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**Media and Milieux:
Exploring the Foundations of Learning Community**

Scott Morrison

**A Thesis
in
The Department
of
Education**

**Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Arts at
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ABSTRACT

Media and Milieux: Exploring the Foundations of Learning Community

Scott Morrison

In light of the conceptual ambiguity and rhetoric surrounding the term “learning community”, this thesis elaborates conceptual foundations for the term. Drawing upon sociological and anthropological literature, the thesis presents community in structural-functional and psycho-social dimensions. In the relationship between these dimensions, the former is argued as both the medium and the milieu for the latter. As an integral aspect of community practice, learning recapitulates the psycho-social dimension of community. Current theories of learning are presented as being either “partitioned” or “situated” based upon their underlying conception of the relationship between individuals and culture. Educational design is discussed in terms of these relationships. A partitioned model of the learning implies the design of a medium between individuals and culture and a situated model implies the design of a milieu where individuals can experience culture. Consequently, design of learning community should be based on the design of both the media and milieux for learning. Two models of learning communities are examined in terms of how they reflect this conceptual framework. For further illustration, a prototypical learning community design is presented as an appendix to this conceptual analysis.

Dedication

This thesis is dedicated with love to my family, Beth Wall and Maya Nouredine. They have continually been the heart of inspiration, support, and patience for a process that always seemed to require just a few more steps.

Acknowledgements

I am deeply indebted to the critical ideas and insights of Dr. Steven Shaw and Dr. Gary Boyd. I wish to thank my parents, Gary and Vicky Morrison, who continue to be a support and a model for pursuing my dreams. An extra thank-you goes to Alex Del Busso and the Silver Wheel, who taught me that the essence of community and learning is dedication.

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Media and Milieux:

Exploring the Foundations of Learning Community

The past decade has seen a general increase in the use of telecommunications and computer technology in instruction. It has also seen an increase in emphasis on social collaboration and context in learning theories and practices (c.f. Vygotsky, 1978; Lave & Wenger, 1991; Clancey, 1997). In many cases, these two trends work hand in hand and computer and communications technologies are often seen as important for the support of social collaboration in learning. Consequently, "online learning communities" have fast become common computer based learning environments. However, this popularity does not translate to ease of design and facilitation. One source of design problems may lie with the conceptual ambiguity that surrounds "learning community."

Statement of Problem and Structure of Thesis

With a belief that design needs to be based on a conceptual foundation rather than the aggregation of features, the problem that I address in this thesis is not the design of a learning community per se, but the foundations for such design. To this end, I argue that community and educational design are similar enough endeavours that a conceptual alignment of learning with community promises a useful conceptualization of the term "learning community". This conceptual analysis has five parts.

First, I provide a rationale for this conceptual analysis based on a case study of the problems facing a small educational media company and from an analysis of the ambiguous and rhetorical nature of learning community. In response, the thesis seeks to conceptually parallel the notions of community with learning by examining the structural-functional and

the psycho-social aspects of both. In this parallel, I argue that educational design in this case needs to be subsumed in a greater social project of community design.

In chapter three, I examine community in two dimensions: as a system of social structures and processes, and as a sense of collectivity that arises from relationships between members of a culture and the culture as a whole. This chapter provides several descriptions of virtual community to exemplify these dimensions. Furthermore, I argue for a relationship between these dimensions in that the structures and processes of community have the effect of 1) mediating culture or 2) containing culture for the individual.

Chapter four examines learning specifically as a relationship between the individual and culture. I find that two theoretical frameworks can currently explain learning: one that partitions the mind of the learner from the environment of practice, and one that situates the mind in the environment. In this chapter, I also examine different implications of these theories for educational design. To this end, I position educational design as 1) mediation of knowledge and activities or 2) placement of the learner in direct contact with knowledge and activities and the facilitation of knowledge relationships.

Next, I argue that the learning in community is best conceived when structures and processes of community support the psycho-social relationship between individual and culture. Thus, both community and instruction have similar objectives: to mediate a culture to the individual and to situate the individual in a culture. It follows that the foundations of learning community design build towards these objectives. In short, learning community should be designed as both an interface and a place for learning the knowledge and practices of a culture.

Following the conceptual analysis of this thesis, I seek to further substantiate the dual (media/milieux) nature of learning community in two theoretical models: the community of practice, and the learning organization. In chapter six I show that these models work both as media and milieu for learning.

While this thesis does not address specific design features, the design proposed to a small company is included as Appendix A to give the reader a better conception of design features that may arise from the design foundations presented in the body of the thesis.

Chapter Two

The Case of M2¹ and the Need for Conceptual Foundations

The impetus for this thesis originated with an internship experience at M2, a well-established small software company based in British Columbia. The company designs and develops educational products and services aimed at promoting creative and critical uses of technology in the educational process. The thematic emphasis of their products is to use educational software and networks to promote life-long and self-directed learning. In fact, their mission statement is to use educational software to promote "thoughtfulness, resourcefulness, and insightfulness" in people. Their products include software planning and evaluation tools for teachers, students and parents, via educational CD-ROMs and online support for their products. While many of their products were originally developed for a local curriculum, they have been adapted by M2 to fit other curricula and are marketed worldwide.

In 1997, the company's flagship product line was a three-part suite ("TeacherPlan", "StudentPlan", and "ParentPlan") that help teachers, learners and parents to design and plan learning opportunities. While the three software packages may be used independently, M2 intended for users to share information with other users via email and an online web service. M2 essentially markets the products as a link to a subscription based web service in which teachers, students, parents can share their learning plans, strategies, resources, and anecdotes of their experiences. For example, teachers would 'virtually' meet in M2's "Teacher Club" to share lesson plans and discuss educational issues. Learners would meet on "Student Club"

¹ The name of the company and its products and services have been changed.

to share projects and interesting resources. Parents would meet on "Parent Club" to share ideas on parenting and how to help their children learn.

M2's objectives for these web-based services were fairly broad. They planned to offer a subscription based service where people would a) use their Plan products; and b) become thoughtful, insightful, and resourceful (vis a vis their corporate mission) in teaching, learning, and parenting. To a great extent, M2 models their aspirations on the growing popularity of consumer oriented virtual communities (see for example, ParentPlace: <http://www.parentplace.com>; and Parent Soup: <http://www.parentsoup.com>). However, they wish to distinguish themselves from other virtual communities by promoting a context in which life-long learning and self-directed education is specifically emphasized. In essence, M2 wishes to design "Learning Communities" with the characteristics listed in Table 1.1.

Table 1.1. The Objectives of M2's Learning Communities

In regards to services & access, the communities will...

- be aimed at a general market of teachers, parents and student.
- be subscription based and hence voluntary.
- allow ongoing member entry and exit. It will not be limited to fix beginning or ending points (e.g. the start /end of a school term)
- provide technical and instructional services for users of M2's computer based products.
- be "optimized" for use with M2's products (However, the use of M2's products is not necessary for being a member of the communities)

In regards to learning, the communities will ...

- promote the notions of life long and self directed learning skills over instruction and content, thus related to M2's Mission statement of fostering "Thoughtfulness, resourcefulness, and insightfulness"
 - work with the philosophy that learning is a product of community activity rather than knowledge and instruction.
 - not be structured on any particular curriculum or institutional educational systems. Rather, curricular needs and learning are viewed as emergent and addressed in community activity.
-

Problems Facing M2's communities

By the summer of 1997, the software products had been fully designed and development was either complete, or close to completion. The web services, however, were still in the process of design and development. At that point in time, M2 had developed "Faculty Club", the virtual community for its "TeacherPlan" product. The community had been operating for close to a year but at less than 500, membership was low and the community was inactive with the general exception of M2 employees. This situation was an ill omen for the company because every teacher in the province of British Columbia was eligible for free membership through a relationship between M2 and the provincial Ministry of Education. If it was difficult to establish a community in which membership was free, it would most likely be more difficult when membership required a subscription cost, however nominal.

Consequently, internal assessment led to the speculation and identification of some obstacles to the learning communities. For M2, the main problem was the lack of members and hence the "critical mass" perceived as necessary for the community to coalesce. However, from the perspective of this thesis, the main problems facing the community were the lack of front-end analysis and research into the nature of learning communities.

Front End Analysis

There seemed to be a lack of knowledge on behalf of M2 regarding the specific requirements of the users and the learning context. For example, the company was targeting a very general market: essentially any teacher, student and parent. Furthermore, M2 was at the time actively pursuing markets throughout the world, including Canada, South East Asia, India, the United States, and Great Britain. In short, M2 did not, nor could not, generate a specific notion of the user or learner. This meant that essential information such as age level,

educational background, prior knowledge, geography, culture, gender, and educational needs were absent from the design process.

Thus, when learning community was examined as an educational design problem, M2 could not pinpoint the knowledge and performance gaps that needed to be addressed. Hence, M2 could not address users' specific educational needs and in short, the company was ill-equipped to articulate specific learning structures and content for the communities it planned to devise.

There were a number of potential responses to this problem. First, M2 could better define its target audience through more substantive market and needs assessment. Second, M2 could narrow its market and better define the needs of a selection of the wider population. Given M2's diverse market however, the first two would not be reasonable because it would be difficult to obtain typical user profiles from a developing market that covers three continents and several cultures.

Alternatively, M2 could circumvent the need for specific knowledge by designing a generic community and placing the responsibility of learning on the community and its members; or, in the very least, delay addressing such needs until a community (or proto-community) had emerged and could be analyzed. Indeed, there are some justifications for this emergent approach to both design and pedagogy (c.f. Tripp and Bickelmeyer, 1991; Clancy, 1997; Carr, 1997) and this shift of responsibility from the designer to the user seems to be in accordance with M2's general "learner-centered" philosophy. To this end, this option necessarily embraced an educational and design philosophy in which learning and design is self-directed, reflexive, life-long, and embedded in community participation. However, this move seems to shift the responsibility of community design to the user and shift responsibility for learning to the learner.

How then to promote learning and community in a situation in which the onus of learning and community is on the end user? The clear approach is that M2 needed to first establish a foundation for learning community rather than a specification of it. However, there were few models in the literature that provide direction for the type of community that M2 desired. This is due to differences between the type of community that M2 sought and the type of communities that currently existed.

Although M2's earlier designs clearly mimic the features of other web-based communities, M2's objectives are a departure from most other virtual communities. Generic virtual communities, such as communities on the Usenet, are based on common interest, such as hobbies, products, or entertainment (Kim, 1997). In these virtual communities, people participate because they have a fairly clear a basis for sharing, such as specific beliefs, culture, interest, or geography. In contrast, M2 wanted their community to be based on ill-defined notions of learning and education. Hence, there would be little basis other than the software itself and a very broad interest in teaching, parenting, and learning for the type of sharing that characterizes virtual communities.

Additionally, M2's communities also represent a departure from most "learning communities" in that their educational objectives and learner characteristics were not yet specified. Most learning communities such as the Collaborative Visualization Project (COVIS) (Pea, 1993; Fishman & D'Amico, 1994; O'Neill & Gomez, 1994; Gordin, Gomez, Pea & Fishman, 1997), Computer Supported Intentional Learning Environments (CSILE) (Scardemalia & Bereiter, 1992), and AT&T's Learning Circles (Riel, 1993), focus on relatively specific learning objectives, pedagogical needs, and learning contexts. In the absence of, M2's specific objectives or pedagogical needs, the utilization of specific design structures from other communities maybe problematic.

In a search for general models of learning in social organization, I found that two models seemed to have utility. These are the community of practice (Lave and Wenger, 1991) and the learning organization (Senge, 1990). However, as theoretical models, these suffer from the same lack of specificity that M2's design does. Furthermore, neither is necessarily amenable to the design of virtual learning communities. In any case, before the adoption of either as a source of design M2 must evaluate these models against its own notion of learning.

In short, M2 must base its learning communities on a model of learning community that is somewhat original. This model needs to provide support of an open community based on experiences of virtual communities and learning. Ideally, M2 should seek a foundation of learning community that conceptually embeds the process of learning and the resolution of individual educational problems in the context of community participation.

General Foundations of Learning Community

Because of their design directions and the lack of specific knowledge M2 had of their market, the company required a solid yet general understanding of learning communities. However, "learning community" is an ambiguous term and designers need to be aware of the nature of this ambiguity. For example, learning community has been used in the education literature to describe: 1) a computer based library of multimedia resources for teachers and a network for teacher interaction (c.f. Rose, Ding, Marchionini, Beale & Nolet, 1998); 2) an arrangement that connects learners in a classroom environment with members of a larger community outside the classroom (c.f. Milone, 1997); 3) a classroom arrangement reflective in its cultural diversity and dynamics of larger communities (c.f. Peterson, 1992); 4) a collective enterprise engaged in knowledge building (c.f. Scardemalia

and Bereiter, 1992); and 5) a collection of individuals who are bound together by a shared will to learn (Kowch & Schwier, 1998). It seems that any endeavor that positions learning in a structure of community may be considered a learning community.

In fact, "learning community" is also an increasingly rhetorical concept. This is due to, in part, the positive connotation of well-functioning and dynamic cooperatives of self-directed learners that the term seems to evoke. For example, the deputy secretary of the US Department of Education, Madeleine Kunin (1995), presented learning communities as a general cure-all for our educational ills: "Working together as a Connected Learning Community, we can raise the quality of education to new levels for all Americans regardless of where they live or work, how old they are, what they need to know, or what level of knowledge they need to know."

In this ambiguity and rhetoric, notions of community are misunderstood, misappropriated (Salvador, 1998; Fernback, 1997) or simply assumed whenever a group of people gather or interests are seen by some as common. Consequently, the term "learning communities" may not, in and of itself, be useful for determining educational design or practice. Indeed, the term may not provide anything more than a novel terminology for established models of instructions and learning (Wilson, 1998). Or worse, it may not be anything more than an ideological currency (Gusfield, 1975) used to promote agendas unrelated to education. For example, Kunin's address, which preceded Bill Gate's book announcement of "The Road Ahead", emphasized private sector partnerships throughout the speech and stated that "a citizenry that is technologically literate will be a dedicated technology consumer." While Kunin's speech does not reflect the state of research and development into learning communities, the optimism of her message reflects both a general assumption of "community" being a cure-all for ill defined educational problem and the co-option of the term for non pedagogical ends.

As a result, the ambiguity surrounding the concept and purpose of learning community and the assumption that community is present in a collective, translates into design that often focuses on the end appearance of collectivity and not on the necessary foundations for the creation of an educationally sound community. For example, many online communities and learning communities attempt to recreate successful communities such as the WELL (Haffner, 1997; Smith, 1992) by mimicking the apparent physical or design characteristics rather than examining the social and pedagogical origins and rationale for those features. The problems of these design assumptions are compounded when design crosses genre and media; i.e. attempting to design virtual learning communities using models of virtual communities in general or models of non-computer based learning communities.

For these reasons, criticisms of new communities (Salvador, 1998; Fernback, 1997) are very astute and the term "learning community" represents a potentially vacuous concept for educational design. Until the learning community is better articulated in terms of both community and education, any design presents substantive risks for the development of pedagogically sound products and services. In the case study, if M2 is to be successful in establishing successful and effective communities for teachers, students and parents, it must first look to the foundations of what community is, and then to the foundation of how communities can be educative. It is upon these two foundations that design should be initiated and specified.

Chapter Three

The Foundations of Community

The case study in chapter two illustrates the need for the design of virtual learning communities to begin with a foundation of community. In this chapter, I seek this foundation in the literatures of anthropology and sociology.

