Raising the Floor With C3T

Consortium for Infrastructure Services

Proposal to The Bill & Melinda Gates Foundation

For Technology Implementation and Infrastructure Services
To Support Applicants for United States Department of Labor (DOL)
Trade Adjustment Assistance Community College & Career Training Grants

creative commons

Open Learning Initiative

CAST
Universal Design for Learning

SBCTC
WASHINGTON STATE BOARD FOR COMMUNITY & TECHNICAL COLLEGES

CONTENTS

I. Proposal Overview

The $2 billion Trade Adjustment Assistance Community College & Career Training Grant (C3T) program from the U.S. Department of Labor (DOL) represents a once-in-a-lifetime opportunity for building a community college curriculum based on best practices for teaching, learning and openness. While exemplary design principles are contained in the grant, looming challenges for effective execution and support of grantees remain. Strategic intervention from expert resources is critical. We must both raise the baseline for community college education based on best practices, and foster an exponential spread of the benefits.

The *Raising the Floor Consortium* is a collaborative effort of Creative Commons (CC), Carnegie Mellon Open Learning Initiative (OLI), Center for Applied Special Technology (CAST) and the Washington State Board for Community & Technical Colleges (SBCTC). We will provide Comprehensive Infrastructure Support and Capacity Building to all grantees to help them meet the OER requirements of the grant, adopt best practices in OER and learning design, develop institutional skills in open licensing and document success critical to ensuring future rounds of funding. These services address a missing component of the C3T grant program, and create a true multiplier effect by developing systems that are adoptable and adaptable, and that enable the broadest possible benefit from this huge public investment.

Creative Commons will provide overall project and fiscal management, and lend technical support in meeting the open licensing requirement and ensuring interoperability of content. OLI brings expertise in applying results from the learning sciences to the design, implementation, evaluation and continuous improvement of open web-based learning environments. OLI will work with CAST, pioneers in the field of Universal Design for Learning (UDL), to offer all grantees technical support and enabling technologies to ensure that all of the digital content and learning environments developed in this project succeed with the widest range of learners possible.

SBCTC is one of the only community college systems in the nation fully embracing OER and open licensing, and will work to develop best practices in adoption and use, policies and professional development that work for all participating institutions.

The Consortium will advocate for the adoption of best practices and build the capacity of all grantees, ensure interoperability, work for maximum adoption and impact as projects move to scale, innovate in web-based learning environments, and evaluate all aspects of the work in order to contribute to greater effectiveness of future Federal grants.

The Consortium requests support from the Bill & Melinda Gates Foundation for three years to coincide with the first wave of the C3T grant. This support will initially leverage $500 million in Federal funds and ensure greater impact of the $1.5 billion in the subsequent rounds.

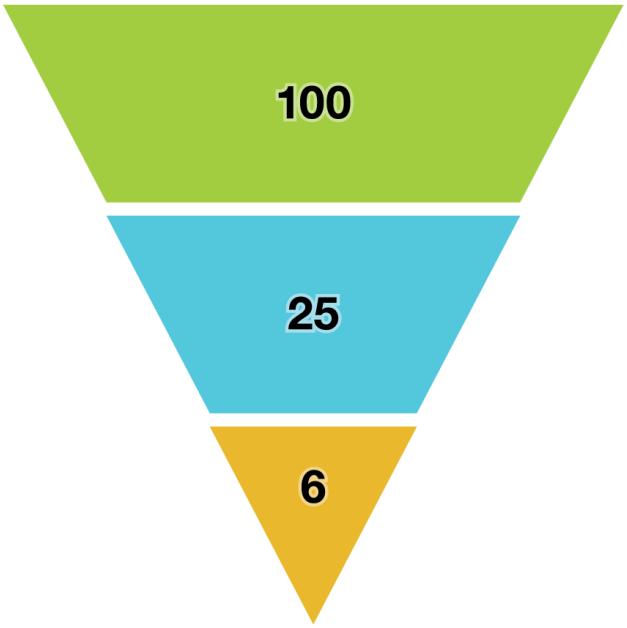
The work of the Consortium supports the Gates Foundation's goals for creating innovations in performance management and institutional practices and new technology products and platforms that produce dramatic improvement in learning and completion rates. By working with C3T grantees, we can ensure that this massive infusion of support for post-secondary education improves opportunities for all students enrolled in community colleges in the United States.

II. Project Description

The *Raising the Floor Consortium* will provide Comprehensive Infrastructure Support and Capacity Building to C3T grant award winners designed to maximize their impact and ensure that all educational products that they create contribute as broadly as possible to the improvement of post-secondary education.

Such an effort, and private support, is required because the C3T funding legislation did not include funding for technical assistance in implementing key requirements of the grant. While open licensing of educational materials is a requirement, most community colleges have little experience with open licensing protocol and practices. Even fewer have transitioned to effective web-based learning environments. Without these core infrastructure supports, the thoughtful principles and significant funding from C3T could result in old technology and methodologies being perpetuated, rather than leading to the creation of a new standards supported by decades of knowledge on best practices.

To address these critical support and infrastructure needs, four leading organizations in the field of open educational resources have formed the *Raise the Floor Consortium* to work collaboratively and synergistically to provide a tightly integrated response to the technology and best practice challenges. All, approximately 100, grantees will receive Comprehensive Infrastructure Support and Capacity Building. A smaller subset will utilize the newly UDL-enhanced OLI platform to host their own web-based OER. A group of six will be selected to engage in a full OLI/CAST design process for OER on the UDL-enhanced OLI platform (as shown in the graphic and described in further detail below).



Comprehensive

All of the ~100 grantees will receive a comprehensive set of supports and technical assistance to ensure their success. Those services include reinforcing open licensing practices, access to existing OER, UDL, accessibility and web-based design best practices, as well as policy and adoption professional development.

+ Platform

25 of the ~100 grantees will also receive support to deliver their independently designed web-based OER through the UDL-enhanced OLI platform.

+ Co-development

6 of the 25 grantees who work will the platform will also receive services which include complete design and delivery by OLI of OER that are web-based interactive learning environments.

Comprehensive Infrastructure Support and Capacity Building

The Consortium will provide every C3T grantee a comprehensive set of supports and technical assistance to ensure their success. Those services include reinforcing open licensing practices, access to existing OER, UDL, accessibility and web-based design best practices, as well as policy and adoption professional development.

