Online Discourse and Leadership in Group Discussion

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In 1982 I participated in the creation of the first online education program at the Western Behavioral Sciences Institute in La Jolla.. At that time, before the Internet was open to the public, teaching online meant the use of online forums for discussion between students and students and students and teachers. Resources such as texts were delivered by mail. Despite the unprecedented efficiency with which the Internet delivers educational resources, I still maintain that the best use of online education must include online discussion. As one of the first to teach online, I was often asked to comment on its characteristics and potential. This paper was prepared in 2002, at a time when online education was still little practiced, to help teachers starting out for the first time to teach online. The paper has been updated to take into account the emergence of the Internet, however the main argument is unchanged. For more information on online education, see my web site, www.sfu.ca/~andrewf

I. Communicating in the Online Forum

Work in an online discussion forum is not only quite different from our experiences with face-to-face communication, but also differs from the now familiar experience of conversation on Facebook and Twitter. The main differences with respect to face-to-face communication are due to the narrow bandwidth of computer mediated communication (CMC), the use of writing rather than speech, and the asynchronous flow of messages between participants. The difference between online work and Facebook or Twitter conversation is the difficulty of sustaining a productive activity online. Compensating for the many unfulfilled expectations that reflect our experience in face-to-face work groups requires strong leadership online. In this first part of this paper I will offer a brief account of some of these differences identified by users and communication theorists. In the second part I will focus on some of the discoveries users have made about how to moderate online discussion so as to achieve effective group activity.

I should note here at the outset that this paper is limited to asynchronous text-based forums. I will not treat video conferencing or instant messaging although they are now widely used in some settings. It is my contention that they are less successful than asynchronous written exchanges for the purpose of education. The Internet is best suited to a pedagogy based on classroom discussion. The Internet is also used to provide non-interactive educational materials but by itself such provisioning is not equivalent to a face-to-face class. The claim that simply putting resources online is a legitimate substitute for the educational experience of the classroom is quite simply fraudulent. A small percentage of students can learn just fine without participating in a class. For them, online resources are great, but most students require more than that in terms of motivation, explanation and practice. Treating online resources as a class changes the very meaning of education, from an interactive learning experience to a sort of online library card. The introduction of new technology makes possible the degradation as well as the enhancement of the activities it mediates.

A "Non-Newtonian" Communication System

The "laws" of communication we obey in everyday life are actually deeply ingrained cultural conventions rather than natural laws. They form the horizon of our communicative practice, beyond awareness and decision for the most part, and although they are not natural laws they are rooted in our consciousness as a sort of social "second nature." By contrast, we experience communication on the Internet as an "artificial" system. Many of the rules we obey on this system are obvious products of conscious decisions made either by participants or programmers. Usually these decisions aim at constructing a communication model resembling familiar communication settings, such as social gatherings, meetings or classrooms. Facebook, for example, has its "friends" and "likes," metaphors to familiar aspects of the face-to-face world.

The rules of everyday interaction are embodied in the software and netiquette, just as video games attempt to imitate familiar laws of motion. But one can imagine a video game in which the objects on the screen obey entirely non-Newtonian principles of motion. In fact, one of the early video games was a "zero-gravity" version of computerized pinball. No similar variants of a real pinball game are imaginable, at least not on this earth. There is an interesting analogy between these unusual games and online communication since both call our attention to our own implicit expectations about reality.

The strangest thing about communication on the Internet is the combination of rapid iterations, almost rapid enough to recall spoken conversation, with the restriction of most communication to written messages. The speed with which messages are exchanged makes it possible to use computer communication in ways one would never attempt to use mail, for example, to teach a class. Over the last 20 years most people have become accustomed to this new medium. Yet no matter how banal the on-line environment becomes, it retains a strange "non-Newtonian" quality because it works with written texts where we would normally have expected to find speech. This feature violates many ingrained cultural assumptions we make about communication, for example, the assumption that writing, at least in an academic context, should be more formal and less personal than speech. We now live in a world in which such assumptions do not hold, although they still lie in the background of our awareness.

In the remarks that follow I will focus on other aspects of online forums that defy our normal expectations. It is the task of the teacher in the online class to compensate for the confusion that results from this unusual situation.