The past century of academic inquiry into community introduced numerous definitions (c.f. Hillary, 1955; Clark, 1973) and a great deal of debate in sociology and anthropology (c.f. Gusfield, 1975). There appears to be some points of agreement however. The comparison of several definitions of community (Table 3.1) suggests that there is a structural-functional dimension to community that address 1) the circumstance of commonality and 2) the system of social processes that maintain common circumstances and accommodate any destructive tendencies of diversity. Additionally, it is common to see mention of a psycho-social dimension of community that considers important the relationship between the individual and the community. It need be noted here that language is an aspect that is critical to the formation and maintenance of communities as it provides the basis for communication. As such, language is implicit in community definition if it is not explicitly noted as an aspect of shared culture and social processes.

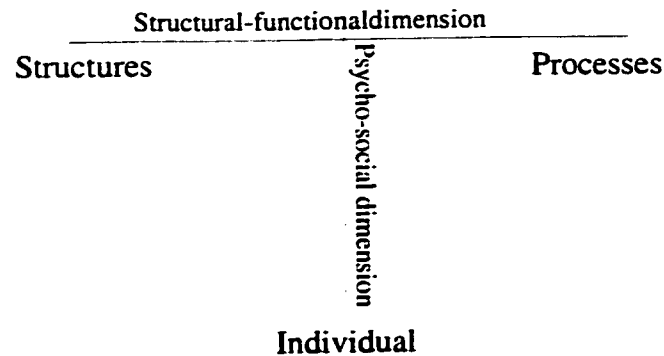
In terms of community design, this literature provides some indications of where to begin. Central to this thesis is the assertion that designers need to include two dimensions that make up community. These dimensions can be brought together in the following model: (Figure 3.1)

Table 3.1. Elements of Definitions of Community

Shared Structures	Land	Goods	Rights	Character	Value	Circumstances	Interests	Beliefs
Davis (1959)	x							
Hillary (1968)	x	x	x	x				
Dentler (1969)	x				x			x
Smith (1992)						x	x	
Gottschalk (1975)								
Fernback & Thompson (1995)	x			x			x	
Office of Learning Technology (1997)	x				x			x

Processes of Sharing	Sentiment	Cooperation	Norms	Institutions	Systems	Promotion of Growth
Simpson (in Clark, 1973)	x					
Biddle (1959)						x
Hillary (1968)					x	
Gottschalk (1975)		x	x	x	x	
Smith (1992)					x	
Fernback & Thompson (1995)					x	
MacIver		x	x		x	

Figure 3.1. Dimensions of Community Culture



The Shared Structures and Circumstances of Community

The structures of community are often the first things that are evident to a newcomer entering a community. While these structures can be based on both physical circumstances and interests, it is certain that they are shared. In fact, the etymological root of the word community suggests that it is founded upon structures that are held in common (Collins Concise Dictionary, 1988). Physical structures are found in shared situations or circumstance, such as a geographical location, or a time period. Structures of interest are characterized by shared social artifacts and personal characteristics, such as language, symbols, traditions, history, practices or beliefs and/or shared goals and purposes of a group of people. Consider for example, the sense of community established in the Montreal region during the ice storm of January 1998 and the use of the term 'medical community' to refer to a range of practitioners, regardless of geography, whose interest or occupation involves medicine.

But as a newcomer encounters these common structures of commonality, it should be evident that commonality does not imply uniformity. Anthony Cohen (1985) for example, argues that commonality refers to common forms and symbols in the face of diverse and conflicting needs, contents and activities. Hence, community does not exist in spite of diversity, but because of it. To wit, pluralism structures and adds value to commonality by 1) highlighting what is common, and underscoring commonality in the social negotiations of boundaries and 2) providing the bases for the social processes that lead to more complex structures of sharing.

For example, Cohen writes of the question of Scottish devolution that faced the British Labour Government in the mid 1970's. The question of whether Scots were different from English (i.e., can the United Kingdom reflect a commonality of citizens) became the question of whether particular Scots were different from one another. This shift of focus illustrates how the common

notion of being Scottish includes the diversity of being Scottish. In short, the complex notion of national identity results from the aggregation of a diverse range of regional identities.

In fact, some such as Anna Smith (1997) and Victor Turner (1969) feel that not only is the elimination of conflict and diversity impossible, it is undesirable. By Smith's arguments, too little diversity decreases energy, creativity and adaptation. In the examination of social processes via the study of ritual, Turner argues that society cannot function without a dialect between social structure and "anti-structure". Thus the notion of commonality is strengthened by its capacity to include diversity and resolve conflict: "the triumph of community is to so contain [variety among its members] that its inherent discordance does not subvert the apparent coherence that is expressed by [the community's] boundaries" (Cohen, p 20).

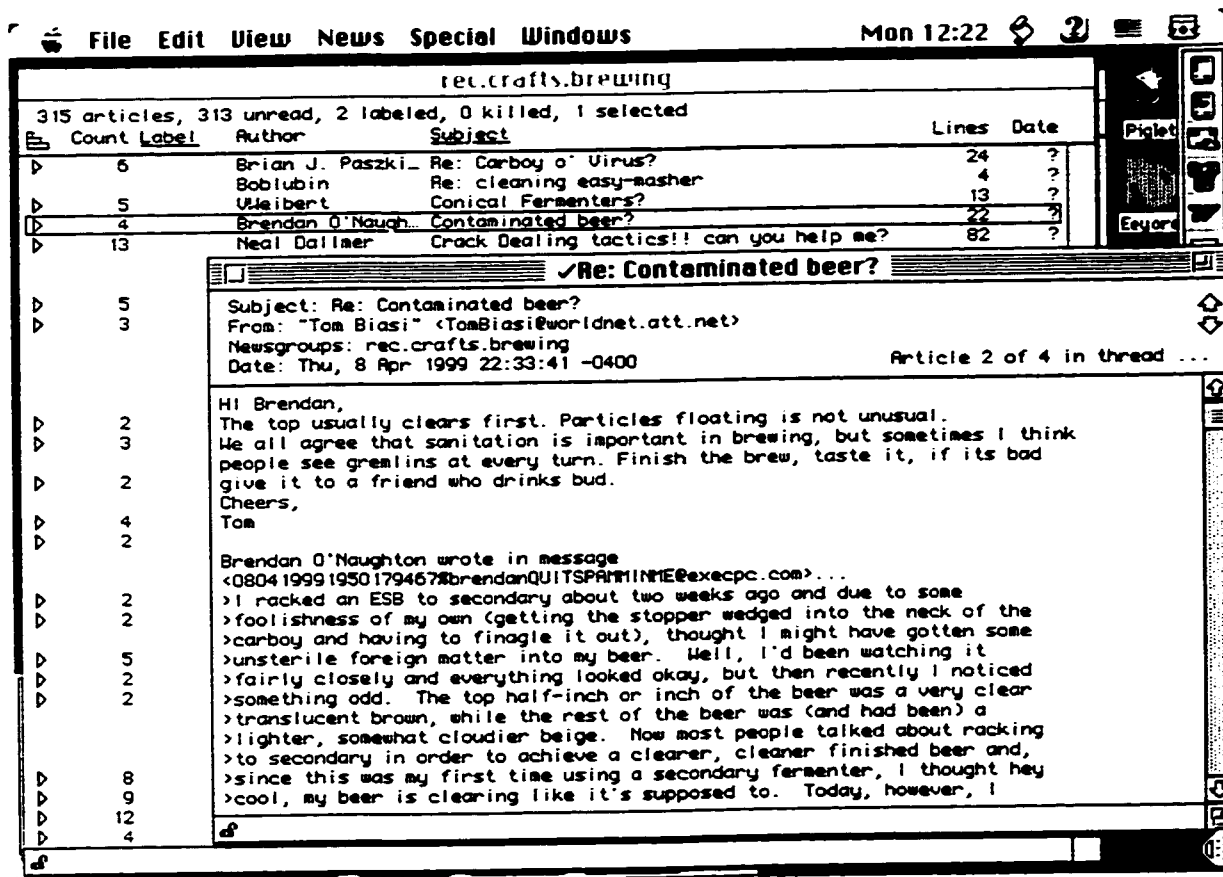
Common Structures in Virtual Community

In a physical environment the structures of community are diverse in order to accommodate many circumstances and populations. In contrast, the range of the structures in virtual environments is more limited. Virtual communities are generally built around textual discussion rather than physical activity. As such, there are two common structures for community: the asynchronous "forum" and the synchronous "chat or Multi-User Domain".

The first structure for community on computer networks is the use of asynchronous "forums" or discussion groups. Internet newsgroups (the "Usenet") are examples of such structures. (Roberts, 1998) The Usenet describes a way of using the Internet to read and post messages to over thousands of different forums for asynchronous discussion on common topics. For example, the Usenet newsgroup, "rec.crafts.brewing", describes a discussion forum for those whose hobby is making homemade beer. In this newsgroup people frequently exchange recipes, stories of successes and failures, ask questions of experts, and assist

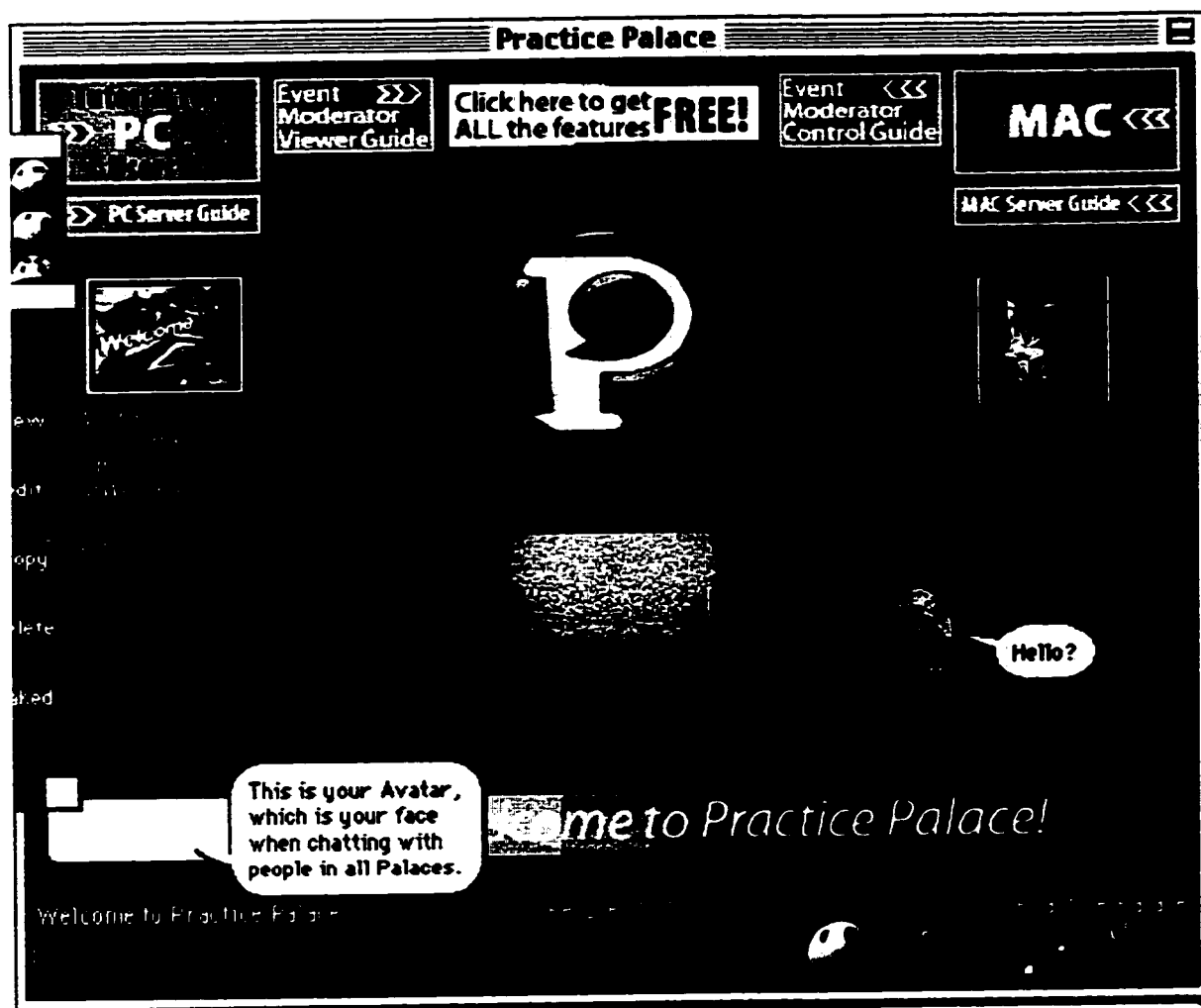
homebrewing novices. In this and other groups, specific conversations are organized in subject-oriented threads and actual contributions (or "posts") often follow these threads of discussion (see figure 3.2).

Figure 3.2. Messages and Threads of Discussion on the Usenet



This "forum of common interest" structure can also be found in most local "Bulletin Board" communities such as the WELL (Smith, 1992), Web Based communities, such as "ParentSoup" (<http://www.parentsoup.com>) or Electric Minds (<http://www.eminds.com>), and online "learning communities" such as AT&T's Learning Circles (Riel, 1993). In fact, it is so prevalent that it has become the standard structure for most GroupWare systems, including First Class (Softarc) and Lotus Notes (IBM).

Figure 3.3. The Palace: An example of a graphical chat service



The second structure, synchronous chats, is found in Multi-user domains (MUD's) (Curtis & Nichols, 1993; Bruckman, 1994; Rheingold, 1993), Internet Relay Chat (IRC), and many web and GroupWare products. MUD's such Lambda Moo, Media Moo, and the Palace (<http://www.thepalace.com>), replace the asynchronous "bulletin board" metaphor of forums with a spatial metaphor for synchronous online activity. Users typically enter an imaginary space, such as a virtual city (Donath, 1996; Dieberger, 1994), populated by other users who are concurrently 'logged in' (see figure 3.3 for an example from Lambda MOO). IRC and other

chat services are similar except that they eliminate the metaphor of physical space and much of the "role playing" common to MUDs.

Summary

Structures are important for community because they provide the physical and symbolic boundaries and venues necessary for social activity. As objects of design, structures should not be ends in themselves. Instead, community design needs to emphasize social environment over environment (Donath, 1996). Accordingly, design should support other aspects and dimensions of communities, such as shared processes of community and the psycho-social dynamics of community.

Sharing Processes in Community

After the initial encounter with the structures of community, the newcomer will see that these structures are home to diverse interests and activity. At a deeper level, she will see that a web of shared processes, such as etiquette, cooperation, decision making processes, and enculturation, which seem at one level to operate within the structures, yet seem at a second level to be the glue that holds the structures together.

In addition to being founded on common structures, community it is also founded *through* common processes. These processes define and maintain the integrity of what is shared and mitigate destructive tendencies of diversity that are inherent in shared circumstances. This socially constructive aspect of community (cf. Berger & Luckman, 1966) implies that community operates and develops in accordance with a tacit and explicit culture by which conflicts are resolved, consensus achieved and community maintained.

Aspects of this culture include, but are not limited to reciprocity, negotiation and agreement between members and complex structures of boundaries (Cohen, 1985), social rules, mores, roles, traditions, and rituals (Turner, 1969). In the end, the culture of a community manifests itself as structures and processes of institutions of government, education, religion, law, and economic and political systems in which labour, responsibilities, authority, rights and roles are divided among members.

Examples of Processes in Virtual Communities

It is vitally important in communities that commitment to the community is maintained and destructive behaviours are identified and addressed. Processes in virtual communities tend to follow two approaches to this end: the promotion of participation and pluralism and the mitigation of disruption and conflict (Smith, 1992). For each approach, there are a variety of social and technical processes that are implemented and encouraged.

