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By	



**OAKLAND UNIFIED SCHOOL DISTRICT  
Office of the Board of Education**

September 12, 2018

To: Board of Education

From: Kyla Johnson-Trammell, Superintendent  
David Chambliss, Deputy Chief, Teaching and Learning Department  
Courtney Ortega, Coordinator, Secondary Math

Subject: Grant Agreement - Mills College Grant Award #GATE001 -Bill and Melinda Gates Foundation - Teaching and Learning Department

**ACTION REQUESTED:**

Approval by the Board of Education of a Grant Agreement between the District and Mills College, accepting \$24,000.00, to provide a small network of elementary and middle schools from three school districts to use school-based lesson study to build the kinds of ambitious instruction envisioned in the Common Core State Standards, for fiscal year 2016-2017, pursuant to the terms and conditions thereof, if any.

**BACKGROUND:**

Grant agreement for OUSD schools for the 2016-2017 fiscal year was submitted for funding as indicated in the chart below. The Grant Face Sheet and grant application packets are attached.

File I.D #	Backup Document Included	Type	Recipient	Grant's Purpose	Time Period	Funding Source	Grant Amount
18-1629	Yes	Grant	Oakland Unified School District Schools via the Community Schools and Student Services Department	A small network of elementary and middle schools from three school districts use school-based lesson study to build the kinds of ambitious instruction envisioned in the Common Core State Standards.	October 1, 2016 through September 30, 2017	Mills College Grant Award #GATE001 via the Bill and Melinda Gates Foundation Grant	\$24,000.00

**DISCUSSION:**

The district created a Grant Face sheet process to:

- Review proposed grant projects at OUSD sites and assess their contribution to sustained student achievement
- Identify OUSD resources required for program success

OUSD received a Grant Face Sheet and a completed grant application for the program listed in the chart by the school.

**FISCAL IMPACT:**

The total amount of grants will be provided to OUSD schools from the funders.

- Grants valued at: \$24,000.00

**RECOMMENDATION:**

Approval by the Board of Education of a Grant Agreement to provide a school-based lesson study to build the kinds of ambitious instruction envisioned in the Common Core State Standards, via the Teaching and Learning Department, for fiscal year 2016-2017, pursuant to the terms and conditions thereof, if any.

**ATTACHMENTS:**

Grant Face Sheet

Grant Agreement #GATE001, 10/1/2016-9/30/2017



OUSD Grants Management Face Sheet

<b>Title of Grant:</b> School-based Lesson Study Project	<b>Funding Cycle Dates:</b> October 1, 2016 through September 30, 2017
<b>Grant's Fiscal Agent:</b> (contact's name, address, phone number, email address) Catherine Lewis, Distinguished Research Scholar Mills College 5000 MacArthur Boulevard Oakland, CA 94613 (510) 430-3129 <a href="mailto:clewis@mills.edu">clewis@mills.edu</a>	<b>Grant Amount for Full Funding Cycle:</b>  \$24,000.00
<b>Funding Agency:</b> Mills College via the Bill and Melinda Gates Foundation 5000 MacArthur Boulevard Oakland, CA 94613	<b>Grant Focus:</b> A small network of elementary and middle schools from three school districts use school-based lesson study to build the kinds of ambitious instruction envisioned in the Common Core State Standards. This 3-year project is funded by the Bill and Melinda Gates Foundation and is being extended by one more year.
<b>List all School(s) or Department(s) to be Served:</b> Teaching & Learning Math Elementary and Middle Schools, including: Acorn Woodland, Bret Harte, Edna Brewer and Life Academy	

Information Needed	School or Department Response
How will this grant contribute to sustained student achievement or academic standards?	In school-based lesson study, educators within a school develop a shared, school-wide improvement aim, and then work in lesson study teams to achieve this aim, drawing on knowledge from colleagues within and outside the school. Educators at the school pool their knowledge and pull in additional ideas from experienced outside educators and research. Lesson study teams then bring this ideas to life in research lessons at each grade level. By observing and discussing other teams' research lessons, educators build shared, school-wide knowledge about mathematics instructions.
How will this grant be evaluated for impact upon student achievement?  (Customized data design and technical support are provided at 1% of the grant award or at a negotiated fee for a community-based fiscal agent who is not including OUSD's indirect rate of 5.59% in the budget. The 1% or negotiated data fee will be charged according to an Agreement for Grant Administration Related Services payment schedule. This fee should be included in the grant's budget for evaluation.)	We use multiple measures to evaluate the impact upon student achievement, including: surveys (all educators) and interviews (a sample of educators).
Does the grant require any resources from the school(s) or district? If so, describe.	No
Are services being supported by an OUSD funded grant or by a contractor paid through an OUSD contract or MOU?  (If yes, include the district's indirect rate of 5.59% for all OUSD site services in the grant's budget for administrative support, evaluation data, or indirect services.)	Yes
Will the proposed program take students out of the classroom for any portion of the school day? (OUSD reserves the right to limit service access to students during the school day to ensure academic attendance continuity.)	No

Who is the contact managing and assuring grant compliance? (Include contact's name, address, phone number, email address.)	David Chambliss Deputy Chief of Teaching & Learning Oakland Unified School District 1000 Broadway, Suite 600, Oakland, CA 94607 (510) 750-8745 <a href="mailto:david.chambliss@ousd.org">david.chambliss@ousd.org</a>
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**Applicant Obtained Approval Signatures:**

Entity	Name/s	Signature/s	Date
Principal	David Chambliss		6/8/18
Department Head (e.g. for school day programs or for extended day and student support activities)	Sondra Aguilera		6/11/18

**Grant Office Obtained Approval Signatures:**

Entity	Name/s	Signature/s	Date
Fiscal Officer	Marcus Battle		
Superintendent	Kyla Johnson-Trammell		

**Agreement Between  
The Oakland Unified School District And Mills College**

This agreement between MILLS COLLEGE ("Mills") and the Oakland Unified School District (hereinafter "OUSD") is for the scope of activities related to the grant agreement dated October 15, 2014, Investment ID OPP1115207, under the authority of the issued by the Bill and Melinda Gates Foundation. Mills Principal Investigator is Catherine Lewis.

