHY THIS INFORMATION IS BEING REQUESTED:

The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity, or disability of its proposed PIs/PDs. To gather information needed for this important task, the proposer should submit a single copy of this form for each identified PI/PD with each proposal. Submission of the requested information is voluntary and will not affect the organization's eligibility for an award. However, information not submitted will seriously undermine the statistical validity, and therefore the usefulness, of information received from others. Any individual not wishing to submit some or all the information should check the box provided for this purpose. (The exceptions are the PI/PD name and the information about prior Federal support, the last question above.)

Collection of this information is authorized by the NSF Act of 1950, as amended, 42 U.S.C. 1861, et seq. Demographic data allows NSF to gauge whether our programs and other opportunities in science and technology are fairly reaching and benefiting everyone regardless of demographic category; to ensure that those in under-represented groups have the same knowledge of and access to programs and other research and educational opportunities; and to assess involvement of international investigators in work supported by NSF. The information may be disclosed to government contractors, experts, volunteers and researchers to complete assigned work; and to other government agencies in order to coordinate and assess programs. The information may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records", 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records", 63 Federal Register 268 (January 5, 1998).

List of Suggested Reviewers or Reviewers Not To Include (optional)

SUGGESTED REVIEWERS:

Lynn Arthur Steen, Jennifer Wenner, H. Len Vacher, Charles Henderson, Esther Wilder

REVIEWERS NOT TO INCLUDE:

COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

PROGRAM ANNOUNCEMENT/SOLICITATION NO./CLOSING DATE (if not in response to a program announcement/solicitation enter NSF 13-1)					FOR NSF USE ONLY	
NSF 13-552			07/03/13		NSF PROPOSAL NUMBER	
FOR CONSIDERATION BY NSF ORGANIZATION UNIT(S) (Indicate the most specific unit known, i.e. program, division, etc.)					1347447	
DUE - Planning Grant						
DATE RECEIVED	NUMBER OF COPIES	DIVISION ASSIGNED	FUND CODE	DUNS# (Data Universal Numbering System)	FILE LOCATION	
07/02/2013	1	11040000 DUE	1133	605799469	07/02/2013 12:49pm	
EMPLOYER IDENTIFICATION NUMBER (EIN) OR TAXPAYER IDENTIFICATION NUMBER (TIN)		SHOW PREVIOUS AWARD NO. IF THIS IS <input type="checkbox"/> A RENEWAL <input type="checkbox"/> AN ACCOMPLISHMENT-BASED RENEWAL		IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER FEDERAL AGENCY? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> IF YES, LIST ACRONYM(S)		
916001537						
NAME OF ORGANIZATION TO WHICH AWARD SHOULD BE MADE			ADDRESS OF AWARDEE ORGANIZATION, INCLUDING 9 DIGIT ZIP CODE			
University of Washington			SEATTLE, WA 981959472 US			
AWARDEE ORGANIZATION CODE (IF KNOWN)			ADDRESS OF PRIMARY PLACE OF PERF, INCLUDING 9 DIGIT ZIP CODE			
0037986000			University of Washington Tacoma 1900 Commerce Street Tacoma, WA ,984023100 ,US.			
NAME OF PRIMARY PLACE OF PERF			ADDRESS OF PRIMARY PLACE OF PERF, INCLUDING 9 DIGIT ZIP CODE			
University of Washington Tacoma			University of Washington Tacoma 1900 Commerce Street Tacoma, WA ,984023100 ,US.			
IS AWARDEE ORGANIZATION (Check All That Apply) (See GPG II.C For Definitions)		<input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> FOR-PROFIT ORGANIZATION		<input type="checkbox"/> MINORITY BUSINESS <input type="checkbox"/> WOMAN-OWNED BUSINESS		<input type="checkbox"/> IF THIS IS A PRELIMINARY PROPOSAL THEN CHECK HERE
TITLE OF PROPOSED PROJECT WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma						
REQUESTED AMOUNT \$	PROPOSED DURATION (1-60 MONTHS)	REQUESTED STARTING DATE	SHOW RELATED PRELIMINARY PROPOSAL NO. IF APPLICABLE			
247,814	24 months	04/01/14				
CHECK APPROPRIATE BOX(ES) IF THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW						
<input type="checkbox"/> BEGINNING INVESTIGATOR (GPG I.G.2)		<input checked="" type="checkbox"/> HUMAN SUBJECTS (GPG II.D.7) Human Subjects Assurance Number _____				
<input type="checkbox"/> DISCLOSURE OF LOBBYING ACTIVITIES (GPG II.C.1.e)		Exemption Subsection <u>Pending</u> or IRB App. Date _____				
<input type="checkbox"/> PROPRIETARY & PRIVILEGED INFORMATION (GPG I.D, II.C.1.d)		<input type="checkbox"/> INTERNATIONAL COOPERATIVE ACTIVITIES: COUNTRY/COUNTRIES INVOLVED (GPG II.C.2.j)				
<input type="checkbox"/> HISTORIC PLACES (GPG II.C.2.j)						
<input type="checkbox"/> EAGER* (GPG II.D.2) <input type="checkbox"/> RAPID** (GPG II.D.1)						
<input type="checkbox"/> VERTEBRATE ANIMALS (GPG II.D.6) IACUC App. Date _____						
PHS Animal Welfare Assurance Number _____						
PI/PI/D DEPARTMENT			PI/PI/D POSTAL ADDRESS			
Interdisciplinary Art & Sciences -Tacoma			4333 Brooklyn Ave NE			
PI/PI/D FAX NUMBER			SEATTLE, WA 981959472 United States			
NAMES (TYPED)	High Degree	Yr of Degree	Telephone Number	Email Address		
PI/PI/D NAME	High Degree	Yr of Degree	Telephone Number	Email Address		
Peter Selkin	PhD	2003	206-543-4043	paselkin@u.washington.edu		
CO-PI/PI/D	High Degree	Yr of Degree	Telephone Number	Email Address		
Julia Aguirre	PhD	2002	206-543-4043	jaguirre@u.washington.edu		
CO-PI/PI/D	High Degree	Yr of Degree	Telephone Number	Email Address		
Julia R Eaton	PhD	2010	206-543-4043	jreaton@uw.edu		
CO-PI/PI/D	High Degree	Yr of Degree	Telephone Number	Email Address		
Cynthia A Stanich	PhD	2012	206-897-1813	stanich@u.washington.edu		
CO-PI/PI/D	High Degree	Yr of Degree	Telephone Number	Email Address		
Douglas T Wills	PhD	1995	253-692-5626	dtwills@u.washington.edu		

CERTIFICATION PAGE

Certification for Authorized Organizational Representative (or Equivalent) or Individual Applicant

By electronically signing and submitting this proposal, the Authorized Organizational Representative (AOR) or Individual Applicant is: (1) certifying that statements made herein are true and complete to the best of his/her knowledge; and (2) agreeing to accept the obligation to comply with NSF award terms and conditions if an award is made as a result of this application. Further, the applicant is hereby providing certifications regarding conflict of interest (when applicable), drug-free workplace, debarment and suspension, lobbying activities (see below), nondiscrimination, flood hazard insurance (when applicable), responsible conduct of research, organizational support, Federal tax obligations, unpaid Federal tax liability, and criminal convictions as set forth in the NSF Proposal & Award Policies & Procedures Guide, Part I: the Grant Proposal Guide (GPG). Willful provision of false information in this application and its supporting documents or in reports required under an ensuing award is a criminal offense (U.S. Code, Title 18, Section 1001).

Conflict of Interest Certification

When the proposing organization employs more than fifty persons, the Authorized Organizational Representative (or equivalent) is required to complete the following certification regarding Conflict of Interest:

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is certifying that the organization has implemented a written and enforced conflict of interest policy that is consistent with the provisions of the NSF Proposal & Award Policies & Procedures Guide, Part II, Award & Administration Guide (AAG) Section IV.A; that to the best of his/her knowledge, all financial disclosures required by that conflict of interest policy have been made; and that all identified conflicts of interest will have been satisfactorily managed, reduced or eliminated prior to the organization's expenditure of any funds under the award, in accordance with the organization's conflict of interest policy. Conflicts which cannot be satisfactorily managed, reduced or eliminated must be disclosed to NSF.

Drug Free Work Place Certification

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent), is providing the Drug Free Work Place Certification contained in Exhibit II-3 of the Grant Proposal Guide.

Debarment and Suspension Certification

(If answer "yes", please provide explanation.)

Is the organization or its principals presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency? Yes No

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) or Individual Applicant is providing the Debarment and Suspension Certification contained in Exhibit II-4 of the Grant Proposal Guide.

Certification Regarding Lobbying

This certification is required for an award of a Federal contract, grant, or cooperative agreement exceeding \$100,000 and for an award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000.

Certification for Contracts, Grants, Loans and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Certification Regarding Nondiscrimination

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is providing the Certification Regarding Nondiscrimination contained in Exhibit II-6 of the Grant Proposal Guide.

Certification Regarding Flood Hazard Insurance

Two sections of the National Flood Insurance Act of 1968 (42 USC §4012a and §4106) bar Federal agencies from giving financial assistance for acquisition or construction purposes in any area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards unless the:

- (1) community in which that area is located participates in the national flood insurance program; and
- (2) building (and any related equipment) is covered by adequate flood insurance.

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) or Individual Applicant located in FEMA-designated special flood hazard areas is certifying that adequate flood insurance has been or will be obtained in the following situations:

- (1) for NSF grants for the construction of a building or facility, regardless of the dollar amount of the grant; and
- (2) for other NSF grants when more than \$25,000 has been budgeted in the proposal for repair, alteration or improvement (construction) of a building or facility.

Certification Regarding Responsible Conduct of Research (RCR)

(This certification is not applicable to proposals for conferences, symposia, and workshops.)

By electronically signing the Certification Pages, the Authorized Organizational Representative is certifying that, in accordance with the NSF Proposal & Award Policies & Procedures Guide, Part II, Award & Administration Guide (AAG) Chapter IV.B., the institution has a plan in place to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students and postdoctoral researchers who will be supported by NSF to conduct research. The AOR shall require that the language of this certification be included in any award documents for all subawards at all tiers.

CERTIFICATION PAGE - CONTINUED

Certification Regarding Organizational Support

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is certifying that there is organizational support for the proposal as required by Section 526 of the America COMPETES Reauthorization Act of 2010. This support extends to the portion of the proposal developed to satisfy the Broader Impacts Review Criterion as well as the Intellectual Merit Review Criterion, and any additional review criteria specified in the solicitation. Organizational support will be made available, as described in the proposal, in order to address the broader impacts and intellectual merit activities to be undertaken.

Certification Regarding Federal Tax Obligations

When the proposal exceeds \$5,000,000, the Authorized Organizational Representative (or equivalent) is required to complete the following certification regarding Federal tax obligations.

By electronically signing the Certification pages, the Authorized Organizational Representative is certifying that, to the best of their knowledge and belief, the proposing organization:

- (1) has filed all Federal tax returns required during the three years preceding this certification;
- (2) has not been convicted of a criminal offense under the Internal Revenue Code of 1986; and
- (3) has not, more than 90 days prior to this certification, been notified of any unpaid Federal tax assessment for which the liability remains unsatisfied, unless the assessment is the subject of an installment agreement or offer in compromise that has been approved by the Internal Revenue Service and is not in default, or the assessment is the subject of a non-frivolous administrative or judicial proceeding.

Certification Regarding Unpaid Federal Tax Liability

When the proposing organization is a corporation, the Authorized Organizational Representative (or equivalent) is required to complete the following certification regarding Federal Tax Liability:

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is certifying that the corporation has no unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

Certification Regarding Criminal Convictions

When the proposing organization is a corporation, the Authorized Organizational Representative (or equivalent) is required to complete the following certification regarding Criminal Convictions:

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is certifying that the corporation has not been convicted of a felony criminal violation under any Federal law within the 24 months preceding the date on which the certification is signed.

AUTHORIZED ORGANIZATIONAL REPRESENTATIVE		SIGNATURE	DATE
NAME Kelly FitzGerald		Electronic Signature	Jul 2 2013 12:47PM
TELEPHONE NUMBER 253-692-4371	EMAIL ADDRESS kafg@u.washington.edu	FAX NUMBER	

* EAGER - EARly-concept Grants for Exploratory Research

** RAPID - Grants for Rapid Response Research

NATIONAL SCIENCE FOUNDATION
Division of Undergraduate Education

NSF FORM 1295: PROJECT DATA FORM

The instructions and codes to be used in completing this form are provided in Appendix II.

1. Program-track to which the Proposal is submitted: Planning Grant
2. Name of Principal Investigator/Project Director (as shown on the Cover Sheet):
Selkin, Peter
3. Name of submitting Institution (as shown on Cover Sheet):
University of Washington
4. Other Institutions involved in the project's operation:

Project Data:

- A. Major Discipline Code: 99
- B. Academic Focus Level of Project: LO
- C. Highest Degree Code: M
- D. Category Code: --
- E. Business/Industry Participation Code: NA
- F. Audience Code: F _____
- G. Institution Code: PUBL
- H. Strategic Area Code: _____
- I. Project Features: 1 2 6 _____

Estimated number in each of the following categories to be directly affected by the activities of the project during its operation:

- J. Undergraduate Students: 270
- K. Pre-college Students: 0
- L. College Faculty: 15
- M. Pre-college Teachers: 0
- N. Graduate Students: 0

PROJECT SUMMARY

Overview:

Today's college graduates, STEM majors and non-STEM majors alike, are increasingly being called on to construct arguments and make decisions based on mathematical and statistical information and ideas. Here we propose an effort to change the institutional culture of quantitative literacy (QL) ? defined as the ability to reason mathematically and statistically ? across the University of Washington Tacoma campus. Currently, QL is the domain of a distinct group of faculty who teach courses with a quantitative designation, a relatively small number of students, and a small support staff. We intend to broaden the ownership of QL issues across campus, both by facilitating instructional change designed to promote reasoning with numbers and statistics across the curriculum and by improving support for student and faculty learning in quantitative fields. Specifically, we propose to plan and pilot a set of workshops and learning communities designed to support faculty in the incorporation of quantitative ideas through writing in courses across the curriculum, linked with a series of co-curricular learning support services. The latter are based in large part on the Emerging Scholars (Treisman) model. The program would leverage pre-existing support structures at UW Tacoma (the Teaching and Learning Center, a pre-college summer program, and a successful writing across the curriculum effort) and would adapt successful research-based strategies and tools developed at other institutions (including QL programs at other institutions such as Carleton College and Bowdoin College; and the Emerging Scholars model). This proposal requests NSF funds for one year of planning and one year of a pilot project. The planning phase includes: convening an advisory and assessment group; a series of faculty development workshops devoted to teaching QL; and assessing QL teaching and quantitative support resources on campus. The pilot project is intended to determine barriers to and strengths of QL instruction on campus, and to evaluate and revise the cross-curricular QL approach.

