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AUTHOR Cramer, Susan; Rose, Stephen; Winterfeldt, Henry
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ABSTRACT

This paper describes a cyclical staff development program designed to help teachers, specifically social studies teachers, gain expertise with technology and learn how it can be infused into their classrooms. The cyclical staff development program has three complementary components: (1) skill development; (2)focus on instruction; and (3) material development/individual consultation time. The cycle may be navigated during a single workshop, a month long series of sessions outside school hours, and in several workshops over the school year. The skill development sessions may be divided into introductory, intermediate, and expert-level sessions as needed. The focus on instruction sessions helps teachers begin to design and organize instruction that promotes engaged learning and fosters critical thinking while using technology as support. The third component gives teachers time to develop instructional materials while experts are available for individual consultation. (SLD)

A Staff Development Model for Infusing Technology into the Social Studies Curriculum

Susan Cramer, Stephen Rose, Henry Winterfeldt

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A Staff Development Model for Infusing Technology into the Social Studies Curriculum

Susan Cramer, Stephen Rose, Henry Winterfeldt
University of Wisconsin Oshkosh

Social studies classrooms and departments are rich territories for technology infusion to help students better inquire about historical and contemporary problems and issues. Unfortunately, many social studies teachers are still unsure how to use technology and more importantly how to integrate technology into their classrooms to meet their instructional goals. What follows is an example of a cyclical staff development program designed to help teachers gain expertise with technology, explore how it may be infused into their classrooms to promote powerful teaching and learning, and provide time for faculty's new skills and instructional conceptualizations to become reality.

Staff Development Cycle

The cyclical staff development program developed by the authors, has been used in university summer institutes and work with school districts. It has three complementary components - Skill Development; Focus on Instruction; and Material Development/Individual Consultation Time (see figure 1). The Skill Development component was designed to help teachers gain expertise with technology while concurrently suggesting and modeling ways technology might be integrated into classrooms. The Focus on Instruction component, examined authentic instruction, assessment, and student performance to help teachers revise their instruction to promote student engagement and critical thinking, about subject matter that is connected to the real world. Lastly, Material Development and Consultation Time was allotted. Each time this cycle is completed, teachers will have the opportunity to :

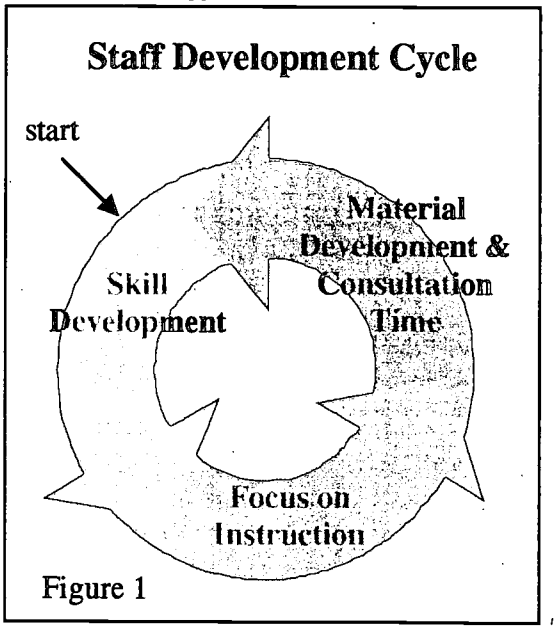

Figure 1

- gain skillfulness and confidence in using various technologies,
- examine their curriculum and associated instructional strategies,
- develop instructional materials to support the curriculum, and
- receive one-on-one help with questions, related to either pedagogy or technology, as they arise.

This cycle may be navigated during: a one week, all day, intensive summer workshop; a month-long staff development focus held after school or on a Saturday; several times during the year culminating in several technology intensive instructional units being developed; or several times over several years to allow teachers the opportunity to fully master this new way of teaching and thinking. Time, resources, teacher interests and skill

Teachers need at least three years to acquire expertise in using technology:
Year 1: Mastering technology resources
Year 2: Exploring curriculum
Year 3: Refining classroom applications

From Charp: The millennial classroom. THE Journal Jan 2000, p. 6
www.thejournal.com

levels, as well as departmental, school or district initiatives will determine how frequently the cycle is offered.

Skill Development Workshops

Common planning guidelines suggest than approximately 30% of the budget for a new innovation, should be allocated to staff development. Unfortunately, in schools staff development rarely if ever has this type of budget allocation. Without a focus on how to use a new instructional methodology or piece of equipment, the innovation has little chance of long term and successful adoption. This certainly holds true in regards to technology. Thus, the first component of this staff development cycle is focused upon skill development while at the same time offering examples and modeling ways technology may be integrated into classrooms to help achieve instructional goals. This dual focus provides a real-life context for learning. As teachers gain a purpose for learning about technology, their desire and need to learn becomes the driving force behind workshop attendance.