Open Licensing Support

In an obvious recognition of the utility of the CC framework, the C3T requires that all materials created using grant funds must be released under the Creative Commons Attribution 3.0 (CC BY)[1] license. Creative Commons is also clearly best suited to explain its licenses and tools (especially CC BY) to grantees, and has extensive experience in adapting explanatory documentation and outreach to various audiences.

As the world's leading authority on open licensing, CC has worked with organizations large and small to meet the challenges of effectively sharing their content. For the Consortium, CC will focus on helping grantees implement the creative commons attribution (CC BY) license. CC will work with them to ensure maximum impact by guiding grantees to follow best practices for content production and rights clearing in the context of open licensing ("IP hygiene"), publishing with machine-readable metadata, and integrating CC BY in all elements of content creation software. This work will build internal capacity as each institution gains staff skilled in open licensing.

Creative Commons will also help build awareness of existing public domain and CC BY educational materials, create links to existing OER networks, and provide legal, technical and social implementation best practices through phone and e-mail consultation and in-person training. As C3T applicants become increasingly aware of OER they have begun requesting assistance in identifying existing OER content to review, rather than having to start from scratch. Looking forward to Waves 2, 3, and 4, we can envision the continuous cycle of improvement and sharing yielding an enormous impact and accelerating the creation and adoption of high-quality OER.

Most importantly, CC will lead knowledge sharing and further development of materials and policies to ensure the open content resources are interoperable, promote downstream innovation, and create the conditions necessary to produce better learning outcomes. This requires work beyond providing information and consulting to individual grantees. This component will include working with software vendors and other providers common to multiple grantees to improve built-in support for open content best practices, thereby streamlining and improving further implementations. CC will also work with potential external consumers of funded materials such as search engines and international communities to directly increase the discoverability, dissemination and impact of funded materials. A series of summits and workshops will be utilized to share knowledge and train grantees.

All grantees will qualify for these services. When either need or opportunity suggests, CC is prepared to tackle high-opportunity/high-payoff projects to offer more intensive services to ensure positive outcomes. We will look for projects with the higher possible return on investment.

Course Design and Best Practices

Carnegie Mellon University OLI leverages learning science and emerging information technologies to design web-based interactive open educational resources (OER) that reduce cost and increase effectiveness in higher education. OLI provides a methodology and platform for developing, delivering and continuously improving the OER.

[1] The Creative Commons CC BY license allows sharing and remixing of content with proper attribution to the creator or licensor: http://creativecommons.org/licenses/by/3.0/

The Center for Applied Special Technology (CAST), the research and development organization that pioneered the field of Universal Design for Learning (UDL), will provide expertise and enabling technologies to ensure that all of the digital content and learning environments (including the technical assistance programs) developed in this project are designed to succeed with the widest range of learners possible – including those with disabilities, English language learners, students who are disadvantaged in prior education and others needing special consideration. The necessity of embedding UDL principles in OER developed materials has been a valid critique of OER. This proposed project creates a timely and needed intervention in the evolution of OER developed materials that will further extend reach and impact.

CAST will provide expertise in UDL and ensure a proper application to the needs of community and technical college students. CAST will also advise grantees on how best to implement complementary standards pertaining to accessibility (IMS "Access for All" and Section 508) and learning that addresses learner variation. (CAST is presently facilitating the Higher Education Commission on Textbook Accessibility for the U.S. Congress). In addition, CAST will help grantees to consider how to implement the APIP assessment item standard that supports matching assessment accommodations and features with individual student needs. This will ensure that learners are able to truly demonstrate what they know and can do. CAST will consider how similar matching could be implemented within the learning delivery systems.

Together, OLI and CAST will develop web-based technical assistance resources including a robust website and webinars designed to support community and technical colleges in implementing OLI learning guidelines, the UDL framework and techniques and technologies for complying with accessibility standards in the creation of web-based learning environments Specific materials and strategies will be provided to ensure that the course designs implement aspects of Universal Design for Learning (UDL) most likely to provide improved learning outcomes. OLI will create an OLI course on Effective Course Design that will be available as an open and free OLI course.

Making the Case: Policy and Best Practices

The Washington State Board for Community & Technical Colleges (SBCTC) will utilize its system-wide experience in adoption, re-mix, re-use and distribution of OER to help grantee institutions develop best practices and policies that take full advantage of the C3T grants and process.

SBCTC will draw on its own experience to develop policy best practices and demonstrate how the C3T open content can most effectively be adopted and re-used, as widely as possible, with the most local buy-in, with minimal resistance. SBCTC will also demonstrate how a mix of strong faculty support and multi-direction strategic pressure points (students, faculty, deans, provosts, presidents, trustees, and legislature) can speed adoption of quality openly licensed programs, courseware and textbooks.

SBCTC is a national leader in performance-based funding models. Washington's Governor is chair of the National Governor's Association and its Complete to Compete initiative. The system's Student Achievement Initiative will help to demonstrate how open licensing policies and the adoption of faculty incentives to adopt quality open content can increase student completion rates. SBCTC will help grantees understand the direct connections between OER adoption and performance-based funding.

SBCTC will report and share best practices with all (global) community and technical colleges and partner with existing associations and consortia to leverage existing networks and maximize impact (i.e. Educause, League for Innovations, AACC, iNACOL, CCCOER, etc.).

SBCTC will also use its own 34-college system to advance the process. Multiple Washington Community and Technical Colleges will receive support to pilot C3T open content created during the first grant period. The existing "faculty learning communities" within the WA CTCs will be used to support and advise faculty on adoption and re-use of C3T open content.

To support adoption, SBCTC will develop and provide professional development on adoption and re-use of C3T open content for faculty, deans, provosts, presidents and trustees. The support of these institutional players is critical to scalability and sustainability. SBCTC will also provide proof of concept demonstrations that allow educators and users of content to examine how their peers are using material created under C3T and existing educational resources. SBCTC will create and broadly distribute policy best practices on how the C3T open content can most effectively be accessed, accessed, re-mixed and re-used in digital and print-on-demand formats.