Processes to Promote Participation

Promoting participation is the first "process" important to community. This is particularly so in environments where presence is generally unknown unless the member is explicit in contributing. If participation is limited to a small number of people, the maintenance of community is hindered for two reasons: 1) there is a perception on behalf of infrequent contributors that diverse discussion is not welcome; and 2) burnout on behalf of frequent contributors. Consequently, several authors have documented a range of promotive processes in a variety of online communities (with both asynchronous forums and synchronous chats.)

The first is the guarantee of rights to members. Rights relevant to online community include privacy (Smith, 1997), individual ownership of ideas and creations (Smith, 1992), the ability to

contribute towards decisions regarding the community (Kim, 1997), the ability to access public areas, and the awareness of the explicit processes and protocols of the community (Coate, 1992; Smith, 1997). For example, Usenet newsgroups often have charters that are written in the process of defining the newsgroup and providing a rationale for its creation. Additionally, charters and frequently asked questions (FAQ's) for communities make explicit some of the norms for community and what recourses are available to members who have complaints or problems. In learning communities, these rights may be extended to include specific activities regarding individuals' learning.

A second process of promoting online community is the accommodation of members' interests. This is generally done by identifying interests and providing services, information and community events (Kim, 1997) directed towards those interests. For example, if a community is built around the hobby of homebrewing, the community makes available information such as recipes, answers to frequently asked questions (FAQ's), and directories of members, specific interests and/or services. Generally speaking, it is the fulfillment of interests that engenders commitment of individuals to community. If information or groups do not exist for a specific interest then facilitators may encourage experienced members to form such groups and provide information (Kim, 1997).

A third way that participation is promoted is through the creation and use of social and technical power structures of the community to legitimize participation and membership. Socially, this is done by having role models and acknowledged leaders or experts of the community encourage and recognize the activity of members. Furthermore, such leaders are further legitimized in the formation of democratic and representative community councils. With particular relevance to learning communities, "buddies" and mentors are important for guiding members in the community (Kim, 1997) sponsoring and legitimizing activity of a learner in the community and for providing specific instruction and information to learners (Lave and Wenger, 1991).

Technically, facilitators of a community legitimize activity by recognizing contributors with more access, responsibilities, and abilities to more directly influence the nature of the community. For example, in MOO's (programmable MUD's), established members can program new rooms, objects, and robots to interact with community members (Curtis & Nichols, 1993). Likewise, in forum-structured communities, a similar ability is to create new forums. However, such ability is often given only to members who contribute to the community.

Processes to Resolve Social Conflict and Disruption

In online environments conflicts are inevitable owing to the acorporeal, ambiguous and asynchronously nature of the environments (Smith, 1992) and the potential for cultural diversity of members who often originate from geographically dispersed locations and cultures. For example, given the lack of physical, visual or audio cues in textual forums and chat, is it easy to misinterpret statements as serious or in jest. Furthermore, online conversation involves a different etiquette to face to face conversations and there is a tendency for members to assume they are anonymous and therefore unaccountable (Smith, 1997). Typical conflicts and disruption in online conversations consist of "Flaming" or extremely personal verbal aggression, "trolling" or making statements that will knowingly incite flaming, and impersonation and hacking. In MUDs, there have been incidents of perpetrators taking over control of another user's online-personality, making them appear to say and do things that they would otherwise not do (Turkle, 1996).

As I earlier noted, conflict and diversity is to be expected and to a certain degree encouraged in community. Conflict is important because the resolution of conflict leads to both individual and community development. However, the encouragement of diversity and resolution of conflict must be done with care (Smith, 1997) so as to not escalate and widen the conflict or impinge on

the rights or interests of others, leading to an impasse in the community's interest and a discouragement from participation.

Certainly one of the best way to address potentially destructive conflicts is prevention. Conflict in virtual community is prevented in several ways. For example, some virtual communities allow disruptive activity only in certain areas and redirecting members to those areas. Others moderate posts and censor potentially inflammatory ones. Others still attempt to reduce anonymity thereby increasing the members' sense of accountability. A fourth prevention strategy found in email and the Usenet is the use of filters. Filters enable individual members to categorically weed out the messages that may be offensive, thereby removing the audience for the conflict.

If prevention does not work, computer mediated environments, like off-line environments, are amenable to three basic approaches to conflict intervention: the reconciliation of interests, the adjudication of rights, and the exercise of authority and power (Smith, 1997). For example, an independent third party may act to moderate or mediate conflict by encouraging fact finding and reconciliation, and if necessary judge behaviour and the violation of rights, and levy consequences such as removal of privileges or suspension of access.

Co-constitution of Structures and Processes

When separating structures and processes of communities, it is evident that there is a symbiotic relationship between them. In effect the physical, metaphorical and communicative structures of community are built through communal processes in which symbols, identity, institution and edifices are defined in shared, if not public, ways. For example, the creation of Usenet groups is a consensual process that consists of proposal, debate, vote and as a final stage, implementation (Allberry, 1999)

Moreover, structures define and refine community processes. Established structures and traditions encourage and limit shared activities and the ways that people negotiate roles and responsibilities. In general, new dialects, etiquette, and social processes are continuously being revised to suit the textual, acorporeal and asynchronous nature of cyberspace. In short, this mutual creation of social processes and definition of structures is to be expected and encouraged in the emergence and maintenance of any virtual community.

Thus, concepts of community need to consider structures and processes in unison, even though they appear in design as separate aspects of community. For example, structures such as forums need to have ways of discouraging flaming and other discord without taking away some basic rights of the community. In considering learning community, structures and processes of community are important, not just for pedagogical content and delivery, but for their ongoing contributions to what the learning community is and how it continues to exist.

Community as Culture and Organic Whole

Many definitions of community also include considerations of the psychological and social nature of community. These considerations differ from the structural-functional dimensions as they both view community itself as a unit of analysis. What is gained in these concerns is an interest in a) how community can be described as a whole organism which is more than a sum of its members, internal structures and processes, and b) how individuals within a community relate to that whole.

The notion of culture presents community as an organic whole. Not only is it more clear to talk of the community as a whole it makes more sense in that those who constitute a community (i.e., the members) treat community as a subjective whole (Cohen, 1985). Indeed, it is common in both analysis and practice to refer to the attributes of a community rather than the attributes of its parts. For example, holistic attributes are used to subjectively describe a community's "feel", "purpose", "goals", "values", "identity", and "behaviour".

Moreover, the holistic consideration of culture provides important reference point for much of the community's structures and processes. According to Geertz (1983), the understanding of culture is essential to understanding social activities. Thus, the events of a community cannot be fully understood unless they are situated in the holistic notion of culture (Brown, Collins & Duguid, 1989).

Consequently, community may be treated culturally and organically. Many qualities that we attribute to organisms, such as adaptation, reproduction, and self-organization, may be attributed to community as well. Like the learning organization, "learning community" may attribute learning to the community and as well as to its members (Senge, 1990). With its culture a community is a "life-like" or purposeful and adaptive system (Wilson and Ryder, 1998; Ackoff,

1971) and thus 'autopoietic' in that it maintains or propagates itself (Beer, 1982). In other words, community survives by restructuring itself to adapt and accommodate internal events and events in a larger social and physical environment.

Examples of Organic Culture in Virtual Communities

The Whole Earth Electronic Link (WELL) (Hafner, 1997; Rheingold, 1993; Smith, 1992; Coate, 1992) was a computer 'bulletin board system' in the San Francisco bay founded in 1985. The WELL is notable as one of the first online communities. Most people who write about the WELL attribute a certain culture to the system. Indeed, there were a number of cultural and interpersonal events and circumstances that set this online system apart from many others. For example, members of the WELL often provided support (emotional and otherwise) to other members who experiencing personal difficulties (Haffner, 1997). In one instance, a prominent member shared his fight against terminal cancer, after which a funeral service was held online (Haffner, 1997; Smith, 1992).

During its ten year life span, membership grew from a handful to thousands and the WELL adapted both technically and socially to continual changes in its membership and changes in computer and network technologies (e.g., graphical user interfaces and the Internet). To the extent that the WELL adapted to a wide range of internal and external influences, the WELL was a "learning community". In fact, what the WELL 'learned' in terms of the structure and management of virtual communities (c.f., Smith, 1992) is now commonplace in many virtual communities, even though the WELL is no longer operating.

The Individual and Personal Identity in Community

Several conceptions of community ascribe importance to personal identity in the constitution of social collectives (c.f., Clark, 1973; Kanters, 1968; Turkle, 1995; Fernback, 1997). This identity refers specifically to the relationship that exists between the individual and the community as a holistic and cultural idea. For example, it is often the case for an individual to disagree with processes, structures or other members of a community but still feel a sense of identity or commitment and solidarity to the purposes and activities of a community as a whole.

The relationship between the individual and the community is based on a subjective sense that a community is a good place to be and act. This basis has many reasons, not the least being cognitive, aesthetic, sentimental, and social reasons (Kanters, 1968). Moreover, this relationship is important for more than reasons of individual satisfaction and commitment. Some suggest that these feelings of membership are important for the maintenance and evolution of the specific traditions and processes that characterize the structures of community (Turner, 1969). Likewise, others argue that the various processes and structures of social groups, such as rituals, promote the generation of attachment in social groupings (c.f. Cheal, 1988; Turner, 1969), which result in stronger bonds both between individuals and between the individual and the idea of community. Overall, these arguments are consistent with general communitarian theories (Etzioni, 1993) which argue that the relationship between the individual and collective is essential to their respective development.

Examples of Identity in Virtual and Learning Communities

Sociologists, anthropologists, and software designers have considered our sense of self and community in virtual environments. For the most part, the need for membership has been addressed in the creation and promotion a sense of personal identity in the dis-embodied

contexts of computer mediated communication. For example, Turkle (1995), Serpentelli (nd), Bruckman (1994), Donath (1996), Curtis and Nichols (1993), Rheingold (1993) have all argued that virtual environments such as MUDS are online 'laboratories' for developing and evaluating concepts of self, other and identity. Kim (1997) recognizes that presentation of self and emotional attachment is important for community building in online gaming environments and presents several design guidelines. More specifically, the sense of belonging and community has also been addressed in the encouragement of online participation and promotion of relationships between individuals (Parks and Floyd, 1996; Roberts, 1998).

The subjective relationship between the individual and the community has also been emphasized and encouraged in learning communities. For example, Graves (1992) views personal orientations of membership, identity, and solidarity as important to learning communities as they are the foundations for later task orientations of collaborative practice and knowledge building. Peterson (1992) argues that the learning in community depends on a sense of trust and belonging that is generated through concerted efforts involving rituals, ceremonies, conversations and play. In the Virtual Antioch, Comstolk and Fox (1995) preconditioned the collaborative learning tasks of discussions, dialogues and critical reflections with issues of membership, participation and relationship building in virtual environments.

From Community Foundations to Community Design

There is some debate in sociology and & anthropology regarding the genesis of community (cf. Cohen, 1985; Turner, 1969). This debate may be summarized as the tension between the systematic development of community versus the natural emergence of community in situations of common circumstance. The role of design is questioned in this debate. On one hand can community designers prescribe, to a great extent, the nature of community based on a systematic design of structures and processes? On the other hand, are designers limited to

responding to the emergence of community rather than prescribing it. Common sense seems to dictate that the design of community probably involves the two in a dialectic tension. That is, the design of community is a cyclical and emergent process not unlike 'rapid prototyping' (Tripp and Bichelmeyer, 1991). Accordingly, the development of community is an open (rather than determined) response to design, and further design is a response to the existing circumstances of community.

To a certain degree, the two dimensions of community synthesized from the literature indicate an emergent process. As Gusfield (1975) discusses, the notion of community connotes a somewhat 'utopic' social arrangement. This notion is also found in Turner (1969), who presents Buber's 'I-Thou' quality of relationships between individuals and the collective as a fundamental motivation for social organization. In short, the psycho-social dimension of community in its most abstract sense carries a utopic aspiration for collective living. When a community of individuals emerges, it is towards a system of ideal relationships that it moves.

On the other hand, the structural-functional dimension of community involves the more concrete objects of community. As such, the structures and processes of community provide the materials that designers can realistically affect or fashion. However, it should be understood that design of structures and processes are not ends in themselves but that means that promote a sense of community between individuals and between the individual and a larger culture. For this reason, the dimensions of community were presented in figure 1.1 as crossed because they do indeed interact with respect to community genesis. The structures and processes of community are the foundations upon which the psycho-social dimension of community arises. In practical terms, the psychology and sociology of community are the objectives of design, whereas the structures and processes are the objects of design.

Structures and Processes: Media or Milieux?

While one dimension of community provides the foundation for the other, the nature of this foundation may vary. For example, community can be understood as space or milieu for social activity. In this regard, Cohen (1985) discusses the symbolic nature of the structures and processes of community and how they constitute social boundaries that define who belongs to a collective and who doesn't. For example, the language of a culture or practice is a social structure that effectively excludes people that cannot effectively communicate with members of the community. Nationality can also be a symbolic structure that effectively defines boundaries and membership. The institution, in a community, of structures and processes which define membership and space have the effect of specifying the space or milieu of community. This specification allows certain individuals to build a relationship with a central culture and precludes others from similar relationships.

The structures and processes of community can also be understood as the media of cultural practice and an interface between the individual and culture. Once an individual is taken as a member of a community, however peripheral, structures and processes of community have the effect of further communicating the central culture of a community to the individual. For example, the culture of home brewers is in part characterized by the language of practice or jargon that they use. The use of jargon in a community defines the boundaries of the culture as suggested above, but it also provides peripheral members with a way of better understanding other aspects of the culture. In short, the structures and processes of community are not merely the things that define a culture, but they are the artifacts and hence representations and media of a culture.

In terms of promoting community, these two roles for the structure and processes of community are important for design. In one sense, it is similarly important to view structures

and processes as artifacts of a culture and the media that conveys a sense of what the culture is to the individual. As such design, is better oriented to developing symbolically rich media that represent and reflect culture. In the other sense, it is important to view structures and processes as the space or time for the development of the relationship between individuals and the development of a sense of community to which one can belong. As such, design is better oriented to providing milieux for community activity.

In general, it follows that both are important and that any effort to design community should seek to establish structures and processes of community that provide both the media and the milieux through which individual can strengthen their sense of commonality and culture.

Summary

This chapter found that in numerous definitions extracted from the sociology and anthropology literature, community has two dimensions. Furthermore, we saw that these two dimensions are important for the identification and design of community in online environments. The first dimension relates to the structure and functions of community. This includes the physical and social circumstances and institutions of common activity and the social processes that promote or discourage specific behaviour in a collective structure. The second is the psycho-social dimension. This dimension understands community as a dynamic cultural whole in which individuals belong.

The design of community involves the specification of the first dimension to support the second. There are two general approaches for this specification. In the first, the structures and processes of community act to mediate culture to the individual, and vice versa. In the second, the structures and processes act to contain culture and individuals in the same milieux and

provide support for the formation of symbolic relationships of commitment and identity between individuals and culture.

Chapter Four

Foundations of Learning in Community

In the case study presented in chapter two, I discussed a company that aimed to create a community based on life long learning and personal development. Chapter two also presented a number of challenges that faced that objective. Two central challenges were the ambiguity regarding the conceptual foundations that are necessary for design and the lack of relevant models.

Chapter three began exploring the conceptual foundations with the notion of community as primary for learning community. It presented community as a framework of two dimensions: structures and processes and individual and culture. The first dimension is important because it provides the objects of community design, and the second dimension is critical because it speaks to psycho-social objectives that ensure the continuation and growth of community. Chapter three also suggested that the relationship between the two dimensions is dualistic in that the structural functional dimensions of community provide both the media and the milieu for psycho-social dimension.