Communication Anxiety

In most face-to-face interactions communication occurs through a number of independent channels. In addition to the spoken language itself, there are also what are called "paralinguistic features," tacit cues, including pitch, tone, gaze, gestures, facial expressions and the like. Meta-communicative features —communication about communication– includes tacit rules that are signaled by aspects of the setting and situation. Finally, there are status and role distinctions that are clearly signified (for example by clothing, hair styles, etc.) which form the background to the discussion.

In CMC there is only written language and sparse background knowledge about the nature of the

situation. There are no paralinguistic features to provide interpretative keys to specific intended meanings, except for the occasional and idiosyncratic use of certain textual conventions such as parenthetical explanations or symbols such as emoticons. When used, they help to communicate indirect meanings of the written text.

The lack of a tacit dimension in the online environment can be compensated to some extent by explicit written communication. However, in one especially important area, compensations are typically lacking. Engaging in face-to-face conversation involves complex forms of behaviour called 'phatic' functions by semiologists. When we say "Hi, how are you?" we signify our availability for communication. We usually close the conversation with another set of rituals, such as, "I've gotta go. See you later." Throughout our talk, we are continually sending phatic signs back and forth to keep the line open and to make sure messages are getting through. For example, we say such things as, "How about that!" or reply, "Yes, go on." Looks and facial expressions tacitly reassure interlocutors that they are still in touch, or on the contrary carry a warning if the communication link is threatened by technical difficulties or improprieties. Looks and facial expressions are particularly important in group communication, such as a classroom situation, where explicit phatic utterances are distracting.

Like any social act, communicating online involves a minor but real personal risk. In the peculiar online world, a response - any response - is generally interpreted as a success while silence means failure or at least the indifference of the interlocutor. Additionally, the sender of a message needs to know not only that it was received, but how it was received. But nearly all phatic signs are missing in CMC. Even standard codes for opening and closing conversations are discarded. This frustrates our normal expectation of continuous attention and reassurance as we communicate. It is disturbing to do without nods of the head, smiles, glances, tacit signs which in everyday conversation often take the place of words.

The paucity of phatic expression in CMC amplifies certain social insecurities that no doubt were always there, but which now come to the fore as what I call "communication anxiety." The problem is aggravated by the asynchronous character of the medium which works against feeling the full force of the other and weakens the informal, tacit social controls of everyday face-to-face conversation. As a result, messages are frequently left unanswered without the embarrassment we would certainly feel if, for example, we were greeted by an acquaintance on the street and failed to respond. Thus, corresponding to the anxiety we feel about the reception of our own communications, there is an unprecedented casualness about responding to the communications of others.

Turn Taking

All face-to-face interaction is structured by a turn taking system of some sort. Turn order is important and its timing critical. We all know the feeling of missing the moment when our comments might have been relevant. (In French this is called "L'esprit d'escalier.") In asynchronous online communication turn order is more or less random. Individuals contribute at times of their own choosing without much regard for the flow of the conversation. This often results in several different topics being discussed at once, or the same topic being discussed simultaneously at different stages in its development. The term "multi-threaded discussion" was introduced in the early days of online communication to describe this situation. It has its

advantages, as I will show, but it also leads to difficulties in knowing when decisions are reached, since interlocutors feel themselves to be on different schedules with different agendas. Procedural matters generally pose greater challenges online than in face-to-face settings. Hence the usefulness of strong leadership in many types of online discussion forums as I will explain in part two of this paper.

On the other hand, the asynchronous nature of online discussion forums makes it possible for participants to contribute substantive remarks carefully and thoughtfully. When face-to-face, participants standardize the perceived allowed period of time between turns at talk. Waiting too long or answering too quickly have specific meanings and may be discouraged. This is dramatically different in online forums. A statement by one person may be read by some participants immediately after it is made and by others several hours or even days later. In contrast to face-to-face conversation, participants in online discussion do not have to pay attention to what they are hearing while at the same time think of what to say next in order to avoid uncomfortable silences or to demonstrate attentiveness, as they do in live interaction. Instead, they can concentrate on capturing the ideas, take time to reflect, consider a variety of answers, do research if necessary and then respond at the time of their own choosing. This can enhance the quality of the exchange of ideas.