Intellectual Merit :

The QL program outlined here addresses a significant barrier to STEM instruction at UW Tacoma as well as at other institutions: the small number of students able to use mathematical reasoning to solve discipline-specific (or interdisciplinary) problems. The data collected here will evaluate a combined course design / student support approach to teaching QL topics. In addition, the program will assess the effectiveness of team-based workshops and campus-wide student support systems in encouraging faculty to adopt research-based QL teaching practices.

Broader Impacts :

UW Tacoma, as the main public university serving the South Puget Sound region, has a rapidly growing primarily undergraduate enrollment of 3657 students, from a diversity of backgrounds, including a larger proportion of first-generation college students, underserved minorities, non-traditional students, and active-duty military and veterans than the main UW campus. This proposal targets some of those underserved through synergies with existing programs. We envision that the student support reforms proposed here will reduce barriers to student participation particularly in STEM fields, and most specifically among returning students who have experienced long gaps in their education. We expect the program to serve as a model for QL instruction across the Puget Sound region.

TABLE OF CONTENTS

For font size and page formatting specifications, see GPG section II.B.2.

	Total No. of Pages	Page No.* (Optional)*
Cover Sheet for Proposal to the National Science Foundation		
Project Summary (not to exceed 1 page)	1	_____
Table of Contents	1	_____
Project Description (Including Results from Prior NSF Support) (not to exceed 15 pages) (Exceed only if allowed by a specific program announcement/solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)	13	_____
References Cited	2	_____
Biographical Sketches (Not to exceed 2 pages each)	12	_____
Budget (Plus up to 3 pages of budget justification)	5	_____
Current and Pending Support	6	_____
Facilities, Equipment and Other Resources	1	_____
Special Information/Supplementary Documents (Data Management Plan, Mentoring Plan and Other Supplementary Documents)	1	_____
Appendix (List below.) (Include only if allowed by a specific program announcement/ solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)	_____	_____
Appendix Items:		

*Proposers may select any numbering mechanism for the proposal. The entire proposal however, must be paginated. Complete both columns only if the proposal is numbered consecutively.

WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma

Project Description

Quantitative literacy (QL), the ability to use and reason with mathematics and statistics, is a necessary competence for informed citizens in modern public life (Steen 2001). Over the past decade, colleges have placed increased emphasis on quantitative literacy, including adopting and assessing quantitative literacy as a curricular or campus learning outcome (Grawe 2012) and assessing teaching tools and methods in light of quantitative literacy (e.g. Wilder 2009; Wilder 2010; Wenner, Burn, and Baer 2011). We propose to plan and pilot a systematic approach to encouraging and facilitating quantitative literacy at the University of Washington Tacoma (UW Tacoma) based on previously developed cross-curriculum models. The goal of the proposed program is to align campus culture with the UW Tacoma learning objective associated with inquiry and critical thinking:

“Students will acquire skills and familiarity with modes of inquiry and examination from diverse disciplinary perspectives, enabling them to access, interpret, analyze, *quantitatively reason*, and synthesize information critically.” (UW Tacoma Student Learning Objectives)

This proposal would allow us to assess and develop support for quantitative literacy in a deliberate way on a growing, urban-serving campus. The program we propose has a firm foundation in research and, more significantly, a plan for implementation based on models tested elsewhere. We believe that the proposed QL program at UW Tacoma will serve as a model for interdisciplinary quantitative literacy programs elsewhere, particularly at public higher education institutions.

Defining and Characterizing QL

Definitions of quantitative literacy – or its synonym, quantitative *reasoning* – vary from program to program. We adopt the American Association of Colleges and Universities’ (2009) definition of QL, which is flexible enough to work in a variety of disciplinary and interdisciplinary contexts, and which is tied to an effort to assess QL:

“...a ‘habit of mind,’ competency, and comfort in working with numerical data. Individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations.”

The context dependence of QL is an important aspect of our proposed program. Because QL is mentioned in a campus-wide learning objective, the work proposed here is designed to foster QL in the context of diverse disciplinary and interdisciplinary courses. The VALUE rubric for quantitative literacy, designed by AAC&U to complement the definition above, contains six categories (Table 1) that are flexible enough to work in an interdisciplinary context, but that nonetheless permit rigorous assessment (see e.g. Boersma and Klyve 2013).

Table 1: Categories from the AAC&U VALUE rubric and their explanations (Association of American Colleges and Universities 2009). *: Description from Boersma and Klyve (2013).

Category	Explanation
Interpretation	Ability to explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words)
Representation	Ability to convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words)
Calculation	Ability to perform arithmetical and mathematical calculations*
Application/Analysis	Ability to make judgments and draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis

Assumptions	Ability to make and evaluate important assumptions in estimation, modeling, and data analysis
Communication	Ability to express quantitative evidence in support of the argument or purpose of the work (in terms of what evidence is used and how it is formatted, presented, and contextualized)**

QL in the UW Tacoma Curriculum

The University of Washington Tacoma (UW Tacoma) has several characteristics representative of small but growing urban-serving public colleges. UW Tacoma is a primarily (83%) undergraduate campus of the University of Washington, located 40 minutes south of the main (Seattle) campus. UW Tacoma serves a primarily undergraduate student body of nearly 4000, largely from the South Puget Sound region. Part of UW Tacoma's mission is to serve placebound South Puget Sound students by allowing them to complete a baccalaureate degree: by legislative mandate, over 70% of the approximately 2800 undergraduates at UW Tacoma are transfer students from community and technical colleges. Many of UW Tacoma's students are non-traditional: a significant number are first-generation college students (52% as of Winter 2011) and/or active duty military, veterans, or military families (19% as of Winter 2011). Over 72% of UW Tacoma's graduating seniors surveyed in 2011 reported receiving some form of financial aid. Enrollment at UW Tacoma is growing at a rate of nearly 10% per year (headcount), compared to roughly 1% at the UW Seattle campus.

UW Tacoma houses undergraduate programs in Interdisciplinary Arts and Sciences, Urban Studies, Nursing, Education, Institute of Technology, Social Work, and the School of Business. In addition, there are nine masters programs and one EdD program in Educational Leadership. Undergraduate science and mathematics are taught primarily in the context of two programs at UW Tacoma: Interdisciplinary Arts and Sciences and the Institute of Technology. The majority of UW Tacoma students are enrolled in the Interdisciplinary Arts and Sciences (IAS) Program. This program offers an interdisciplinary curriculum that encompasses the humanities, social science, science, and mathematics degrees. In IAS, quantitative courses in science and mathematics are taught under the umbrella of the Environmental Science and Studies degree programs. These programs house and require most of the quantitative curriculum, especially at the lower division. Math and science courses in the environmental program serve engineering and computer science students in the Institute of Technology, students in the Milgard School of Business, and students with pre-medical, dental, and other health-related intentions. Year long series of calculus, biology, chemistry, and physics courses are offered as well as pre-calculus and upper-division courses in the math curriculum (e.g. discrete mathematics, matrix algebra, real analysis, differential equations). A substantial number of entering students who do not place into precalculus on an entrance exam are required to take an algebra course. One course, Analytical Thinking, is designed as a quantitative reasoning course for students whose programs of study do not require specific quantitative courses.

In addition to the lower division quantitative courses described here, IAS faculty, as part of UW Tacoma's Office of Undergraduate Education (OUE), also have primary oversight over the freshman core curriculum. The core courses are a set of skills-based courses that all first-year students are required to take. OUE is in the process of implementing a set of learning objectives related to QL (consistent with the AACU definition used here) in the core courses.

Quantitative skills and reasoning are taught at UW Tacoma mainly in the context of individual courses with a "QSR" (quantitative and symbolic reasoning) designation. There is currently only anecdotal evidence of the extent to which students and faculty perceive QSR to be a discipline separate from their own. However, the structure of the university's graduation requirements (one course with a QSR designation) and the prevalence of majors that require limited numbers of QSR courses suggest that quantitative literacy is not considered integral to most disciplines. For

example, the Interdisciplinary Arts and Sciences Program (IAS), the largest program on campus, houses 11 major fields of study; of these, 5 specifically require quantitative coursework, and only 3 have student learning outcomes that mention quantitative reasoning. The largest major in IAS, psychology, requires two quantitative courses. Of the 42 courses offered in psychology, three have quantitative prerequisites. We intend this example to illustrate the typical approach to quantitative literacy on the UW Tacoma campus, not to indicate any deficiency in the psychology major. Indeed, many STEM courses on campus have limited quantitative prerequisites. We see these aspects of the curriculum as an opportunity to engage students in quantitative thinking in courses outside the normal QSR or mathematics and statistics track.

An approach based on quantitative literacy across the curriculum has transformative potential at UW Tacoma. Discussions with faculty teaching courses that require calculus or statistics, and a set of informal diagnostic tests by two of the Co-PIs on this project (J. Eaton and C. Stanich, along with Sarah Keller, UW Seattle Chemistry) suggest that a substantial number of undergraduates have trouble with basic benchmarks of quantitative reasoning: graph interpretation, interpreting statistics, and engaging in complex problem solving. There are a variety of possible impediments to students' quantitative literacy at UW Tacoma, many of which are institutional. Because UW Tacoma's non-traditional students can take varied pathways to their degrees (including long gaps between courses and few course sequences), QSR courses and quantitative ideas in general are often not scaffolded. If a student's only exposure to quantitative ideas is in the single QSR course required for graduation, it is impossible to scaffold that student's understanding of quantitative ideas in any meaningful way. In addition, the perception that quantitative courses are a separate discipline may lead some faculty members to avoid quantitative topics in courses where quantitative reasoning could give students a richer learning experience. This may be because many faculty, who are by training specialists are unprepared to add new approaches from outside their disciplines to their courses (Bloss, Hanstedt, and Kirby 2010), either because of the additional work involved or because of a lack of familiarity or an apprehensiveness about mathematics (e.g. Hembree 1990). Quantitative literacy programs at other institutions have encountered a similar barrier (e.g. Wilder 2010).

Fundamentally, because UW Tacoma is a young but rapidly growing institution, faculty have not yet systematically designed a structure in which to introduce QL to students. The project we propose would allow faculty to plan exactly such a structure. A cross-curricular approach would give students more opportunities to engage with quantitative topics, and would support faculty in teaching QL, thus overcoming many of the barriers discussed here. Courses would have to be chosen appropriately, and a significant amount of planning is necessary in order to support the skills transfer and scaffolding necessary to allow students to develop their quantitative skills in a meaningful way as they progress along varied pathways to graduation. Nonetheless, the approach is consistent with UW Tacoma's interdisciplinary vision, especially within the freshman core. UW Tacoma's tradition of student-centered educational practice and its active Teaching and Learning Center also make the campus well suited to a cross-curricular QL program. Finally, the program would be implemented at a potentially transformative time for UW Tacoma: rapid growth has caused faculty leadership in the Interdisciplinary Arts and Sciences Program to investigate becoming a School or College of Interdisciplinary Arts and Sciences.

Models of QL Instruction

With the increasing attention to QL as a required competency for college graduates, a number of institutions have implemented and assessed QL-across-the-curriculum programs (Gillman 2012). The following section describes three examples of cross-curricular QL programs that have served as models for our own. Much of this information is contained in the programs' websites in addition to Gilman (2012).

Carleton College in Northfield, MN, has a quantitative literacy program called the Quantitative Inquiry, Reasoning, and Knowledge (QuIRK) Initiative (see e.g. Grawe 2012). The purpose of the QuIRK Initiative is to help institutions better prepare students to critically evaluate and use quantitative reasoning in writing. The initiative follows an iterative model for developing curriculum

via a rubric designed to measure student writing, which is then assessed for how quantitative reasoning is used in the development, evaluation and presentation of principled argument. This assessment informs professional development for faculty, who engage in curricular reform. These reforms are then measured through student writing.

Bowdoin College in Brunswick, ME, established their Quantitative Reasoning Program in 1996. The program focuses on developing students' understanding and application of mathematical, logical, and statistical skills through a support network. This network starts with a quantitative reasoning test administered during the first-year student orientation. This test measures student proficiencies in computation and estimation, probability and statistics, graphical analysis, and logic/reasoning. The results are then shared with academic advisors, who inform students of their results and help them focus on strengthening deficient areas. The program also supports faculty in developing quantitative courses. Each quantitative course is assigned a tutor, who leads weekly study group sessions, exam review sessions, develops student studying strategies, and possibly individual tutoring. Some quantitative courses are also supported by workshops that focus on the specific quantitative techniques that will be used in the upcoming class.

