

NURTURING A COMMUNITY OF PRACTICE THROUGH SOCIAL NETWORKING TOOLS

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Vexation

I have spent the past six years carefully considering how we, who work in science teacher preparation, can effectively support secondary science teachers in developing identities as reform-minded science teachers. We operationalize this identity as understanding, appreciating, being committed to and competent with reform-minded pedagogy as a means to address issues of equity and social justice. The model I developed and implemented in increasingly stronger forms each year over the past five (because of lessons learned along the way) incrementally scaffolds participants in addressing the dilemmas of reform-minded science teaching as articulated by Windschitl (2002) in his analysis of the challenges facing constructivist teachers. Known as “Get Real! Science” (GRS) this program was grounded in two design principles:

- (a) The need to create safe places and scaffolded ways for beginning science teachers to try on and develop their identities as reform-minded science teachers, which includes capitalizing on the unique opportunities of practice teaching in out-of-school contexts; and
- (b) The need to offer pre-service science teachers opportunities to be recognized, by self and others, as reform-minded teachers through ongoing, structured, and supported reflection.

Throughout their engagement in multiple formal and informal experiences, participants concurrently engage in a number of complementary and unique opportunities to have their participation in reform-based practices recognized (by self and significant others) including: ongoing blogging, collaborative debriefing after many teaching experiences, presentations at professional meetings, and the construction of programmatic portfolio narratives.

We have evidence that the preservice program has been successful in preparing science teachers who are committed to student-centered science instruction through inquiry (e.g. Tinelli & Luehmann, 2008). The problem lies in the *crossroads for them* – specifically, what happens next? The challenge really does lie with **situational recognition of graduated reform-minded science teachers** – If we are successfully preparing reform-minded science teachers for a practice that is not the norm in the schools where they are likely to be employed, how, in these local school and departmental contexts that are likely to be void of such practices and priorities, can these science teachers receive ongoing opportunities to be recognized as competent and effective, reform-minded professionals? How can we construct new supportive contexts for them that are not constrained geographically or temporally?

We attempted to understand this problem through one avenue this past year that lacks transferability to a larger scale. We developed the next step of the model for Get Real! Science and delivered it through the structure of a course. Specifically, we worked with 19 practicing science teachers on the topic of “Implementing Curricular Reform in Science Education” by giving them the identity-developing (learning) experiences that included common design and implementation of a reform-based pedagogy, individual or paired action research developed in small groups, stimulated recall debriefing sessions using video recordings of teaching, and ongoing blogging throughout the course that served as both a place for participants to wrestle with ongoing dilemmas of reform-based practice and engage with like-minded social network from whom they received advice, encouragement, and commiserations (Luehmann & Tinelli, under review).

Though the 19 participants represented approximately 10 different school districts and 15 different schools (i.e., vastly different professional contexts), we offered them uncommon situated recognition of reform-based practice and learning that was not constrained by their school-based professional network through participation in this course. Within this context, they demonstrated evidence of thoughtful and rigorous participation with and reflection of reform throughout the varied course experiences including published blog posts and their final public presentation of their work and findings to their colleagues and administrators. The designed supportive learning contexts intended to cross local contexts for these participants included engagement in the activities described above in 1) course meetings on campus (once every other week) and 2) through social networking through blogging. This model (Model One) seemed to be an effective but unrealistic design beyond this one iteration due to the uncommon opportunity to offer six graduate credits and instructional resources free of charge through the grant as a means for participants to justify (for themselves and others) the significant time commitment and effort required.

Prior to this intensive course, I had remained in contact with Get Real! Science graduates through monthly “Food for thought” meetings, which, though each meeting had a theme to nurture discussion and resource sharing, primarily served the purpose of maintaining networked support with like-minded professional peers

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(Model Two). Due to infrequent and inconsistent participant engagement, this model did not appear successful in giving science teachers consistent or meaningful opportunities for either participation or recognition work with respect to reform.

Thus, the question I am pondering is, “How can we offer reform-based science teachers ongoing support that is not constrained temporally or geographically in an ongoing, meaningful and sustainable structure?”

Venture

One perspective that we have been talking about within our GRS research group is a mindset we are referring to as “in and not of.” In other words, our science teacher graduates will certainly be “in” non- (even anti-) reform contexts; however, they do not need to consider themselves to be “of” these contexts. The question, thus, is how do we offer non geographically-defined, ongoing supportive contexts for professionals committed to reform. As in previous years, this year we intend to offer interested GRS graduates and their colleagues an opportunity for structured support for ongoing professional learning with respect to reform.

In order to develop a sustainable model for this program, I will consider how to more effectively use social networking technologies to nurture and sustain a community of practice. Assuming the initial foundation for a community has been established (through our intensive time together last year conducting action research in 474 as well as the common background with GRS teacher preparation that many of us share) AND will be nurtured through 4 face-to-face meetings, *what participation structures are needed to effectively support one another in implementing reform through social networking tools such as a blog and/or a ning?*

A proposed model - **Get Real! Science 2.0: A community of practice**

Practicing science teachers (mostly graduates of Get Real! Science preparation program) will meet in person 4 times this academic year, the **final** time (late March) to share the insights we have gained through systematic action research of our personal attempts to implement reform in our science classrooms - we will share these insights with our peers, local colleagues and administrators.

The **first** meeting (mid-October) will focus on clarifying what we mean by “reform” through a) a common construction of a reform-based tool that we can all implement in our classroom (such as a very large, interactive, course map); b) discussion of a reading; and c) co-construction of a subset of reform-based goals. Our **second** meeting (early December) will focus on sharing our action research designs – research questions and investigation protocols – to solicit support and assemble resources. Our **third** meeting (mid January) will focus on two things: 1) analysis of initial/pilot data collected and 2) setting up video debriefs sessions for all participants, each consisting of 3-4 people (including the teacher herself), watching and debriefing video of a lesson taught that day from the action research project.

I can foresee many challenges and hurdles: Teacher-participants might have a hard time making time to do this deep thinking work if we don’t meet in person; Teacher-participants might have a hard time making meaningful or timely progress that will allow them to complete the project by late March; Teacher-participants may not feel adequately supported with only three meetings before the final presentations; Reading and integrating research may fall to the back-burner and therefore not be explicitly used to inform teachers’ research; and I, as the instructor, may feel too stretched, with respect to time, to participate as I feel I need to in order to offer sufficient support.

With these challenges in mind, how can social networking technologies be effectively employed to complement and further the work of this community during and between face-to-face meetings? There are multiple questions you could help me wrestle with: What types of agreed-upon participation structures should we aim to co-construct (e.g. every one will blog once a week; everyone will read and comments on posts XX times a month...). How (if at all) should we involve outsiders (such as other professors, mentors, others) to support and motivate use of the social networking tool? (Who, how, when?) What should my role as instructor/facilitator be on the blog/ning (Consider two things a) that I am not getting paid and b) that my online presence/opinion may shut down differing input from others given my position of power as professor). How should the time we have face-to-face be used to nurture the online participation? In addition to blogging, what other social networking tools should be integrated and how? For example, a ning would afford the blogs as well as discussion threads. I’m not sure if they allow “chats.” Could/should synchronous virtual meetings be an expected part of the experience?