In this chapter I continue to explore the conceptual foundations of learning community by examining learning and its position in a community. I will argue that learning is implicit in the individual/culture dimension of community. From this position I explore two ways that this dimension of community intersects current learning theories and two approaches to educational design. In this I argue that the design objectives for both community and learning are essentially equivalent and I conclude that the structures and processes of community provide both the media and milieu for the formation of psycho-social dynamic of learning.

Partition And Situation in Learning

Learning is found in the relationship between the internal mental constructs and processes of the individual and socially determined practices, norms, values and knowledge of a culture. Piaget, for example, argues that the learner creates mental constructs or "schema" through the accommodation and assimilation of information from the environment, including the social environment. With stronger socio-cultural tones, Vygotsky (1978) argues that internal mental functions originate on the social plane and are internalized to the mental plane. Information processing models of cognition argue that internal mental structures are functionally and structurally related external knowledge representation. If this is the case, then learning is also found in the psycho-social dimension of community. Cohen for example, argues that community is inherently educative as it is the place where "one learns and continues to practice how to 'be social'" (1985, p. 15). By this, Cohen means the process of acquiring the symbols of a culture so that individuals gain the capacity to make meaning and act upon it. Brown, Collins and Duguid are more explicit: "in a significant way, learning is, we believe, a process of enculturation" (1989, p. 33).

But not all learning theories agree in regard to the manner in which a learner relates to a cultural environment. In current education literature, there is debate between two general approaches to learning (Sfard, 1998; Cobb, 1994). I use the terms "partitioned" and "situated" to denote each in this debate as the terms reflect different views of the basic ontological relationship between mind and environment.

The "partitioned" approach to learning maintains a philosophical distinction between the individual (and his/her mind) and the environment. This is also the historically conventional approach of the social science traditions of behaviourism, cognitive science, and constructivism. But as Jean Lave observed, "there has been a rethinking of the notion of

learning." (Lave, 1991) which reflects a movement in the social sciences towards what can best be described as "situated". This new terminology encompasses a range of theories including situated action (Suchman, 1987), situated cognition (Brown, Collins & Duguid, 1989) and situated learning (Lave & Wenger, 1991). As sets of social science theories and methods, the situated and partitioned approaches involve different conceptions of mind, knowledge (epistemology), and learning (see Table 4.1).

First, the difference between these paradigms address a fundamental and familiar dichotomy (c.f., Cobb, 1994; Sfard, 1998) regarding the manner in which individual learners relate to their environments. Partitioned theory separates mind from environment and knowledge from activity and asserts the autonomy of the learner in his or her social and physical environments. Following this, the process of learning is argued to a) belong to the individual (Sfard) and b) occur primarily through the individual construction or acquisition of meaning, and secondarily, in social negotiation with others.

Situated theory positions mind in social and physical activity and asserts that knowledge is more or less inextricable from a relationship among information, culture self and activity. Consequently, learning is a) something that extends beyond the individual and into their sphere of practice and b) about developing and strengthening knowledge relationships via frameworks of participation and engagement.

Table 4.1. Comparison of Partition and Situated Paradigms of Learning

	Partitioned	Situated
Basic conception	Mind is partitioned from environment	Mind is situated in environment
Mind	Mind is an autonomous agent (Piaget) or construct located in the individual (Cobb). The mind creates or self-organizes (Von Glaserfeld) itself by processing and interpreting information extracted from individual experience.	Mind is a construct of the individual that resides in the inter-psychological space between self and environment (Cobb). Mind has its genesis in culture (Vygotsky) and remains an extension of culture (Rogoff)
Knowledge	Knowledge consists of descriptions and plans (Clancey) that are possessions or commodity (Sfard) belonging to the autonomous mind. Knowledge is explicit. It is abstracted and generalized from experience and activity (Clancey).	Knowledge is a combined aspect of self (c.f. Taylor?), activity (Clancey), information and culture (Cohen) that specifies an individual's capacity to practice in a culture. (Clancey; Brown, Collins, & Duguid, 1989) Knowing how to live in a community (Clancey, 1992). Knowledge is present in both the explicit and tacit aspects of practice and culture (Clancey, 1997).
Learning	Didactic: The individual acquisition (Sfard) and construction (Von Glaserfeld) of mental structures and processes via interacting with and interpreting environmental structures and processes.	The development of membership in, roles for, and identity with a culture (Lave and Wenger, Sfard) via frameworks of participation and engagement (Clancey)

An example will further illustrate these differences. The hobby of making beer has surged in popularity in the last decade. Aside from its obvious thirst-quenching benefits, what is interesting about this hobby is the nature of its learning curve and how novices become experienced and knowledgeable homebrewers.

There are two ways to learn to brew. One is to buy a pre-packaged kit and a book and follow directions or to take an adult education course. Books such as *The New Complete Joy of Home Brewing* (Papazian, 1991), provide beginning and intermediate brewers with detailed instructions in making their first and successive batches of beer. Included in the instructions are glossaries of terminology and elaboration of introductory and advanced techniques such as "lautering" and "mashing." Through using such books, it is entirely possible for novices to become proficient brewers, and hence a celebrity amongst friends. The second approach is to become an active member in the culture of homebrewing. This culture is a repository of a dynamic vocabulary and systems of traditions, techniques, arts, and artifacts, many of which cannot be found in texts. For example, brewing involves the balance of dozens of variables such as water quality, fermentation temperatures, additives, and yeast cultures, to obtain specific tastes in the beer. While it is possible, to learn certain brewing fundamentals from books, learning to make the right balances comes from extensive practice and exchanging the results and reflections of that practice. Communities of homebrewers can be found in many places such as the Montreal Homebrewers Association, the Usenet news group, rec.crafts.brewing, or the "Cat's Meow" web page (<http://realbeer.com/brewery/cm3/index.html>). Participating in such communities may not give the beginner the detailed technical knowledge of an introductory text and might in fact provide contradictory information. However, participation gives the beginner the opportunity to ask questions and share the vocabulary, traditions and techniques that are a part of the culture. By participating in such communities, the novice's knowledge of brewing and ability to brew at home becomes more strongly related to practices of the wider homebrewing culture (c.f., Brown, Collins & Duguid, 1989).

Strengths and Weaknesses of Each Approach

Each approach has its strengths and weaknesses with respect to various learners, learning situations and content. The partitioned approach is generally thought to be more effective and efficient for addressing content and general cognitive strategies such as means-ends analysis (c.f., Perkins & Salomon, 1989) that are easy to articulate, represent and generalize across applied situations. Consider, for example, the learning of general arithmetic algorithms and the mechanics of playing chess. However, studies of expertise (c.f., Perkins & Salomon, 1989; Clancey, 1997; Ericsson & Charness, 1994) suggests that the development of expertise is not by way of mastering a "content" or "rules" associated with a discipline by way of continually engaging in practice. And Clancey argues that practice simply cannot be reduced to grammars, rules and scripts (1992) and to knowledge descriptions or representations (1997). To illustrate, Perkins and Salomon (1989) relate an example in which novice and expert chess players perform similarly on recall of random chess layouts but experts novices could not use that knowledge or their knowledge of the mechanics of the game to play better. In fact, novices and experts approach chess problems in fundamentally different ways and experts have access to richer, "databases" of chess knowledge Perkins and Salomon (1989).

However, these rich databases are difficult to fully explicate, partly because of their complexity and contingency on authentic practice, but also because of methodological concerns regarding the ways knowledge is explicated and represented (Ericsson and Charness, 1994). Because knowledge in the partitioned approach needs to be articulated or represented in order to be related to the individual, this approach fails to fully address all knowledge and processes implicit in expert and contextual practice.

The situated approach is more suited for such knowledge and processes because it considers knowledge as implicit and partly tacit in activity (Clancey, 1997) and that learning occurs in participation (Lave & Wenger, 1991). However, for learning clearly defined and general knowledge and rules, it is likely that situated learning is inefficient and ineffective by comparison. Also, it is more difficult in a situated approach to specify, with precision, the objectives of learning, and to evaluate the attainment of those objectives against a reference.

Learning Theory and Educational Design

There are two reasons for articulating learning in these ways. First, it reflects a general debate regarding theories of learning. If educational design is to be appropriately grounded in current theory, then it must acknowledge, if not accommodate, both positions of this debate. Second, the debate gives us two approaches to positioning learning in the design of learning communities.

The partitioned paradigm advocates educational design and support as the process of structuring knowledge representations and tasks to facilitate easy meaningful and error-free acquisition or construction of mental structures by individuals. Design is typically a process of needs assessment, content and systems analysis, content design and media development, and formative evaluation. Essentially, instructional design involves explicating and representing the knowledge of a practice or community and communicating those representations in the most effective and efficient way possible. In this sense, instructional design, like community *mediates* a partitioned relationship between the individual and culture.

The situated paradigm on the other hand, presents instructional design and support as the process of facilitating relationships between individuals and culture via relationships with

the knowledge and activities. In doing so, it advocates the structuring of situations, opportunities, and activities that promote both the concept of learning or knowledge-based cultures and individuals' participation within them. Situated design does not necessarily discard the process of design that is typical of the partitionist paradigm; rather it extends it. Accordingly, the process of design is necessarily open-ended, reflexive, emergent and participatory (Clancey, 1997; Tripp & Bichelmeyer, 1991), depending on continuous dialogue between designers, the subject matter experts, and the learners (c.f., Carr, 1997). In this sense, educational design situates the relationship between the individual and culture in a *milieu*.

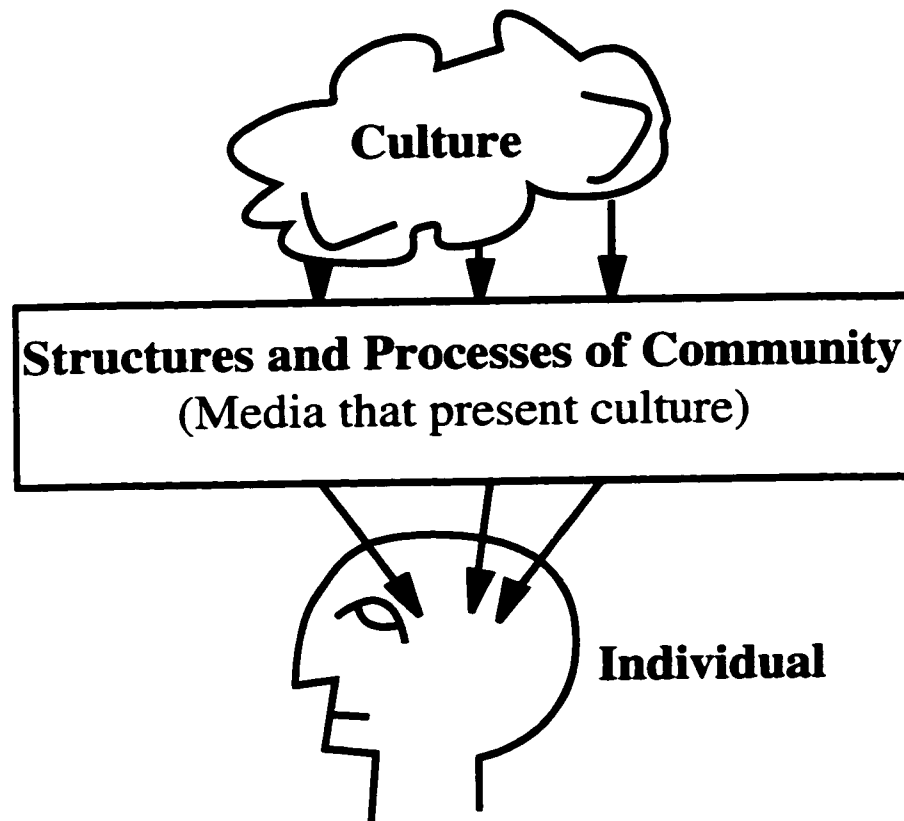
Designing Learning Community

It follows that in the partitioned approach, the objective of learning community design is to provide the contextual structures and projects that best mediate or 'leverage' instruction and content. Hence, community may be seen largely as a medium for knowledge analysis, representation, and acquisition within an instructional design process. This follows from the basic separation of individual and culture, the abstraction of knowledge from task, and the conception of learning as the acquisition or construction of knowledge. In this view, community provides an interface through which the partitioned mind interacts with cultural constructs and processes.

This argument extends the discussion of the two dimensions of community I presented in chapter three by extending the 'media' relationship between the dimensions of structures/process and individual/culture to learning. From an instructional standpoint, the issue of learning community is whether community is the best instructional medium for content and how community can be exploited for instructional ends. The design of learning community is thus contingent on the design of instruction and knowledge representations

and as a result community is subsumed in pedagogy, and it provides merely the context of instructional methods. Consequently the structures and processes of community are best fashioned to focus on specific knowledge and tasks for particular learners and are arranged to best promote their acquisition. Figure 4.1 suggests a mapping of cultural structures to community structure and later to mental structures. Examples of such application of learning community is the use of cooperative groups to facilitate the learning of knowledge or procedures that do not inherently relate to cultural practice. For example, the use of reciprocal teaching online to learn basic statistical concepts.

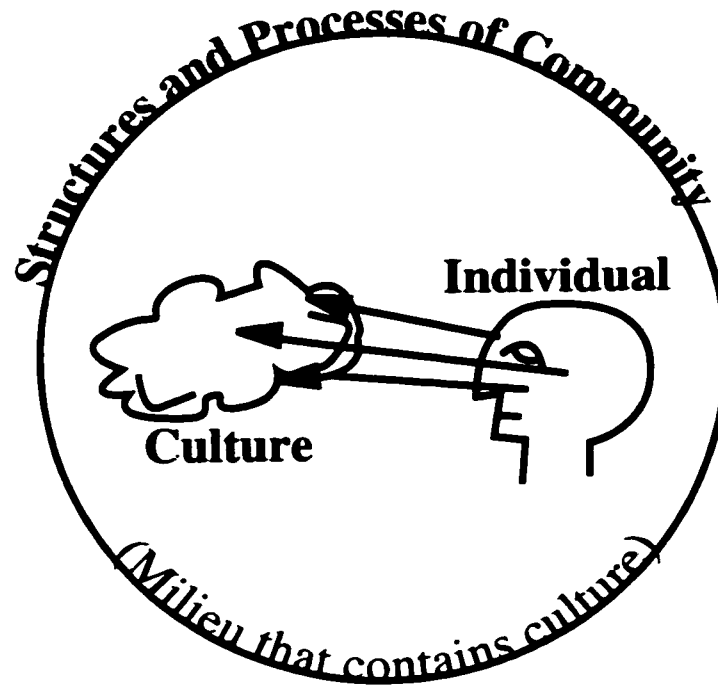
Figure 4.1. Community as a Media for Learning Culture



Conversely, in the situated approach, the objective of design is the provision of structures and processes that promote committed practice and the relationship between an individual and the culture. The notion of community is largely the arena for developing the

relationships between culture and self, and information and activity. This follows from the paradigmatic intermingling of the individual and her culture and of knowledge and activity. Community is thus the situated *milieu* that allows and facilitates the formation and maintenance of knowledge and social relationships (see figure 4.2).

Figure 4.2. Community as a Milieu for Learning Culture



The situated position argues that in building a relationship with activity, information and culture, the individual is building a relationship with both explicit and tacit knowledge. While they may not “know” that tacit knowledge in the sense that they can explicate it, individuals may act upon it through the relationship of that knowledge with the activity. The structures and processes of community contain, direct and support these relationships. In the situated presentation of community, it may be that this support throughout community circumvents of the limitations of conventional instructional design with respect to tacit and complex knowledge of a culture. In effect that such knowledge need not be explicated or ignored in the situated portrayal of community.

