

Dear Chemistry Teacher,

I would like to bring to your attention an opportunity to participate in a research study that is examining the effectiveness of a *learning tool* that was developed in 1996 by the Department of Chemistry at Indiana University, Bloomington. Since 2002, CALM (Computer Assisted Learning Method) has reached over 54 High Schools across the state of Indiana. In this time, more than 82 teachers, and well over 1000 students annually, have used this system free of charge. Teachers who have incorporated CALM in their classroom are extremely supportive of it. Primarily, this has been in the form of an online homework system that allows the assessment and tracking of student performance. CALM also represents an important starting point for collaboratively engaging high school science teachers and university faculty in improving the quality of science education across the nation.

Recently, the U.S. Department of Education funded a study to examine the effectiveness of CALM in promoting student chemistry achievement. The study, funded by the Institute for Education Sciences, is an opportunity for us to extend CALM's reach to many more teachers and students than was previously possible.

Our goal with CALM is to impact the level of high school science education across the nation, using a tool and an approach that have been proven to work. We provide teachers with a *web-based homework tool* that requires students to focus on and develop their problem solving skills through dynamically randomized content. In addition, CALM is a collaborative tool that creates a network linking high school teachers both with each other and with university faculty, along with resources in higher education. It is through this network (the CALM Community) that the dissemination of high quality, standards-based/aligned material is possible.

Participation in the Study

We are seeking high school introductory chemistry teachers who have not previously implemented CALM in their classrooms to participate in this study. The study itself is an experimental design, where half of the teachers who volunteer to participate in a given year will be assigned to implement the online CALM tool in their Introductory Chemistry classrooms, and the other half will be asked to use the CALM chemistry problems, but not the CALM online tool in their Introductory Chemistry classes. We are asking that teachers use CALM and/or the CALM chemistry problems as a primary source of homework or applied practice for students.

We are asking teachers to commit to participation for one term of Introductory Chemistry. We will be recruiting three cohorts of teachers—one during Year 1, Year 2 (the current year), and Year 3. Control group teachers (those using only the CALM homework problems, not the online CALM tool) will be invited to use the online CALM tool in their classrooms after their year of participation in the study.

The criteria for all teachers being selected to participate in the study include the following:

- May not have previously used CALM in your own classroom nor other teachers at your school.
- Plan to teach at least one Introductory Chemistry course during the 2010-2011 school year (this can be any honors or regular chemistry as long as it is the first time students are exposed to chemistry);

- Commit to maintaining assessment results online of students' performance on CALM homework problems (using a recording system developed by the CALM team);
- Commit to administering the ACS high school chemistry exam (provided by research team) at the end of the introductory chemistry class targeted for the study; and
- Provide letter of support from your building administrator and gain permission from appropriate district and/or school supervisors to participate in the study.

Additional research activities for those who are selected to implement the online CALM tool (treatment group) include:

- Attend a two-day workshop on CALM at Indiana University during June or July of the first year selected;
- Engage in writing monthly online journal reflections about the use of CALM; and
- Allow researchers to observe chemistry instruction, participate in on-site interviews, and have students participate in focus groups about the use of CALM (if selected).

Teachers will receive a stipend of \$150.00 for the year they participate in the study. In addition, a stipend will be provided for each teacher to attend the CALM training workshop in the summer prior to implementing CALM in the classroom.

For more information about CALM, you can find us online at: <http://calm.indiana.edu>

If you are interested in participating in this research study and implementing CALM in your classroom or have further questions, please contact us at: calmceep@indiana.edu

Thank you for your interest in and willingness to participate in this important study.

Sincerely,

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