Finally, SBCTC will lead the Consortium in organizing three National Summits (in-person & online) and multiple (live & archived) webinars on adoption and re-use of C3T open content. These will include a kick-off/planning, mid-project, and a final sharing/adoption conference. Events will be scheduled in locations across the country and advance goals for adoption and education on best practices. C3T grantees will be surveyed prior to each summit to ensure the summits' agendas are aligned to grantees' needs.

SBCTC will also work with all grantees based on need, with others more intensely based on an assessment of impact and opportunity, an exhibit a preference for the most global inclusion possible in all proposed activities.

Web-Based Learning Environments: Plus Platform and Plus Co-Development

OLI and CAST will build on this comprehensive set of supports and offer two additional options for deeper involvement in building web-based interactive environments. The **Plus Platform** option will provide support to institutions that choose to design their own OER independently and use the UDL-enhanced OLI platform for deployment. The **Plus Co-Development** option is the most intensive and includes a complete OLI/CAST co-design process and delivery of OER on the OLI platform.

The decision on which approach to take will be made mutually with the grantee. We anticipate selecting 25 Plus Platform grantees and six for Plus Co-Development services.

Plus Platform

For Plus Platform participants, OLI and CAST will support grantees that wish to deliver their independently designed web-based OER through the UDL-enhanced OLI platform. OLI and CAST will provide training and tools to grantee technical staff about how to add their content to the UDL-enhanced OLI platform. OLI will collect the interaction level data on student use and make that data available to the grantee to the extent possible given the design of the learning activities and the regulations on privacy of student data.

Plus Co-Development

The Plus Co-Development services will include complete design and delivery by OLI of OER that are web-based interactive learning environments (ILE). OLI will coordinate and lead OER teams composed of multiple subject matter experts (e.g., faculty, industry experts from the C3T Grantee), CAST UDL experts, OLI course developers, OLI cognitive and learning scientists, OLI Human Computer Interaction experts, and OLI software engineers in a process to articulate the target student-centered measurable leaning

outcomes for the OER and to design and deliver the OER to support students to achieve those outcomes. OLI will invite grantees from different projects in the same domain to collaborate on a single design team to create an OER that serves all projects. Preference in the selection process will be given to grantees willing to serve on cross-project development teams.

Plus Co-Development OER teams will design web-based ILEs in accordance with current research on human learning, Universal Design for Learning (UDL) principles, Human Computer Interaction usability studies and the affordances of the current technology to support students to achieve the specified learning outcomes. The ILE will be delivered through the UDL-enhanced OLI delivery platform, while collecting the interaction level data on student use to drive the feedback loops to the learner, the instructor, the OER design team, the learning science and UDL communities of practice. Effectiveness of the OER in supporting learners to achieve the articulated outcomes and improve the OER will be evaluated based on data collected through student use.

OLI will provide hosting and delivery to grantees who select either service level described above, including hosting OER content and technical support for students and instructors. Through Learning Tools Interoperability (LTI), OLI will also make it possible for institutions to use their local LTI compliant LMS to deliver courses. Students and teachers will have single sign-on shared authentication.

CAST will integrate UDL considerations with the work OLI is doing on platforms and will provide complementary technical assistance and enabling technologies that have been developed for the National Science Foundation, the U.S. Department of Education, and the Carnegie Corporation of New York, .

CAST will enhance the OLI platform with UDL functionality by providing both technical expertise and adapting existing tools. CAST will provide modular technologies for UDL and basic 508 accessibility, modify existing modular technologies to optimize their compatibility and effectiveness within the OLI platform, and provide technical assistance to OLI engineers and learning designers on incorporating UDL technologies to ensure basic accessibility. Additionally, CAST will develop new UDL modules or adapt modules under development to meet the requirements of continuous improvement (as indicated by feedback loops from learning designers, teachers, individual students, etc.), participate in continuous improvement cycles, and conduct usability studies to ensure that UDL functionality is designed effectively across the full spectrum of learners.

Grantees will be consulted about their level of involvement. Selection for these Plus services will be based on criteria including, current implementation of web-based OER, interest in working with other institutions in the same domain area, and willingness to collaborate and use a shared environment. We will favor initiatives with potential in high impact workforce areas.

In addition to the specific services outlined above, OLI will lead a planning cycle to determine how to transition OLI technologies into an open source software project.

III. Alignment with Strategy

The Consortium proposal addresses the Gates Foundation's strategic goals for improving the performance of postsecondary education, specifically its interest in innovation in institutional practices and goals for technology and platform development that lead to dramatic improvement. It also addresses concerns that we are hearing from C3T applicants about their capacity to successfully meet the requirements of the grant.

While the C3T grant also aligns closely with Gates Foundation goals, it lacks funding for the supports and technological infrastructure required by grantees to succeed. This is already raising concerns from potential applicants. Success in the first round of funding is critical to the realization of subsequent rounds. The Consortium will work to ensure that this large investment in postsecondary education produces dramatic improvements that are interoperable, adaptable and adoptable across all community colleges.

The *Raising the Floor Consortium* will address several Gates Foundation priorities directly. The project will utilize the content expertise of DOL grantees in identifying the target courses to help more students get through graduation, and possibly accelerate learning. The ultimate goal is to implement a model for testing and scaling educational innovation, thus helping more students graduate.

The heart of the project is the use of information technology to collect real-time, interaction-level data on how students learn and to use this data to improve learning outcomes and support students in improving overall learning strategies. It is a good example of using data to accelerate the rate of academic catch-up for poorly prepared young students and displaced workers. Students participating in OLI courses learn more material in less time with better achievement outcomes. The project will yield a platform in which successful innovations can be tested, adapted, and replicated at scale. We will be developing new technology products and platforms that will produce dramatic improvement in learning and completion rates that can be adapted and adopted by every community and technical college in the world.

The Consortium is also focused on insuring that this Federal grant opportunity establishes a new baseline, or floor, for postsecondary education, rather than reinforcing out-dated and ineffective practices. We hope to stimulate new institutional practices focused on completion and that utilize OER and web-based learning to both decrease the time and the cost required to complete a credential with value in the workplace.

The work of SBCTC and CC in policy and professional development will help to embed open educational principles in institutional practices and policies. Through interaction with all grantees on how to meet open licensing requirements, we will build knowledge and institutional capacity at each grantee institution in regards to accessing OER and developing practices and policies for creating and sharing OER.