Generally, teachers will be at a wide variety of skill levels from novice to expert. This variety of expertise levels requires concurrent skill workshops to be offered so teachers may match their interests, needs, and skills to available learning opportunities. Determining specifically which skill sessions to offer should be based on available technology and needs. If digital cameras are not available for teacher and/or student use, then it makes no sense to offer workshops on their use. If your school has only a few computer workstations available for student use, then promoting student development of computer based materials such as PowerPoint or HyperStudio presentations does not make sense. Likewise, if your school does not allow teachers to mount web pages on the school server, then web page development sessions are pointless. If all of your teachers are at the novice level, a wide variety of small group introductory sessions will be needed. As expertise is built, offering intermediate sessions becomes a logical option. Experts are probably best served by tapping into their expertise to offer the workshops. Additionally, opportunities to attend off site workshops and conferences will benefit experts as well as others.

In staff development institutes offered by the authors, the following sessions at both the introductory and intermediate levels were offered:

- desktop publishing
- digital cameras
- hypermedia
- internet searching
- multimedia
- spreadsheets
- use of scanners
- web page development
- web page evaluation

Introductory sessions were for people with virtually no knowledge of the topic. Intermediate sessions were for teachers who were familiar with the basics but desired

more in-depth knowledge of the specific tool. No expert level sessions were offered as our purpose was to build a large cadre of teachers who had some experience with technology rather than further extend the knowledge of current district experts.

The audience for these sessions may be district wide, school wide, or departmental. An advantage of holding department specific workshops is that integration discussions can be much more highly focused than with a district wide or school wide audience. However, offering workshops to a larger audience may promote interdisciplinary discussion and teaching opportunities as well as tap into resources provided outside the department. Regardless of the audience, the focus in these sessions should be upon skill development within the context of integrating technology into the classroom.

Skill development with hardware and software are critical. Teachers will not develop technology rich instruction unless they are comfortable with the tools themselves.

Focus on Instruction

The second component of this staff development cycle involves Focus on Instruction. Research indicates that technology does make a difference in student achievement if computers are used to teach higher-order not lower-order thinking skills (Wenglinsky, 1998). This means there must be a focus on students developing and demonstrating the ability to think critically. Within the social studies, Fred M. Newmann, Walter G. Secada and Gary G. Wehlage (1995) offer a wonderful, research based framework for thinking about classroom instruction in this vein in their text: A Guide To Authentic Instruction and Assessment: Vision, Standards and Scoring. The book is a compilation of the findings of a national research study of teachers who practice authentic instruction, assessment, and student performances. Both social studies as well as mathematics examples are used throughout the book to illustrate the features of authentic pedagogy. Easy to read and understand, the book is essentially a codification of the wisdom of practice. The book contains a scoring guide to help teachers and curriculum developers design authentic tasks, assignments, and instructional practices. In the authors' staff development offerings, this book was a primary resource. It was read and discussed by all participants.

> "The conversations about technology in schools is trapped in the wrong subject" say Caperton and Papert. "The questions should not be: 'Does the technology work as a fix for the old?' It ought to be: 'How can we develop and choose visions that will use this immensely powerful technology to create and support powerful new forms of learning?'"
>
> from: Transforming Learning Through Technology, p. 20 . (www.milkenexchange.org)

Newmann et al believe that a central purpose of schooling is to teach students to use their minds well. To achieve this end, lessons and the resulting assessment tasks and student performances must intertwine construction of knowledge, disciplined inquiry, and value beyond school (see figure 2). Construction of knowledge is a blend of the learner's prior

knowledge of what others have produced about a topic or problem, how the learner organizes new information and considers alternatives to produce an original conversation, piece of writing, repairing or building physical objects, or through an artistic performance. Often conventional curriculums ask learners only to identify or reproduce the information others have produced. Disciplined inquiry requires the use of prior knowledge, in-depth understanding of the content topic or problem rather than superficial awareness, and an expression of conclusions through elaborate communication. Value beyond school is when the in-class accomplishments of the learner have value apart from documenting the competence of the learner. Learners make connections between substantive knowledge and either personal experience or public problems.

Figure 2. Authentic Pedagogy

Authentic Achievement	Authentic Assessment Tasks	Authentic Instruction	Authentic Student Performance
Construction of Knowledge	• Organization of Information • Consideration of Alternatives	• Higher Order Thinking	• Analysis
Disciplined Inquiry	• Content • Process • Elaborate Written Communication	• Deep Knowledge • Substantive Conversation	• Disciplinary Concepts • Elaborated Written Communication
Value Beyond School	• Problem • Audience	• Connections to the World Beyond the Classroom	

Source: A Guide to Authentic Instruction and Assessment: A Vision , Standards, and Scoring, 1995.