The terms and conditions for this agreement are set forth below:

**1. Period of Performance**

The period of performance for this agreement should be 10/01/2016 - 09/30/17.

**2. Use of Funds:** The funds will be used for the following activities:

Summer Institute Stipends:	\$15,945
Summer Institute Food & Materials:	\$2,608
Substitutes & Teacher Stipends for School Year Cycles:	\$2,289
Registration & Travel Expenses (Chicago Conference):	\$1,800
OUSD Indirect Costs: (6%)	\$1,358
<b>Total proposed budget:</b>	<b>\$24,000</b>

Reallocation of funds within 10% is permitted for existing categories. Request for reallocation within categories of spending that are more than 10% or requests for spending in categories not listed above must be made in writing to Catherine Lewis at Mills College.

**3. Total Estimated Costs**

Mills will pay OUSD no more than \$24,000 upon receipt of signed contract.

**4. Special Provisions: Audit and Record Keeping**

**Access to Financial Records:** Financial records, supporting documents, and all other records pertinent to this agreement shall be retained for a period of seven (7) years from the date of termination of this agreement. Records that are the subject matter of audits, appeals, litigation, or the settlement of claims arising out of the performance of this agreement shall be retained until such audits, appeals, litigation, or claims have been resolved.

**5. Indemnification**

OUSD shall defend, indemnify and hold Mills, its trustees, officers, employees and agents harmless from and against any and all liability, loss, expense, attorneys' fees, or claims for injury or damages arising out of the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of OUSD, its officers, agents or employees.

Mills shall defend, indemnify and hold OUSD, its officers, employees and agents harmless from and against any and all liability, loss, expense, attorneys' fees, or claims for injury or damages arising out of the performance of this Agreement but only in proportion to and to the extent such liability, loss, expense, attorneys' fees, or claims for injury or damages are caused by or result from the negligent or intentional acts or omissions of Mills, its officers, agents or employees.

**6. Governing Law: Venue**

This agreement shall be governed, construed, and enforced in accordance with the laws of the State of California. The venue for all litigation relative to this Agreement shall be the Alameda County Superior Court located in Oakland, California.

7. Prime Award

All applicable provisions contained in Prime Award shall be binding upon OUSD, and Mills College hereby agrees to comply with same.

Approved and Agreed:

Mills College  
By *Maria Cammarata*  
Name: Maria Cammarata  
Vice President for Finance and Administration

Date signed 5/1/17

Oakland Unified School District  
By *Philip Tucker*  
Name: Philip Tucker  
Director, Marketing, OUSD  
Date signed 5/3/17

Approved as to Form:  
*Deirdre* 7/13/18

*Aimee Eng* 9/13/18  
Aimee Eng  
President, Board of Education

*Kyla R. Johnson-Trammell* 9/13/18  
Kyla R. Johnson-Trammell  
Secretary, Board of Education

OUSD or the District verifies that the Contractor does not appear on the Excluded Parties List at <https://www.sam.gov/>

## **Information for Potential Partners in the School-based Lesson Study Project**

### **Principal Investigators**

PI Catherine Lewis, Mills College, 5000 MacArthur Boulevard, Phone: 510 430 3129,

Email: [clewis@mills.edu](mailto:clewis@mills.edu)

Akihiko Takahashi, DePaul University, [takahash@mac.com](mailto:takahash@mac.com), 773 330-7799

### **Project Summary**

A small network of elementary and middle schools from three school districts will use school-based lesson study to build the kinds of ambitious instruction envisioned in the *Common Core State Standards*. This 3-year project is funded by the Bill and Melinda Gates Foundation, and commences January 1, 2015.

### **What is School-Based Lesson Study?**

In school-based lesson study, educators within a school develop a shared, school-wide improvement aim, and then work in lesson study teams to achieve this aim, drawing on knowledge from colleagues within and outside the school. For example, educators at one elementary school chose as their aim “Mathematics teaching that helps students explain their ideas to each other and learn from each other.”

Educators at the school pooled their knowledge about how to do this, and pulled in additional ideas from experienced outside educators and research. Lesson study teams then brought these ideas to life in research lessons at each grade level. By observing and discussing other teams’ research lessons, educators built shared, school-wide knowledge about mathematics instruction “that helps students explain their ideas to each other and learn from each other.” School-based lesson study is practiced by virtually all schools in Japan, and it allows educators to build knowledge across a whole school site, as teams of educators learn from and build on each others’ lesson study cycles.

### **What Are the Expectations for Partner Schools?**

Partner schools should be willing to identify an aspect of the *Common Core* they wish to work on and to use lesson study to work on it. The schools that participate should have a strong interest in building lesson study as a core routine for improvement of instruction at the school. Elementary schools will be encouraged to focus their lesson study on the CCSS mathematics standards (including the mathematical practice standards) during the first two years, but non-mathematics teachers will be provided support to apply the lesson study process within other disciplines. By year two, it is expected that most teachers in a school will be involved in one to two cycles of lesson study a year, linked to a shared school-wide instructional conversation. During project year 2 or 3, schools will also be expected to share what they have learned with other educators in their district (and perhaps more broadly) by hosting public research lesson conferences. Participating schools will also be expected to identify a steering committee of educators (including the principal or vice-principal) willing to coordinate school-based lesson study—for example, to arrange the schedule for planning and conducting research lessons, to

facilitate a faculty meeting in which the school-wide research theme is chosen and to gather and summarize reflective summaries from each lesson study team.

While the time commitment may look somewhat different at each school, the school should be able to commit to the following.