Summary

This chapter examined the relationship between learning and community. I argue first that learning is located in community's relationship between culture and individuals. In this position, learning takes two forms, based on relationships between mind and society and knowledge and activity. Each form implies a different approach to instruction and hence, a different approach to community. Partitioned notions of learning suggest that like instruction, community functions as an interface between the individual and culture. Situated notions of learning suggest that education and community operate as milieus that facilitate the formation of everyday relationships between individual, activity, knowledge and culture. The following chapter examines these assertions in two relevant models of learning community.

Chapter Five

Media and Milieux in the Community of Practice and the Learning Organization

The preceding chapters examined the foundations of learning community in the separate articulations of learning and community. I argued that the design of learning community needs to be both a medium and a milieu for the construction of educative relationships between individual and culture. Additionally, in chapter two I suggested, in the case of M2, that communities of practices and learning organizations may be suitable models for the general type of learning communities that the company sought. The current chapter will elaborate these two models and argue that, aggregated, they represent a synthesized model that reflects the media and milieux foundations of learning community.

The first of these models, found in Lave's and Wenger's (1991) exploration of "legitimate peripheral participation" and "communities of practice", describes learning communities as structures of legitimacy and dynamics which move individuals from the periphery to the centre of expertise. Second, the "learning organization", describes structures of knowledge explication, contribution and distribution which build dynamic organisms that 'learn' via individual, collective and organizational processes.

The discussion of each follows the same form. First, I summarize the essence of each theory and its constitutive processes and structures. In doing so, I state their relevance to learning community by elaborating 1) how each is both a milieu and a medium for learning and 2) the processes and structures of each that constitute those milieux and media.

The Community of Practice and Legitimate Peripheral Participation

A community of practice is a collective of people in an occupational field or other field in which there is a high degree of shared activity, knowledge, and values. In Lave's and Wenger's words, it is a "set of relations among person, activity, and world, over time and in relation with other tangential and overlapping communities of practice" (1991, p. 98).

Communities of practice describe social arrangements in which there is a) relative homogeneity in practice, b) relatively clear delineation from other practices, c) heterogeneity among members' expertise and history with respect to the practice, and d) cultural and institutional mechanisms of "intergenerational" reproduction and evolution of practice. The concept describes equally well a variety of "cultures" including tailors, midwives, quartermasters, butchers and non-drinking alcoholics (Lave & Wenger, 1991).

Practice is an essential component of these communities, and situated learning is implicit in the notion of practice. In this regard, Lave frames learning as:

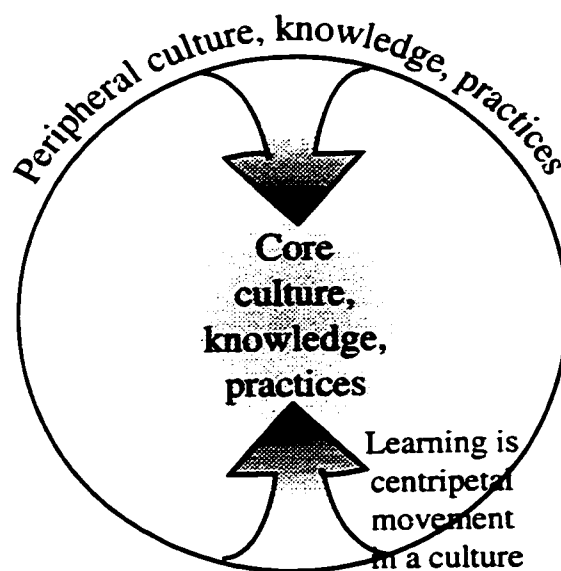
"a social phenomenon constituted in the experienced, lived-in world, through legitimate peripheral participation in ongoing social practice; the process of changing knowledgeable skill is subsumed in the processes of changing identity in and through membership in a community of practitioners; and mastery is an organizational, relational characteristic of communities of practice" (1991, p. 64).

Learning that occurs in a community of practice is related to dynamics that occur as members enter, relationships among members change, and members leave a community. This dynamism describes at a concrete level how an individual learns from others in that culture via formal and informal relationships that surround practice. At a more abstract level, this dynamism explains how the identity of individuals develop given Lave's and Wenger's

contention that learning in a community of practice has more to do with participating in roles of expertise than with gaining knowledge.

According to Lave and Wenger (1991), Legitimate Peripheral Participation (henceforth LPP) is a theoretical framework which explains the central dynamics of learning in a community. In the theory of LPP, the community may be envisioned as a circle (see figure 5.1) in which expertise lays in the roles and activities located at the center of the community and lack of expertise lay at the periphery or outer rim of the circle. In this model, learning describes the movement of an individual from the periphery and the role of 'newcomer' to the centre of the culture and the role of 'old-timer'.

Figure 5.1. Simplified Model of the Community of Practice



In Lave's and Wenger's words, "legitimate peripheral participation provides a way to speak about the relations between newcomers, and old-timers, and about activities, identities, artifacts and communities of knowledge and practice" (1991, p. 29). The theory of LPP embraces three concepts, all of which are evident in its title (peripherality, legitimacy, and participation).

Peripheral Structures and the Milieux of Learning

The term peripheral has two connotations. First, it describes a peripheral relationship to expertise. This connotation reflects a core principle of Vygotsky's (1978) zone of proximal development (henceforth, ZPD) in that learning occurs via associative relationships with expert and practicing members of a community. Here the term peripheral parallels the term "proximal" in the ZPD as it places the learner in immediate and normative relationships with others. While the ZPD has many explanations (Lave & Wenger, pp. 47-49) the one most relevant here is a 'societal' interpretation in which the zone is the distance between the individual's everyday actions and a historically or culturally new form of activity that represents a collective solution to situations.

Thus, the proximal relationship between individuals and the proximal relationship between personal capability and intersubjective (i.e. social) potential implies a peripheral relationship of the individual to culture. This second interpretation of peripherality highlights the importance of understanding how culture itself manifests in community as structures of centers and boundaries, processes of interaction, and individuals' symbolic relationships to these structures and processes. Moreover, it indicates the discourse between the cognitive history of newcomers and the practices, beliefs, and knowledge of the community (Lave & Wenger, 1991) that I suggested in chapter four. In other words, Lave's and Wenger's notion of peripheral participation suggests that learning occurs in the psycho-social dynamics that reflect and juxtapose one's own mental structures with the central structures and processes of community.

Legitimacy and the Medium of Learning

Underlying the notion of legitimacy in community is the continuation of a culture and its transmission to new members. Thus, the notion of legitimacy is integral to peripherality of novices because it provides the mechanisms that condone and repudiate the participation of individuals in community. Central to the notion of legitimacy is the sanctioning of certain knowledge and practices in the community. In many respects, the newcomer is further legitimated in a community as she can better engage in the sanctioned knowledge and practices. Alongside the instruction or mentorship that takes place in community, the mechanism of legitimacy mediates the culture of the community to the individual by articulating the boundaries and traditions of practice and knowledge that must be learnt and upheld.

A common structure for legitimization is the mentor/pupil relationship but also it includes initiatory paths, or rites of passage such as what may be found in Alcoholics Anonymous. In this example, the prospective member of Alcoholics Anonymous needs to undertake relatively prescribed activity as a condition of being accepted. In effect, legitimacy is a primary social process for articulating peripherality and practice and for mediating the dynamics of authority and responsibility within community.

It is important to note that legitimacy and periphery, like most community structures and processes, are social constructions (c.f., Berger & Luckman, 1966). While such processes may seem foundational to communities, in no sense should they be assumed as given and immutable. Rather they are determined in collective and cultural ways by the community and its traditions.

Implications for Learning Community Design

There are two implications that stem from Lave's and Wenger's theories of situated learning and LPP. First, learning community design needs to mediate learning based on the principles of legitimacy and centripetal motion in a community. Second, design needs to use these principles to construct "participation frameworks" which, through engaged and committed practice, lead novices to expertise.

Model Learning Community on Centripetal Motion.

Centripetal motion in a community is a critical notion in the community of practice as it underscores the argument that individuals learn in situated way. The purpose of learning vis à vis community is to strengthen individual relationships with a 'core' culture and to promote the relationship between activity and information. In regards to my earlier discussion of the relationship between the individual and culture, centripetal motion accommodates learning by framing community as a medium to access the knowledge and practices that are more central to a culture.

This means that structures and processes of community should provide an interface through which individuals can establish knowledge, commitment, and identity relationships with more central structures of community. Furthermore the structure of the community should be transparent enough to provide indications of the nature and structural location of the community's centre and apparent routes for getting there (Lave & Wenger, 1991). The primary design mechanism for this dynamics is to create participation frameworks.

Create a Participation Framework

Participation frameworks support the association of roles and activities of individuals to community structures and boundaries. As Lave and Wenger suggest in the explication of their work, the participation framework builds on three elements: proximity, peripherality, and legitimacy.

Proximity is the fundamental idea that participatory learning occurs through engaging in role relations to others as pupils, mentors, or peers. The accommodation of proximity means that the structures of community related to these roles needs to have media and forums with which people can communicate, collaborate and be otherwise “proximal”.

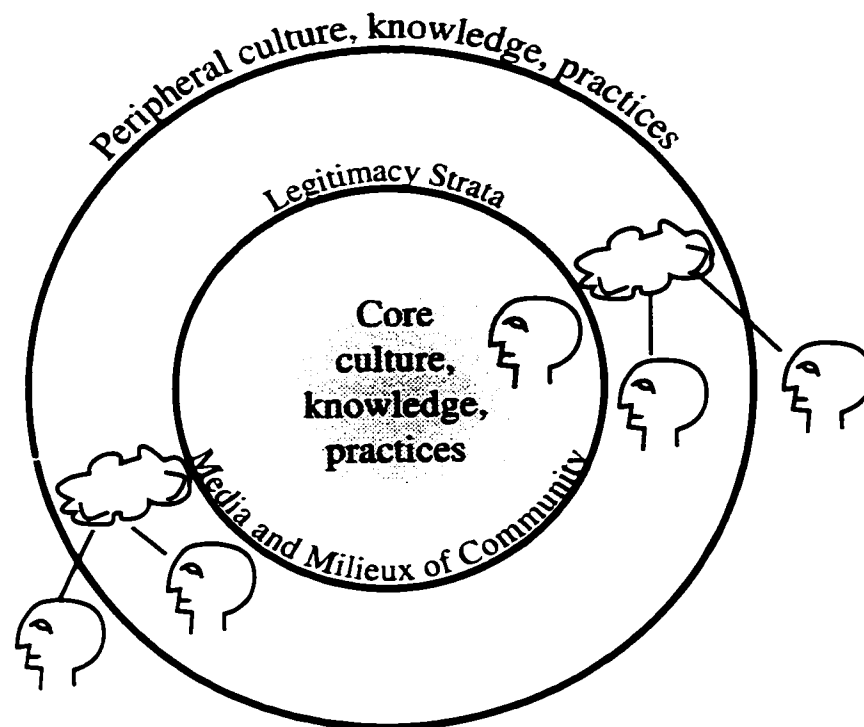
Peripherality is the idea that we enter community on a periphery as novices and there are further ‘strata’ or peripheries of expertise in community. Strata are important because they allow the social construction of community to organize differentially places of community and the community’s relationship to a central culture. In doing so, strata separate the roles, knowledge, activities (in essence, participation frameworks) according to levels of expertise of individuals. Additionally it separates these places of community with interfaces, supporting structural discourse between different roles of learning in community. The accommodation of peripherality means that a model of community needs to propose, in the least, ways of stratifying relationships, and conceptualizing these strata as structures vis a vis the individual.

Legitimacy builds upon peripherality by instituting changes in relationships as members pass through an interface of community and into a different space. While each stratum presents new forms of proximal and peripheral relationships and ways to access to community expertise, each strata requires legitimization. This strata transition constitutes the

sanctioning of new status of the learner by members who are more central to the community. In short, legitimization is a normative and structural process of community to elevate individuals to new roles, practices, and states of being.

As figure 5.2 illustrates, these structures and processes work together to present a model of learning in a participatory and centripetal manner.

Figure 5.2. The Community of Practice as Media for Legitimacy and Milieux for Practice



The Learning Organization

The learning organization is a model of how organizations, as a seemingly organic entity, behave and grow. In other words, a learning organization is one that learns in response to both external and internal forces. While there are distinctions between organizations and communities (Gottschalk, 1975), the model of the learning organization is still relevant to the construction of learning communities. This is evident in work to unify conceptually the

learning organization with communities of practice (Brown & Duguid, 1991) and in arguments for the heart of the learning organization to be a “community of commitment” (Kofman & Senge, 1993). While many organizational constructs such as hierarchical structures of leadership and job descriptions may not necessarily apply to the looser and more normative structures of communities, the structures of communication, GroupWare, and the conception of learning are important to the growth of the organization.

There are a number of theories and practices related to how organizations learn. Amidst the range of models and theoretical perspectives (c.f., Senge, 1990; Karash, 1995; Huber, 1991), there seem to be two basic perspectives that describe what makes an organization a learning organization. The first founds the notion of the learning organization in the collective result of individual learning. Huber typifies this notion in the stated assumption that “an organization learns if any of its units acquires knowledge that it recognizes as potentially useful to the organization” (1991, p. 126). The second perspective of learning organizations views the organization as an organic dynamic or a culture (Cook & Yanow, 1993). Additionally, there is a distinction between the learning organization and organizational learning, the latter explaining the purposive nature of the learning process in organizations rather than the structural determinants of learning implicit in either model of the learning organization. The remainder of this section elaborates these two perspectives of organization and the purposive nature of organizational learning.

Learning Organization Recapitulates Learning Individual

This individual perspective understands the organization as a system, in which the organization is a collective recapitulation of cognitive models of mind. Incidentally, such models of mind are essentially recapitulations of models of information processing models of computers. Under this perspective, the learning organization is a computer that is able to

collect, store, interpret, apply, and distribute information (Balasubramania, N.D, Huber, 1991). The organizational system learns according to the nature of information or knowledge input. Such input has two sources: the learning, by various methods, done by existing members in the organization, and the introduction (or grafting) of new members (Simon, 1991 in Cook & Yanow, 1993; Huber, 1991). In any case, the ability of the organization to learn is indirect as it is wholly contingent on and thus reducible to the learning and knowledge of individuals.

Practical issues of learning organizations include the design, implementation and promotion of information processing capabilities in the organization. Consequently, communication technologies and relational databases are critical and sometimes definitive technologies of learning organizations. Typical configurations of learning organization design involve “computer supported collaborative work” (CSCW) and GroupWare systems. The utility of such systems is threefold: 1) they provide specific structures and tools for aiding collaborative work; 2) they provide explicit and often novel communication channels between members of an organization; and 3) they collect and disseminate information about process and content, makes this information available to those who were not directly involved in the original practice.

Learning Organization Recapitulates Culture Development

Cook's and Yanow's (1993) explanation of the learning organization argues that at a certain level, the concept of an organization is a holistic construct which is not reducible to a system of parts. Hence, they describe instances of organizational activities and knowledge that cannot be reduced to or recapitulated in individual knowledge and practice. They argue that certain knowledge and activities are a property of the collective and are not wholly contingent upon the learning of individuals. Any sports team is a prime example of this.

Since no one player can demonstrate the activity and knowledge of a team, it is clear that how the team acts is in not a reflection of individual, cognitive learning but rather a reflection of the 'knowledge' and practices of the team as a whole. While this may be extending the notion of knowledge beyond representational characteristics, I refer to the dualistic nature of knowledge discussed in chapter two. That is, knowledge is a relationship between self, culture, information and activity and learning is the development and strengthening of this relationship. Owing to a certain indivisibility of the organization, the notion of self here applies to the organization or team as well as it applies to the individual self.

In this light, Cook and Yanow argue that organizations cannot be assumed to learn in the same way that individuals do and that organizations are more akin to tribes than individuals. Consequently, the use of the term 'learning' in regards to organization does not necessarily imply learning in a cognitive sense.

