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April 15, 2016

Dear review committee,

It is my pleasure to provide this letter of support for Anna Curtis who is submitting a Chancellor's Graduate Award in STEM Education on " Implementation and Assessment of In-class Activities Designed to Improve Critical Thinking Skills in a First Semester General Chemistry Course for Majors". Anna is proposing to develop and investigate the impact of well-designed in-class group activities explicitly created to train students in essential elements of analysis, evaluation, synthesis and predication. Anna will test whether such activities improve overall critical thinking skills, as assessed by a validated content-independent instrument (the Critical thinking Assessment Test).

I am extremely supportive of Anna and her project. I worked with Anna when she served as a TA for CHEM 1271 (Spring 2014) and again as her mentor for her TIGER-TAR project on the effect of case-studies on critical thinking in CHEM 1271 (Spring 2015). Anna is actively engaged in the Chemistry Education Research (CER) group here at CU and deeply committed to researching how to teach chemistry more effectively. I would like to emphasize that the Department of Chemistry and Biochemistry has committed funds to employ the CAT instrument for 3 years (1 year pre/post baseline measurement of CHEM 1251, 2 years pre/post for CHEM 1400). I have already obtained IRB approval for use of the CAT in CHEM1400 and will help Anna submit an addendum so she can be added to this IRB if she receives the Chancellor's Graduate Award.

Finally, I would like to point out that this is the first real commitment to major curriculum overhaul in the Department in many years. We have a unique opportunity to fundamentally transform how we teach, how we structure courses, how we develop a culture of learning in the classroom. I can't emphasize how exciting - and rare - this is. Studies like Anna's have the potential to provide evidence of what change can accomplish, which can in turn motivate transformation in other courses.

Sincerely,

A handwritten signature in blue ink that reads 'Amy E Palmer'.

Amy E Palmer  
Associate Professor  
Department of Chemistry and Biochemistry & BioFrontiers Institute  
University of Colorado Boulder