Finally, we are particularly committed to ensuring success of the first wave of DOL funding in order to ensure subsequent waves of funding and to impact the structure of those grants so that this type of technical and infrastructure support is included.

IV. Implementation and Results

Appendix A provides a delineation of the five critical outcomes of our collective work and the expected deliverables and activities required to yield these results. The outcomes are structured as follows:

- Comprehensive Infrastructure Support and Capacity Building
- Plus Platform
- Plus Co-Development
- Evaluation
- Adoption and Policy

Each outcome describes the overall goal and the measurable targets that will be used as accountability indicators. The milestones listed for each goal provide different lenses on progress toward the goals. Anticipated challenges associated with each goal are also discussed.

Immediately following the announcement of the grant recipients, we will review all winning grant proposals and survey all funded projects. Through this process, we will begin identifying baseline knowledge of all projects and potential candidates for Plus Platform and Plus Co-Development support. We will contact the potential candidates and begin building agreement on participating in the more intensive services.

We will conduct the Plus Platform workshops for the first half of this group approximately 2 months after the grantees are announced. This Plus Platform Workshop will be patterned after the OLI summer developers' workshops that have been conducted in the past to support development teams to develop their own courses in the OLI environment.

We will select the first round of participating projects for Plus Co-Development services and launch the first half of Plus Co-Development teams. The OER teams will develop the first round of pilot courses in spring and summer 2012 with initial pilot of the course in the fall 2012. In the following year, the second round of participating projects will be selected and the teams will develop the second round of courses.

In parallel to the work of Plus Co-development teams, the OLI software engineers will refine the development, delivery and data collection, analysis and reporting environment in accordance with the emerging needs of the cross-project teams.

V. Organizational Capacity

The four organizations comprising the *Raising the Floor Consortium* have significant expertise and experience working with educational institutions and policy makers on issues of open educational resources, web-based learning environments, universal design and public policy for community colleges. Collectively, they represent a comprehensive response to the support needs of C3T grantees.

Creative Commons

Creative Commons (CC) is a global nonprofit organization that develops legal and technical tools used by individuals, cultural, educational, and research institutions, governments, and companies worldwide to overcome barriers to sharing and innovation. The Creative Commons organization, now entering its second decade, provides expert knowledge and leadership in developing and stewarding the critical legal and technology infrastructure for interoperability of openly licensed educational materials. Creative Commons relies on a professional staff of employees, board oversight and strategic guidance, an international

community of jurisdiction affiliates, and partnerships with a spectrum of individuals, businesses, communities and institutions, including community colleges.

Carnegie Mellon University Open Learning Initiative

OLI at Carnegie Mellon has been funded since 2002 by The William and Flora Hewlett Foundation and the Bill & Melinda Gates Foundation, among others; and has received extraordinarily high ratings for its effectiveness in administering a unique collaboration among learning scientists, human-computer interaction experts, and faculty in various disciplines. The project has also received grants from The Spencer Foundation, The Lumina Foundation, The Walter S. Johnson Foundation, The Kresge Foundation, Hewlett Packard Corporation and several NSF programs. OLI's work is closely connected to the interdisciplinary goals of the NSF-funded Pittsburgh Science of Learning Center, which provides a substantial corps of faculty and graduate students with experience in uniting cognitive science with information technology capabilities.

Center for Applied Special Technology

CAST is a not-for-profit, educational research and development organization that developed the framework for Universal Design for Learning, which leverages our latest understanding of learning sciences and multimedia technologies to design learning environments that are highly malleable for all learners. CAST's mission is to expand opportunities for all individuals, especially those with disabilities and at-risk learners, through innovative uses of technology and Universal Design for Learning. CAST has earned international recognition for its innovative contributions to educational products, classroom practices, and policies, and has been supported by the U.S. Department of Education, the National Science Foundation, the Institute of Education Sciences, and significant private funders. CAST has directed seven national centers and national consortia that range from the National Instructional Materials Accessibility Standard (NIMAS) Development Center, the Accessible Instructional Materials (AIM) Consortium of 15 state departments of education, the NIMAS Center, the AIM Center, and the National Center on UDL. Universal Design for learning is now a part of the National Ed Tech Plan, the Higher Education Opportunities Act, and is under consideration in for the Elementary and Secondary Education Act. CAST has a long history of collaboration with key educational partners to achieve its field-building, research and development and dissemination goals.

Washington State Board for Community and Technical Colleges

The Washington State Board for Community and Technical Colleges (SBCTC) has been a leader of innovation and improvement efforts in Washington State and nationally. SBCTC's Integrated Basic Education and Skills Training(I-BEST), Student Achievement, and Open Education (Open Course Library and Open Policy) initiatives have broken new ground as national models for student completion, and this project will expand and deepen the innovation and impact of higher education reform in Washington State and beyond.

SBCTC has demonstrated success in implementing large, multi-year foundation grants from the Bill & Melinda Gates Foundation (Transition Math Project and the current Student Completion Initiative), the Ford Foundation (Bridges to Opportunity), College Spark and Lumina Foundations (Achieving the Dream). Washington's community and technical college system has enjoyed support from the State Legislature to implement new targeted statewide programs including Worker Retraining (job training for unemployed and dislocated workers), WorkFirst (basic skills and job training for welfare clients), Opportunity Grants

(financial aid and support services for low income students to complete credentials in high demand occupations) and Running Start (dual credit for college ready high school juniors and seniors). SBCTC has an excellent statewide, student enrollment and transcript database, and a strong track record of evidence based decision making for system priorities and budget priorities, public accountability and program evaluation especially for new initiatives.

Leadership

The activities proposed here will proceed under the oversight of Catherine Casserly, Candace Thille, Lisa Pollmer and Cable Green. This group represents the deepest existing expertise across domains for the OER field. Each organization is comprised of accomplished and highly skilled individuals (Appendix B).

Increasing Capacity

The Consortium Partners will lead and organize support work teams around the major activities of deliverables. Each organization will draw on existing expertise in their organization and add additional staff as needed. The most important addition to this collection of experts will be a project lead housed at Creative Commons responsible for coordinating the timing of project activities, facilitating communication across organizations, and for rolling deliverables out efficiently with a sense of urgency.

Managing Funds

Creative Commons will administer and manage the funds for this project in accordance with generally accepted accounting principles (GAAP). Creative Commons controller Ted Rose started his accounting career at Deloitte, and has worked as a Controller for both private and nonprofit organizations.