*January 1, 2015-May 30, 2015*

- Begin to think about school-wide research theme (e.g., 45 minutes during faculty meeting) by considering ideal qualities you would like your graduates to have
- After-school PD to unpack meaning of CCSS-M mathematical practices (if scheduling permits)
- One or more teams conduct a lesson study cycle, working with project team support, in order to experience the project's lesson study model first-hand (both the big ideas and logistics)

*June 1, 2015-August 31, 2015*

- 4-day summer institute focused on research lessons on mathematical practices (at least 8 teachers and administrator from the school participate); participants will plan fall lesson study cycle; if all teachers attend, school can finalize research theme and develop schedule for year

*September 1, 2015-May 30, 2016*

- Lesson study teams conduct fall and spring lesson study cycles, focused on school research theme; as many educators as possible are freed to observe and discuss research lessons
- Steering committee helps facilitate (1) finalization of research theme and scheduling of lesson study; (2) sharing of knowledge across lesson study teams and summarizing what was learned; (3) encouragement of lesson study teams across the school; (4) understanding challenges faced by lesson study teams and seeking support from the cross-site network and project team

*June 1, 2016-August 31, 2016*

- 4-day summer institute focused on research lessons on mathematical practices (most or all teachers and administrators from the school participate); participants will plan fall lesson study cycle

*September 1, 2016-December 30, 2017*

- Lesson study teams conduct fall and spring lesson study cycles, focused on school research theme; as many educators as possible are freed to observe and discuss research lessons
- Steering committee helps facilitate lesson study work as noted in prior school year and facilitate public research lessons so the school's learning can be shared with educators from other schools.



**What Are the Expectations for Partner Districts?**

District partners should be interested in lesson study as a core routine to support ongoing improvement of teaching and learning in two schools (initially), and in spreading this idea to additional schools if it proves successful. Districts should be willing to allow the two schools to focus their improvement efforts on the CCSS-mathematics during the first two years of the project period. Districts should also be willing to designate an individual to act as liaison for the project to the district, and to support a modest amount of time for that individual to participate in the cross-district network. Finally, the district should be willing to allow the project to conduct document the work at the school sites (through video, interviews, and document collection) and to conduct surveys in the participating schools and in three non-participating comparison schools.

**What Can the Project Provide to Partner Schools and Districts?**

Free of charge to participating schools, the project will provide technical assistance to improve mathematics instruction and to build school-based routines for ongoing improvement of instruction. Technical assistance in *Common Core-English Language Arts and Literacy* can also be arranged (free of charge) for middle schools (and for elementary schools with specialized language teachers). Schools will also have the opportunity to work as part of a network of schools in three districts, so that knowledge from colleagues in other districts can be brought to bear.

The Gates Foundation is committed to development of programs that are sustainable once grant funds are gone. The funding provided for summer institutes and other professional learning experiences will emphasize development of school-based professional learning structures that can be sustained at the end of the three years.

**What Research and Documentation Will Take Place?**

Documentation of the project (through video and document collection) will occur in some participating schools, in order to produce video and materials that can be used by other sites. Surveys (all educators) and interviews (a sample of educators) will also be conducted to gauge the progress of the work. Educators will be reimbursed survey completion.

## Grant Proposal Narrative

We appreciate your interest in submitting a proposal to the foundation and we thank you for working with us throughout the proposal process. Your designated foundation contact will continue to work collaboratively with you as you prepare your proposal to help you understand the connection between the foundation's relevant program strategy and the proposed project, as well as to respond to any questions you might have over the course of this process. You are encouraged to communicate with your program officer to make sure that your efforts are aligned with the proposal requirements and that you are not expending unnecessary time or energy in this process.

Answer all of the questions in this Proposal Narrative template and submit it to your foundation program officer for review and collaborative discussion. Due to tax, legal, and reporting requirements, all proposals must be submitted in English. The proposal must be submitted in Word, as PDFs will not be accepted.

This is a proposal shaping document and not a commitment by the Bill & Melinda Gates Foundation to fund the work.

### General Information

<b>Proposal Title</b>	School-wide Lesson Study	<b>Opportunity ID</b>	OPP1115207
<b>Investment Duration (Months)</b>	36		
<b>Requested Amount (U.S.\$)</b>			
<b>Total Project Cost (U.S.\$)</b>			

### Prospective Grantee Information

<b>Organization Legal Name<sup>1</sup></b>	Mills College	<b>Primary Contact Name</b>	Catherine Lewis
<b>Organization Doing Business As</b>		<b>Primary Contact Title</b>	Distinguished Research Scholar
<b>Mailing Address</b>		<b>Primary Contact Email</b>	clewis@mills.edu
<b>Street Address 1</b>	5000 MacArthur Boulevard	<b>Primary Contact Phone</b>	510 430 3129
<b>Street Address 2</b>		<b>Feedback Contact<sup>2</sup></b>	Catherine Lewis
<b>Street Address 3</b>		<b>Feedback Email<sup>2</sup></b>	clewis@mills.edu
<b>City</b>	Oakland	<b>Authorized Signer Name</b>	Alecia DeCoudreaux
<b>State / Province</b>	CA	<b>Authorized Signer Title</b>	President
<b>Zip / Postal Code</b>	94613	<b>Authorized Signer Email</b>	<a href="mailto:president@mills.edu">president@mills.edu</a>
<b>Country</b>	US		
<b>Website (if applicable)</b>	www.mills.edu		

<sup>1</sup>Legal Name: will be used in the agreement and should match the name on the bank account that receives the grant funds (assuming fully executed agreement)

<sup>2</sup>Feedback Contact/Email: The full name and email of the contact whom foundation staff queries for various surveys.

<b>Tax Status (if known &amp; applicable)</b> <i>Refer to <a href="#">Tax Status Definitions</a></i>	Select one...	<b>Organization's Total Revenue for Most Recent Audited Financial Year (U.S.\$)</b>	\$
<b>U.S Employer Identification Number (EIN) (if applicable)</b>	94-1156566	<b>Organization's Fiscal Year</b>	

### Submission Information

<b>Date Submitted</b>	September 15, 2014	<input type="checkbox"/> Submitted by same as above	
<b>Submitted by Contact Name</b>	Saira J Malik	<b>Submitted by Contact Email</b>	<a href="mailto:smalik@mills.edu">smalik@mills.edu</a>
<b>Submitted by Contact Title</b>	Sponsored Projects Officer	<b>Submitted by Contact Phone</b>	510-430-2290