The Nature of Organizational Learning

Still the term learning is a more apt metaphor than 'development' or 'evolution' because, regardless of the perspective of organization, there is the attribution of the seemingly life-like qualities to the organization. As a metaphoric organism, there is an assumption in organizational learning that the organization learns to preserve itself by either mitigating change or embracing innovation. However, this learning is less explicable than the cognitive models of learning and representational models of knowledge. In short, organizational learning is somewhat more performative than it is cognitive. Furthermore, as the activities of organizations are often complex and difficult to categorically identify and associate with stimuli, organizational learning is more interpretive than it is outcome based.

Argyris's and Schon's theory of double loop learning presents the seminal elaboration of organizational learning. Within this theory, the organization learns first to fulfill immediate needs, to cope with information (or other stimuli) it encounters, and to remedy errors and immediate inefficiencies of the organization (Balasubramanian, nd). Second, the organization learns to change its foundations and generate new structures, processes and practices that will more effectively respond to future demands on the organization. Quite often, this second loop of learning is superordinate to the first loop.

In practical terms, the promotion of double loop or "generative" (Senge, 1990) learning in organizations is concerned with self-referential methods of information collection, interpretation, analysis, and representation of what the organization is and knows. In general, the organization uses information collection, presentation, and enactment more for foundational change or transformation than for procedural or quasi-procedural responses to events and forces. Furthermore, to the extent that a learning organization is a culture, ethnographic and even dramaturgical methods of learning apply. For example, the cultural model of organization supports the use of thick descriptions, triangulation, narration, reflective action, and social dramas to understand and effect change.

If one is to follow Senge's assertions, there is a general perspective in the facilitation of learning organizations that generative or double loop learning is more valued than single loop learning. However, it is likely that organizations, like individuals, need to engage in an active discourse of innovation and consolidation of knowledge and activities.

Implications of Learning Organization

Model Learning Community in terms of a Knowledge System and as a Culture

The idea that recapitulates individual models of cognition in organizations is largely valid (Cook & Yanow, 1993) and is perhaps the most efficient means to collect, store, and disseminate explicit knowledge. Moreover, considering knowledge in the social arena as relationship between information, practice, self and culture recapitulates participatory and cultural models of cognition. While more difficult to explicate, such recapitulation should be encouraged.

In any case, community needs to access structures and instruments of explicit and tacit knowledge systems. Such structures could be highly linguistically or symbolically communicative with the use of computer-based “GroupWare” systems, knowledge bases, and communications technology. Conversely, others should be quite 'traditional' with the investiture of knowledge and practices to specific roles, job positions, and subcultures, and the appropriate encouragement of cultural practices among individuals such as rituals, rites of passage.

However, such a structural system should not be the end-point of facilitation. Rather, it should be the start. Around the centralized structure of information contribution and dissemination there needs to grow traditions and practices that link information to activity, to individuals and to a collective sense of culture.

Facilitate a Relationship between the Organizational Activities of Coping and
Generating

Regardless of the nature and use of a knowledge system in a community, there would be little learning by the community if the knowledge contributed and disseminated by the system were used only for coping with disturbances and crises. Consequently, there needs to be an explicit emphasis in the structure and process of community to encourage reflective practice and double loop learning. Individual and collective analytic and metacognitive strategies (e.g. thick descriptions, concept mapping, narration of practice, summarization and reframing of knowledge, and triangulation of information) may be useful. Moreover, this discourse should be recapitulated in both the holistic organization and in the individuals of the organization.

Chapter Six

Conclusions

Most elaboration of learning communities begins with a notion of community that is secondary to the instructional activities that occur within. At best, community is seen as a precondition to learning. In contrast, this thesis asserts community is an essential condition of learning communities and constructs a foundation for design upon this assertion. The following summary outlines the rationale and some implications for this assertion.

Summary of Arguments

In chapter two I illustrated via case study and argument that the term learning community presents a particular challenge for educational designers because of its potential rhetorical and ambiguous nature. These arguments asserted an importance to undertaking an identification and analysis of "learning communities" as a concept. Following this, I argued that "community" is multi-dimensional. Two critical dimensions are the relationship between structures and processes of community and the one between the individual and culture. I further argued that these dimensions intersect. In this intersection, I presented the latter as being the objective of community design whereas the former as the objects of design. In other words, community design is the fashion of structures and processes to promote members, cultures, and their relationships. Furthermore, I suggested that this intersection means that a designer has two aspects of design to consider: the community as 1) an interface between members and culture; and 2) a milieu for the activities of members and culture.

In chapter four, I introduced learning as a psycho-social process that takes place in the individual/culture relationship of community. Regarding this relationship between individual

and culture, I argued that two paradigms describe learning and instruction in distinct ways. In showing that "partitioned" theory assumes a relatively clear distinction between the individual and his/her social and epistemological environment, I argued that concordant instructional design generally follows a "media" approach. Alternatively, in showing that "situated" theory positions the individual in an inextricable relationship with his/her environment, I argued that situated instruction generally follows a "milieu" approach. Subsequently, I argue further that design for learning may be addressed in design for community. Or, more imperatively, the design of learning in a learning community cannot be based on instructional theory alone; it needs consider how social structures and processes are inherently implicit in learning and how they can be best evaluated for their appropriateness to specific learning community design.

Chapter five illustrates these conceptual foundations in two potential models of learning community: the community of practice and the learning organization. In addressing the community of practice, I assert that the peripheral structures of legitimacy and participation support the notion of community as being both a "medium" and "milieu." In discussing learning organizations, I argue that both the individual and culture are recapitulated in the organization. In turn a learning community, like a learning organization, is a medium in that it is a system to collect, collate, and disseminate information, and a milieu in that the members are immersed in the practices, structures and processes of a dynamic organizational culture.

Implications and Implementations

Learning community design needs to be founded on, in the very least, two bases: the first being the conceptual foundations that argue for certain perspectives of learning, community and design; the second being the specific, *in situ* and emergent analysis of user needs and

contextual and content allowances and limitations. This thesis addresses the former at the expense of the latter for it has been its first intent to highlight issues in and promote a basis for learning community design rather than the specification of any design and community features. In terms of immediate practical value in designing, creating and facilitating learning communities the conceptual foundations of the thesis are some distance from being directive.

The further intent of this thesis is that the eventual design of learning community be based on a synthesis of both theoretical concerns and practical concerns. It is a limitation of the thesis that no specific directions are given for incorporating these theoretical foundations in any general or specific circumstances. To address this limitation and to exemplify how the conceptual foundations given may be put into practice, the first appendix (Appendix A) consists of the design white paper presented the company introduced in chapter two's case study. It should be noted that the white paper is the first articulation of a design and not intended as an ideal example. As such, it needs to be more completely specified and it needs to be integrated with a fuller analysis of the learning content and context and the end user. Furthermore it needs to be prototyped, formatively evaluated, and refined before it could serve as an exemplary case of a learning community.

Nonetheless, it is important to note that while many of the issues and assertions raised in the course of the thesis seem to be without practical examples, the appendix is provided to serve as a test of concept. There are numerous features presented in this white paper that arise from the conceptual foundations. Overall, the white paper seeks to encapsulate the multiple dimensions of learning community in its multiple aims for the community design and the conceptual flow of these aims from the functions and the structures of a virtual community service to the development of a community that practices and an organic learning culture. In particular, it seeks to move members from a periphery of 'end-user service provision' and

towards a centre of fully participating members in a culture by encouraging contribution and commitment to others in the community and the concept of the community as a whole. For example, the design presented provides multiple ways that users can relate and communicate with one another, including the "forum" and "chat" medium common to many virtual community and introduces a new method, "circle" which aims to reproduce some of the private discourse style found in chats and while overcoming the time demands that chats place on users.

In any case, this thesis cannot be complete due to the indeterminacy of *a priori* conceptualization and design. As a concept and design, the "online learning community" is still in its infancy. It represents a blend of several very complex and diverse practices and there are few certain methods of articulating or evaluating good design and practice. By emphasizing the theoretical aspects of learning communities I hope to, in the very least, ground some aspects of design and practices of learning communities in the synthesis of the media and milieux that online technology has to offer.

Further Research

As in all emerging technologies and design concepts, there are many avenues for further research. For example, this thesis presents both media and milieux as important design metaphors/considerations, but does not provide guides for as to how much of a community and what particular aspects of community as best considered as media. As a consequence it does not specify fully how the conceptual articulations given may be practically validated. The thesis does not address any other metaphors that may be useful for articulating conceptions of learning communities and for guiding social and technological design. As a consequence, the thesis does not fully compare the conceptual articulations it provides against others in terms of cohesion, comprehensibility, and viability as a theory for learning

community design. These questions alone are rich areas for future contemplation and research.

In addition, many avenues of research of interest to the author were investigated but not fully integrated into this thesis. One of these was the structural/functional role of certain social cultural practices, such as rituals, and how, as a versatile practice, rituals encompass both the media and milieu metaphors for community building. Related to this interest is the affective and cognitive consequence of ritual practice in the process of learning. While relationships between rituals and learning, community and identity have been introduced (often in isolation) by several authors (cf. Csikszentmihalyi, 1990; Turner, 1969, 1982; Morrison, 1997; Peterson, 1992), there has been no clear articulations of how these domains are interrelated and perhaps interdependent via the cultural practice of rituals. Another interest of the author includes the role of the ethics and interpersonal morality in the development and support of learning communities.

Learning Community, as an object of inquiry and design promises to be a rich area. Beneath the rhetoric and ambiguity that often surrounds the term, there seems to be numerous issues that return us to fundamental questions surrounding education and learning, and being a member of a social practice: what is the nature of knowledge, and how does it relate to learning?; what is the nature of community and how does it relate to learning? Consequently, virtual learning communities provide new technologies not just for the benefit of learners; they also provide education designers and researchers with new contexts for inquiry and new understandings of these relationships between learning, knowledge, community, and identity. Over all, one thing I strive to address in this thesis is that learning communities are intimately involved with these questions, and, as a result, these questions should be addressed in learning community research, design and development.

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Appendix A

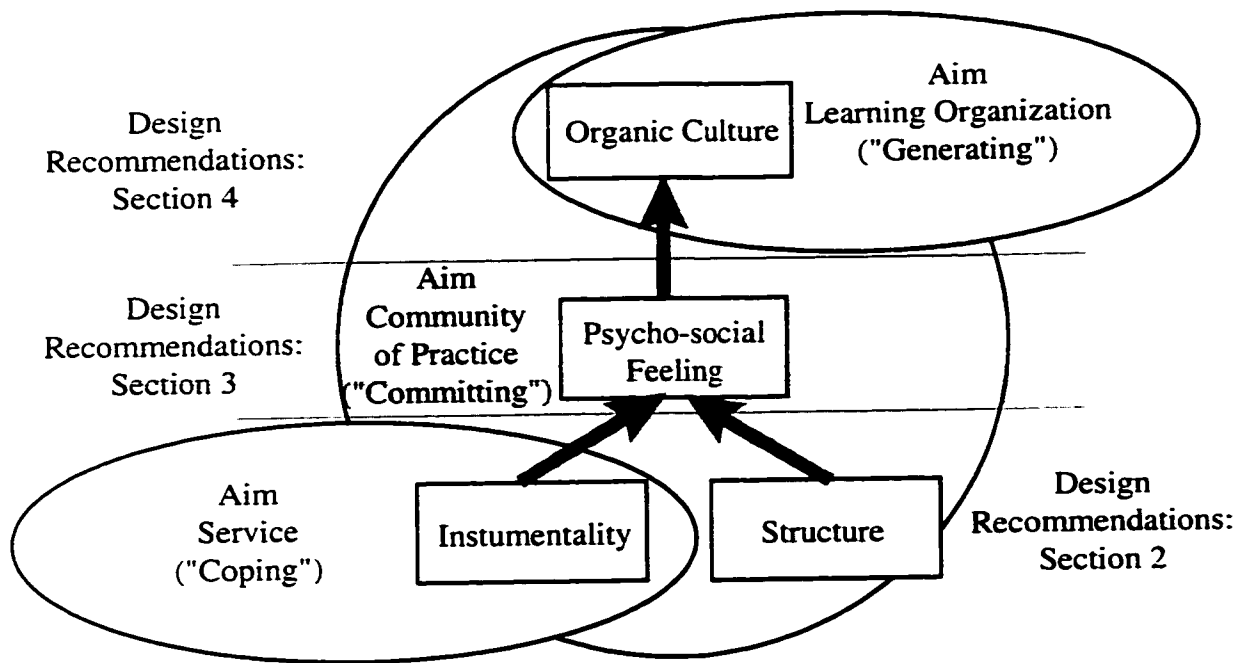
Learning Community Design Proposal

This appendix is adapted from a white paper written by the author for 'M2', the educational media company that was the subject of the case study in chapter 2 of this thesis. As a white paper, it is intended as an initial design conjecture for community development and an illustration of how a learning community can be based on a multi-dimensional consideration of community in which learning occurs in both a medium and a milieu.

Section 1: Parent Club Concept and Aims

Parent Club is to be an online service for parents who place value in their children's educational experience and wish to support their children's learning and future goals. In order to provide a service of substance to parents, the design of Parent Club needs to aim for three targets: 1) the establishment of a service that meets parents' basic and immediate needs vis à vis the education of their children; 2) the establishment of community of interest/practice that focuses on better incorporating parents into their children's educational activities; and 3) the establishment of a learning organization that essentially acts as a focus or catalyst for change vis à vis their relationship with their children and their children's education. Figure A.1 below illustrates the three aims as three separate circles.

Figure A.1. Schematic of the Objectives for 'Parent Club'



1.1 Aim: Service

Users should see an immediate utility to Parent Club. This 'first order' purpose is the instrumental goal of the service and needs to underlie the features of the service.

Specifically, parents will use Parent Club to

- access information, ideas, resources about parenting with an emphasis on educational issues
- share information, ideas, resources that they create using "ParentPlan" Software.
- communicate with other parents about educational issues related to their child(ren).

1.2 Aim: Community of Commitment and Practice

Optimally, Parent Club should evolve into a self sustaining parent community. As a community of practice, Parent Club should embody some critical qualities that allow Parent Club to be described as four aspects of community. Specifically, community may be described as

- an instrument (or means to an end)
- a structure
- a feeling
- an organism

Each aspect of this ordered list is more sophisticated and closer to a 'second order' goal establishing a self sustaining community. Accordingly, M2's design goals must address each of these of these aspects.

1.2.1. Community as an Instrument

There should be some utilitarian value to the community that is immediately perceivable. The essence of this aspect of community is captured by the aim of service (1.1). It should be emphasized, however, that the capital or 'goods' of such a community is not just the knowledge or the ideas per se but also the commitment that prompt the exchange of knowledge and ideas.

Section 2 of this appendix recommends several design features that address this aim.

1.2.2. Community as Structures and Processes (Space and Interface)

When using the service, members should believe that they are somewhere, even though that somewhere is cyberspace. Thus,

- there should be a sense of structure or space where people can act. Accommodation of agency should be a prime concern when designing the structure of the service (foundational for 1.2.3).
- there should be a sense of freedom within the structure/space. The structure should not be constraining.
- the functionality described by the instrumental aspect of community must be tied to form in some way. In effect, different activities need to be tied to different structures or space. The structure should be simple and its relationship to functionality should be apparent.
- the community must be rendered as a computer interface. In terms of "look and feel," the user should be able, at first glance, understand that the interface

represents a community and that the interface is their way of interacting with this community.

- that is, the user should not face a steep learning curve when presented with the structure and interface (foundational for 1.2.4).
- for some purposes, the interface must overly emphasize some aspects of the community to compensate for the virtual and asynchronous nature of the community.
- there should be a sense of aesthetics so that the place of the members reflects the members themselves and their preferences, and not necessarily the wishes of M2. The space should reflect also members' values, goals, and contributions (foundational for 1.2.3).

