

iLab Workshop – Cross-Community Breakout Group

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Ellen McCallie, moderator

DG, scribe

Brian Ormond, Mike DeWitte, Linda Schmalbeck, Nicole Kowrach, Bonnie Bracey-Sutton, Bob Peterson, Cathy Veal

Summary:

Meeting both Ts and Ss needs

Not one-off but continuing PD plan that is comprised of all or part of items below, on local and larger levels

Have to make it clear that iLab is part of this larger approach – we're not going for \$ for iLabs only

Ellen: how do we get from Vision to Implementation/Adoption?

Def'n of technology

3 types – how do Ss use their hands in building; major instrumentation; and, how Ts think of tech – overhead projector, etc....

How do we move forward?

Ts feel isolated – so collab via iLabs would help

Talk about this in terms of teacher training – using online tools to do T training, helping them engage in process of developing front and back ends.

Ts feel divorced (even w/ sci background) from what's happening in latest developments in science – iLabs would help

role of continuing training in helping Ts stay in Ting

Role of scientist in PD community -- Fermi's QuarkNet – scientist has a choice of mentoring involvement – it's all about the relationship with the noted physicist, who is a volunteer and who uses this for broader impact; have developed community, with some Ts partic. for 10 years; the community continues, although individual members can take an agreed-upon break; indiv. Ts can decide their topics of study; it's Center-driven. Real tools, e.g. Cosmic Ray detector, producing data that Ts can take back to classroom

What happens if scientist drops out?

Zoe's Room

Sigma Xi

Only a small percentage of Ts are comfortable with science – how can we use these tools with Ts who aren't? Does the PD we've been talking about cover both groups and in-between Ts? Can there be a progression

Many Ts are clueless about the potential of these types of tools – so have to start with colleges of education – part of our mission is engaging Ts upfront, reengaging so they don't fall out of touch, and reaching kids, promoting sci literacy – it's a full spectrum: induction, PD, and promoting sci lit.

Science Cafe model as way to bring Ts in – (PBS Nova connection)

level: meant for Starbucks as venue

Cafe model – scientist comes in, but not for presentation, but for dialogue

often spontaneous – people in pub don't know they're going to be part of the discussion

an excellent way for museums to have a structured role with iLabs/science at all levels and all audiences

could tailor for Ts

Cafes can also intro Ts and public to new tools that they're not aware of

Science Cafe is good example of iLabs as *part* of a larger model of PD, sci lit improvement

Problem with PD – school boards feel they own PD

Should we consider Ts getting credit for their work with iLabs, whether via PD or other?

Alternatives/other than PD as way toward adoption

Dual credit – early college HS credits, online

Ed schools working directly with Ts and with HS Ss in alternative credit, early graduation, ...

Methods toward adoption is not a linear process – we can do diff things to get there

discussion over mechanisms and linearity and being top-down

e.g. Ss could be source of PD for the Ts – with QuarkNet:

modeled after what scientists do (consulted with scientists on what steps they actually take in R): content comes from physicists,

but in inquiry-based endeavor, where answer is unknown (by sci.s., too) – it frees up the S/T team b/c the answer is unknown – inquiry is a lot more useful when the answer isn't known – changes from T delivering content to Ss becoming colleagues

connection to main theme from yesterday's Education breakout

our PD around iLabs should be w/ inquiry approach, and shouldn't end with PD, but continues back in the classroom – hopefully, Ts use inquiry approach with their Ss with the iLabs tools – but iLabs have to be a part of that whole inquiry-based experience, and for that they have to be more exp't-based and less recipe science

Ts need be in collaborative mode with Ss, but there has to be content knowledge that helps them facilitate the collaboration

Will have to have methods for changing the learning landscape

Bob P: with QuarkNet, it's not most successful when the T knows all the content, but Ts figuring out what are the critical Qs, what's needed to do actual R

inquiry begs the content, not v.v.

Role of iLabs

1. as inquiry
2. as a part of the inquiry

PD is not only way, but an important way

it'll affect Ts in terms of content knowledge, pedagogy, retention, process/Nature of Science, T community
also, iLabs as way for Ts to do their own PD “in privacy of own home”

How do we make sure sci/engrs don't back away?

It's a team effort – Rs have to know they'll have support for their contribution, just as Ts do, and that it's meaningful to the Univ.

There are existing initiatives for virtual schools to do PD – e.g. NACOL sponsors “Keeping Pace Report” – FL, KY, NM, GA virtual schools are doing this – training e-teachers – a connection with iLabs

Begin with the end in mind – we’re really trying to help workforce dev, democratization, etc. – but it really begins with the Ts and PD
random acts of wow have to be leveraged and made sustainable, otherwise it’s just flash

How do we make sure we excite and engage those Ts and Ss who aren’t “into” this innov. like we are?

How do we affect Ss through affecting Ts?

problem is providing resources but Ts don’t know about it
good example – Kinetic City; iLabs could help Ts by providing resources that will improve literacy, workforce, broadening participation

also, Ts aren’t aware of PD resources

Nat’l Lab concerns:

effectiveness as corporate citizen – improving literacy
also: building pipeline

How do we manage/run PD?

What is the physical center – who is writing the grant? Who is the PI?

Role of nat’l associations:

AAAS and T associations (e.g. NSTA), also unions – NEA, AFT

Role of more local assocs:

Role of Colleges of Ed, which often aren’t responsive, so also: Colleges of Arts and Sciences

NACOL, ISTE

Nat’l Labs have important role to play

Role of private fdns

Motorola is involved in PD

private best for local/regional, nat’l for larger?

maybe group of fdns – Pew, Kaufman (already int’d), K.

works with Burroughs-Wellcome

ask for seed money

We need a coalition of fdns and people like us – can’t do it without

Policy/funding for PD

Role of Nat’l Labs

NSF Broader Impacts

PD remark: Ts need to feel supported, not threatened (in general)
PD w/ iLab approach validates role of T

What new partnerships, opportunities, or models do you see in connecting museums, national labs, policymakers, and funders?

How could we structure PD so it reaches our audience and how should it be funded (addressing stakeholder needs)

Have to reach through their own orgs

non-responsiveness of schools of ed

importance of regional mtgs. of nat'l orgs like NSTA –in NM,

maybe 2 out of 90K Ts can get funded to go to NSTA – we need to fund more Ts to go to nat'l mtgs.

Do we know how effective these mtgs. are with Ts?

What umbrella org would Ts recognize as a source for PD?

Need for representation at Cabinet level

Role of online communities

could develop PD with subset of T population

Equity and PD – PD goes to districts w/ \$

T reform – many times, Ts go to these mtgs. and come back to districts and it dies

Are there any specific projects or collaborations that you would be interested in pursuing?

What would the next steps be in forging these partnerships and projects?