Asynchronous discussion in online forums is also especially effective in bringing out the best in participants who in other environments may be introverted or shy. Several studies have shown that the medium is helpful for members of minority groups and women, and this seems to be true for all people who regard themselves as marginal for whatever reason. What they have to say in an online discussion forum is not an imposition on the time of others, and does not have to be sandwiched in between the remarks of other seemingly more powerful participants. The ability to think before entering a comment makes it possible for everyone to contribute without the normal stress of the face-to-face environment. Again the lack of tacit cues plays a role. Because they communicate in writing, participants do not feel evaluated according to physical appearance, accents, or gender. Ideas are much more likely to be appreciated on their own merit rather than in function of the status of the author. Consequently, a relatively low status person who has interesting ideas and writes well can have equal influence with high status members, particularly if the latter write clumsily or carelessly.

Unfortunately, the sense of anonymity common in public online forums can work against reflectiveness and lead to irresponsible and anti-social behaviour, flaming, and lurking, all of which undermine the communication process. In public forums where anonymity is the rule, these behaviours are far more common than in private groups.

The Imperatives of Explicitness and Brevity

I mentioned above that explicit communication helps compensate for the lack of tacit signs in the online environment. This is particularly important where questions of understanding arise. In ordinary conversation, when we do not understand what is being said, we are likely to communicate that fact tacitly by facial expression. The speaker will usually pick up our distress immediately and, by adding a sentence or two on the apparent subject of confusion, resolve the problem before explicit and possibly embarrassing notice of it need be taken. Complete

withdrawal in the face of minor communication problems is thus relatively unusual because it is perceived as far more rude than bringing into play corrective measures that generally suffice to straighten out misunderstandings.

Because these tacit correctives are unavailable online a higher premium is placed on clarity and explicitness than in everyday face-to-face conversation. It is embarrassing to concede confusion in writing, and the delay between message and response compounds communication problems. As a result, one commonplace way of dealing with unclear and ambiguous messages is to keep quiet. When a message succeeds only in reducing the interlocutors to silence, it has clearly failed in its purpose, but it may be some time before the writer becomes aware of the problem and can take corrective action. The tenuousness of online discussion thus imposes a degree of clarity and willingness to discuss communication problems that is rarely experienced with any other medium.

Participants frequently respond to this situation by adopting literary techniques such as the use of redundancy which reduces ambiguity by narrowing the range of meanings and connotations of terms. The multiplication of slightly different ways of presenting the same ideas, using synonyms and different encoding schemes, increases the likelihood of the message getting through. But these techniques have the disadvantage of violating another implicit rule of online discussion, the imperative of brevity, which responds to the constant danger of information overload. A clear message that is so long no one bothers to read to its end may be even more demoralizing for conference participants than a short, ambiguous message that can be ignored.

While it is obvious as a general rule that in all communication length must be matched to complexity, it is not always easy to find the right trade-offs between brevity and clarity. Two models of effective on-line communication obey each of these two imperatives. They are the telegram and the memo, each of which corresponds to different types of on-line situations.

Many discussion forums work well with brief messages of half a dozen to a dozen lines. Telegraphic messages represent an extreme trade-off of clarity against brevity. They are inherently more ambiguous than other forms of communication because they completely eliminate redundancy. Some forums achieve quasi-telegraphic solutions to the clarity/brevity dilemma through using technical language to discuss a very sharply defined theme. Technical languages are designed to restrict the semantic range of terms, thereby reducing the need for redundancy.

The popular item/reply architecture of most discussion forum software supports the telegraphic style by enabling users to attach messages to others that serve as their context and help to disambiguate condensed expressions. However, the item/reply architecture has disadvantages too. In theory it serves not only to contextualize comments as they are made, but also to classify information in the archive of the conference for retrieval at a later date. This may be required in an online class. In practice, it is often quite difficult to recover information from an archive constructed in this way because users often drift far from the original context of their replies.