Wellesley College in Wellesley, MA, also has a Quantitative Reasoning Program to support the Quantitative Reasoning (QR) requirement for graduation. The basic quantitative reasoning skills of incoming freshmen are similarly measured by a QR assessment given during orientation. Deficiencies in quantitative requirements are then fulfilled by students in their first year by taking fundamental (transitional) mathematics courses. While students take discipline-specific courses with quantitative emphasis, they are supported by "QR overlay courses", which help students understand how data is collected, analyzed, and presented in that discipline. Faculty are supported by the QR Program through administration of the QR assessment, staffing the basic QR and QR overlay courses, and assists in development of existing or new courses with quantitative emphasis.

At the University of Washington Bothell, the Quantitative Skill Center serves as the campus focal point for academic support in quantitative areas. In addition to a Director and Center Manager the Center hires and coordinates student tutors for a wide range of quantitative skills (with tutoring focusing on specific subjects). It is the one place on campus students know they can go to study, form study groups, access quantitative software, and obtain help. The Center also provides resources for faculty, such as equipment, workshops, and class presentations, to help them integrate quantitative reasoning into a broader range of classes. For both students and faculty it provides a clearinghouse of videos, readings, links, etc. to facilitate the teaching and learning of quantitative reasoning.

Several key features are common to the four programs described here. Of particular note is the interdisciplinary nature of QL. Although quantitative literacy (abbreviated "QL") efforts are led by mathematics faculty in some of the examples, the context in which QL is applied is discipline-specific (Wiggins 2003). Indeed, students in all three programs are not specifically from the STEM disciplines, and "quantitative skills" in the traditional sense are not the only emphasis of the programs listed here. Because it crosses boundaries between mathematics and other disciplines, QL may therefore be best described as cross-disciplinary or interdisciplinary (National Academies et al. 2005). UW Tacoma's values include interdisciplinary research and teaching, so the programs described here are particularly appropriate.

Two of the programs described here provide resources for both QL *instruction* and co-curricular *support*, with the latter usually in the form of a learning community. Bowdoin's program is particularly noteworthy in this respect: its support involves student peer-instruction, a technique demonstrated to be effective in several disciplines (see below). Support for faculty in QL course development is also essential (N. Grawe, pers. comm., 2012). Student and faculty support structures (learning communities) have been used successfully at UW Tacoma, including peer-led tutorials in computer science (Chinn 2007) and faculty learning communities in writing and online teaching.

Finally, all four programs have a strong assessment component, including both formative and summative assessment. In the Carleton example, faculty assess the effectiveness of their quantitative reasoning instruction by evaluating written work. This model has been successfully adapted elsewhere (Boersma and Klyve 2013). Formative assessments, including Bowdoin's QL test, help shape instruction on an ongoing basis. UW Tacoma has a writing across the curriculum program with broad support, and we hope to adapt the written assessment strategy here. However, ongoing formative assessment, possibly using QL tests like those at Bowdoin and Wellesley, will also be essential in directing course design efforts.

Proposed Work

We intend to change the culture associated with QL instruction on the UW Tacoma campus by implementing two tested approaches: developing collaborative student learning communities outside the classroom, and supporting faculty in promoting active use of quantitative reasoning in the classroom. Though both aspects of the program cross disciplinary boundaries, the program has significant overlap with discipline-based research in teaching, and draws on research-based educational practices within the affected disciplines (e.g. those discussed in Fairweather 2008). Implementation of these campus-wide changes will be planned and assessed in consultation with a group of experts from institutions with specific experience in QL instruction. The funds requested here would support one year of planning and a one-year pilot program. The pilot program is targeted at improving both STEM and non-STEM education.

Specifically, the program will begin with a 3-day meeting, intended to gather campus stakeholders (personnel in Table 3, along with representatives from all academic units, Teaching and Learning Center staff, and administration) and outside experts. This will initiate the planning aspect of this project, which will involve collecting survey data about faculty attitudes and instructional practices related to QL, and about student quantitative skills and experiences with and attitudes toward QL. Because our program is designed with the Henderson and Dancy (2007) model in mind (see *Theory of Change in Instructional Practice* above), it is important to evaluate the attitude of faculty toward QL as well as toward research-based teaching practices. The surveys will be designed in consultation with faculty from other institutions who have had experience developing quantitative literacy programs (Table 2) as well as with representatives from all academic units on campus. Survey instruments will be adapted from published work, for example the Beliefs about Reformed Science Teaching and Learning questionnaire for faculty attitudes toward instruction (Sampson, Enderle, and Grooms 2013), and the QR-9 assessment described by Sundre and Thelk (2010) to evaluate student quantitative reasoning.

Table 2: Key personnel and responsibilities.

<i>Key Personnel</i>	<i>Campus Unit</i>	<i>Main Responsibilities</i>
Selkin (PI)	Interdisciplinary Arts & Sciences (Geoscience/Physics)	Course redesign
Eaton (Co-PI)	Interdisciplinary Arts & Sciences (Mathematics)	Assessment
Dawson (Senior Personnel)	Interdisciplinary Arts & Sciences (Physics)	Collaborative learning
Wills (Co-PI)	Milgard School of Business (Economics)	Assessment
Stanich (Co-PI)	Interdisciplinary Arts & Sciences (Chemistry)	Course redesign
Aguirre (Co-PI)	Education	Course redesign
Elin Bjorling (Staff)	Nursing / Sponsored Research (Staff)	Program assessment

Table 3: Outside consultants and areas of expertise. Letters of support from all consultants except Bressoud are attached. Email from Bressoud is attached in place of a letter.

<i>Consultant</i>	<i>Expertise</i>
Eric Gaze (Bowdoin College)	Cross-Curricular QL programs; Promoting QL
David Bressoud (Macalester College)	Cross-Curricular QL programs
Stuart Boersma (Central Washington University)	Assessing QL
James Epperson (University of Texas at Arlington)	Collaborative learning
Donna Sundre (James Madison University)	Assessing QL

Information from the initial surveys and the outside consultants will guide the selection of faculty to participate in a series of six course design workshops over the summer of the grant's first year. For example, we plan to select faculty whose courses will have a large impact on student quantitative literacy, both in terms of numbers of students affected and in reaching segments of the student body whose scores on QL instruments can be improved. We also anticipate using faculty attitudes toward QL and toward research-based teaching techniques (see *Theory of Change* below) as selection criteria for the course design workshops. In the workshops, three two-member faculty working groups will focus on collaboratively redesigning courses so that students are introduced to quantitative thinking in ways consistent with educational research in each faculty member's discipline. Each faculty member will devise a plan for teaching QL-related ideas in one course. As part of the plan, working groups will identify data, teaching activities (beginning with available models), and other specific resources, required to implement their course redesign. The discipline-based aspects will necessarily correspond to the courses and focal areas of the faculty in the working groups. The working groups will pair faculty from non-quantitative backgrounds (primarily non-STEM faculty) with faculty with a stronger background in quantitative fields. This is intended not only to support faculty less comfortable with quantitative topics, but also to reinforce the idea that QL and quantitative reasoning are campus-wide learning objectives, and that QL instruction should be addressed in a deliberate way in all programs on campus. Redesigned courses will be piloted and evaluated during the second year of the grant.

Evaluation of the pilot program will build on a successful writing-across-the-curriculum effort on the UW Tacoma campus. Starting in 2007, Professor Emeritus Anne Beaufort has led groups of faculty (the Writing Fellows) through a structured set of workshops intended to foster writing instruction in disciplinary and interdisciplinary contexts. The result has been that many classes on campus require a substantial writing component. Furthermore, writing is already integrated into the institutional culture of assessment: for example, Interdisciplinary Arts and Sciences requires students to submit written work as part of a graduation portfolio. QL assessments based on written work (e.g. Grawe 2012; Boersma and Klyve 2013) would thus be appropriate to evaluate QL instruction at UW Tacoma.

In addition to the course design workshops, the program will develop student-facilitated collaborative learning sessions. Research has demonstrated that collaborative learning communities – peer-led group problem solving workshops – have a profound effect on student success in STEM education (Treisman 1992; Duncan and Dick 2000). Collaborative learning communities are exemplified by the Emerging Scholars program (UC Berkeley and U. Texas, Austin) in mathematics and the Peer-Led Team Learning approach in chemistry (e.g. Hockings, DeAngelis, and Frey 2008); the UW Tutorials in Introductory Physics (see McDermott 2001) are somewhat similar. During the pilot phase (second year) of our proposed program, courses selected for the course redesign workshop will be supported by a student facilitator. In addition, collaborative learning sessions will be piloted in three other courses (chosen using similar criteria to those used for the redesign workshops). Faculty from the working groups, overseen by the PIs and other key personnel, will help train the facilitators to lead group problem solving sessions associated with the redesigned courses. Significantly, peer-led collaborative learning

communities have been used on the UW Tacoma campus in support of courses in the Institute of Technology, and we intend to involve faculty who have overseen the Institute's collaborative learning environment in the planning and implementation of our program.

The quantitative working groups and collaborative learning spaces will be overseen by a group of faculty who are already active in QL issues on campus. In 2012, the UW Tacoma Faculty Assembly, the faculty governance body on campus, selected a group of five Quantitative Fellows to evaluate the teaching of QL across campus. The five Quantitative Fellows, along with several other faculty members from a variety of programs across campus, will oversee aspects of this program (Table 3). The administration on the UW Tacoma campus is supportive of a campus-wide QL initiative, and has expressed support for faculty involvement in such a program in an attached Letter of Commitment. Chancellor Debra Friedman and the UW Tacoma administration are particularly interested in the implications of this program for student retention.

Among the strengths of the proposed program are synergies with existing campus efforts. In addition to the Writing Fellows and Quantitative Fellows programs, campus groups have undertaken similar workshop-based efforts to support online instruction and research by early-career faculty. Student learning support systems on campus are spearheaded by the Teaching and Learning Center (TLC), which offers workshops on quantitative skills among other topics. In addition, an active pre-college bridge program is currently housed in Interdisciplinary Arts and Sciences. As mentioned above, faculty in the Institute of Technology have developed Treisman-type collaborative learning sessions for some of their quantitative-intensive courses. Faculty in the Environmental Science program (including C. Stanich and L. Dawson) are investigating similar peer-led tutorials in introductory science courses. The undergraduate core curriculum, a set of courses taken by all incoming first-year students, has identified a set of QL-related student learning outcomes, to be implemented starting this year. Finally, there is an active community involved in the scholarship of teaching and learning on campus, with faculty members involved in the scholarship of writing, natural science, and computer science instruction, among other fields. The PIs on this project plan to work most closely with the TLC and the Institute of Technology to develop the pilot collaborative learning program, and with faculty leaders in the instructional development and scholarship of teaching and learning workshops to plan the course redesign component of this project.

Theory of Change in Instructional Practice

Studies of individual faculty (Henderson and Dancy 2007) and meta-analyses (Fairweather 2008; Henderson, Beach, and Finkelstein 2011) suggest that faculty are aware of existing resources to support research-based teaching, but that barriers both at the individual and situational level prevent changes in instructional practice. Henderson and Dancy, in particular, propose a "toy model" to explain faculty reluctance to adopt non-traditional (including most research-based) teaching methods. The Henderson and Dancy model considers faculty mindsets about instruction ("traditional" vs. "alternative") in the context of their environment (which may also vary from "traditional" to "alternative"). Faculty whose individual conceptions favor research-based or alternative teaching practices may be prevented from adopting those practices if they are in a situation that implicitly or explicitly favors traditional instruction.

The Henderson and Dancy model of instructional change implies that most faculty may be convinced to adopt alternative teaching practices if such practices are valued and supported within the instructor's community. Based on their model, we intend to create a community of faculty and students who value and support research-based practice in teaching and learning QL. At least one participant in Henderson and Dancy's (2007) study specifically mentioned the importance of an initiative – in that case a departmental initiative – as a driver of changes in teaching practice. Indeed, interdisciplinary collaboration among faculty is common in both the conduct of discipline-based education research (DBER) and in the application of DBER in the classroom (National Research Council 2012).

We hypothesize that implementing a systematic and well-supported team-based approach to course redesign and student support will encourage research-based practices in QL across campus, and will ultimately have a measurable effect on the number of courses with a significant QL component on the UW Tacoma campus. We expect this to positively influence the quantitative literacy of UW Tacoma graduates. Besides piloting the approach to QL instruction that we describe here, we plan to assess its effectiveness both as a way to foster QL among students and to encourage faculty to be involved in QL teaching and learning.

Ultimately, we are interested in developing a campus-wide framework to support quantitative literacy, similar to QL efforts at other institutions described in the *Models of QL Instruction* above. We envision a faculty-led group (that includes staff, students, and administration) that supports and coordinates QL efforts across the curriculum. This planning grant would allow us to begin developing that group, and identifying the parts of the curriculum and student support community on campus where the group's support is most needed.

Timeline

We expect the planning, piloting, and assessment of our proposed work to fit within the two-year scope of WIDER planning proposals. The first year will be devoted in part to planning and baseline data collection. The second year will be mainly devoted to a pilot project and to assessment. The outline presented here is necessarily somewhat flexible: the project's kickoff meeting, intended to gather campus stakeholders and outside experts (Table 2), is intended to identify the most effective way to implement the course design and student support aspects of the project, and to determine the details of the assessment plan. A general timeline is presented in Table 4 to indicate the stages of the proposed project.

Table 4: Timeline for proposed work. Gray shading indicates time for each stage of project. Slashed pattern: if necessary.

	2014			2015			2016	
	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter (Spring)
Planning								
Kickoff Meeting	(April/May)							
Course Redesign Workshop								
Collaborative Learning Community Design								
Baseline assessments development								
Design assessments for redesigned courses								
Design assessments for collaborative learning communities								
Student training for collaborative learning communities								
Piloting								
Pilot redesigned courses								
Oversee collaborative learning communities								
Assessment								
Administer assessments (baseline and redesigned courses)								
Analyze assessment data								
Writing and dissemination of results								

Assessment Plan

Assessment of the project will be within the context of the logic model illustrated in Figure 1. The main outcomes we wish to achieve are:

1. Increased student engagement with quantitative literacy principles (as described in Table 1).
2. Increased implementation of quantitative literacy instruction.
3. Increased implementation of research-based teaching practices.
4. More favorable student and faculty attitudes toward quantitative ideas.