For Previous Gates Foundation Funding of all Consortium Members, please see Appendix C.

VI. Project Budget

Creative Commons will be acting as the fiscal agent administering the grant. More extensive budget narratives for Creative Commons and each Consortium member are included in Appendix D.

VII. Risks

Attempting to deliver comprehensive infrastructure support and capacity building to all C3T funded applicants, plus more intensive support for a subset of projects, while critically important to accelerate the impact of the DOL funds, is not without risks of failure. These risks can be grouped around three areas: experience at executing at scale with community colleges; difficulty of quantitatively measuring the quiet ripple effects of impact; and, changing institutional and faculty norms associated with "the not invented here" syndrome. Each risk is discussed below.

The first identified risk is the gap between the Infrastructure Consortium's experience, skills and expertise developed to date and the marginal differential to execute at this level of scale for the community college target audience. In particular, OLI readily acknowledges that their bandwidth is stretched given the high level of demand for OLI services. This risk is exacerbated by the unknown level of effort needed to support the first full wave of C3T grantees. To mitigate this risk, we propose a complete survey of community colleges at three points along the first wave rollout: immediately following announcement of awards prior to

the first national conference, the mid-point check during year 2 and the sharing national work/imminent adoption in year 3, again prior to the national conference.

This will allow us to identify needs, gaps and problem areas on an evolving basis from C3T grantees, summarize what we hear and how we plan to address issues, be critiqued by the community college consumers, and continually act reflectively and nimbly to optimize impact. We seek to maximize the "stickiness" of our infrastructure support and capacity building with all institutions we serve.

Evidence of impact is our second area of risk. We will set clear metrics and capture what is meaningful and measureable but acknowledge some ripple effects will be meaningful and likely difficult to capture. To mitigate this risk we will seek to maximize data collection opportunities during the surveys, webinars, email requests and technical assistance conversations. Further, we will use case studies of highly impressive projects to communicate impact to the broader field and beyond.

Our third identified area of risk focuses on adoption tied to the "not invented here" syndrome. In particular, we are concerned community colleges will need to overcome a series of institutional and procedural hurdles to adopt the remix options of CC BY and offer the C3T courses and programs. To address this challenge we will: involve faculty and other stakeholders in all processes, leverage data as evidence of student achievement to encourage faculty and leaders to assume greater buy-in; and, engage system leaders and faculty with ongoing professional development opportunities and improved completion rate and textbook savings data. We expect Washington Community and Technical Colleges to "break trail" and demonstrate incentive structures for adoption behavior. Washington CTCs are national leaders in making the cultural shift from "not invented here" to "proudly borrowed from there."[2]

Our overall approach to minimizing these and other potential risks is to be continually looking beyond the curve for obstacles, listen intensely to C3T grantees and be open to addressing knowledge gaps and needs on the fly.

VIII. Measurement, Learning, and Evaluation

Over the long-term, our overarching goals are the following:

- Publicly funded educational materials should be freely and openly available to the public that paid for them;
- Build a strong culture of data-driven continuous improvement and sharing in the post-secondary education sector uniting cognitive science with information technology capabilities;
- Yield higher return on investment in students and workforce development.

To reach these ambitious outcomes, we must begin during the 36-month period of the proposed grant to deliver on a key number of time critical activities and tasks. Details of these benchmarks have been described throughout the proposal and are summarized in a complete outline of targets provided in Appendix A. A detailed evaluation plan will be developed during the first six months of the grant that will include at minimum details of the following elements:

- Surveys for all C3T grantees at the point of selection prior to the initial national conference, mid-point survey prior to the second national conference, and at the end of the 36-month period of the grant. A key early deliverable with be development of the baseline survey that will: identify baseline

[2] Quote from Washington Community and Technical Colleges' Strategic Technology Plan: http://techplan.sbctc.edu

knowledge of C3T grantees; explore specifics of knowledge gaps; and assist identify potential participants for the Plus Platform and Plus Co-Development OLI/CAST services. CC and SBCTC will also leverage the opportunity of the survey to explore high leverage opportunities;

- Aggregation and anonymized reporting by Creative Commons on questions and problems raised in providing support to grantees, aiming to discover opportunities to ease and improve implementation in future waves of C3T;

- One or more publications by CC characterizing the quantitative and qualitative impact of C3T's CC BY policy, and present opportunities for future improvement and research;

- Effectiveness of the learning environments in supporting the target population to achieve the specified learning outcomes in the courses created and adapted by the OLI Design Teams. OLI will evaluate success on the whole course level using the learning effectiveness study methods developed and applied in existing OLI courses. As part of the design and improvement process OLI has analyzed the data collected from student use to evaluate the effectiveness of specific learning activities and revise activities based on this analysis. In addition to analyzing the data to understand student progress in learning-domain knowledge, OLI will analyze the data to monitor student progress in developing more effective study strategies and meta-cognitive reflection and self-regulation competencies. Impact will be tracked on the target population in ALL of the evaluations. The results of studies will be documented in technical reports and publications. Faculty from grantee institutions will be invited to co-author papers as appropriate.

- *General principles for web-based learning environment design will be evaluated by the OLI Design Teams.* As new understanding is gained of how to apply learning science to design web-based environments, OLI course will be improved to build effective learning environments that are now under development through other grant funding. Researchers at the Pittsburgh Science of Learning Center may also introduce variations in learning activities into the learning environments to refine our understanding of how people learn, and the results of their research in these courses will be disseminated through the PSLC theory wiki and various publications.

- Course design will be evaluated against UDL rubric and against UDL assessment standards by CAST; Adoption will be examined and analyzed by SBCTC. Comparison measurements of the results of Comprehensive Infrastructure Services vis-à-vis the Plus Platform vis-à-vis Plus Co-Development services. Metrics for overall C3T impact as part of the overall evaluation plan. Indicators of success will include analytics of web traffic to the government C3T repository. Through this kind of measurement and radiating "halo effect," we seek to measure identify take-up far beyond the colleges we directly engage in this 36-month grant.

Following an S-shaped innovation curve, and keeping with the typical time trajectory for innovation design, development, diffusion and maturity, we expect the knowledge and innovation to be developed over the next 36 months in Wave 1 will accelerate the impact of Waves 2, 3 and 4 of DOL funding. .