When the Focus on Instruction portion of the staff development cycle is based on Newmann et al's conception of authentic pedagogy, teachers begin to design and organize instruction which promotes engaged learning, fosters critical thinking, and can take advantage of electronic resources for data collection, organization, and presentation. This type of instruction seeks to harness the power of technology to support powerful new forms of learning as opposed to focusing upon reitteration of facts, events, and causes as stated by others

The following example illustrates how a team of elementary social studies teachers refocused their instruction utilizing Newmann et al's framework and reflected about how technology could be utilized to deepen student learning. The resulting unit focused on "why people immigrated to the U.S. and Wisconsin". During the initial conceptualization of the unit, they considered how students could construct knowledge about the unit problem, what disciplinary content and inquiry methods would be used, and how solving the unit's problem would allow learners to make connections to the world beyond the classroom. Within these perimeters the team built instructional procedures and activities that provided for higher order thinking, the development of deep knowledge, substantive conversations, and student demonstration of learning.

Identifying the role technology would play in this unit was easy and was central to the unit. The teachers found and used a CD entitled "I lost My Name At Ellis Island", to provide background information on immigration. Additionally, internet sites on immigration as well as non-electronic resources such as textbooks, literature, and interviews with parents also provided information on immigration. Thirdly, teachers taped into the local "Senior Net," an email system which allowed students and local seniors to be paired for an intergenerational dialogue about when and why local senior citizens immigrated to Wisconsin. These data were compared in class to the larger question about why people immigrated to the U.S. The collection and analysis of data utilizing this wide variety of resources addresses the categories of construction of knowledge, disciplined inquiry, higher order thinking, and deep knowledge. Connections to the world beyond the classroom and substantive conversations took place when students interviewed parents, electronically conversed with their Senior pen-pals, and then returned to the classroom to further reflect on their data and the central question of "Why people immigrate." Lastly, students demonstrated what they learned via construction of a PowerPoint slide show about how immigration affected their family.

The purpose of the Focus on Instruction component of this staff development cycle is to allow teachers time to revise how their classrooms might be structured to help students learn how to use their minds well and demonstrate their abilities. Studying a text such as Newmann et al's can provide structure for this conversation. The authors, when conducting staff development using this model, divided day long sessions into parts where teachers attended skill sessions, then discussed concepts from Newmann et al, and concluded with material development and individual consultation time. By continually going through the cycle, teachers were able to build a knowledge base, explore how it might be put into practice, then return for more instruction. At the conclusion of this cycle, teachers were well on their way to having materials developed for a technology rich instructional unit.

Material Development and Individual Consultation Time

Guided as well as independent practice are critical components of the learning process. The third component of this staff development cycle seeks to address guided practice by providing time to develop instructional materials while experts for individual consultation are available. During this phase of the cycle, instructors with technical expertise must be available to answer technical questions i.e. "How do I get the world to spin in my PowerPoint?" Likewise, experts in pedagogy – focus on instruction – must be available to help teachers continue thinking about how powerful learning and teaching principles and authentic assessment might be applied in a specific curriculum or lesson.

Independent practice is expected to occur in conjunction with the entire staff development cycle. Teachers will need and find differing amounts of time to master skills presented in the more formal sessions. However, if guided practice times are not available, learning is stymied. "Just in time instruction" is provided in this component.

Pulling the Picture Together for YOUR Program

Customizing a staff development program based on the cycle introduced in this article is not difficult. Below are some questions to help you determine what your needs are so that your selection of offerings will meet your specific needs.

Skill Questions:

- ❖ What technology skill sessions are currently being offered in your building and district? Do they meet the needs of your staff?
- ❖ What is the current level of technology knowledge and expertise among your social studies faculty?
- ❖ Are any department members willing and able to deliver the skill sessions?
- ❖ Are any department members willing and able to serve as technology mentors for other department members?
- ❖ What technology and software is available for teachers and students? Where is the technology located: in individual classrooms, in labs, elsewhere?
- ❖ What additional equipment/software needs to be obtained so that technology may be richly used in classrooms?

Powerful Teaching Questions:

- ❖ To what degree are teachers currently following powerful learning principles?
- ❖ Are any department members willing and able to deliver the authentic pedagogy sessions?
- ❖ Are any department members willing and able to serve as mentors for other department members?

Individual Consultation and Material Development Time

- When do teachers prefer to work on their instructional materials - after school, evenings, Saturdays, summer?
- What level of technical assistance is desired (students, peers, experts)?
- What level of technical assistance is needed for Focus on Instruction – peers, experts?

Conclusion

Technology has the potential to change learning and classrooms. Organizing a staff development cycle to build teacher capacity in this area is critical if schools and students are to reach their potential. Now is the time for action!

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Signature: Susan Cramer Stephen R. Rose

Printed Name/Position/Title: Susan Cramer, Assoc. Professor

Organization/Address: 800 Algoma Blvd - COEHS
Oshkosh WI 54901

Telephone: 920-424-1490

FAX: 920-424-0858

E-Mail Address: cramer@uwosh.edu

Date: 10-16-00

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