In addition, we hope to see the following outcomes, which are not specifically the purpose of this project:

5. Increased student retention in STEM courses.
6. Increased student participation in quantitative courses and STEM majors.

The details of the activities required to achieve and assess these outcomes will be designed in the planning stage of the project. Because we anticipate that the project will be repeated and possibly scaled up in the future, we intend for the project evaluation to inform revisions to the main activities (course design workshops and collaborative learning sessions). We also intend to use the data resulting from this project to support future proposals from sustainable sources of funding (i.e. sources not intended for planning).

We are requesting one staff member (Elin Bjorling) as an evaluator for this project. She will assist the team and the invited consultants in developing assessment measures. She will also assist in testing, and revising the summative and formative measures used with grant participants and students. She will manage and maintain data collected provide anonymized, aggregated data to the personnel.

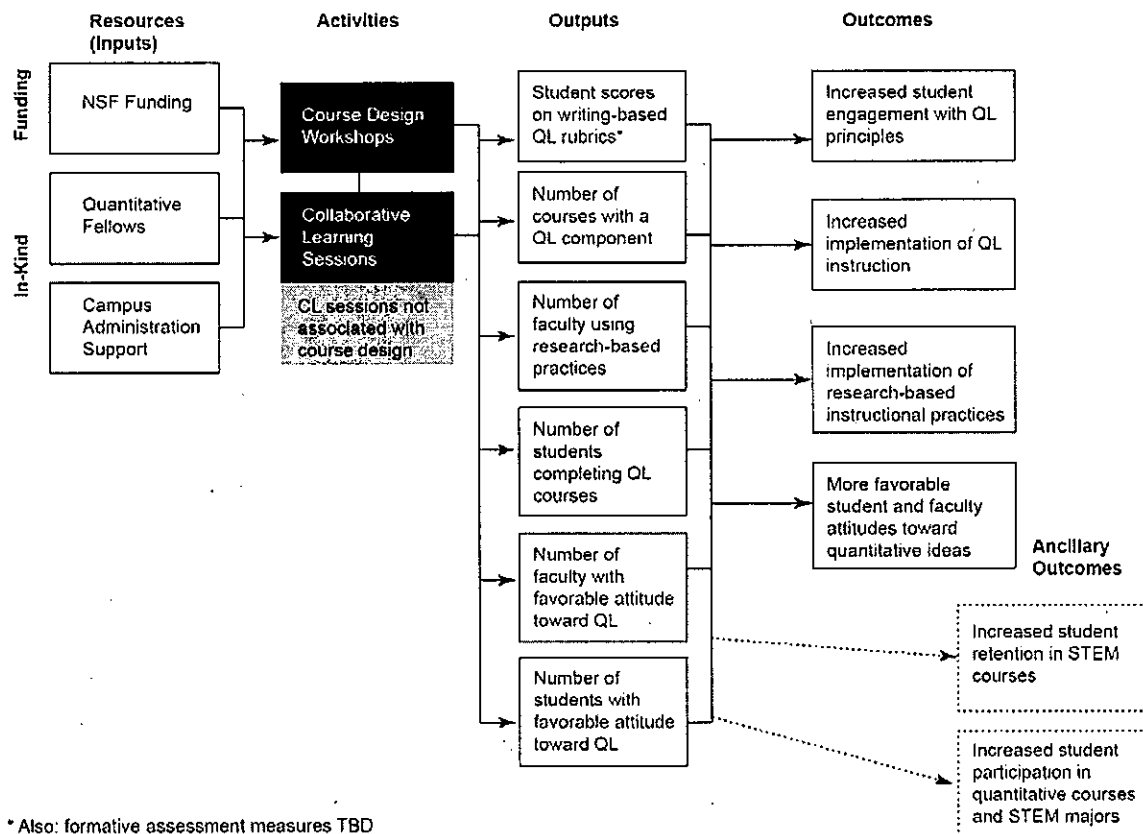
Human subjects approval for this project from the University of Washington's Institutional Review Board is pending. We will submit the required exemption request once the details of the assessment plan are decided at the kickoff meeting. We expect this project to be exempt from the human subjects approval process.

Formative Assessment

Formative assessment in this project will involve two parts: ongoing assessment of redesigned classes, workshops, and collaborative learning sessions, designed to give the PIs feedback on operation of the program; and assessment of students within the redesigned classes and collaborative learning sessions, designed to give participating faculty (and project PIs) feedback on the success of their instructional practices. For the program evaluation, we will solicit freeform feedback from participating faculty and students via the web (using UW's Catalyst survey system) during the planning phase of the project. Additional formative program assessment measures may be added during the kickoff meeting. For the student formative assessments, we will train faculty participants in the use of pre- and post-tests, ConcepTests (Mazur 1997), and other classroom formative assessment techniques. In addition, faculty will design questions to prompt the collaborative learning sessions. Information from these sessions (particularly participation) will be used to guide instructional practice. In the kickoff meeting, we will decide what, if any, of the classroom formative assessment data to collect.

Summative Assessment: Quantitative Writing

We plan to assess student adoption of quantitative "habits of mind" using the prompt-free assessment of Boersma and Klyve (2013). This assessment rubric requires written work from students in response to a writing prompt that is not obviously quantitative. In the course design workshops, faculty participants will need to design a writing assignment that can be used with the rubric. Quantitative writing will be assessed by the PIs along with Elin Bjorling and guided by a subset (to be determined) of the invited consultants.



Context: Number of entering students, number of entering STEM majors, student quantitative preparation (HS and CC), pre-existing attitudes of students, pre-existing attitudes and preparation of faculty, other collaborative learning efforts in STEM courses, writing across the curriculum efforts, Teaching and Learning Center Support, bridge program

Figure 1: Logic model for proposed quantitative literacy improvement project at UW Tacoma.

Broader Impact

The impacts of this project on the UW Tacoma campus will be larger than the ~180 students (6 classes of ~30 students) directly affected by the redesigned courses. First, this project comprises the planning and piloting stages of an ongoing, organized quantitative literacy effort on the UW Tacoma campus. The main focus of the effort is in three areas of STEM on campus: the environmental program, which is in the process of implementing a quantitatively rigorous MS program in Environmental Science; mathematics, which recently began offering a mathematics minor; and the Institute of Technology, which pioneered collaborative learning communities on campus for quantitatively intensive courses. By increasing participation in QL, we expect to lower some of the barriers to participating in STEM majors, particularly among non-traditional students. Systematically introducing quantitative thinking in non-STEM courses should lessen the effect of the long gaps between quantitative courses experienced by many returning students. We hope to introduce students to quantitative thinking beginning in the freshman core and continuing up to graduation. In addition, we expect the synergies between the program proposed here and programs designed to foster the participation of underrepresented groups at UW Tacoma (in particular, the pre-college summer bridge program) to increase the participation of underrepresented minorities in STEM fields.

Products from the proposed QL program – course materials, results of assessment, and summary publications – will be distributed both on the UW Tacoma campus and more broadly. We will make course materials designed through this program available along with implementation guides through the UW Tacoma Quantitative Fellows website as well as under

the auspices of the Teaching and Learning Center. We plan to link these resources with other repositories such as the Science Education Resource Center (Carleton College) and the Social Science Data Analysis Network (U. Michigan). We plan to publish the results of this work in the peer-reviewed literature. We anticipate at least one paper focusing on faculty participation in QL instruction, and another focusing on improving student QL in an interdisciplinary context. In addition, we expect to present results of the pilot project at the 2016 Transforming Research in Undergraduate STEM Education (TRUSE) conference. The TRUSE conference is also an excellent forum to solicit feedback we would need to revise and scale up the project.

We also anticipate that this project will have several impacts beyond the UW Tacoma campus. Principally, the Quantitative Fellows initiated a series of meetings with local community college faculty and student support staff intended to foster the transfer of ideas about QL instruction between community colleges and UW Tacoma. We plan to share the progress and results of this project at such meetings, as well as with colleagues at the main UW (Seattle) campus. Along with efforts to establish student-facilitated tutorials in biology on the Seattle campus, a long-standing tutorial program in physics at UW Seattle, and QL and Modeling Physics programs at the UW Bothell campus, we believe our work is part of a UW-wide trend toward research-based teaching in quantitative and STEM fields.

Finally, we envision the QL effort at UW Tacoma as a model for QL groups at other public four-year institutions. Most of the well-known QL-across-the-curriculum centers are housed at private colleges. Enrollment at public colleges is greater, however, so that changing QL teaching and learning at public colleges would have a greater effect on the pool of college graduates. Although our project would need to be responsive to the diverse pathways that our students take to their degrees, those pathways are representative of those at other state four-year schools. For example, UW Tacoma's large population of transfer students is no longer unusual: in 2010-11, 45% of students nationwide had enrolled in a two-year college before enrolling in a four-year school (National Student Clearinghouse Research Center 2012). Our outreach efforts at the TRUSE meetings and at local colleges, as well as the website we plan to construct through this project, will allow UW Tacoma to become a resource for other public colleges developing quantitative literacy programs.

Results of Prior NSF Support

J. Aguirre

Teachers Empowered to Advance Change in Mathematics (TEACH MATH)

NSF ID: DRL-1228034

Amount: \$3,497,467

Period: 9/1/2010 to 8/31/2015

Intellectual Merit: The TEACH MATH (Teachers Empowered to Advance Change in Mathematics) project investigates the development of teacher knowledge and practices to connect mathematics, student mathematical thinking, and student out-of-school knowledge, in order to develop training programs that prepare pre-service K-12 teachers for a diversity of mathematics students. Among Aguirre's contributions to the work is the focus on culturally responsive mathematics pedagogy.

Broader Impact: The study will directly impact K-12 teacher preparation through the development of modules designed to bridge the three areas of thinking described above. Publications (e.g. Aguirre, Zavala, & Katanyoutanant, 2012) address specific applications of the study's findings to research on teacher preparation and teaching.

Publications:

Aguirre, J.M., Zavala, M. & Katanyoutanant, T. (2012). Developing robust forms of pre-service teachers' pedagogical content knowledge through culturally responsive mathematics teaching analysis. *Mathematics Teacher Education and Development*, 14(2), 113-136.

Aguirre, J.M., Turner, E., Bartell, T. G., Drake, C., Foote, M. Q., & Roth McDuffie, A. (2012). Analyzing effective mathematics lessons for English learners: A multiple mathematical lens approach. In S. Celedón-Pattichis & N. Ramirez (Eds.), *Beyond good teaching: Advancing Mathematics Education for ELLs*. pp. 207-222. Reston, VA: National Council of Teachers of Mathematics.

Aguirre, J.M., Turner, E.E., Bartell, T., Kalinec-Craig, C., Foote, M.Q., Roth McDuffie, A., & Drake, C. (2012) Making connections in practice: How prospective elementary teachers connect children's mathematics thinking and community funds of knowledge in mathematics instruction. *Journal of Teacher Education*, 64(2), 178-192.
<http://jte.sagepub.com/content/early/2012/12/05/0022487112466900>.

Turner, E. E., Drake, C., Roth McDuffie, A., Aguirre, J. M., Bartell, T. G., & Foote, M. Q. (2012). Promoting equity in mathematics teacher preparation: A framework for advancing teacher learning of children's multiple mathematics knowledge bases. *Journal of Mathematics Teacher Education*, 15(1), 67-82. doi: 10.1007/s10857-011-9196-6.

References

- Association of American Colleges and Universities. 2009. Assessing learning outcomes: Lessons from AAC&U's VALUE project. Available from: http://www.aacu.org/peerreview/pr-wi09/pr-wi09_index.cfm
- Bloss A, Hanstedt P, Kirby S. 2010. Creating a Culture of Integrative Faculty Development. *Lib. Educ.* 96:12–17.
- Boersma S, Klyve D. 2013. Measuring Habits of Mind: Toward a Prompt-less Instrument for Assessing Quantitative Literacy. *Numeracy [Internet]* 6. Available from: <http://scholarcommons.usf.edu/numeracy/vol6/iss1/art6/>
- Chinn D. 2007. Treisman workshops for computer science. *J Comput Small Coll* 23:67–68.
- Duncan H, Dick T. 2000. Collaborative Workshops and Student Academic Performance in Introductory College Mathematics Courses: A Study of a Treisman Model Math Excel Program. *Sch. Sci. Math.* 100:365–73.
- Fairweather J. 2008. Linking evidence and promising practices in science, technology, engineering, and mathematics (STEM) undergraduate education: A status report for the National Academies National Research Council Board on Science Education. In: Washington, DC: National Academies Press. Available from: http://www7.nationalacademies.org/bose/Fairweather_CommissionedPaper.pdf
- Gillman R. 2012. Current practices in quantitative literacy. [Washington, DC]: MAA, Mathematical Association of America Available from: <http://dx.doi.org/10.5948/UPO9780883859780>
- Grawe ND. 2012. Achieving a Quantitatively Literate Citizenry: Resources and Community to Support National Change. *Lib. Educ.* 98:30–35.
- Hembree R. 1990. The Nature, Effects, and Relief of Mathematics Anxiety. *J. Res. Math. Educ.* 21:33–46.
- Henderson C, Beach A, Finkelstein N. 2011. Facilitating change in undergraduate STEM instructional practices: An analytic review of the literature. *J. Res. Sci. Teach.* 48:952–984.
- Henderson C, Dancy M. 2007. Barriers to the use of research-based instructional strategies: The influence of both individual and situational characteristics. *Phys. Rev. Spec. Top. - Phys. Educ. Res. [Internet]* 3. Available from: <http://link.aps.org/doi/10.1103/PhysRevSTPER.3.020102>
- Hockings SC, DeAngelis KJ, Frey RF. 2008. Peer-Led Team Learning in General Chemistry: Implementation and Evaluation. *J. Chem. Educ.* 85:990.
- Mazur E. 1997. *Peer instruction: a user's manual*. Upper Saddle River, N.J.: Prentice Hall
- McDermott LC. 2001. Oersted Medal Lecture 2001: "Physics Education Research—The Key to Student Learning." *Am. J. Phys.* 69:1127.
- National Academies, National Academy of Sciences (U.S.), National Academy of Engineering, Institute of Medicine (U.S.). 2005. *Facilitating interdisciplinary research*. Washington, D.C: The National Academies Press
- National Research Council. 2012. *Discipline-based education research: understanding and improving learning in undergraduate science and engineering*.