We ask the Gates Foundation to lend their expertise and actively participate in the development of the initial survey and evaluation plan to assure the optimal field level outputs are measured.

IX. Sustainability

The sustainability goal of our *Consortium* is to provide these *Raising the Floor* professional technical, legal, design, adoption and policy services to all four waves of the C3T Department of Labor grant.

Our consortium has three sustainability plans (in order of preference) to ensure these services are available in waves 2, 3 and 4 of the C3T Department of Labor grant. All three sustainability plans assume the *Raising the Floor* consortia services are (i) valuable to wave 1 grantees and adopters of wave 1 content, and (ii) that the DOL deems these services to be critical (and required in the SGA) components of wave 2, 3 and 4 C3T grants to maximize this significant public investment.

1. DOL both requires the *Raising the Floor* services be part of waves 2, 3 and 4 C3T grants and allows our consortium to write a DOL grant to support all C3T grantees.

2. DOL requires the *Raising the Floor* services be part of waves 2, 3 and 4 C3T grants, but does not allow our consortium to apply for a DOL grant. Our consortia will advertise our services and attempt to get "written into" wave 2, 3 and 4 grant proposals.

3. DOL requires the *Raising the Floor* services be part of waves 2, 3 and 4 C3T grants. Our consortia will seek additional foundation (Gates, Hewlett, Lumina, etc.) funding to support wave 2, 3 and 4 C3T grantees.

Our consortium has already discussed the *Raising the Floor* services with the DOL and *has confirmed the* department's enthusiastic support. If these services are funded by the Bill and Melinda Gates Foundation for wave 1, our consortium will quickly engage in sustainability discussions with both DOL and the Gates Foundation re: the three plans listed above. The group will come up with a sustainability plan in mid-2011, so the *Raising the Floor Consortium* can prepare for the wave 2 proposal timeline slated to start in January 2012.

An additional focus of sustainability is that all federal grants funded with public tax dollars should follow this model: (1) require a CC BY on all works produced and (2) requiring these *Raising the Floor* services in all federal grants. Members of our consortium are already working on federal legislation (e.g., Federal Research Public Access Act) and are engaged in discussions with other federal agencies to advance these two sustainability goals. It is worth mentioning this second (achievable) sustainability goal is a game changer. If all federally funded grants require a CC BY license and require *Raising the Floor* services, global education P-20 institutions will benefit immensely.

X. Intellectual Property Questions

- Will the project involve research using human subjects (i.e., students)? YES
- Will your project involve the creation of a new technology, formulation, or product, or the further development of any existing technology, formulation, or product? YES
- Will your project involve the use and/or further development of technology, a product, software, material or data owned or to be provided by a third party? YES
- Will your project involve the creation of software, drawings, or written material (such as an analysis, a curriculum, guidelines, or policy recommendations) other than internal working documents, reports to the foundation, or publications? YES
- Will your project involve the creation of digital media and/or audio/visual content? YES

XI. Contact Information

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APPENDIX A
Project Outcomes Timeline and Milestones

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
GRANT OUTCOME 1: COMPREHENSIVE CC-BY license correctly implemented by all C3T grantees (~100) and develop courses meet accessibility standards and Universal Design for Learning (UDL) principles to leverage federal investment. Widespread adoption and use of openly licensed digital courses and programs in the nation's community and technical colleges.				
Milestone 1-a Supporting materials. Legal, technical, and policy materials targeted for community college implementer audiences developed for all grantees including: web materials, brochures, checklists, how-to, videos, and webinar materials.	Does not exist.[1]	Community College materials developed and delivered per 1-b.	Improved and refined.	Further improved and refined.
Milestone 1-b 100% of grantees evaluated and proactively engaged at various levels of support ranging from webinar attendance, conference/training (periodic, at minimum 1/quarter offered), phone/email (always available support).	Does not exist.[2]	100% grantees surveyed for baseline knowledge and capacity; grantees develop understanding of available services and engaged accordingly.	Heavy support provided to 100% of grantees. Year 2 survey developed and conducted.	Year 3 survey demonstrates minimum of 50% of grantees substantially increased ongoing capacity for successful OER creation and publication.
Milestone 1-c 100% of grantees publish correctly qualified, marked, and tagged outputs on college site, consensus repository, or similar established practice.	Few.[3]	Little to limited materials anticipated to be completed during Year 1.	First exemplars; the 50% that have published have correctly published grant-funded materials.	100% have correctly published grant funded materials.

[1] Only general materials exist. These are not targeted at community college audience, and do not support "IP hygiene" processes within institutions.
[2] Grantee knowledge of copyright, existing IP hygiene practices expected to be nearly nonexistent. Expect fundamental low capacity with grantees starting from scratch.
[3] Very few community colleges have published OER; many relevant best practices do not exist, e.g., those around repositories. (see 2-b)

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
Milestone 1-d Community College course developers will have improved knowledge, skills and capacity around accessibility and UDL principles.	Limited capacity exists.	40% of DOL grantees will participate in web-based training on accessibility and UDL and use resources for implementation.	80% of DOL grantees will participate in web-based training on accessibility and UDL and use resources for implementation.	100% of organizations participating in Comprehensive services will meet accessibility requirements and 50% will reflect UDL principles.
Milestone 1-e Community College course developers will have improved knowledge, skills and capacity to identify and use enabling technology, tools and platforms that facilitate effective accessibility implementation and learning designs.	Limited capacity exists.	40% of DOL grantees will use the web-based listing of enabling technologies to support accessible and UDL design efforts.	60% of DOL grantees will use the web-based listing of enabling technologies to support accessible and UDL design efforts.	80% of organizations participating in Comprehensive services have identified and/or acquired enabling tools and technologies for UDL and accessibility work.
Milestone 1-f Create and execute advertising/communication plan to inform colleges where the content is, how to get it into digital learning spaces, and (when necessary) how to remix it to meet local needs.	Does not exist.	Create plan in partnership with existing associations[4] and consortia to leverage existing networks and maximize impact.	Establish and refine communication methods.	Make adjustments to communication plan for wave 2.
Milestone 1-g Host three National Summits (in-person & online) and multiple (live & archived) webinars on adoption and re-use of C3T open content.	Does not exist.	Host kick-off/planning meeting.	Host mid-project summit.	Host final sharing/adoption roll-out conference.
Milestone 1-h Develop policy best practices and demonstrate how the C3T open content can most effectively be adopted and re-used, as widely as possible, with the most local buy-in, with the least resistance.	Scattered and difficult to find.	Collect and centralize existing best practices from OER community.	Develop policy best practices on how the C3T open content can most effectively be accessed, distributed and re-used in digital and print-on-demand format.	Provide in-person, webinar and whitepaper professional development on adoption and re-use of C3T open content.
Milestone 1-i Assist/incent multiple Washington Community and Technical Colleges to pilot and adopt C3T open	Does not exist.	Demonstrate how a mix of strong faculty support and multi-direction	Leverage the existing "faculty learning communities" within the	Provide proof of concept demonstrations. Report and share best practices