## Proposal Details

*The Foundation is prohibited from conducting or funding any lobbying or political campaign activities, as these terms are specifically defined under U.S. tax law. Unlike many of our grantees/vendors who may engage in limited lobbying, the Foundation cannot lobby or fund any lobbying activities carried out by its grantees/vendors. We request that you please review the information at the following link, [Foundation Funds and Advocacy](#), to assess whether any of your proposed activities may constitute lobbying as defined by the IRS. If so, you should revise your proposal accordingly prior to submission.*

### 1. Executive Summary

**Provide a brief summary of the investment.**

Instructional improvement at scale is a daunting challenge in the U.S. In Japan, educators use school-wide lesson study to understand and enact new standards and to spread needed instructional knowledge within and across schools. Currently, lesson study is taking place in the United States in places, but without attention to systemic scale. Given growing interest in this practice, we believe now is the time to focus on supporting the spread of this work at scale by growing a network of systems that are driving improvement through Lesson Study. This project will support and document the development of school-wide lesson study in the U.S. as a way to enact the ambitious instructional vision of the Common Core State Standards (CCSS). Initial research and development at a small number of elementary and middle schools will produce online materials that enable a much broader group of schools to implement school-wide lesson study. In addition, the project will develop a network and set of strategic partnerships that promote further spread of school-wide lesson study as a means to implement CCSS.

**Describe the charitable purpose of this work. (1-2 sentences)**

Note: This will inform the description of the investment, if approved, in any agreement and if posted on [gatesfoundation.org](#).

This project will develop school-wide lesson study as a means to enact the Common Core State Standards. The project will start with a small network of elementary and middle schools in three urban districts, and will then build online materials and strategic partnerships to enable broad spread of school-wide lesson study.

### 2. Problem Statement

**Describe the problem, why it is a problem, and who is impacted by the problem. What specific elements of the problem is this investment trying to address?**

Broad improvement of instruction is a persistent challenge in the U.S. Although U.S. educators and researchers come up with many important research-based innovations, these innovations rarely spread broadly with impact. One central reason is the tension between teachers' desire to take an active and thoughtful role in instructional improvement and the (understandable) administrative pressures for faithful implementation of research-based programs. Lesson study can successfully marry the strengths of teacher ownership and research-based resources by setting up a dynamic in which teachers actively study the content and enactment of the resources. Teachers appreciate the opportunity to be inquirers and researchers into instruction: "The opportunity to focus on two to four students' learning was incredible... You feel like you are in a true research mode;" "Lesson study puts the professional part back in teaching—the part they're always trying to take away from us." The failure of research-based innovations to scale up broadly is a problem for all educational stakeholders in the U.S. Our students lag behind students in many other developed countries in mathematics learning (among other areas), because school organizational routines do not adequately support teachers' ongoing learning from practice, colleagues, and research-based materials. The project will enable U.S. elementary and middle schools to use school-wide lesson study for ongoing improvement of instruction, and to enact the ambitious educational vision of CCSS, with a focus on elementary mathematics and middle school mathematics and language arts.

### 3. Scope and Approach

**Describe the scope and approach of the proposed work. This should be a narrative description of the principal results the investment would achieve and how those results relate to the problem described above (rather than a list of outcomes and outputs.) Note: You will provide a list of outcomes and outputs in the Results Framework**

The principal results of the investment will include (1) development of school-wide lesson study in service of CCSS in a small network of elementary and middle schools in three urban districts (Oakland USD, San Francisco USD and Chicago Public Schools) as a way to be a proving ground for results (2) and (3) described subsequently; (2) production of online video and written materials that enable interested schools across the U.S. to build school-wide lesson study in service of CCSS, including content support materials for one year of lesson study cycles; and (3) development of a strategic network of partner organizations (e.g., regional improvement networks, national subject matter associations) that will continue to spread and promote development of school-wide lesson study. Currently, most schools lack effective, established routines that help teachers within a school continuously improve their instruction by learning from colleagues' instruction, from students' learning, and from high-quality research-based curriculum materials. At the conclusion of the project we expect three major changes. First, there will exist a small network of schools, in three urban districts, that demonstrate the power of school-wide lesson study as a means to establish effective routines for teachers' learning and enactment of the ambitious instructional vision of CCSS. Because these schools will hold public research lesson conferences with live lessons open to outside educators (see page 5), these schools will become natural dissemination hubs for school-wide lesson study and for instruction in support of CCSS. These schools will provide "existence proofs" that school routines can be reorganized to enable continuing instructional improvement and guidance about how. Second, the project will produce online video and written materials that enable interested schools across the U.S. to build school-wide lesson study; these materials will be developed in part through careful video documentation of the experiences of the early network sites and collection of "actionable artifacts" that supported change at these sites. (We have previously produced lesson study resources that have significantly impacted teachers' and students' mathematics learning and teachers' collegial work, as documented in the next section.) Third, we will develop a network of partner organizations willing and able to spread of school-wide lesson study as a means to enact the ambitious instructional vision entailed in CCSS.

As needed, describe why you believe the approach would lead to the desired results. Reference related work, existing evidence from evaluations or systematic reviews, and/or relevant experience, etc.