National Student Clearinghouse Research Center. 2012. Snapshot Report: Mobility. Available from: <http://www.studentclearinghouse.info/snapshot/docs/SnapshotReport6-TwoYearContributions.pdf>

Sampson V, Enderle P, Grooms J. 2013. Development and Initial Validation of the Beliefs About Reformed Science Teaching and Learning (BARSTL) Questionnaire. *Sch. Sci. Math.* 113:3–15.

Steen LA ed. 2001. *Mathematics and democracy: the case for quantitative literacy*. Princeton, N.J.: NCED

Sundre D, Theik A. 2010. Advancing Assessment of Quantitative and Scientific Reasoning. Numeracy [Internet] 3. Available from: <http://scholarcommons.usf.edu/numeracy/vol3/iss2/art2/>

Treisman U. 1992. Studying Students Studying Calculus: A Look at the Lives of Minority Mathematics Students in College. *Coll. Math. J.* 23:362–372.

Wenner JM, Burn HE, Baer EM. 2011. The Math You Need, when You Need It: Online Modules that Remediate Mathematical Skills in Introductory Geoscience Courses. *J. Coll. Sci. Teach.* 41:16–24.

Wiggins G. 2003. "Get Real!" Assessing for Quantitative Literacy. In: Madison BL, Steen LA, editors. *Quantitative literacy: why numeracy matters for schools and colleges*. National Council on Education and the Disciplines. pp. 121–143.

Wilder EI. 2009. Responding to the Quantitative Literacy Gap Among Students in Sociology Courses. *Teach. Sociol.* 37:151–170.

Wilder EI. 2010. A Qualitative Assessment of Efforts to Integrate Data Analysis throughout the Sociology Curriculum: Feedback from Students, Faculty, and Alumni. *Teach. Sociol.* 38:226–246.

Biographical Sketch: Peter A. Selkin

University of Washington, Tacoma
Interdisciplinary Arts and Sciences, Environmental Program
1900 Commerce Street, Box 358436, Tacoma, WA 98402
Telephone: +1 253 692-5819
Email: paselkin@u.washington.edu

A. Professional Preparation

Amherst College	B.A. in Geology, <i>magna cum laude</i> with departmental honors	1997
Scripps Institution of Oceanography, UC San Diego	Ph.D. in Earth Sciences	2003
Scripps Institution of Oceanography, UC San Diego	Postdoctoral research in paleomagnetism	2003-2004

B. Appointments

September 2008-Present	<i>Assistant Professor</i> , Environmental Program, Interdisciplinary Arts and Sciences, UW Tacoma
September 2006 – September 2008	<i>Lecturer</i> , Interdisciplinary Arts and Sciences, UW Tacoma
September 2004 – June 2006	<i>Assistant Professor</i> , Department of Physical and Earth Sciences, San Diego City College
September 2003 – September 2004	<i>Lecturer</i> , Earth Science Program / Scripps Institution of Oceanography, University of California San Diego

C. Publications (* Undergraduate Students)

i. Pertinent Publications

- 1) **P.A. Selkin**, J.S. Gee, and W.P. Meurer. "Magnetic Anisotropy as a Tracer of Crystal Accumulation and Transport, Middle Banded Series, Stillwater Complex, MT," submitted to *Tectonophysics*, **2013**.
- 2) **P.A. Selkin**, J.D. Story*, and M.P. Cole*. "Magnetic properties as a proxy for airborne smelter dust contamination, Tacoma, WA," *Geol. Soc. Am. Abstracts with Programs*, **2011**, 43(5): 284.
- 3) **P.A. Selkin**, J.S. Gee, W.P. Meurer, and S. Hemming. "Archean Palaeointensities from the 2.7 Ga Stillwater Complex, MT," *Geochem., Geophys., Geosyst.*, **2008**, 9, doi:/10.1029/2008GC001950.
- 4) **P.A. Selkin**, J.S. Gee, and L. Tauxe. "Nonlinear Thermoremanence Acquisition and Implications for Paleointensity Data," *Earth Planet. Sci. Lett.* **2007**, 256, 81-89.
- 5) Becker, B.J., and **P.A. Selkin**. "Marine Reserve Design: Simulating stakeholder options," *Teaching Issues and Experiments in Ecology* [online], **2008**, 6, Expt. 3.

ii. Other Publications

- 1) J.S. Gee, W.P. Meurer, **P.A. Selkin**, and M.J. Cheadle. "Quantifying three-dimensional silicate fabrics in cumulates using cumulative distribution functions," *J. Petrol.*, **2005**, 45, 1983-2009.
- 2) **P.A. Selkin**. *Archean Paleointensity from Layered Intrusions*. **2003**. University of California, San Diego, La Jolla, CA. 310 pp.
- 3) **P.A. Selkin**, J.S. Gee, L. Tauxe, W.P. Meurer, and A.J. Newell. "The Effect of Remanence Anisotropy on Paleointensity Estimates: A Case Study from the Archean Stillwater Complex," *Earth Planet. Sci. Lett.*, **2000**, 183, 403-416.

- 4) **P.A. Selkin** and L. Tauxe. "Long-Term trends in Paleointensity," *Proc. Roy. So. Lond. A.* **2000**, 358, 1065-1088.

D. Synergistic Activities

i) Professional Interests

- Paleomagnetic constraints on long-term geodynamo evolution
- Rock magnetic tools for petrofabric analysis
- Environmental magnetism of windblown sediments
- Using virtual globes and interactive engagement to teach geoscientific thinking

ii) Educational and Research Accomplishments

- Developing module on plate boundary hazards and risks, InTeGrate project (Carleton College NSF STEP Center).
- Led workshops on Google Earth for geoscience teachers at 2011 Geological Society of America meeting (sponsor: NAGT), 2010 Cyberinfrastructure Summer Institute for Geoscientists (San Diego, CA), and 2010 Bay-Watershed Education and Training (Foss Waterway Seaport / NOAA, Tacoma, WA).
- Developed and currently teaching introductory physics curriculum at UW Tacoma.
- Developed earth materials courses for UW Tacoma environmental science undergraduate program.
- Represented science in UW Tacoma general education core sequence, 2006-2008
- Co-chair, Topical and Pardee keynote sessions on "Digital Innovations in Geoscience Research Education, and Outreach," GSA 2009 Annual Meeting

iii) Funded Grants

- "Magnetic and Mineralogical Characterization of Tacoma Smelter Emissions." UW Royalty Research Fund. \$33,261.
- "Testing the Fidelity of Geological Magnetic Records: Origin of Magnetic Iron Oxides in Plagioclase." UW Tacoma Chancellor's Fund for Research and Scholarship. \$2,872.

iv) Undergraduate Research at UWT

- Supervised four undergraduate interns (USGS, City of Kent, WA, UW Tacoma, WA Stormwater Center).
- Mentored six undergraduate research students, including one lab project at the Institute for Rock Magnetism. Co-advised seven additional students (with Dr. Sian Davies-Vollum and Dr. Lee C. West).

E. Collaborators & Other Affiliations

i) Collaborators (Past 5 Years)

Bonnie J. Becker (UW Tacoma), K. Sian Davies-Vollum (UW Tacoma), Peter Davis (Pac Lutheran U), Declan De Paor (ODU), Jeffrey S. Gee (SIO), Laurel Goodell (Princeton), Bernie A. Housen (Western Washington U), Justin Lytle (Pac Lutheran U), Jean MacGregor (The Evergreen State College), William P. Meurer (Exxon-Mobil), Lisa Tauxe (SIO), Rachel Teasdale (CSU Chico)

ii) Graduate Advisors & Postdoctoral Sponsors

- Ph.D. Advisor: Jeffrey S. Gee, Scripps Institution of Oceanography, University of California, San Diego; La Jolla, CA.
- Ph.D. Advisor and Postdoctoral Sponsor: Lisa Tauxe, Scripps Institution of Oceanography, University of California, San Diego; La Jolla, CA.

Biographical Sketch: Julia Aguirre

University of Washington, Tacoma Email: jaguirre@u.washington.edu
Education Program, Box 358435 Phone: (253) 692-4820
1900 Commerce Street Fax: (253) 692-5612
Tacoma, WA 98402

(a) Professional Preparation

University of California at Berkeley	Psychology	Bachelors of Arts, 1989
University of Chicago	Education	Masters of Arts, 1993
University of California at Berkeley	Education	Ph.D., 2002

(b) Appointments

Associate Professor, University of Washington, Tacoma, *Effective September 2013*
Assistant Professor, tenure-track, University of Washington Tacoma, 2007-present.
Assistant Professor, tenure-track, University of California Santa Cruz, 2003-2007.
Acting Assistant Professor, tenure-track, University of California Santa Cruz, 2001-2002

(c) Publications

Five Publications Most Closely Related to the Proposed Project

Aguirre, J.M. Mayfield-Ingram, K., & Martin, D. (2013). *The Impact of Identity in K-8 Mathematics Learning and Teaching: Rethinking Equity-based Practices*. Reston, VA: National Council of Teachers of Mathematics

Aguirre, J. M., Zavala, M. (2013). Making culturally responsive mathematics teaching explicit: a lesson analysis tool, *Pedagogies: An International Journal*, 8(2), pp. 163-190.
DOI:10.1080/1554480X.2013.768518.

Aguirre, J.M., Zavala, M. & Katanyoutanant, T. (2012). Developing robust forms of pre-service teachers' pedagogical content knowledge through culturally responsive mathematics teaching analysis. *Mathematics Teacher Education and Development*, 14(2), 113-136.

Aguirre, J.M., Turner, E.E., Bartell, T., Kalinec-Craig, C., Foote, M.Q., Roth McDuffie, A., & Drake, C. (2012) Making connections in practice: How prospective elementary teachers connect children's mathematics thinking and community funds of knowledge in mathematics instruction. *Journal of Teacher Education*, 64(2), 178-192. <http://jte.sagepub.com/content/early/2012/12/05/0022487112466900>.

Aguirre, J. (2009) Teacher domain-specific beliefs and their impact on mathematics education reform. In Jürgen Maaß and Wolfgang Schlöglmann (Eds.). *Beliefs and Attitudes in Mathematics Education: New research results*. pp.45-58. Rotterdam: Sense Publishers.

Additional Related Publications

Aguirre, J.M. & Zavala, M. (2013). When equal isn't fair. In E. Gutstein & B. Peterson. *Rethinking mathematics: Teaching social justice by the numbers*. pp. 115-121. Milwaukee, WI: Rethinking Schools, Ltd.

Aguirre, J.M., Turner, E., Bartell, T. G., Drake, C., Foote, M. Q., & Roth McDuffie, A. (2012). Analyzing effective mathematics lessons for English learners: A multiple mathematical lens approach. In S. Celedón-Pattichis & N. Ramirez (Eds.), *Beyond good teaching: Advancing Mathematics Education for ELLs*. pp. 207-222. Reston, VA: National Council of Teachers of Mathematics.

Aguirre, J. (2009) Privileging mathematics and equity in teacher education: Framework, counter-resistance strategies and reflections from a Latina mathematics educator. In B. Greer, S. Mukhopadhyay, S. Nelson-Barber, and A. Powell (Eds). *Culturally Responsive Mathematics Education*. pp. 295-319. New York: Routledge.

Turner, E. E., Drake, C., Roth McDuffie, A., Aguirre, J. M., Bartell, T. G., & Foote, M. Q. (2012). Promoting equity in mathematics teacher preparation: A framework for advancing teacher learning of children's multiple mathematics knowledge bases. *Journal of Mathematics Teacher Education*, 15(1), 67-82. doi: 10.1007/s10857-011-9196-6.

(d) Synergistic Activities

Innovations in teaching & teacher development. My research and professional work critically examines teacher education and development of k-12 mathematics teachers with a special focus on how teachers attend to mathematics, student mathematical thinking and out-of-school knowledge and experiences to positively impact student math identity and learning. Currently my work with the TEACH MATH project (Teachers Empowered to Advance Change in Mathematics) investigates how math methods contexts that explicitly connect these three constructs support teacher development and sustainment in the profession and supports STEM learning of youth (Aguirre et al, 2013; Turner et al, 2012; Aguirre et al, 2012). This work includes examination of how teachers develop culturally responsive mathematics pedagogy to create an inclusive and rigorous learning environment (Aguirre & Zavala, 2013; Aguirre, Zavala & Katayoutanant, 2012).

Through my work with the Center for the Mathematics Education of Latinos/as (CEMELA), I have designed and implemented numerous professional development activities with mathematician colleagues that explicitly focus on the role language and culture play in mathematics instruction for English learners and Latino/a students. These activities have been utilized in professional development settings in California, Arizona, New Mexico, Wisconsin, and Washington State.