[4] Educause, League for Innovations, AACC, iNACOL, CCCOER, SPARC, OCW, DOE, DOL, WCET, SREB, PIRGs, Creative Commons, CNX consortium, etc.

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
content. (Linked to 4-C: WA Community Colleges will model adoption and use).		strategic pressure points can speed adoption of quality programs, courseware and textbooks.	WA CTCs to support and advise faculty on adoption and re-use of C3T open content.	with all (global) community & technical colleges.
(Anticipated) External Challenges or Factors	The biggest challenge will be to work with colleges and faculty to adopt, remix and offer the C3T courses and programs. We will overcome this challenge by involving faculty and other stakeholders in every step of this redesign project. We will further engage system leaders and faculty with ongoing professional development opportunities and show colleges improved completion rate and textbook savings data. We will move toward gaining accessibility compliance with less intensive intervention and guidance.			

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
GRANT OUTCOME 2: +PLATFORM +Platform grantees delivering independently designed OER on OLI platform and collecting data for continuous improvement. All course projects comply with accessibility standards and reflect UDL principles resulting in improved usability, learning and adoption.				
Milestone 2-a Complete project selection process and complete institutional and faculty agreements.	Does not exist.	Round 1 +Platform projects selected and agreements completed.	Round 2 +Platform projects selected and agreements completed.	Communicating impacts.
Milestone 2-b Conduct development, data-collection and Use & Evaluation workshops for participating faculty and institutions.	Does not exist.	Round 1 +Platform workshops completed.	Round 1 +Platform courses delivered. Round 2 +Platform workshops completed.	Round 2 +Platform courses completed.
Milestone 2-c Collect and report data on effectiveness of courses to projects.	Does not exist.	Data analyzed.	Data reported to Round 1 +Platform projects.	Data reported to all projects.
Milestone 2-d Evaluate and amend strategy for long-term sustainability and scaling of OLI as development and delivery platform.	Does not exist.	Process documented and evaluated.	Process refined and documented.	Process refined and documented.
Milestone 2-e Projects will increase their knowledge and skills in accessibility and UDL by using materials and technical assistance services and will apply these skills to the creation of courses.	~10%.	All projects participating in +Platform services will complete accessibility and UDL training through web-based training.	All projects participating in +Platform services will apply accessibility knowledge and skills and UDL knowledge and skills to learning designs.	100% of courses developed using materials and technical assistance will be accessible and reflect UDL principles.
Milestone 2-f Projects will implement accessibility requirements and UDL guidelines through the technical platforms for course development provided by CAST and OLI.	Does not exist.	All projects participating in +Platform services will have created learning designs that are accessible and consider UDL.	All projects participating in +Platform services will use OLI and CAST platforms to implement UDL and accessibility features.	100% of courses developed using OLI and CAST platforms will be accessible.

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
Milestone 2-g Usability studies will be conducted to ensure continued improvement across all courses in the learning designs, technology platforms, UDL, accessibility and usability.	Does not exist.	Usability data requirements and methods built into OLI and CAST technology platforms.	Data is collected from +Platform participants and used to refine course designs.	CAST and OLI platforms are refined based on data derived from course development efforts.
Milestone 2-h Courses will be reviewed to ensure that they comply with accessibility standards and reflect UDL principles.	Does not exist.	Rubrics established for accessibility and UDL reviews.	Iterative reviews conducted on accessibility and UDL.	100% compliance with accessibility standards and designs meet base-level UDL rubric.
Milestone 2-i Strengthen course development capacity through development of learning activity and assessment authoring tools for + Platform development teams.	Does not exist.	First pass at learning page, assessment and tutor authoring tools completed.	Learning page, assessment and tutor authoring tools refined through use.	Completed learning activity and assessment authoring tools.
Milestone 2-j Reduce barriers to adoption through technical integration of authentication and grade book of delivery environment with LMSs at participating colleges.	Does not exist.	Integration with LMS of authentication through LTI.	Integration with LMS of authentication and grade book through LTI.	General integration of authentication and grade book with any LMS.
Milestone 2-k Strengthen evidence driven design capacity through development of data-collection and analysis tools for +Platform teams.	Does not exist.	First pass at course design feedback reports.	Refinement of course design feedback reports through use.	Completion of course design feedback reports.
Milestone 2-l Increase capacity for +Platform tool and platform use through development of OLI learning environment on how to use OLI authoring and data-collection and analysis tools.	Does not exist.	Preparation and planning.	First pass at OLI course on how to use tools. First pass at OLI course on how to use course design feedback reports to improve courses.	Completed OLI course on how to use tools and OLI course on how to use course design feedback reports for +Platform teams.
(Anticipated) External Challenges or Factors	Determining what level of support DOL grantees will need to independently use OLI and CAST architectures to create courses that are high-quality UDL and accessibility compliant.			