Several recent developments make this a propitious moment for development and spread of school-wide lesson study in the U.S.. The new Common Core State Standards provide a shared set of standards across most U.S. states, providing clarity about what is to be learned and giving successful innovations a far broader audience than was previously the case. For example, students across the U.S. now need to understand fractions as numbers that can be placed on the number line; so schools across the U.S. have a keen interest in professional learning that enables teachers to build this understanding (such as our recently tested intervention of lesson study with Japanese fractions resources; Lewis & Perry, 2014). District and school leaders feel considerable pressure from impending CCSS-aligned assessments to identify effective professional learning strategies. Change in school and district routines to enable ongoing, school-wide learning by teachers, closely linked to practice, is now widely recognized as an essential element of improvement (Spillane et al., 2011)—albeit one that is often poorly implemented. Lesson study has spread rapidly since its introduction to the U.S., and is now familiar to many U.S. teachers; in 2005-06, 50% of a representative sample of U.S. middle school mathematics teachers reported some time devoted to lesson study (Hill, 2011) and 62% of surveyed districts in Florida recently reported requiring lesson study for at least some types of school (Akiba, Ramp, & Wilkinson, 2014). Public research lessons have been held regularly for more than a decade in several regions of the U.S. (Chicago Lesson Study Group; Lewis et al., 2012; Waterman, 2011). U.S. teachers experience lesson study as significantly higher in quality than other forms of professional learning (Lewis & Perry, under review). Evidence of lesson study's effectiveness in the U.S. is also emerging. Our recent randomized controlled trial of lesson study supported by mathematical resource kits found a significant impact on teachers' mathematical knowledge, students' mathematical knowledge, and teachers' beliefs likely to support instructional improvement, such as high expectations for student achievement and perceived usefulness of collegial learning (Lewis & Perry, 2014; in press; under review). Out of 643 studies of mathematics professional development recently reviewed by the Regional Educational Lab-Southeast, using a process modeled on *What Works Clearinghouse* guidelines, only two studies met scientific criteria and showed impact on student learning; our trial of lesson study with a fractions resource kit was one of those two studies (Gersten et al., 2014). Yet lesson study in the U.S. typically remains a scattered, casual, ad hoc activity organized by local champions, not a school-wide routine that is closely integrated with school and district policy and that systematically builds sharing of instructional knowledge within a school and beyond. Our project is designed to change that. In summary, the confluence of three developments—common standards, an urgent need for effective, ongoing professional learning routines, and the emergence of effective and valued ad hoc lesson study in the U.S.—make this an ideal time to introduce systematic school-wide lesson study to the U.S.. We propose the next logical steps: working with a small number of schools to build school-wide lesson study in service of CCSS, documenting their work in online materials that enable other schools to undertake the same journey, and partnering with organizations that will spread school-wide lesson study in order to enact their instructional improvement visions.

- Akiba, M., Ramp, L., & Wilkinson, B. (2014). Lesson study policy and practice in Florida: Findings from a statewide district survey. Tallahassee, FL: Florida State University.
- Gersten, R., Taylor, M. J., Keys, T. D., Rolfhus, E., & Newman-Gonchar, R. (2014). Summary of research on the effectiveness of math professional development approaches. Washington, DC: US Department of Education, Institute of Education Sciences, National Center for Educational Evaluation and Regional Assistance, Regional Educational Laboratory Southeast.
- Chicago Lesson Study Group. Retrieved August 10, 2013, from <http://lessonstudygroup.net/index.php>
- Hill, H. (2011). The nature and effects of middle school mathematics teacher learning experiences. *Teachers College Record*, 113(1), 205-234.
- Lewis, C., & Perry, R. (under review). Lesson study to improve fractions learning: A randomized controlled trial.
- Lewis, C., & Perry, R. (2014). Lesson study with mathematical resources: A sustainable model for locally-led teacher professional learning. *Mathematics Teacher Education and Development*, 16(1).
- Lewis, C., Perry, R., Friedkin, S., Fisher, L., Disston, J., & Foster, D. (2012). Building knowledge and professional community through Lesson Study. In J. M. Bay-Williams (Ed.), *2012 NCTM Yearbook* (pp. 245-258). Reston, VA: National Council of Teachers of Mathematics.
- Lewis, C., & Perry, R. (in press). A Randomized Trial of Lesson Study with Mathematical Resource Kits: Analysis of Impact on Teachers' Beliefs and Learning Community. In E. J. Cai & Middleton (Ed.), *Design, Results, and Implications of Large-Scale Studies in Mathematics Education*. New York: Springer.
- Spillane, J. P., Parise, L. M., & Sherer, J. Z. (2011). Organizational routines as coupling mechanisms: Policy, school and administration, and the technical core. *American Educational Research Journal*, 48(3), 586-620.
- Waterman, S. (2011). Data analysis, evaluation of the 2009-10 Lesson Study Project. Retrieved from [http://www.svmimac.org/images/A\\_Study\\_of\\_Lesson\\_Study\\_s\\_Impact\\_on\\_Student\\_Achievement\\_2011.pdf](http://www.svmimac.org/images/A_Study_of_Lesson_Study_s_Impact_on_Student_Achievement_2011.pdf)

#### 4. Risk Mitigation

As needed, describe any significant risks to the success of this project and how you plan to address them.

Unpredictable external policy forces and internal leadership changes are a fact of life in U.S. urban districts, so we do not necessarily expect our work in three urban districts to be uneventful. Since members of our team have worked with mid-level administrators in all three districts for 4-12 years, and since all three districts have principals knowledgeable about lesson study who are eager to participate, we expect to be able to have a fairly stable context for the proposed work. In addition, models for conducting lesson study during contract hours exist in all three districts (though they have not necessarily been used school-wide). The initial schools (1-2 per district) will face especially large challenges, since little know-how currently exists about adaptation of school-wide lesson study to the U.S., and since we will document the work, through video and artifact collection, which may add to the pressure experienced by schools. We have addressed these risks by developing partnerships over a number of years with both district and school personnel, and by starting with sites that are interested in this teacher-led, practice-focused vision of improvement. After building school-wide lesson study in sites within the three districts and documenting their work in online resources, a second set of challenges will come when we ask strategic partner organizations to spread school-wide lesson study and make it central to their own work to enact CCSS. For example, we might ask NCTM and regional improvement networks to feature our online materials and make them central to their own initiatives. "Lethal mutation" is always a risk when innovations spread, and we think public activity (e.g., research lessons that can be attended by outsiders) and actual and virtual networks (e.g., connections between new and experienced users and interactive capabilities such as a wiki) will be the best way to help partner sites develop high-quality practice (of school-wide lesson study and of CCSS instruction). Phil Daro, an author of CCSS-M has agreed to serve as an advisor on this project, and we will ask him, at the very outset, to help think through these challenges, and to assemble an Advisory Panel that can help us with strategic thinking. Letters of support from the chief academic officers in all three partner districts are appended.

## 5. How We'll Work Together

This question is intended to begin the dialogue on how foundation staff would work with you to achieve the intended outcomes. Topics could include minimal staff support, any specific issues that would likely need on-going discussion, regular communications, or other information to help establish mutual expectations and assist with implementing the proposed work.

