

CCMS Research Agenda Questions & Topics

1. Empirical support
 - for developmental sequences (strand maps? atlas?)
 - value added by specific lessons
 - curriculum analysis frameworks (also, what others are out there?)
 - scientifically based research of various curriculum models, e.g., inquiry - how well do they work?
2. Which aspects of design are scientific questions vs. engineering questions
3. Establish standards for making judgments
4. Want systems of assessments coordinated with systems of curriculum
5. Make use of assessment results to inform design of curriculum
6. Empirical investigation of how well different designs engage students and engagements impact on learning outcomes
7. What are the failure modes? What are the effects of these failures? Doe is fail gracefully?
8. How to take into account design tradeoffs in curriculum development frameworks and analyses?
9. How do you design flexible curriculum materials (teacher & students) that allow teachers to tailor the needs of their classroom (student reasoning, local needs)?
10. How do teachers use curr materials & teacher guides?
11. What are the resources & supports that teachers need in order to accomplish complex instruction? How much material addressing these needs & where should they go in PD/pre-service/teacher guide or student materials?
12. What is the relationship between teacher/student materials & PD to accomplish our goals for student learning?
13. What is an appropriate unit of analysis for learning & assessment: can knowledge be separated from practice? can all the practices we are interested in be subsumed under "inquiry"?
14. How do we create multi-dimensional learning environments? (written, video, hypertext, workshops & communities, etc.)
15. How do students' conceptions of themselves change as they complete the units - attitudes of science, self? Are students and teachers "empowered" from using the curriculum?
16. How to take into account design tradeoffs in curriculum development frameworks and analyses?
17. How can we develop and make best use of teacher communities around curriculum?
18. We need a tool to analyze teacher materials and chart teacher learning/growth through the enactment of the curriculum.
19. How do we define successful science teaching practice? (Brian) e.g., What are the dimensions of teaching practice that should be the objectives of designs for teacher learning?
20. How do we best implement everything we (think) know into the design of curriculum? (Brian) tension: scripts, maps, compasses