Program Development – Pipeline to STEM-Teacher Education. Currently we are building a STEM-focused secondary teacher education program that builds on the secondary science program offered at UWT. I have collaborated with education, mathematics and science faculty to develop a secondary mathematics teaching credential program as part of our secondary offerings. Next year we will launch a 5th year program that will allow undergraduates to take courses that will fulfill teacher credential requirements with a special focus on recruitment of mathematics and science-based majors. In addition I have taught in the general core classes a course called mathematics, power and society. This course is to generate early interest in mathematics, STEM-education, and mathematics teaching.

Broadening the participation of groups underrepresented in STEM fields. Given the serious underrepresentation of scholars of color in STEM fields, I have committed myself to develop networks and pathways to help increase scholar diversity in STEM with a special focus on mathematics education. This includes working as a co-PI and affiliated faculty for the Center for Mathematics Education of Latinos/as to attract, mentor, and develop doctoral students of color to pursue research in mathematics education that integrates mathematics learning and teaching, language and culture. In addition, I have collaborated with the Society for the Advancement of Chicanos, Latinos, and Native Americans in Science (SACNAS) for the past five years to organize scientific symposia on mathematics education research, professional development activities with mathematicians, and mentoring activities for undergraduates and graduate students interested in mathematics education research and scholarship.

(e) Collaborators & Other Affiliations

Collaborators: Betty Achinstein (University of California Santa Cruz), Tonya Bartell (Michigan State University), George Bunch (University of California Santa Cruz), Marta Civil (University of Arizona), Sylvia Celedón-Pattichis (University of New Mexico), Corey Drake (Michigan State University), Mary Foote (Queens College- CUNY), Eric Gutstein (University of Illinois, Chicago), Rochelle Gutiérrez (University of Illinois Urbana-Champaign), Lena Licón Khisty (University of Illinois, Chicago), Richard Kitchen (University of Denver), Danny Martin (University of Illinois, Chicago), Amy Roth McDuffie (Washington State University Tri Cities), Meg Meyer (University of Wisconsin, Madison); Luis Moll (University of Arizona), Judit Moschkovich (University of California Santa Cruz), Kip Téllez (University of California Santa Cruz), Erin Turner (University of Arizona)

Graduate Advisor: Alan Schoenfeld (University of California at Berkeley)

Total graduate students advised (including master degrees): 51

Julia Ruth Eaton (Julie Eaton)
University of Washington Tacoma
Interdisciplinary Arts and Sciences
Box 358436
1900 Commerce Street
Tacoma, WA 98402
Phone: (253) 692-4457
Email: jreaton@uw.edu

Education

University of Rochester, Mathematics, B.A. 2002

University of Washington, Statistics, M.S. 2009

University of Washington, Mathematics, Ph.D. 2010

Academic Appointments

2011-Current Assistant Professor, Interdisciplinary Arts and Sciences, University of Washington Tacoma

2010-2011 Visiting Assistant Professor, Mathematics and Computer Science Department, University of Puget Sound

2010 Research Assistant, Clinical Informatics Research Group, University of Washington

2010 Research associate, Mountain Whisper Light Consulting

2004-2010 Teaching Assistant & Instructor, Mathematics Department, University of Washington

Publications

Burke J., Eaton J. On the subdifferential regularity of max root functions for polynomials. *Journal of Nonlinear Analysis: Theory, Methods & Applications*, 75(3):1168-1187, 2012.

Eaton J., Godbole A., Sinclair B. Competition between discrete random variables, with applications to occupancy problems. *Journal of Statistical Planning and Inference*, 40(8):2204-2212, 2010.

Khanal Y., Eaton J., Pakish J., Yen P., Martins R., Carr L., Eaton K., Patel S. Survival disparities in non-small cell lung cancer patients receiving radiation treatment: An investigation of race and gender. *Journal of Cancer Research and Experimental Oncology*, 2(3): 29-34, 2010.

Painter I., Eaton J., Olson D, Revere D., Lober B. Generation of Prediction Intervals to Assess Data Quality in the Distribute System Using Quantile Regression. 2011 Joint Statistical Meeting Proceedings.

Synergistic Activities

2013-Present: Quantitative Literacy Task Force at University of Washington Tacoma (UWT)
Accomplishments: Collected and analyzed data that will be used to better align the introductory statistics curriculum with the needs of the courses requiring statistics, collected and analyzed data that will be used to create focused remediation for students taking courses which require specific skills, such as algebra, precalculus, calculus and statistics.

2012-Present: Working group on Environment Science student survey data at UWT
Accomplishments: Prepared five years' worth of exit surveys for analysis and performed preliminary analyses of these data. Cleaned and analyzed two alumni surveys and presented it to the Environmental Science group. These data will be useful for program assessment as well as providing students information on the skills that they will need for employment.

2006-2007: Coordinator, Current Topics Seminar. Booked speakers and advertised talks.

2006-2007: Website manager, Undergraduate Mathematical Sciences Seminar.

2006-2007: Co-teacher, TOPS elementary school math enrichment program

Collaborators

William Lober: School of Nursing University of Washington

Ian Painter: School of Public Health, University of Washington

Debra Revere: School of Public Health, University of Washington

Michael Overton: Courant Institute of Mathematical Sciences, New York University

James V. Burke: Department of Mathematics, University of Washington (Graduate advisor)

Cynthia Ann Stanich, Ph.D.
Chemistry Lecturer
University of Washington, Tacoma
Box 358436
Tacoma, WA 98402
email: stanich@uw.edu

Professional Preparation

Michigan State University, East Lansing, MI

Bachelor of Arts, May 2006. Major: Chemistry. Advisor: Professor James Harrison
Bachelor of Science, May 2007. Major: Physiology. Advisor: Professor Robert Wiseman
Bachelor of Arts, May 2007. Major: East Asian Languages and Cultures

University of Washington, Seattle, WA

Master of Science, May 2009. Specialization: Chemistry
Doctor of Philosophy, Spring 2012. Specialization: Physical Chemistry. Advisor: Professor Sarah L. Keller
Thesis topic: Coarsening dynamics of domains in lipid membranes & Math assessment of UW chemistry students shows mathematics skills atrophy with disuse

Appointments

Lecturer (Full-Time). Interdisciplinary Arts & Sciences, University of Washington, Tacoma (September 17, 2012 – present).

Lecturer (Part-Time). Department of Chemistry, University of Washington, Seattle (June 18, 2012 – August 24, 2012).

Pre-graduate Instructor. Department of Chemistry, University of Washington, Seattle (January 2, 2012 – March 14, 2012).

Instructor (Part-Time). Department of Science and Math, Seattle Central Community College, Seattle (September 26, 2011 – December 15, 2011).

Instructor (Part-Time). Department of Academics/Science, South Seattle Community College, Seattle (September 26, 2011 – December 15, 2011).

Products

"Schrodinger Cats in Double Well Bose Condensates: Modeling Their Collapse and Detection Via Quantum State Diffusion" William P. Reinhardt, **Cynthia A. Stanich**, Cory D. Schillaci, *Applied Mathematics and Information Sciences*, 3(3), 273-299, 2009.

"Late Stage Coarsening Dynamics of Domains in Lipid Membranes" **Cynthia A. Stanich**, Aurelia R. Honerkamp-Smith, Gregory Garbès Putzel, Christopher S. Warth, Andrea K. Lamprecht, Pritam Mandal, Elizabeth Mann, Thien-An D. Hua, and Sarah L. Keller, *Biophys J.*, **Accepted**.

Synergistic Activities

Ionic Compound and Galvanic Cell Lego Exercise (2012). Developed for non-majors using Legos to study empirical formulas and the movement of charges in the process of a galvanic cell.

Mathematics Assessment "Brush-up" (2009). Developed with Sarah L. Keller at UW, Seattle to measure mathematics aptitude of incoming chemistry students.

Organic Chemistry Skills Sheets (2008). Weekly summary worksheets for non-major organic chemistry students to designed to help with retention of knowledge and organization of necessary chemical skills.

Collaborators

Aurelia R. Honerkamp-Smith	University of Cambridge, Cambridge, UK
Gregory Garbès Putzel	Northwestern University, Evanston, IL
Christopher S. Warth	University of Washington, Seattle, WA
Andrea K. Lamprecht	University of Washington, Seattle, WA
Pritam Mandal	Kent State University, Kent, OH
Elizabeth Mann	Kent State University, Kent, OH
Thien-An D. Hua	University of Washington, Seattle, WA
Sarah L. Keller	University of Washington, Seattle, WA

Graduate Advisor

Sarah L. Keller	University of Washington, Seattle
-----------------	-----------------------------------

Honors

Travel Award, TRUSE Conference, University of St. Thomas in St. Paul, MN, 2012.
Biophysical Society Student Research Achievement Award, First Place, San Diego, CA, 2012.
Outstanding Teaching Award, Department of Chemistry, University of Washington, Seattle, 2010-2011.
Biophysical Society Student Research Achievement Award, Second Place, Baltimore, MD, 2011.
UW - Chemistry Travel Award, to Biophysical Society Annual Conference, Baltimore, MD, 2011.
Northwest POGIL Conference, 1 of 50 chosen participants, 2010.
Travel Award, Biophysical Society Annual Conference, San Francisco, CA, 2010.
Travel Award, Chemistry Education Research Graduate Student Conference, Miami Univ., OH, 2009.
Honen Fellowship, University of Washington, 2007-2008.

Biographical Sketch: Douglas Wills

University of Washington, Tacoma
Milgard School of Business
1900 Commerce St, Box 358420, Tacoma, WA 98402
Telephone: 1 253 692-5626
Email: dtwills@uw.edu

A: Professional Preparation

Simon Fraser University B.A. Economics and Business	1982
University of British Columbia, M.B.A. Finance	1988
Texas A&M University, Ph.D. Economics	1995
Chartered Financial Analyst (CFA)	2001

B: Appointments

2002-2013	Associate Professor of Economics & Finance, University of Washington, Tacoma
2003-2006	Associate Dean, Milgard School of Business, University of Washington, Tacoma
2001-2002	Associate Professor of Economics & Finance, Sweet Briar College, VA
1995-2001	Assistant Professor Economics & Finance, Sweet Briar College, VA
1987-1989	Financial Analyst, Pemberton Securities, Vancouver, BC
1983-1987	Research Economist, Fraser Institute, Vancouver, BC

C: Publications (last ten)

"Deriving the Dividend Discount Model in Intermediate Microeconomics," with Stephen Norman, Jon Schlaudraff, and Karianne White, *Journal of Economic Education*, 44:1, 58-63, Winter 2013

"Searching for the Big Die-off: An Event Study of the 19th Century Cattle Markets," with Randy McFerrin. *Essays in Economics and Business History Journal*, XXXI, 2013

"Time or Spot? A Revaluation of Amsterdam Market Data prior to 1747," Brian Beach, Stephen Norman, and Douglas Wills, *Cliometrica*, January 2013

"Determinants of Homestead Claims and the Expansion of Western Settlement," Randy McFerrin, Stephen Norman, and Douglas Wills, *Applied Economics Letters*, 19 (18), 2012

"High Noon on the Western Plains: A property rights analysis of the Johnson County War," Randy McFerrin and Douglas Wills, *Journal of Economic History*, 2007

"Thomas Edison's Monetary Option," David Hammes and Douglas Wills, *Journal of the History of Economic Thought*, 28(3), 2006, pp. 295-308

"Convergence Condition for AR Index Model," David Hammes, Eric Iksoon Im, and Douglas Wills, *Econometric Theory*, Fall 2006, 22(3)

"Black Gold: The End of Bretton Woods and the Oil Price Shocks of the 1970s," David Hammes and Douglas Wills, *Independent Review of Political Economy*, Spring 2005, 9(4)

"Except One: The monetary views of Arthur Kitson revisited" David Hammes and Douglas Wills, *Journal of Economic Studies*, Spring 2005, 32(1)

"Revolution, Restoration, and Debt Repudiation: The Jacobite Threat to England's Institutions and Economic Growth," John Wells and Douglas Wills, *Journal of Economic History*, June 2000, 60(2): pp. 418-441

D: Synergistic Activities

- a) Developed undergraduate Tutoring program from MBA, 2011
- b) Developed tutoring program for Intermediate Microeconomics, 2010

E: Collaborators

Dr. Stephen Norman
Milgard School of Business
University of Washington, Tacoma
Tacoma, WA 98402

Dr. Randy McFerrin
Department of Economics
New Mexico State University
La Cruces, MN

F: Graduate Advisor

Dr. Tim Gronberg
Department of Economics
Texas A&M University
College Station, TX

Linda Dawson Biographical Sketch

Senior Personnel

Professional Preparation

M.I.T.