We could especially benefit from Foundation advice regarding design of the online materials and development of the strategic partnerships, and from recommendations of organizations whose work we should study. In our current federal grants, we have quarterly check-ins with the program officer, by email or phone. A similar system might be useful in the proposed work.

## 6. Geographic Areas to be Served

List all countries and regions/states that would benefit from this work and associated dollar amounts. If areas to be served include the United States, indicate city and state. Add more locations as needed.

Location	Foundation Funding (U.S.\$)
Oakland, California	\$
San Francisco, California	\$
Chicago, Illinois	\$

## 7. Geographic Location of Work

List all countries and regions/states where this work would be performed and associated dollar amounts. If location of work includes the United States, indicate city and state. Add more locations as needed.

Location	Foundation Funding (U.S.\$)
Oakland, California	\$
Chicago, Illinois	\$
San Francisco, California	\$

## 8. Intellectual Property

### A. Would this grant, if funded, result in the creation of a new or improved Technology and/or use or incorporate existing Technology?

As used here, "Technology" includes:

- Products (e.g., devices, compounds, biologics, formulations, diagnostics, therapeutics, prophylactics, seeds)
- Services (e.g., treatments and delivery systems)
- Processes (e.g., methods, manufacturing, formulae, algorithms)
- Technologies (e.g., platforms, systems, mechanisms, tools, websites)
- Materials (e.g., biological materials, chemicals)
- Software (e.g., code, development kits, applications)

If yes, complete the Intellectual Property (IP) Module.

If no, please acknowledge by checking the box:

## 9. Activities

Describe in further detail what activities are necessary to produce the principal results. Please ensure that these activities align with the results in the Results Framework.

### Year 1

- Study sites as they work to build school-wide lesson study (1-2 sites per district in 3 districts) and provide advice and materials as needed, working with these sites in a cross-site learning community, conducting a cross-site summer workshop, and documenting their work (including professional video)
- Identify gaps and challenges in the school-wide lesson study work of these sites and develop materials in response to the identified gaps and challenges
- Identify strategic partners in a position to promote school-wide lesson study as means to scale up CCSS-related instruction; meet with them to inform them and gain input to the project
- By the end of year 1, produce initial version of video and written materials designed to introduce school-wide lesson study to a new set of schools

### Year 2

- Using materials produced in year 1, introduce lesson study to 1-2 additional schools in each district and formatively study at least 3 of these schools (1 per district) in order to identify gaps and challenges in their work

- Improve and supplement the existing materials based on the formative study
- Advise and document development of public research lesson conferences (including professional video documentation) in at least one site, allowing attendance of up to 100 outside educators.
- Continue to work as cross-site learning community (now 6-12 sites); conduct cross-site summer workshop to speed up learning across sites
- Second meeting to inform and gain input from strategic partners

### Year 3

- Using materials produced and revised in year 2, introduce lesson study and public research lesson conferences at additional sites, formatively study, and revise materials in response to identified challenges and gaps
- Continue to work as cross-site learning community (now 9-15 sites); conduct cross-site summer workshop to speed up learning and dissemination across sites
- Third meeting with strategic partners to launch online resources
- Produce final version of online materials, which enable new sites to initiate lesson study, with content support for lesson study cycles during Year 1, focused on mathematics (for elementary schools) and mathematics and language arts (for middle schools)

### How Will School-wide Lesson Study Be Built?

We will begin in 1-2 schools in each of three districts—Oakland USD, San Francisco USD and Chicago Public Schools—where there is interest in school-wide lesson study from principals, teachers and district administrators. One district administrator from each district will agree to serve as a project liaison, and will participate in the cross-district learning community, actively sharing information about local adaptations, challenges, and ideas for spread of school-wide lesson study as a means to enact CCSS. The major day-to-day responsibility for development of school-wide lesson study will be taken by teachers and administrators within each school, with advice and ongoing monitoring from the project team (knowledgeable outsiders who are familiar with lesson study in Japan). The major features of school-wide lesson study are:

- The faculty develops a school-wide “research theme” related to the new standards—for example, how to help students learn to make sense of mathematics and persevere in solving mathematical problems; the faculty also chooses specific improvement aims related to their research theme (e.g., having students explain their thinking) that guide the lesson study work throughout the school;
- Lesson study groups at every grade level or grade band conduct two lesson study cycles during the school-year, with the whole faculty observing the resulting research lessons; research lessons focus on the research theme—for example, how to build students’ sense-making and perseverance—as well as on how to best teach the particular content (e.g., fractions, argumentative writing.)
- A steering committee within the school coordinates the whole-school and grade-level activities—for example, sets up a master calendar for research lessons, based on what curriculum units each grade level wants to investigate in lesson study; makes sure groups have access to high-quality materials and expertise for their lesson study cycles; highlights what is learned from research lessons so that other groups can build on it.

Through the coordinated interplay of work by the individual lesson study teams and school-wide discussion of the research lessons, teachers within a school build and share knowledge about effective implementation of CCSS—for example, how to shift from “teaching as telling” to teaching through problem-solving by choosing good tasks and anticipating student thinking, so that the key mathematics to be drawn from the discussion can be considered in advance of the lesson. Teachers also develop norms, beliefs, and patterns of interaction that support ongoing instructional improvement at the school—for example, high expectations for students, sense of responsibility for colleagues’ practice, and frequent seeking and offering of information to colleagues.

Content resource kits will support lesson study groups as they study the content and curriculum during the first phase of the lesson study cycle. Modeled on our successful fractions resource kits, these will draw, wherever possible, on existing materials (e.g., FALS, MARS, LDC CoreTools, CPEC-funded work of Pesick and Schultz) and will be designed to help lesson study groups build their knowledge of the topic, of student thinking, and of instructional approaches, in an interactive, inquiry-driven fashion that fits within the lesson study cycle. The resource kits can provide step-by-step support for a lesson study cycle—for example, a process for setting norms, mathematical tasks to solve and discuss, student work to analyze, curriculum materials and instructional examples to examine, and templates for lesson planning, research lesson observation, and post-lesson discussion. Content materials on specific elements of CCSS (e.g., argumentative writing, multiplication) will be combined with more generic lesson study tools (e.g., suggestions for data collection during the research lesson).