Of particular use for this design goal are resources that deal specifically with designing livable communities and resources concerned with interfaces and human activity (c.f., Laurel, B., 1993)

1.2.3. Community as a Feeling

Community as a feeling means that new members can achieve a sense that they are becoming a member of a definable group and become committed to the activities of that group. From this perspective, Parent Club needs to be seen as more than just services and structures but also as a group of individuals who have some common interests, values, and concerns. Specifically M2 should aim for the following characteristics to promote the feeling of community:

- a member should have a sense of identity so that others know who they are (and so they know who they themselves are in community - i.e. maintaining an "Avatar" or online persona).
- a member should know who others members are and be able develop a rapport and personal relationships with them.
- a member should feel part of a group. Specifically they should feel that they are implicitly and explicitly
- working towards or supporting common goals (communality)
- they are supported in their fulfillment of individual goals (individuality)
- there should be some sense of social (shared) practices that are inherent or indicative of the community which may include customs, traditions or even ceremonies or social events.
- the community conveys certain social / personal aesthetics and values such as generosity, reciprocity, caring, openness, tolerance, and friendliness

In design of the virtual community, functionality and structure described above should work together to produce a feeling of belonging and so generate commitment to the community.

1.2.3a Evolving Community and Promoting Commitment

New members to a community of practice generally start at the periphery of the community and work inwards over a period of time, according to their desires, and abilities. As they move within the community, becoming “old-timers” rather than “newcomers”, they take on different roles and relationships to the community and other members. In general, they become richer vis à vis the commodities of the community. In virtual communities, they become more committed, more knowledgeable or authoritative, and more sophisticated in their use of the commodity.

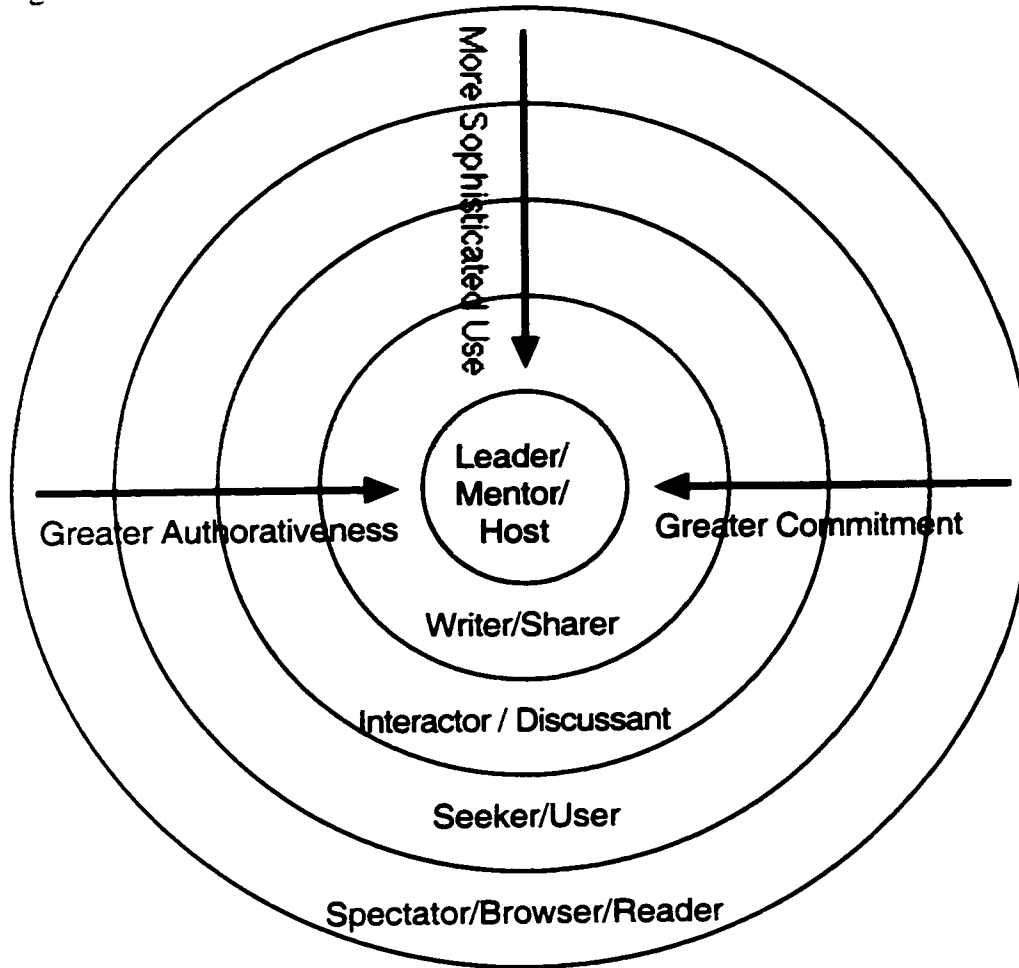
It is important that M2 design the features and structures of Parent Club to accommodate and support members’ movement from the periphery to the center. In designing the framework, M2 needs to encourage some potential roles and relationships within the community and promote their development in a sequence.

The following sequence of roles, relationships is recommended:

1. “Newcomers”: Spectator, browser, reader, orienteer
2. Seeker, User
3. “Regulars”: Interactor, Discussant
4. “Contributors”: Writer, Sharer
5. “Old-timers”: Leader, Host, Mentor

It would be anticipated that normal use would be at levels 2,3,4

Figure A.2. Evolution of Members' Roles & Relationships in the Community



1.2.3b Accommodating and Supporting Newcomers

Newcomers will typically be parents who log onto Parent Club after purchasing "ParentPlan". There is little guarantee that they will be computer literate or have any experience with virtual culture. In fact, M2 should that users will have little experience with virtual culture and they may be somewhat anxious about computers and the internet. Given this, the newcomer is very likely to experience "Cybershock", an online equivalent of culture shock.

Thus, Parent Club needs to have as friendly face as possible for newcomer. The most important activity of the newcomer is orienteering: navigating their way through an unfamiliar environment and culture and become comfortable with the conventions and

customs. Newcomers need to sense that this is more than just information and cultural overload. They may not know what is happening and how to make use of the software and service. They need to know that the community and its information is meaningful, and more important relevant to them. When this relevance is established, users can better transfer experiences and knowledge gained in the online culture to their own lives. Perhaps the most important feature for a newcomer to see is a tour of the community. Although the new member may only see it once, it is critical to design it so that at the end of the tour, the member has a sense of what the community is and how s/he will fit into it.

The second most important activity of the newcomer is exploring through being a spectator, browser and reader of the information that constitutes the community's practice. However attempts should be made so that the activities and practices of regulars and old-timers do not overwhelm the newcomers. While they should have some freedom to explore, they should not have so much freedom that they get lost or commit any virtual culture faux pas and find themselves over their heads (e.g. committing themselves to things they may not be able to follow up on, such as volunteering to maintain a forum.)

Ideally, newcomers should be greeted and encouraged to make use of the facilities in much the same way that a tourist agent or welcome wagon does when a person enters into a new physical culture. A certain degree of handholding should be offered but not imposed.

1.2.3c Encouraging Newcomers to Contribute

It is a general consensus among those who have experience with communities (virtual or otherwise) that commitment and feelings of membership are strengthened and the orientation curve is lessened by contributing to the community. The object of the Parent Club with respect to newcomers should be to reduce their orientation curve and enable their contributions to forums chats, and circles. Parent Club should provide basic mechanisms or

structures to encourage contributions such as welcome circles (3.3.1), specialized welcome screens (3.1.2), feature notifications (3.1.3), forum welcomes and summaries of recent discussions (3.2.1 & 3.2.2), and introduction rooms.

1.2.4 Community as an Organism

This aspect describes the feeling of community over time. That is, the feeling of the community incites in the members should adapt and change as members change. To this end:

- The community should be able to change and grow but should not change or grow away from its fundamental qualities (the community's instrumental and structural foundation)
- Members should see the change or evolution of the community.
- Members should see themselves are evolving in their relationships and roles within the community and outside of the community (i.e. with their children's education)
- A renewing or sustaining quality in which Parent Club ultimately renews or sustains itself with little or no direct support from M2.
- People should feel free to enter the community, to participate in they ways they see fit and leave the community.

This means that Parent Club needs to be designed to subtly respond to members according to their experience and needs as much as possible but without modifying basic functionality and structure. Ways of doing this involves actively using tracking/log information to welcome new members, support member's novel actions, encourage exploration and communication at certain points and encourage commitment, contribution, leadership and growth.

1.2.5 Afterward: Community as Higher Order Goal

The second order target, community, is not achieved by definition of functionality and structure. It is achieved once members feel that they are participants in a community that is only in part established by functionality and structure. Specifically, the functionality, structure, and aesthetics of the website / Parent Club experience should all contribute towards the notion of the community as an organism and a learning organization. These aspects of community should support the evolution of the community.

1.3 Aim: Learning Organization

A model of particular use in describing and designing the organic nature of community is the learning organization.

Accordingly, Parent Club should also embody some distinctive characteristics of an organization that learns such as

- a contributed knowledge base so that newcomers can readily access the knowledge and experiences of old-timers and those who may have left the community. This entails a GroupWare infrastructure so that knowledge, experiences, and values distributed among members can be easily contributed, archived, indexed, and accessed when relevant.
- an asynchronous collaborative workspace so that knowledge can be collaboratively built, evaluated, and refined.
- mechanisms that encourage people to examine their knowledge and experiences and engage in generative learning -- learning that changes the beliefs and assumptions that lay at the foundation of activity and problems, rather than learning that "copes" by merely fixes the problem for a short time.

Section 2: The Functionality and Structure of Parent Club

This section answers the question: “What do members do?” and “Where do they do it?” It provides recommendations for realizing the aspects of community related to instrumentality, functionality, and structure. The features here extend beyond these issues however and attempt to provide a foundation for addressing other the aspects/considerations of community (Development of Commitment and Organism/Learning Organization). While such features are introduced here, they are cross-referenced to their design recommendations in later sections.

2.1 "ParentPlan" Documents

The documents area provides the main linkage between M2's software, "ParentPlan", and Parent Club. This feature allows the storage, retrieval and searching of the following type of Parent Club documents.

2.2 Resources

2.2.1 Certificates

Additional interaction between "ParentPlan" and Parent Club may be the provision of varied certificates that parents could download and make use of in "ParentPlan". Some members of Parent Club may be able to design certificates and make them available on the service. An additional feature here may be the ability to send personal cards or certificates to other Parent Club members. These would appear the next time they log on.

2.2.2 Resource Center

A collection of resources and links to outside sites, agencies, information that may be of use to parents. To add to the resource base, we may wish to forge alliances with various parenting, social services agencies in different regions. The idea of this area is that parents

can a) access information, b) get a list of local contacts. For example, a member would have Vancouver indicated as her geographic region in her preferences. When this member accesses the contacts of the resource center, she will get a list of parent resources specific to Vancouver region and important nation wide resources. One way that members can contribute to the community is to add resources for their geographic region.

2.2.3 Newsstand

This is the area for announcements regarding new features, community changes and upcoming events. This would also be the repository for all the newsletters of the community (see 3.1.5 for more details on the newsletter).

2.2.4 Store

A place to buy things. This would be a link to a 'mall' that serves all the communities that M2 maintains.

2.2.5 Calendar

M2 may wish to host events, specific chat sessions, demonstrations, etc (online and in real life). This area provides members with information about upcoming events.

2.3 Forums

The concept of a forum is fairly standard to many conferencing systems such as "Parent Soup", "Parent Place". The forum of Parent Club is a place where people can participate in open discussions on various topics of interest. Any member can read and contribute to a forum discussion. The discussion is moderated by a leader who is responsible for monitoring the discussion, trying to keep it on topic, and summarizing the threads on a regular basis. From a functional perspective, it may be useful to consider some design

features to the forum that extend the utility of the forum beyond merely an asynchronous chat room.

2.3.1 Welcomes/Overviews

A popup window accessible from the forum that would provide information about the forum, such as who initiated it and when, its purpose, its 'constitution' of appropriate/inappropriate topics and activities, its regular contributors (see 3.2.1).

2.3.2 Constitution

As each forum can be distinct in its purpose and topic and participants, each should have a short constitution stating purpose, activities and topics that are encouraged and discouraged and how people can make complaints, resolve disputes etc.

2.3.3 Thread Summaries

An area of the forum (via a popup window) that provides regular summaries of recent activities of the thread. The idea is that newcomers to a forum would not have to read the whole history of the thread but merely the summary (see section 3.2.2). A specific resource person at M2 or, optimally, a moderator or a volunteering regular of the Forum would write either the summary (see 3.6.1 and 3.6.2).

2.3.4 Thread Resources (Contributed Knowledge Base)

The design should provide the ability for users to post a resource to a thread of conversation that exists a hyperlink in the 'margin' or side box of all messages of the thread (see section 4.2.1).

2.3.5 Snippets

After writing a message to the forum, the author can optionally summarize the message in a statement of 15 words or less. This snippet can then be used as a 'callout' to motivate people to read the message (It is somewhat different than a subject line as a subject describes the thread of conversation, not necessarily the contents of the specific message (see section 4.2.2).

2.3.6 Snippet Icons

Small icons can be attached to the snippet (see that visually convey meaning. The icons can be similar to those used in ParentsPlace or they can be more structured, implementing specific reflective strategies such as Edward de Bono's six thinking caps. These icons may be selected from a set available to all the forums or from a set unique to each forum.

2.4 Parent Circles

Parent Circles differ from *forums* in two fundamental ways. Whereas a forum is an open venue in which discussion focuses on one topic, a circle is a closed venue with no topic focus. Typically between 3 and 13 members would form a circle and membership would be by invitation or request. The circle would be lead by one person and perhaps assisted by one or two others. The idea of the forum is to provide a setting in which it is easier to get to know one another on a variety of topics.

Whereas forums track long term discussion which may be archived and indexed for an indefinite period of time, circles would be more temporary. The discussion may only be indexed for a short period of time such as a week. Older messages are discarded

2.4.1 Circle Resources

Design for the ability to attach personal uploaded documents, existing parent club resources, links to forums, and off site URL's to a circle (see 4.2.1).

2.4.2 Shared Author Documents

Design for the ability to upload personal author documents, ideas and other contributions to a common area where they can be downloaded by other circle members and edited and re-uploaded (see 4.3.1).

2.4.3 Private Asides

Design for the ability to direct a comment to specifically one other person in the circle without the other members of the circle receiving the message.

2.4.4 Shared Goals/ Desires

Design for the ability to construct and refine individual and shared goals and visions for the circle. Articulating the purpose of the circle and how each member fits in and can support other members (see 4.3.2).

2.4.5 Welcome Circles

Design specific circles that are formed for newcomers to help introduce them to the community and support their exploration (see 3.3.1).

2.5 Chats

Chats are common communication structures in virtual communities. M2 should provide the ability for people to communicate in real time. Generally this may be done in a separate “chat room”, but it may be a feature adjacent to forums and circles.

2.6 Find

Design a search engine that will look through documents, areas, forums (but not circles) for key word searches.

Section 3: The Promotion of Commitment and the Evolution of Community

This section answers the questions: “How do newcomers become old-timers?” and “How do members develop a sense of commitment?”

3.1 Greeting and Supporting Newcomers

See also 3.2.1, 3.2.2, 3.3.1

3.1.1 Guided Tour and Preference Setting

The first time a member enters the community, they will need particular orientation. A guided tour of the structure and functionality of the community is essential, as well as introducing the new user to the philosophy that underlies the community (a layperson’s rendition of the concepts of communities of commitment and learning organization) and their rights and responsibilities as a member of the community. The tour will also serve a secondary purpose. As a newcomer progresses through the tour, it is recommended that s/he provides information about her/himself and how they would like to tailor their environment and how they see themselves using the environment.