Engineering, Aeronautics and Astronautics BS 1971

George Washington University at NASA - Langley Research Center

Engineering, Aeronautics and Astronautics MS 1973

University of Washington, Seattle

Graduate Studies in Phd Program, Engineering, Aeronautics and Astronautics-- completed all required coursework 1992

Appointments

Senior Lecturer, Interdisciplinary Arts and Sciences 9/96 – present
University of Washington Tacoma, WA

Instructor, Math Dept. (8/92 - 5/93)
University of Puget Sound, Tacoma, WA

Instructor, Engineering Dept. (8/92 - 5/93)
Green River Community College, Auburn, WA

Instructor, Math Dept. (8/92 - 5/93)
University of Puget Sound, Tacoma, WA

Senior System Specialist Engineer (1/82 - 5/87)
Boeing Aerospace Company, Kent, WA

Aerodynamic Flight Controller (8/77 - 11/81)
NASA – Johnson Space Center, Houston, TX

Products

- 1) Dawson, L. 2013. Student Workbook for Triola Statistics Series. 12th ed. Upper Saddle River (NJ): Pearson.
- 2) Dawson L. 2009. Student's Solutions Manual for Business Statistics. Upper Saddle River (NJ): Addison-Wesley.
- 3) Dawson L. 2010. Instructor's solutions manual [for] Business statistics [by] Norean R. Sharpe, Richard De Veaux, Paul Velleman. Upper Saddle River (NJ): Pearson/Addison-Wesley.
- 4) Dawson LG. 2005. Enhanced Excel manual for Moore, McCabe, Duckworth, and Sclove's The practice of business statistics: using data for decisions. New York: W.H. Freeman and Co.
- 5) Dawson LG. 2005. Introduction to the Practice of Statistics Enhanced Excel Manual & CD-ROM. New York: W.H. Freeman and Co.
- 6) Dawson LG. 2006. Excel manual for Moore and McCabe's Introduction to the practice of statistics, fifth edition. New York (NY): W.H. Freeman

Synergistic Activities

- Developed and taught quantitative curriculum to support Interdisciplinary Arts and Sciences degrees including Environmental Science, Environmental Studies and Psychology. This curriculum involved the disciplines of statistics, research methods, and physics. The products were teaching materials, including labs, as well as assessment tools. In addition, developed and taught business statistics curriculum for the School of Business and statistics curriculum for the Nursing Program. Other curriculum developed in the areas of Space Exploration and Women in Science (1996 – present).
- Chosen to participate in a committee to analyze UW Tacoma results for a national survey (COACHE) administered to university faculty. The survey assesses the health of an institution and the attitudes and satisfaction of faculty. The results lead to changes in institutional practices (2013-2014).
- Member of Teacher Advisory Board and Space Acquisition Committee for the Museum of Flight, Seattle, WA. Duties involve the assessment of teacher development programs and student educational programs (200- to present).
- Chosen to be a participant in the Executive Committee Quantitative Fellows Task Force in 2013, leading to suggested improvements in the delivery of quantitative curriculum and the current proposal for an NSF grant to increase quantitative literacy in UW Tacoma.
- Participated in an Education Program grant to incorporate technology into the K-12 math classrooms of five schools (2000).

SUMMARY PROPOSAL BUDGET YEAR 1

ORGANIZATION University of Washington				FOR NSF USE ONLY		
				PROPOSAL NO.	DURATION (months)	
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR Peter Selkin				AWARD NO.	Proposed	Granted
					NSF Funded Person-months	
A. SENIOR PERSONNEL: P/PI, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)				CAL	ACAD	SUMR
1. Peter Selkin - Principal Investigator				0.70	0.00	0.00
2. Julia Aguirre - CO-PI				0.70	0.00	0.00
3. Julia R Eaton - CO-PI				0.70	0.00	0.00
4. Cynthia A Stanich - CO-PI				0.70	0.00	0.00
5. Douglas T Wills - CO-PI				0.70	0.00	0.00
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)				0.00	0.00	0.00
7. (5) TOTAL SENIOR PERSONNEL (1 - 6)				3.50	0.00	0.00
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)						
1. (0) POST DOCTORAL SCHOLARS				0.00	0.00	0.00
2. (1) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)				1.00	0.00	0.00
3. (0) GRADUATE STUDENTS						
4. (3) UNDERGRADUATE STUDENTS						
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						
6. (7) OTHER						
TOTAL SALARIES AND WAGES (A + B)						
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)						
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)						
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)						
TOTAL EQUIPMENT						
E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)						
2. FOREIGN						
F. PARTICIPANT SUPPORT COSTS						
1. STIPENDS \$ 5,000						
2. TRAVEL 2,500						
3. SUBSISTENCE 2,490						
4. OTHER 0						
TOTAL NUMBER OF PARTICIPANTS (5) TOTAL PARTICIPANT COSTS						
G. OTHER DIRECT COSTS						
1. MATERIALS AND SUPPLIES						
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION						
3. CONSULTANT SERVICES						
4. COMPUTER SERVICES						
5. SUBAWARDS						
6. OTHER						
TOTAL OTHER DIRECT COSTS						
H. TOTAL DIRECT COSTS (A THROUGH G)						
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) MDTC (Rate: 54.5000, Base: 79704)						
TOTAL INDIRECT COSTS (F&A)						
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)						
K. RESIDUAL FUNDS						
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)						
M. COST SHARING PROPOSED LEVEL \$ 0				AGREED LEVEL IF DIFFERENT \$		
PI/PI NAME Peter Selkin				FOR NSF USE ONLY		
ORG. REP. NAME* Kelly Fitzgerald				INDIRECT COST RATE VERIFICATION		
		Date Checked	Date Of Rate Sheet	Initials - ORG		

SUMMARY PROPOSAL BUDGET YEAR 2

ORGANIZATION University of Washington				FOR NSF USE ONLY			
				PROPOSAL NO.	DURATION (months)		
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR Peter Selkin				AWARD NO.	Proposed	Granted	
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)				NSF Funded Person-months		Funds Requested By proposer	Funds granted by NSF (if different)
	CAL	ACAD	SUMR				
1. Peter Selkin - Principal Investigator	0.70	0.00	0.00		5,363		
2. Julia Aguirre - CO-PI	0.70	0.00	0.00		5,320		
3. Julia R Eaton - CO-PI	0.70	0.00	0.00		5,198		
4. Cynthia A Stanich - CO-PI	0.70	0.00	0.00		3,713		
5. Douglas T Wills - CO-PI	0.70	0.00	0.00		10,463		
6. (0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)	0.00	0.00	0.00		0		
7. (5) TOTAL SENIOR PERSONNEL (1 - 6)	3.50	0.00	0.00		30,057		
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)							
1. (0) POST DOCTORAL SCHOLARS	0.00	0.00	0.00		0		
2. (1) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)	1.00	0.00	0.00		6,960		
3. (0) GRADUATE STUDENTS					0		
4. (3) UNDERGRADUATE STUDENTS					10,800		
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)					0		
6. (1) OTHER					4,651		
TOTAL SALARIES AND WAGES (A + B)					52,468		
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)					12,759		
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)					65,227		
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)							
TOTAL EQUIPMENT					0		
E. TRAVEL					2,000		
1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)							
2. FOREIGN					0		
F. PARTICIPANT SUPPORT COSTS							
1. STIPENDS	\$		0				
2. TRAVEL			0				
3. SUBSISTENCE			0				
4. OTHER			0				
TOTAL NUMBER OF PARTICIPANTS (0)				TOTAL PARTICIPANT COSTS	0		
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES					5,000		
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION					2,000		
3. CONSULTANT SERVICES					0		
4. COMPUTER SERVICES					0		
5. SUBAWARDS					0		
6. OTHER					0		
TOTAL OTHER DIRECT COSTS					7,000		
H. TOTAL DIRECT COSTS (A THROUGH G)					74,227		
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) MDTC (Rate: 54.5000, Base: 74227)							
TOTAL INDIRECT COSTS (F&A)					40,454		
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)					114,681		
K. RESIDUAL FUNDS					0		
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)					114,681		
M. COST SHARING PROPOSED LEVEL \$				0	AGREED LEVEL IF DIFFERENT \$		
PI/PD NAME Peter Selkin				FOR NSF USE ONLY			
ORG. REP. NAME* Kelly Fitzgerald				INDIRECT COST RATE VERIFICATION			
		Date Checked	Date Of Rate Sheet	Initials - ORG			

SUMMARY PROPOSAL BUDGET

Cumulative

ORGANIZATION University of Washington				FOR NSF USE ONLY			
				PROPOSAL NO.	DURATION (months)		
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR Peter Selkin				AWARD NO.	Proposed	Granted	
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)				NSF Funded Person-months		Funds Requested By proposer	Funds granted by NSF (if different)
	CAL	ACAD	SUMR				
1.	Peter Selkin - Principal Investigator	1.40	0.00	0.00		10,570	
2.	Julia Aguirre - CO-PI	1.40	0.00	0.00		10,485	
3.	Julia R Eaton - CO-PI	1.40	0.00	0.00		10,245	
4.	Cynthia A Stanich - CO-PI	1.40	0.00	0.00		7,318	
5.	Douglas T Wills - CO-PI	1.40	0.00	0.00		20,621	
6.	() OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)	0.00	0.00	0.00		0	
7.	(5) TOTAL SENIOR PERSONNEL (1 - 6)	7.00	0.00	0.00		59,239	
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)							
1.	(0) POST DOCTORAL SCHOLARS	0.00	0.00	0.00		0	
2.	(2) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)	2.00	0.00	0.00		13,920	
3.	(0) GRADUATE STUDENTS					0	
4.	(6) UNDERGRADUATE STUDENTS					21,600	
5.	(0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)					0	
6.	(8) OTHER					15,167	
TOTAL SALARIES AND WAGES (A + B)						109,926	
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)						27,005	
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)						136,931	
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)							
TOTAL EQUIPMENT						0	
E. TRAVEL						5,000	
1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)						5,000	
2. FOREIGN						0	
F. PARTICIPANT SUPPORT COSTS							
1.	STIPENDS \$ _____					5,000	
2.	TRAVEL _____					2,500	
3.	SUBSISTENCE _____					2,490	
4.	OTHER _____					0	
TOTAL NUMBER OF PARTICIPANTS (5)				TOTAL PARTICIPANT COSTS		9,990	
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES						10,000	
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION						2,000	
3. CONSULTANT SERVICES						0	
4. COMPUTER SERVICES						0	
5. SUBAWARDS						0	
6. OTHER						0	
TOTAL OTHER DIRECT COSTS						12,000	
H. TOTAL DIRECT COSTS (A THROUGH G)						163,921	
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)							
TOTAL INDIRECT COSTS (F&A)						83,893	
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)						247,814	
K. RESIDUAL FUNDS						0	
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)						247,814	
M. COST SHARING PROPOSED LEVEL \$ 0				AGREED LEVEL IF DIFFERENT \$ _____			
PI/PD NAME Peter Selkin				FOR NSF USE ONLY			
ORG. REP. NAME* Kelly Fitzgerald				INDIRECT COST RATE VERIFICATION			
		Date Checked	Date Of Rate Sheet	Initials - ORG			

*ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET

Budget Justification

A. Salaries and Wages for Senior Personnel. *Documenting QL at UWT* will be managed by the PI. We are requesting 0.70 person-months (between two and three weeks) per person per year for two years.

Personnel (role and rate):

Peter Selkin (PI) base rate of \$7,439; Julia Aguirre (CO-PI) base rate of \$7,378; Doug Wills (CO-PI) base rate of \$14,512; Cynthia Stanich (CO-PI) base rate of \$5,150; Julia Eaton (CO-PI) base rate of \$7,210; Linda Dawson (Key Personnel) \$6,451.

Timeline:

Kickoff meeting, Spring 2014 (all)

Course redesign workshop, Summer 2014 (Julia Aguirre and Peter Selkin)

Collaborative learning community design, Summer 2014 (Cynthia Stanich and Linda Dawson)

Baseline assessments development, Summer 2014 (Julie Eaton and Doug Wills)

Design assessments for the course redesign, Summer 2014 (Julia Eaton and Peter Selkin)

Design assessments for the collaborative learning, Summer 2014 (Julia Eaton Cynthia Stanich)

Student training for collaborative learning communities, Fall 2014 (Doug Wills and Linda Dawson)

Overseeing collaborative learning communities, Academic Year 2014-2015 (TBD)

Administer assessments, Academic Year 2014-2015 (TBD)

Writing and dissemination of results, Summer and Fall 2015 (all)

The assessment development will be done in consultation with Elin Bjorling (see item B(ii) below).

B. Salaries and Wages for Other Personnel.

i. Undergraduate employment. We require 900 undergraduate hours are requested for the 2015-2015 AY. This breaks down to 10 hours per week per quarter, three classes per quarter, three quarters during the AY. The standard rate for this kind of undergraduate employment is \$12/hour at UWT.

ii. Professional staff. Elin Bjorling will serve as Evaluator for this project. She will assist the team in developing, testing, and revising the summative and formative measures used with grant participants and students. She will manage and maintain data collected provide anonymized, aggregated data to the personnel. We require one person-month of her time 1 month of full-time work from this staff. Her hourly rate is \$40, for a total of 174 hours.

iii. Faculty Practitioners. We request \$1000 per faculty for up to six faculty. This will be compensation for their participation in our summer program for developing implementing research-based quantitative modules for their classes. This will

include both STEM and non-STEM faculty and take place during Summer 2014. Their benefits are calculated using the Auxiliary faculty benefit rate.

C. Fringe Benefits. Fringe benefits are calculated using UW's standard benefit rates: Senior personnel (25.30%), Auxiliary Faculty (29.10%), Professional Staff (31.40%), Undergraduate Students (15.30%). Note that Cynthia Stanich's fringe benefits are calculated at the auxiliary faculty rate.

E. Travel. We anticipate domestic travel costs to conferences and seminars to be \$3000 the first year and \$2000 the second year. We plan to send four to five personnel to the Third Conference on Transforming Research in Undergraduate STEM Education (TRUSE), which takes place in June 2014. The conference fee of \$300 includes lodging and food, so it is an inexpensive conference to attend. We are also planning to send one or two people to a second conference in 2016.

F. Participant Support. A three-day kickoff planning session will be held April 2014. We are inviting five external experts to speak and consult. We request lodging, airfare, and an honorarium for these costs: airfare reimbursement (up to \$500 per person), lodging (\$105 per person per night), and per diem miscellaneous incidental expenses of \$61 per person, honorarium (\$1000 per person).

G. Other Direct Costs.

(a) Materials and supplies. We request an amount of \$5000 per year on the following materials: booklets, postage, flash drives, teaching material development and acquisition, secure hard drive for storing student data.

(b) Publication/Documentation/Dissemination. We anticipate \$2000 in journal fees, presentation material costs. Target journals are the National Numeracy Network's *Journal Numeracy: Advancing Education in Quantitative Literacy*, and the National Science Teachers Association *Journal of College Science Teaching*, and Springer's *Journal of Science Teacher Education*.