### How Will This Project Support Scale-up of Standards-Based Instruction?

Three elements of this project will support scale up of ambitious instructional change of the sort envisioned by CCSS.

#### 1. Online resources to build school-wide lesson study in service of CCSS.

Video and print resources will capture the process of building school-wide lesson study in service of CCSS, so that other schools can undertake this process. For example, interested schools will be able to watch on video high-quality instruction, and also to see how a school brought it about—for example, to see excerpts of the meeting in which a school developed its school-wide research theme and improvement aims, and to download meeting agendas and interview clips from administrators and teachers with advice on this step. Video and artifacts from the lesson study groups will highlight key elements of successful lesson study practice—e.g., study of the content by teachers, advance thinking about the student solutions to be presented and how they will be used in the class discussion, data collection during the lesson, and structured post-lesson discussion focused on analysis of student responses. These online resources will open up the possibility of interested schools across the U.S. undertaking school-wide lesson study in service of CCSS. We often hear from educators who have successfully used the video “How Many Seats?” along with the handbook *Lesson Study Step by Step* to build lesson study in their settings. We think something similar will be possible with online resources for school-wide lesson study, especially if there is also a network of educators who have first-hand experience and who are willing to respond to questions. We will begin to develop the materials in Year 1, by documenting the experiences of the three schools. From Year 2, versions of these materials will be made available to other schools, and we will formatively study their use, revising the materials based on their use in Years 2 and 3.

#### 2. Public Research Lesson Conferences

From the start of the project, schools will be asked to plan to make their learning public by hosting a public research lesson conference in Year 2 or 3, in which outside educators can visit the school in order to observe research lessons, learn about how teachers at the school improved their instruction, and take home instructional plans and other key artifacts from the school-wide improvement work. These public research lesson conferences will have well-known commentators who help attendees understand how the research lessons build the instruction envisioned in CCSS, and what are the needed next steps forward. The commentators can be chosen in consultation with the organizations with which we build strategic partnerships, as a way of ensuring co-ownership of the work. The planning and execution of the public research lesson conferences will be captured

on video, and a guide to planning and conducting public research lessons will be included with the online materials by Year 3, so that other sites can conduct public research lesson conferences. We anticipate that these materials will be designed for use primarily by small leadership teams willing to take leadership for planning of public research lesson conferences, but that they will include a subset of materials to be shared with a broader group of teachers. For example, the leadership team materials might include reflection tools to identify the connections between district policy goals and school routines for teachers' learning, whereas the broader materials for all teachers at a school might focus just on the opportunities for teachers' learning within the public research lesson conference.

### 3. Strategic Partnerships

Although public research lessons provide a natural dissemination mechanism for CCSS-related instructional improvements, the size of the audience that can attend is limited, so we will select strategic partners who are well-positioned to take up and spread school-wide lesson study in service of CCSS. Our initial thinking is that we should create both local and national partners for each site. Representatives from key subject matter and educational associations (e.g., NCTM, Learning Forward), public agencies (e.g., state and county subject matter offices), universities, local funders, improvement networks (e.g., Silicon Valley Mathematics Initiative) and other stakeholders may enable us to bring attention to the potential of school-wide lesson study for instructional improvement, build an audience for the online materials, and advance national dialogue about the nature of CCSS-based instruction. We hope to build a networked improvement community among the strategic partners (or subgroups of them), in order to rapidly spread know-how about use of the materials, to share challenges and responses, and to ensure collegial scrutiny of adaptations. Ideally, each strategic partner will use the materials as a tool to improve the reach or quality of their own work. The Carnegie Foundation's community college mathematics network provides a compelling initial model for thinking about this work, and both Schultz and Lewis have done some work using their tools and approaches.

### Workplan

The project includes three major strands of work: building the school-wide lesson study at the sites in three districts, documenting the work through video and print materials that can be put online for other sites to use, and ongoing formative evaluation of the school-wide lesson study so that we identify problems and craft solutions in a timely fashion.

### Building School-wide Lesson Study at Sites

The major components will be:

- Week-long summer institutes (each summer)
- Cross-site learning community (summer meetings in person; online meetings during school-year) including project personnel
- Consultation to sites, from content specialists and lesson study specialists (to be captured in materials)
- Content resource kits for lesson study (existing and new)

### Documenting School-wide Lesson Study through Video and Print Materials

- Two schools at each level (elementary and middle school) will be documented on video, to capture major events (e.g., school-wide meetings, one or more lesson study cycles, public research lessons), as well as through intermittent interviews with principals and selected educators.
- Materials developed by all schools will also be collected. (For example, meeting agendas, lesson plans, the master calendar for lesson study).
- Advice to sites will be documented.
- The materials will be edited to provide, by the end of the project, a comprehensive set of resources for other schools to take up school-wide lesson study.

### Formative Evaluation

- Track the activities at each site, with a particular focus on challenges encountered (and responses to them), so that we can make timely adjustments to the materials and advice given to each site.
- Study use of materials so they can be revised as needed.
- Collect key indicators (e.g., task samples, student learning indicators, collegial trust indicators) to gauge school-wide lesson study development

## 10. Organizational Capacity

**Describe any changes or improvements you plan to make to your organization's capacity to undertake or achieve the outcomes of the proposed investment.**

Our prior projects have focused on research and intervention development together; this project will focus more heavily on development of intervention and resources, and these resources will need to be of professional quality, similar to those of commercial competitors, and not just sufficient to appeal to educators already committed to lesson study. Hence we have included funds for professional video, writing, and website writing in the proposal. The proposed work would also go well beyond our current work in terms of the scale and scope of strategic partnerships required. For that reason, we build in yearly meetings, to allow for ample learning time and contribution to design before the role of the partners becomes most critical (in year three).