3.1.2 Specialized Welcome Screens

The newcomer may benefit from welcome screens, front screens and structures that emphasize some features over others (The question of whether M2 would want to lock newcomers out of some features such as the “volunteer bureau” would need to be considered). The overall look and feel of the site should be fairly standardized and not have too much customization. This allows newcomers to be able to discuss parts of the community with others and have a common “language” or experience. Newcomers need to get grounded in the environment before they are able to change it. Mind you they should have the flexibility to change the look and feel if they so desire.

3.1.3 Feature Notification

This support includes staged messages and feature notifications. As newcomers log in more frequently, they could receive automatic messages that highlight shortcuts, more sophisticated features, and areas they don't frequent. These should be friendly and work towards them getting the most out of the Parent Club service. Above all, such notices should not be annoying and the users should have the option of turning them off.

3.1.4 Meeting Places

A place which announces new members as they register. It allows people to contribute in little ways at first so that the direction of information isn't all one way. Here the flow of conversation may be more chaotic. Structurally speaking this may be a circle of unlimited size.

3.1.5 Newsletters

Several other online communities offer to subscribe members to a "ListServ" which would provide regular email updates regarding the community. This feature is essential for reminding people that they belong to a virtual community and that there many things that are happening while they are not logged on. The newsletters should announce new resources and select number of new documents and new forums or circles. Additionally, it could journalistically report on the activities and interests and events of members. This feature gives recognition to people who regularly contribute to the community and provides users with feedback that what they do is appreciated in a larger sense. Either a specific person responsible at M2 and perhaps or groups of volunteers should maintain the newsletter (see 3.6.1 and 3.6.2).

3.2 Generating Community and Commitment in Forums

The forums provide one place in the community where members interactively exchange information, experiences on reasonable intimate level. Specific features need to be implemented to encourage contribution to forums and support the development of commitment to the forum and the community.

3.2.1 Forum Welcomes / Overviews

See also 2.3.1

Rationale: It is often difficult for newcomers to the community or to particular forums to usefully contribute to the forum because s/he does not know the purpose of the forum or its history of discussion. Hence, there needs to be “welcomes” for new members to the forums or the ability for them to access the welcomes.

The purpose of these welcomes is to introduce the people who are a significant part of the and to quickly update newcomers to the discussion so that they do not have to sift through a great deal of old posts to understand the history and direction of various discussions. With forum welcomes, the flow of conversation will be interrupted less frequently with questions of who people are and what the conversation is about.

Design: Upon entering the forum for the first time, the newcomer will receive a welcome message and be invited to read about the forum. Upon acting on the invitation, the user should receive a forum profile window.

The forum profile window to the forums should:

- give information about who created the forum and when, and to whom one should direct questions and comments.
- give information about the purpose of the forum and its ‘constitution’ (see 2.3.2).
- summarize recent discussions in a short paragraph or two (see 3.2.2). These summaries should be generally written once a week as part of the responsibility of the moderator (see 3.6.1 and 3.6.2)

- provide a “role call” of frequent contributors to the forum - each with a little biography (see 3.4.3).
- provide a key to any snippet icons that the forum uses that may be unique to the forum.

3.2.2 Forum Thread Summaries

Rationale: see 3.2.1

Design: Implement a forum summary feature that allows people to quickly read the course of the discussions in one or two paragraphs. This allows the reader to get up to speed on the flow of the discussion without having to read all the previous postings.

3.3 Generating Commitment in Circles

Circles are perhaps the most ‘intimate’ conversations on Parent Club. They should typically be between a small unchanging group of people who built a relationship over time. The one on one or small group interaction implicit in a circle is proposed as the key place where the most commitment to the community. It needs some specific design to support the building of commitment.

3.3.1 Welcome Circles

Welcome circles are specialized parent circles that operates as home bases for newcomers. Upon registration, the newcomer will be offered the opportunity of joining a welcome circle. The circle would be structure to be about six or seven newcomers and one old-timer or regular. The idea of the welcome circle is to offer a small and ‘safe’ environment to actually meet people rather than a large forum. Ideally, the newcomers in a welcome circle should have about the same amount of expose to Parent Club or virtual communities in general.

In addition to having a list of FAQ's, newcomers would have this venue to ask questions, to reflect on their experiences and to share some discoveries. For example, Bob can tell Sue (both newcomers) that the forum on Attention Deficit Disorder (ADD) and a number of documents or resources may be very pertinent to her child. The old-timer (moderator)

would encourage exploration and answer questions regarding documents, services, the community, netiquette, and so forth.

3.3.2 Shared Author Documents

Design for the ability to upload personal author documents, ideas etc to a common area where they can be downloaded by other circle members and edited and re-uploaded (see 4.3.1).

3.3.3 Shared Goals/ Desires

Design for the ability to construct and refine individual and shared goals and visions for the circle. Articulating the purpose of the circle and how each member fits in and can support other members (see 4.3.2).

3.4 Generating Presence, Self, and Space

These features are aimed at giving people the sense that Parent Club is a little more concrete than an abstract cyberspace. They are what provide people the sense that the community is populated.

3.4.1 Avatars / Icons of Agency

Rationale: Research on human interaction in computer environments suggests that people benefit from a sense of presence in that space. It is important for users to have a sense of who they are in cyberspace, particularly if they are new to the activity of computer mediated communication, and be able to convey that identity to others in as many ways as possible. Some online environments such as the palace (www.palace.com) use icons or avatars to represent users who are currently logged on. The user then is more than a name or moniker but is graphically represented.

Design: Parent Club should employ the concept of “avatars” or “icons of agency” that identify the user more readily than a name. The newcomer should be invited to select a icon from a pre-supplied bank that M2 provides (advance users may have the option of uploading their own.) The icon is attached to any post or message that the user then makes in chat, parent circles, and the forum. The icon should also be reinforced by being on the user’s main pages when he/she uses the club. Whenever a user clicks on an icon, s/he will be given biographical information in a separate window.

Implementation: Ideally the avatar will be constructed/implemented as a data structure. I.e. as an object that contains properties, instances, actions of the user.

3.4.2 “Emotional Attachments” (Colouring One’s Comments)

Rationale: The use of emoticons is an insufficient replacement for the high bandwidth of information that is present in face to face conversation. There are few facial expressions that can be approximated by textual characters and the use and comprehension of such smileys are generally by more sophisticated users, even though that novice users would benefit more from their use. A quick survey of the parent forums of other services shows that emoticons are seldom used. There needs to be alternative methods of expressing emotion or language.

Design: Allow people to colour their text or the text box in which the text resides to add emotion or emphasis. For example, red for anger, green for envy. The choice of colours and icons should be based on culturally accessible norms. Another option is to have a variety of facial expressions that can be used as the avatar. When posting a message, the author will be able to select what emotion s/he wishes to convey in the message.

3.4.3 Role Calls

Rationale: Complementary to the problem of the user not having an overt presence in the community is that s/he knows little of others who co-inhabit the community. In addition to knowing whom s/he is, the user must be able to access the biographical and other information of other members when it is relevant.

Design: Implement a “role call” that maintains a list of major or recent contributors to the discussion with short biographies that the members provide via their preferences. For example, the role call for a forum may be a list of the 10 top contributors (this publicly recognizes their contribution to the community) or the 10 most recent contributors (this publicly recognizes recently active contributors). The role call of a parent circle would be the list of everyone that belongs to that circle.

3.4.4 Tailorable Interface

Rationale: In any shared or public space, people need to make things private or personal to suit the way that they best interact with people. Accordingly, some members of Parent Club may have preferences related to the index and presentation of information.

Design: Allow the user to select from variety of layouts. M2 should accommodate different styles. Some layouts should be designed for convenience and others should be designed for appeal, attractiveness and ease of use. The moderator may specify the layout or each member may be able to select his/her own preferred layout. Users should be able to control their environment in some way. While this doesn't alter underlying functionality, it changes the appearance, convenience and accessibility. Member can also change the look of other areas -- choosing from button types, backgrounds and such.

Implementation: Create a variety of common gateway interfaces (CGIs) and templates that allows the member to select from a small range of formats. Subject Query Language (SQL)

or Perl should be sophisticated enough to put together the preferred elements to present the user with the look s/he wants.

3.4.5 Personal Page

Rationale: While ParentClub should have a distinctive top level page, allowing users to branch to different areas of the club, users should be allowed the freedom to start where they want and essentially compose their own home page which would replace M2's page as their top level. This allows member to better tailor their environment to how they want to navigate and use Parent Club. Additionally, the members home page should provide shortcuts, records of what belongs to them, the forums they contribute to, the circles that they belong to and more.

Design: The Personal Page should be a top level index allowing the user to access the areas of Parent Club s/he most frequents as well as having a link to M2's home page incase they wish to access other areas of parent club. From the Personal Page the user can access his/her preferences, biography, circles, forums, articles (links), documents, bookmarks, and statistics.

Implementation: Most functionality would be accomplished through forms and server side CGIs. For an idea of a functioning tailorable interface, see <http://my.yahoo.com>.

3.4.6 Shortcuts and Bookmarks

Rationale: As the community grows and becomes more complex, its becomes more difficult to navigate, especially if one has to navigate through several areas to find the information s/he is looking for. The user should be able to bookmark items of interest, be able to specify, to a certain degree, what information s/he wants to appear on the top level, and have a short history that is persistent over visits.

Design: Members should also be able to have quick-link or shortcut buttons from the front page that take them immediately to certain areas. They should be able to use bookmarks to record their place in conversational threads if possible. The best place for these shortcuts and bookmarks would be on the user's Personal Page. On each article or "ParentPlan" document stored on Parent Club, there should be a bookmark button that would add the document to the user's bookmark list.

The greeting, supporting and maintaining newcomers to the community is the largest barrier to community and most important to address. For this reason, the design features for role evolution must be clearly specified.

3.5 Supporting Regulars

"Regulars" should account for the largest number of members -- those members that are familiar with the system and frequently use Parent Club as to read and share information and to interact with others. While these members tend to be more autonomous than newcomers, they still have needs that should be supported so that they feel more at home in the community and better able to contribute towards its well being.

Parent Club should have the face of convenience and accessibility. It should also have the face of freedom and the room to make a difference.

3.5.1 Customizing Interface, Preferences and Personal Page

On the personal page, the member should be able to set preferences and customize his/her interface, including:

- specifying his/her biography / biographical information.
- selecting an icon to represent him/her (or perhaps select a small gif previously uploaded) and select a colour.
- setting a geographic region.
- selecting the preferred layout of forums, parent circles and chats
- selecting how she/he is notified that there is new information, messages.

3.5.2 Evolving Member Profiles

As a person become more familiar with the community, and builds commitment and takes on different roles, their activity in the community will be different than what they first envisioned in their profiles. Parent Club should regularly prompt members to make changes to their biography to reflect their changing activity in the community (c.f. Kim, 1997) and to reflect the passage of time, either seasonal or as part of personal change.

3.6 Finding Leaders Among Old-timers

As members become more experienced and more regular, they should be encouraged to take more of an active role in contributing to the community in terms of its services and features. In fact, it will be essential to the health of the community that members become leaders of the community and contribute their time.

3.6.1 Moderators (Forum and Circle Leaders)

Becoming a forum moderator or circle leader is one way of contributing to the continued growth of the community. Being a forum moderator is more than just starting a discussion. It involves maintaining the forum as positive and current. The moderator will have a few minor responsibilities. One is to ensure that the threads are up to date and to remove any threads that are 'dead'. Also to remove any contributed resources, documents or links that

are out of date or inappropriate to the thread. S/He will also be responsible to, on a regular basis write a brief summary on the activity of the forum (see 3.2.2)

3.6.2 Volunteer Bureau

The volunteer bureau is the “coordination” centers for moderators, provides some basic training for moderators. Ideally a person wishing to moderate will become a co-moderator (moderator apprentice) and share some responsibilities with other before becoming a full moderator. Additional ways of volunteering may be collecting regional information and resources. In any case, there should be incentives for people to volunteer including public recognition or waived fees.

Section 4: The Learning Organization of Parent Club

The section answers the question “How does Parent Club act a catalyst for fundamental change in people?” and “How does Parent Club foster thoughtfulness, resourcefulness, and insightfulness?”

4.1 Designing the Learning Organization

4.1.1 FAQ's (Frequently Asked Questions)

Rationale: It is common for people to have similar questions upon entry into an environment or community. For this reason, a pool of frequently asked questions (and answers) needs to be maintained by M2. These FAQ's should be easily accessible from various areas of parent club.

Design: The FAQ's should be developed as necessary and follow a fairly simple to read and access format. Generally speaking, there should be a subject index at the top of the document with hyperlinks to the questions and answers later in the document. There should be multiple documents as they are deemed necessary.

4.1.2 Contributed Knowledge Bases

Rationale: The core concept of the learning organization is that knowledge relevant to the organization or community is contributed and retained and made easily accessible. If M2 is to model Parent Club on the concept of a learning organization for parents, we need to provide mechanisms for people to contribute information that are relevant to forum conversations, parent circles and article and allow the immediate access to that knowledge (i.e. by browsing and not by searching)

Design: Allow members to attach to a forum thread, a parent circle discussion or an article a hypertext link to relevant articles. For example, A is reading a conversation on helping children with algebra homework. She remembers (or has bookmarked or a "ParentPlan" link document) a site that is perfect to this thread of the forum. Rather than just replying a post, she attaches that link or document to the thread of conversation itself. This link is present and available for all successive readers of the thread regardless of whether they read A's original reply or not. In most forum designs, readers would have to read the original message to have access to the link.

Implementation and Maintenance: Each of the forums and circles will need to be hosted or maintained by someone. Part of the responsibilities given to the leader is that they need to remove irrelevant articles and links.

4.2 Forums and Organizational Learning

4.2.1 Thread Resources (Contributed Knowledge Base)

Rationale: see 4.1.2

Design: Members can attach resources to threads. If the thread is on ADD for example, a member may attach a link to a relevant Web document that is provided adjacent to messages of the thread. That way, the knowledge and resources of contributors becomes more permanent than if the resource was mentioned only in one follow-up post. The list of resources are essentially memory or artifact of the "learning organization" that is the forum.

4.2.2 Snippets

Rationale: To prompt contributors to reflect upon what they just wrote, and to encourage useful summaries of content for people to quickly scan messages.

Design: Request members to summarize their messages with a “snippet.” A snippet is a short statement or summary (ideally 25 words or less) that conveys the sense of the message better than a subject line or topic of the thread would. The topic of the thread would not change greatly but the snippet would be unique to each message. Ideally, the author of a message would write the snippet after s/he writes the message. The snippets could then be used to motivate people to read preceding or follow-up posts to a message.

Additionally authors of a message can attach a snippet icon to the snippet. The icon can be selected from a general set available to all the forums of the community or from a set of icons that may be specific to that forum.

4.3 Parent Circles and Organizational Learning

4.3.1 Shared Author Documents

As small groups of members that have regular interactions and ideally develop relationships, circles allow from the possibility that they will want to collaborate on their contributions to the community. For this reason, in addition to the ability for people to contribute resources to their circle, they should be able to post ‘works in progress’, ideas and other documents that they initiate with “ParentPlan” in an area of their circle that others can download the documents and edit and add to it and then upload it again to the circle. When the document is complete and is co-authored by the circle in general, they can elect to publish it and share it with the whole community.

4.3.2 Shared Goals/ Desires

The ability to construct and refine individual and shared goals and visions for the circle. Articulating the purpose of the circle and how each member fits in and can support other members.