I. Indirect Costs. University of Washington's federally negotiated rate with DHHS is 54.5% with a base of MTDC.

Current and Pending Support

(See GPG Section II.C.2.h for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.			
Investigator: Peter Selkin	Other agencies (including NSF) to which this proposal has been/will be submitted.		
Support: <input type="checkbox"/> Current <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma			
Source of Support: National Science Foundation Total Award Amount: \$ 247,814 Total Award Period Covered: 04/01/14 - 03/31/16 Location of Project: University of Washington Tacoma Person-Months Per Year Committed to the Project. Cal: 0.00 Acad: 0.00 Sumr: 0.70			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Summ:			

*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

Current and Pending Support

(See GPG Section II.C.2.h for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.	
Investigator: Julia Aguirre	Other agencies (including NSF) to which this proposal has been/will be submitted.
Support: <input checked="" type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: Teachers Empowered to Advance Change in Mathematics (TEACH MATH) Source of Support: National Science Foundation Total Award Amount: \$ 3,497,467 Total Award Period Covered: 09/01/10 - 08/31/15 Location of Project: Michigan State University Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 1.00 Sumr: 1.00	
Support: <input type="checkbox"/> Current <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: CCSS Professional Development for Washington High Need Schools Source of Support: Office of Superintendent of Public Instruction, Washington S Total Award Amount: \$ 796,000 Total Award Period Covered: 08/01/13 - 07/31/15 Location of Project: University of Washington Tacoma Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 0.00 Sumr: 1.00	
Support: <input type="checkbox"/> Current <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: Culturally Responsive Mathematics Intervention Source of Support: Federal Way Public Schools Total Award Amount: \$ 10,246 Total Award Period Covered: 08/01/13 - 06/30/14 Location of Project: University of Washington Tacoma Person-Months Per Year Committed to the Project. Cal:0.00 Acad: 1.00 Sumr: 0.00	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.	

Current and Pending Support

(See GPG Section II.C.2.h for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.	
Investigator: Julia Eaton	Other agencies (including NSF) to which this proposal has been/will be submitted.
Support: <input type="checkbox"/> Current <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma Source of Support: National Science Foundation Total Award Amount: \$ 247,814 Total Award Period Covered: 04/01/14 - 03/31/16 Location of Project: University of Washington Tacoma Person-Months Per Year Committed to the Project. Cal:0.00 Acad:0.00 Sumr: 0.70	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Summ:	
*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.	

Current and Pending Support

(See GPG Section II.C.2.h for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.	
Investigator: Cynthia Stanich	Other agencies (including NSF) to which this proposal has been/will be submitted.
Support: <input type="checkbox"/> Current <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma	
Source of Support: National Science Foundation Total Award Amount: \$ 247,814 Total Award Period Covered: 04/01/14 - 03/31/16 Location of Project: University of Washington Tacoma Person-Months Per Year Committed to the Project. Cal:0.00 Acad:0.00 Sumr: 0.70	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:	
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:	
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:	
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:	
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Summ:	
*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.	

Current and Pending Support

(See GPG Section II.C.2.h for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.	
Investigator: Douglas Wills	Other agencies (including NSF) to which this proposal has been/will be submitted.
Support: <input type="checkbox"/> Current <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma	
Source of Support: National Science Foundation Total Award Amount: \$ 247,814 Total Award Period Covered: 04/01/14 - 03/31/16 Location of Project: University of Washington Tacoma Person-Months Per Year Committed to the Project. Cal:0.00 Acad:0.00 Sumr: 0.70	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:	
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:	
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:	
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:	
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:	
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Summ:	

*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

Current and Pending Support

(See GPG Section II.C.2.h for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.			
Investigator: Linda Dawson	Other agencies (including NSF) to which this proposal has been/will be submitted.		
Support: <input type="checkbox"/> Current <input checked="" type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title: WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma			
Source of Support: National Science Foundation Total Award Amount: \$ 247,814 Total Award Period Covered: 04/01/14 - 03/31/16 Location of Project: University of Washington Tacoma Person-Months Per Year Committed to the Project. Cal:0.00 Acad:0.00 Sumr: 0.70			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Sumr:			
Support: <input type="checkbox"/> Current <input type="checkbox"/> Pending <input type="checkbox"/> Submission Planned in Near Future <input type="checkbox"/> *Transfer of Support Project/Proposal Title:			
Source of Support: Total Award Amount: \$ Total Award Period Covered: Location of Project: Person-Months Per Year Committed to the Project. Cal: Acad: Summ:			
*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.			

Facilities, Equipment, and Other Resources

Facilities and Equipment

The main requirement for this project is classroom and meeting space. Rooms for the kickoff meeting, workshops, and collaborative learning sessions are available at UW Tacoma at no charge to faculty. All rooms have presentation equipment.

Video and audio equipment, which some participants may want for use in redesigned courses, is also available for checkout through UW Tacoma Media Services.

UW Tacoma and the UW as a whole maintain web servers, which will be used to distribute teaching materials created in the course design workshops. The UW library has a group dedicated to providing stable access to data (ResearchWorks Data Services) via the library's web servers.

Data Management Plan

Data of four types will be collected in association with this project: 1) Student assessment data, including survey responses (spreadsheets) and written work (text/word processor files), 2) Program and baseline assessment data, including survey responses from faculty (spreadsheets and text files), 3) aggregate student and course data (spreadsheets) used to evaluate retention, graduation rates, and other parameters outside the scope of the courses planned here, and 4) course materials and implementation plans (multimedia, possibly including word processor files, spreadsheets, videos, photographs, and/or geospatial data). The student and faculty data records will be collected beginning during the first year of the project and will be kept for the entire time span of the project. Individual assessment data will be destroyed after the second year of the project: only aggregate data and course materials will be kept.

Assessment Data

Assessment data collected from this project will be stored on a hard disk, kept in PI Selkin's office in a locked drawer. All student and faculty data on the disk will be stored in an encrypted format. Elin Bjorling and those PIs/Co-PIs who need access will have the encryption keys. All data on the hard drive will be referenced to random codes generated for each participant in the project (student or faculty). Only Bjorling will have access to the table referencing codes to student names. Only aggregate data will be distributed beyond the group of Co-PIs overseeing the project.

Distribution of Teaching Materials and Aggregate Data

Teaching materials and implementation plans developed through the program proposed here will be distributed over the Web, hosted on UW's servers. Initially the materials will be distributed through the UW Tacoma Quantitative Fellows website (<http://depts.washington.edu/uwtquant/>), though as the collection grows, we anticipate that we will need to distribute it through a more centralized site, likely the UW Tacoma Teaching and Learning Center's website.

Aggregate assessment data used to evaluate the success of the proposed course development / student support approaches may be distributed over the web as supplemental material to publications. The mode by which these data are distributed will depend on the journal in which the associated articles are published. If they are not provided by the journal, the UW library has resources for permanent data identifiers and stable URLs.



June 20, 2013

Dr. Peter Selkin
Interdisciplinary Arts and Sciences
University of Washington Tacoma

Dear Dr. Selkin,

I am pleased to write in support of your NSF proposal, WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma "7376936". The University of Washington Tacoma has made it a priority to improve retention and graduation rates for all students, and in STEM disciplines in particular. This is especially important because of the significant proportion of students who are first-generation and come from underserved communities. In the state of Washington especially, career opportunities for students who study in STEM disciplines abound, multiplying the transformational impact of a college degree.

Quantitative literacy is – as you argue – the foundational element for success in STEM disciplines. It is, however, often difficult to achieve. With the 2006 introduction of freshmen and sophomores to UW Tacoma, the campus is well-positioned to serve as a pilot project for increasing quantitative literacy. Each of the academic deans and directors has confirmed their support for a campus emphasis on quantitative literacy, and I am sure that you will be able to count on their continuing involvement.

I am especially pleased that this grant proposal grows out of the Campus Fellows process, bringing together faculty from across disciplines with common concerns and goals. Given the success of the Campus Fellows program, we are, as a campus, preparing to invest in the recommendations of your group, as well as those of the other two (writing, online education). With support from NSF, we will be able to accelerate our capacity to reach our goals in quantitative literacy.

Sincerely,

A handwritten signature in black ink that reads "Debra Friedman". The signature is written in a cursive style with a long horizontal flourish at the end.

Debra Friedman
Chancellor

BOWDOIN COLLEGE

Peter A. Selkin
Interdisciplinary Arts and Sciences
UW Tacoma
Box 358436, 1900 Commerce St.
Tacoma, WA 98402

Eric Gaze
6050 College Station
Bowdoin College
Brunswick, ME 04011

June 26, 2013

Dear Peter,

I am writing this letter in support of your project, *WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma*. Your stated goals of improving the attitudes toward quantitative literacy on the campus as a whole are well thought out and deserving of attention. I am happy to commit to serve as a consultant for this project and work with your team developing workshops and assessments.

Best regards,
Eric Gaze

Eric C Gaze

Director of the QR Program, Lecturer in Mathematics
egaze@bowdoin.edu

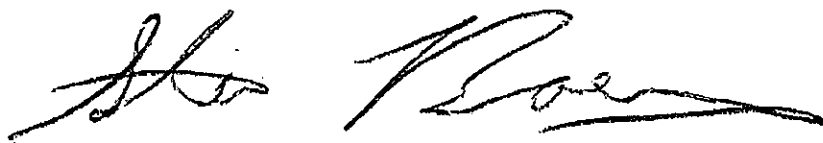
June 26, 2013

Peter Selkin
Assistant Professor, Environmental Geophysics
Interdisciplinary Arts & Sciences, UW Tacoma
Box 358436, 1900 Commerce Street
Tacoma, WA 98402

Peter,

Please accept this letter as evidence of my support for your proposed project entitled "WIDER: Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma." After having read through your project description, I would be glad to help you with the planning process as you have described. If you are funded I understand that my involvement would include a three-day meeting in Tacoma in 2014 together with a variety of conference calls. I do hope you are able to fund this exciting project.

Sincerely,



Stuart Boersma



June 26, 2013

SUBJECT: University of Washington Tacoma WIDER Project Commitment Letter

Esteemed Colleagues,

It is a pleasure for me to write this letter of commitment for the NSF WIDER Project "*Documenting and enhancing the culture of Quantitative Literacy at the University of Washington Tacoma.*" I have agreed to serve as a consultant to assist with assessment and design. I make this agreement because the project shows real promise: 1) It is built upon explicit student learning goals that have achieved broad campus support and endorsement; 2) UW Tacoma boasts experience in conducting campus-wide initiatives, such as writing across the curriculum, and the design includes strategic deployment of some of these same campus leaders to achieve new outcomes; and 3) Since the campus has a positive performance assessment history, the selection of assessment methodologies will not be unduly constrained, and more importantly, the proposal will not include promises that cannot be kept.

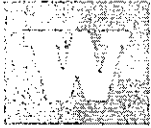
The project is crafted to impact and assess student learning and to address a much needed area of consideration, campus culture. This may be one of the more unique and powerful aspects of this project. The intentional involvement of a broad range of faculty, staff and administration speaks to and supports the campus culture objective. Finally, the student population to be served at UW Tacoma represents distinct and rare opportunities to positively impact quantitative literacy. For all of these reasons, I will be pleased to provide support for this project. As an assessment practitioner with considerable experience developing and using measures of quantitative and scientific reasoning, I am enthusiastic about this proposal and the capacity of the institution to successfully follow through with meaningful process and important outcomes.

Best wishes,

Donna L. Sundre,
Professor of Graduate Psychology/
Executive Director

**CENTER FOR ASSESSMENT
AND RESEARCH STUDIES**

MSC 6806
24 Anthony-Seeger Hall
Harrisonburg, VA 22807
540.568.6706 Phone
540.568.7878 Fax



NSF WIDER Proposal on Quantitative Literacy - Willing to Consult?

David Bressoud <bressoud@macalester.edu>
To: Peter Selkin <paselkin@uw.edu>

Thu, Jun 27, 2013 at 10:46 AM

Dear Peter,

I think you've put together a very interesting and promising proposal to the WIDER program for introducing Quantitative Literacy on the UW-Tacoma campus. I'll be glad to help in any way that I can.

Sincerely,

David Bressoud

--

David M Bressoud, DeWitt Wallace Professor
Macalester College
1600 Grand Ave., St. Paul, MN 55105-1899
(651) 696-6559; fax: (651) 696-6518
www.macalester.edu/~bressoud



UNIVERSITY OF
TEXAS
ARLINGTON

DEPARTMENT OF
MATHEMATICS

June 28, 2013

Dr. Peter Selkin
Environmental Geophysics Interdisciplinary Arts & Sciences
University of Washington Tacoma
1900 Commerce Street
Tacoma, WA 98402

Dear Peter,

I would be very happy to serve as a consultant on your proposed NSF-WIDER project, "Documenting and Enhancing the Culture of Quantitative Literacy at the University of Washington Tacoma." I have assisted many institutions in adapting the Treisman-model and have instructed hundreds of instructors and graduate students on the cooperative learning techniques and problem solving strategies that drive the active learning that takes place in this setting. I am currently a co-PI on an NSF-STEP project at UT-Arlington where we are implementing the Treisman model for STEM students on a broader basis than has been documented in the research literature. Our preliminary results are promising.

Your project is particularly important because of its focus on incorporating the Treisman-model into course redesign centered on key ideas for developing quantitative literacy. This kind of adaptation of Treisman's model would definitely extend and enhance our understanding of the Treisman model and efforts to increase quantitative literacy of students at the university level.

Many institutions with similar goals would benefit from your work and your project immediately brings to mind several.

I look forward to working with you.

Sincerely,

A handwritten signature in black ink, appearing to read "James A. M. Epperson".

James A. M. Epperson, Ph.D.
Associate Professor of Mathematics and Distinguished Teaching Professor