## 11. Organizational Fit

**What experience does your organization have to implement the proposed work?**

The Mills College Lesson Study Group has extensive experience with development and refinement of video and print materials that support effective lesson study, including widely used handbooks and video and mathematical resources used in the randomized controlled trial described earlier; examples can be found at [www.lessonresearch.net](http://www.lessonresearch.net). School of Education Dean Kathy Schultz and Senior Researcher Stan Pesick, who will participate in the proposed project and will bring additional experience with large educational improvement networks (National Writing Project), with district implementation of lesson study, and with long-term district collaborations (including with Oakland Unified School District, one proposed district partner).

## 12. Beneficiaries

### Who would benefit from this investment?

Students and teachers in diverse urban public elementary and middle schools are the major beneficiaries of this work; districts are additional beneficiaries. Associations and networks dedicated to educational improvement will also benefit from access to an effective way to build and spread instructional improvement knowledge.

## 13. Critical Relationships

### Describe any critical relationships with other partners or projects that may influence this work (or that this work may influence).

Akihiko Takahashi, Ph.D., of DePaul University, a Co-Principal Investigator of the proposed work, is a critical partner. Takahashi was an elementary mathematics teacher in Japan for 19 years before becoming a teacher educator, and now serves as Associate Professor of Mathematics Education at DePaul University in Chicago, where he has worked with several local schools to begin school-wide lesson study around CCSS-M. Takahashi has recently published case studies of school-wide lesson study in Japan. Takahashi is internationally known for his public research lessons and mathematical commentary on public lessons (see examples of the former at <http://www.lessonresearch.net/videos1.html>), and Lewis and Takahashi have collaborated since 2001.

## 14. External Factors

### Describe any external factors that may influence the success of this investment.

Educational policies may take unexpected turns. The proposed work assumes that CCSS (or some similar set of standards) will continue to be important to districts.

## 15. Sub-grantees, Sub-contractors, and Named Individuals

### List any sub-grantees, sub-contractors, or named individuals (employees) involved in this investment.

#### Sub-grantees/Sub-contractors:

Name	Role	Corporate Entity Name (if applicable)	Mailing Address
Akihiko Takahashi	Co-PI	DePaul University	College of Education, DePaul University 2247 N. Halsted St., Room 306 Chicago, IL

#### Named Individuals

Name	Role	Corporate Entity Name (if applicable)	Mailing Address
Catherine Lewis	Principal Investigator	Mills College	5000 MacArthur Boulevard, Oakland CA 94613
Kathy Schultz	Co-Investigator	Mills College	5000 MacArthur Boulevard, Oakland CA 94613

## 16. Sustainability

### Describe the vision of the long-term sustainability of this project beyond the proposed time frame and funding with consideration to economic/financial, organizational, or behavioral factors.

School-wide lesson study is sustainable with the resources currently available to most schools, if they are willing to reallocate them to support it. Lesson study is highly valued by U.S. teachers if introduced with high-quality materials. For example, our recent randomized controlled trial, in which lesson study materials were mailed out to sites scattered across the U.S., revealed that educators rated lesson study as significantly higher in quality than other locally-chosen professional learning on 11 quality indicators such as "Valued my opinion, experience and contributions," "Was intellectually engaging and important," "Encouraged me to become more of an educational leader in my school/district," "Included intellectual rigor, constructive criticism, and challenging of ideas."

## 17. Measurement and Evaluation

### A. Would the investment

- Operate in multiple geographies or at multiple levels (e.g. national and sub-national), or with multiple organizations?
- Be a proof of concept, test an unproven solution, or result in a new approach to behavioral change?
- Be difficult to measure? (E.g. Policy change, complex systems change, effectiveness at scale, etc...)
- Be an evaluation or be likely to include an evaluation?



If you answer yes to any of these questions, please complete the Measurement and Evaluation (M&E) Planning Module.  
 If no, please acknowledge by checking the box:

**18. Data Access**

Would the investment generate datasets\*, and would the field benefit from making those datasets publicly available? \*A dataset is an electronically stored collection of data and associated files from a research study; clinical or community trial; surveillance system or survey; evaluation study; modeling/simulation study; or qualitative study.

If yes, complete the Data Access Module.

If no, please acknowledge by checking the box:

**Reporting and Payment Schedule**

*Your Gates Foundation contact will complete the reporting and payment schedule below after reviewing your proposal submission and will then collaborate with you to finalize the schedule if we choose to move forward. Please note that if a grant is subject to IRS "expenditure responsibility" requirements, the investment periods and due dates will be based on your fiscal year.*

*This is a draft version. The Final Reporting and Payment Schedule will be in the Agreement.*

Investment Period	Target, Milestone, or Reporting Deliverable	Due By	Payment Date	Payment Amount (U.S.\$)
to				\$
				\$
				\$
<b>Total Grant Amount</b>				\$

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OFFICE OF THE CHIEF ACADEMIC OFFICER

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September 9, 2014

Dr. Catherine Lewis  
Mills College  
School of Education  
5000 Mac Arthur Boulevard  
Oakland, CA 94613

Dear Dr. Lewis:

I was excited to hear about the proposal to develop school-wide lesson study in selected elementary schools in Oakland Unified School District, and I want to express our interest in participation in this work, starting in January 2015, for a three-year period. I understand that interested schools will be invited to apply, and I look forward to having project staff meet with our district teachers and leaders. I think you will find a great reservoir of interest here, as well as considerable expertise around lesson study.

The proposed three-year project to build and spread school-wide lesson study feels like the logical extension of our current work. Mathematics lesson study teams have shared their research lessons with their elementary and middle school faculty, building broad interest in the lesson study process and its capacity to improve mathematics.

Teachers' learning and their focus on providing the best possible instruction is at the heart of quality schools, and I cannot think of a better way to nurture those than lesson study. I appreciate its capacity to build teachers' knowledge of mathematics teaching and learning, to help teachers work together on instruction, and to renew teachers' interest in student thinking and their confidence in student capacity to learn.

We look forward to the funding of your proposal by the Bill and Melinda Gates Foundation and the chance to continue to work together in building school-wide capacity to use lesson study to enact CCSS. Thank you for your many years of collaboration with OUSD, and I look forward to deepening it with this new work.

Sincerely,

Devin Dillon, Ph.D.  
Chief Academic Officer