

Chapter XIV

Interaction, Imagination and Community Building at the Math Forum

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ABSTRACT

This chapter draws upon contemporary social theory to make an argument about the ways that teachers create personalized communities of practice at The Math Forum, an online educational resource center. The discussion of social networks and personalized community is brought into dialogue with sociologically oriented strands of math education research to suggest that the collaborative community building work that Math Forum teachers do online allows them to not only form a learning community but allows them to overcome tensions around mathematical identity formation which are important for advancing one's thinking as a math teacher. The chapter discusses some of the interview data conducted with math forum teachers and the importance of that information for the future of teacher professional development and the way an online community can support teacher learning.

INTRODUCTION

This chapter focuses on research among teachers using The Math Forum, <http://mathforum.org/>. Over the last ten years data has been collected on teachers using The Math Forum through, focus groups, observation of classroom and laboratory usage of the site, and in-depth interviews

with teachers about their usage of technology in general and The Math Forum specifically¹. The research has focused on the efforts to understand the ways teachers have used and continue to use The Math Forum Site.

Further, the research into teacher usage of the site has identified ways in which teachers creatively imagine themselves and others to: sup-

port their own intellectual development, establish “communities of practice” to which they can contribute, negotiate different worldviews between their local school communities and members of the online community, and look at effective ways to find and share resources, and get help and support that they need while dealing with the contextual impediments they face.

The chapter is organized around a set of different theoretical ideas. First it looks at the ideas put forth by Barry Wellman (2001) and his colleagues (Quan-Haase & Wellman, forthcoming; Wellman, Quan-Haase, Boase & Chen, 2002) that new informational technologies are allowing people to reorganize their social lives in new ways and have greater control over crafting “personalized communities” that can be spatially distributed but still very much part of a person’s everyday world. Wellman’s ideas are brought into dialogue with the work of Paul Cobb and his colleagues (Cobb & Hodge, 2003; Cobb & McClain, 2003) as well as those of James Greeno and James Gee who have all been working on the notion of negotiation of identity as part of the classroom learning process. Finally the chapter draws on the community of practice literature to suggest that the personalization of community and the identity transformations take part in groups that are organized around education practices and specifically those of teaching. It is suggested that interactive digital libraries like The Math Forum create unique opportunities to support the boundary crossing and identity work that can not only be successful for student learners but can support teachers in their movement from novice to expert, from peripheral community member to leader.

The chapter moves from a theoretical discussion about the contemporary social context of developed nations to a discussion of the potential of interactive digital libraries like The Math Forum in this social context. The chapter then moves to the research at The Math Forum, which demonstrates that there are profound interactional possibilities for education brought about by the new informa-

tion technologies that can add dimensions the classroom does not allow. Finally the discussion returns to the issue of virtual community and the affordances created by the new generation of “interactive digital libraries” that are being created for teachers and students and offers a bit of hope to the more dystopic views of information technology and rise of performativity (Ball, 2000; Lyotard, 1984).

INDIVIDUALIZED COMMUNITIES

Barry Wellman is a sociologist and a network theorist who argues that the new information infrastructure that has created the Internet, mobile telephony and other wireless communications has changed the nature of how social groups are organized. In general he has argued that groups are in decline and personalized networks are taking their place.

Part of the argument that Wellman is making is about the changing nature of communities due to information technology. Communities are less bound by space and time and are now increasingly “flexible” with boundaries that can be stretched by many different forms of communication technologies that allow for “at a distance” synchronous or asynchronous communication (Wellman, 2001; Shumar & Renninger, 2002). These more flexible communities can involve combinations of virtual and face-to-face interaction. They can also come together for a variety of reasons from those that are local political entities to groups bound together by common interests.

Another part of the argument Wellman is making is about the “personalized networking” that is at the core of the new more flexible forms of community. One example of this process that we could point to is the way telephony is changing due to the introduction of new technology and how those changes are emblematic of changes in the nuclear family.

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