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
GRANT OUTCOME 3: +CO-DEVELOPMENT +Co-Development cross-grantee project teams deliver OLI designed OER and demonstrate increased completion rates for target population in courses. All teams will be fully accessible and reflect UDL principles which results in improved quality of learning design and greater adoption.				
Milestone 3-a Identify courses for development and adaptation and establish baseline course completion rates in participating colleges and projects.	Does not exist.	Course list compiled and baseline metrics assembled for target population in half of courses.	Course list updated and baseline metrics assembled half of courses.	Communicating impacts.
Milestone 3-b Complete project selection process and complete cross-project institutional agreements with selected participating colleges and faculty and industry experts.	Does not exist.	Round 1 +Co-Development agreements completed.	Round 2 +Co-Development agreements completed.	Communicating impacts.
Milestone 3-c Train and launch course development teams. Complete +Co-Development course development.	Does not exist.	Round 1 teams launched, sample segments completed and piloted in programs.	Round 1 full courses developed and tested in classroom. Round 2 teams launched, sample segments completed and piloted in programs.	All courses from +Co-Development completed and tested in classroom.
Milestone 3-d Collect data on effectiveness of courses. Document course development and implementation processes for achieving improved course completion rates.	Does not exist.	Preparation and planning.	Areas for improvement for Round 1 development courses identified.	Improvements for Round 1 courses implemented. Areas for improvement of Round 2 courses identified.
Milestone 3-e +Co-Development projects will receive training on accessibility and Universal Design for Learning.	Does not exist.	Six grantees/projects will be selected to receive intensive design services including training in accessibility and UDL.	Projects will share their knowledge and skills in accessibility and UDL within their institutions.	Institutional capacity in accessibility and UDL will be formalized in each participating institution.

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
Milestone 3-f Projects will work in intensive design process with CAST and OLI team to develop courses that apply UDL guidelines and accessibility standards.	Does not exist.	Learning designs are developed for +Co-Development projects that are based on UDL principles and consider accessibility requirements.	Learning designs for 3 projects are translated into the technical architectures with relevant content and assessment.	Learning designs for the next 3 projects are integrated into the technical architectures with content and assessment.
Milestone 3-g Courses will be piloted to ensure they are usable and operate as intended, and show/demonstrate promise for teaching/learning. Courses will be continually refined.	Does not exist.	Plans developed for piloting courses along with research methods, protocols, and resources.	3 projects will pilot their courses and data from pilot will inform refinement.	3 projects will pilot their courses and data will inform refinement.
Milestone 3-h Resulting courses are reviewed to ensure that they meet accessibility standards and UDL principles.	Does not exist.	Iterative reviews will be conducted during design process with three projects.	Iterative reviews will be conducted during design with next three projects.	Final review of 6 courses reflects 100% compliancy with accessibility standards and instantiate UDL principles.
(Anticipated) External Challenges or Factors	Managing a complex technology and learning design process with six disparate projects across multiple institutions.			

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
GRANT OUTCOME 4: EVALUATION Shared understanding of impacts of CC-BY requirement and infrastructure support services.				
Milestone 4-a Demonstrated impact of infrastructure support services.	Does not exist.	Analytic baseline established through online surveys.	Interim report on quantitative and qualitative impact, adjustments to services made, engagement with community college administration and implementers to tell story.	Ongoing publications regarding qualitative and quantitative impact of infrastructure support services.
Milestone 4-b Demonstrated impact of CC-BY grant requirement.	Does not exist.	Establish data gathering, research methods for analyzing CC-BY impact.	Interim report on impact of CC-BY requirement; engagement with community college students and adult learners to communicate results.	Ongoing publications on qualitative and quantitative impact of CC-BY requirement.
Milestone 4-c Communication.	Does not exist.	6 months - we'll have a better sense of what we'll need to communicate.	Systematic.	Broad reach.

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
GRANT OUTCOME 5: ADOPTION & POLICY Ecosystem change. Technology companies, postsecondary education and federal, state and local government.				
Milestone 5-a Software vendors and services, e.g., Blackboard, Moodle, Sakai, Microsoft Word. Learning Management Systems, content authoring and publication and other software and services used by grantees support correct, optimized implementation.	Does not exist.[5]	Initial conversations launched.	Minimum of 3 vendors engaged and progressing.	Broad support for grantees/requirements in relevant software and services.
Milestone 5-b Software, services, and communities optimized to leverage impact of grantee produced materials	Does not exist.[6]	Search, repository, and other ecosystem players identified and discussions begun re-leveraging grant-funded materials.	Early valuable reuses of developed materials; convergence on search and repository practices.	Compelling reuse normal; clear wins for value-add of search and repositories for outputs.
Milestone 5-c Demonstrate how open licensing policies and faculty incentives result in the adoption of quality open content can increase completion rates and therefore tie directly to national performance based funding models.	SBCTC is a national leader in this conversation.	Collect and chart national performance based funding policies from all 50 states.	Collect examples of high quality content adoptions raising completion rates and positively affecting other performance based funding metrics.	Study and report how adoption of C3T content affected (1) completion rates, and (2) access to (new) educational pathways.
Milestone 5-d CC-BY requirement maintained in subsequent rounds of C3T program.	CC-BY in first round of C3T.	CC-BY in C3T wave 2.	CC-BY in C3T wave 3.	CC-BY in C3T wave 4.

[5] Little to no direct support for CC licensing in educational content authoring and publication software/services.
[6] No compelling education search, no consensus on repositories, little facility for encouraging and tracking reuse.

	Current Baseline	Year 1 Progress	Year 2 Progress	Year 3 Progress
Milestone 5-e Infrastructure support by DOL in subsequent rounds of C3T program.	Wave 1: no DOL funding support for infrastructure.	Wave 2: DOL requires (in SGA) and provides funding support for infrastructure.	Wave 3: DOL requires (in SGA) and provides funding support for infrastructure.	Wave 4: DOL requires (in SGA) and provides funding support for infrastructure.
Milestone 5-f CC-BY requirement in comparable federal/state /local /international programs.	C3T first definitive CC-BY requirement for all grantees.	CC-BY in C3T Wave 2; a minimum of 1 additional state/system adopts CC-BY requirement on all competitively funded educational investments.	CC-BY in C3T Wave 3; a minimum of 2 additional states/systems adopt CC-BY requirement on all competitively funded educational investments.	CC-BY in C3T Wave 4; a minimum of 3 additional states/systems adopts CC-BY requirement on all competitively funded educational investments.
(Anticipated) External Challenges or Factors	The biggest challenge will be to work with Colleges to make the connection between openly licensed, freely available, high quality curriculum with their performance based funding policy. That connection is best made, and can only be made, with data. We will need to collect student success data from students taking adopted C3T courses/programs. If, for example, the "highly serviced" OLI/CAST courses yield significantly higher course completion rates, Colleges may be more willing to adopt those courses to meet their performance based policy goals.			