The memo suggests an alternative model that is better suited to many types of conferences. A message structured like a memo supplies its own clear context for the ideas it presents and uses

an outline format to organize points, helpful techniques of communication. The memo model yields comment lengths in the hundreds of words rather than short bursts of a few lines. This is particularly appropriate in forums that have a fairly fluid context and participants with very different backgrounds as is typical in education. In these forums one cannot assume a shared technical language but must use ordinary language to introduce and explain any technical content. Here somewhat longer messages tend to be the rule. The exercise of writing such comments is unparalleled as a way of disciplining thought and expression while learning to reflect on ideas and experiences.

Absorption

Online discussion is frequently said to build community, but the idea of community implies bonds of sentiment that are not always necessary to effective on-line communication. A group of interested individuals may produce a successful educational experience whether they form a community or just a temporary gathering. In any case, the mere existence of a community cannot explain the excitement of a successful conference. Rather than focusing exclusively on the concept of community, it would make sense to study the dynamics of online discussion on its own terms. This may open a way to understanding the sociology of the online group, its specific 'sociability'.

Online discussion dynamics involves the management of time, both the personal time of the participants and the overall time of the forum. Sometimes these dynamics are determined by extrinsic factors, such as job deadlines, tests, or the urgent need to accomplish a mission. Forums are surprisingly fragile, however, and no amount of external time pressure saves hopelessly mismanaged on-line groups. To a lesser extent, we see something similar in face-to-face meetings, which require not only an extrinsic raison d'être but also skillful leadership to keep to the agenda, insure everyone a hearing, and evoke the interest of the participants in the flow of the discussion.

The social cohesion of the forum therefore depends not only upon the extrinsic motives participants bring from their off-line lives, but also the intrinsic motives that emerge in the course of the on-line interaction. To understand these intrinsic motives, we must discover how the forum empowers its members to speak up and provokes others to reply. Several metaphors help to explain this.

The sociability of online discussion forums resembles that of sports or games where we are drawn along by interest in the next step in the action. Suspense and surprise keep us alert and interested. Every message has a double goal: to communicate something and to evoke the (passive or active) participation of interlocutors. "Playing" at online discussion consists in making moves that keep others playing. The goal is to prolong the game and to avoid making the last move. This is why online discussion favours open-ended comments which invite a response, as opposed to closed pronouncements.

Erving Goffman introduced the term 'absorption' or 'engrossment' to describe the force that draws us into an encounter such as a game. The concept of absorption refers to the sharing of purpose among people who do not necessarily form a community but have accepted a common

work or play as the context for an intense, temporary relationship. The term nicely describes participants' feelings about an exciting online discussion. They are 'absorbed' in the activity as one might be in a game of poker or tennis.

Collaborative Writing

The comparison of online discussion with a game is suggestive but omits the strangest aspect of the activity, the fact that the "game" consists in writing and reading texts. Online discussion is in fact a new form of collaborative writing. From this point of view, a completed online conference forms a single text with several authors rather than a collection of singly authored texts. Naturally, there are conferences which have no real unity, and which are in fact anthologies of texts by individual authors but these "monologic" conferences do not employ the medium to its fullest capacity. One of the most exciting things about online discussion is its power to achieve something more than this, a real "meeting" of the minds, if not necessarily agreement between them.

How does a conference acquire the kind of coherence we associate with a text? Normally, when several authors collaborate they revise each others' contributions, and it is this which makes a collective product of the result. In this usual case, the order of production bears no necessary relation to the order of the final product. But participants in online forums generally lack a commonly agreed on plan or outline and cannot modify each other's contributions. The order in which messages are deposited in the forum is fixed and no final revision brings the ideas of each to bear on the others' actual formulations. A large measure of contingency and unpredictability is intrinsic to this process, far more so than to ordinary collaborative writing.

The work of giving coherence to an online discussion might be called "textual management" to signify the kind of collaborative relationship characteristic of this medium. The various moderating functions discussed in the next section are the means of textual management available online. These functions include requesting comments from participants, setting an agenda for the conference, and pulling it together periodically around a common theme.

This list suggests yet another metaphor for online discussion since these means might be better compared with those at the disposal of the leader of a jam session rather than with those employed by the editor of an article or book. Each participant takes his or her turn at "improvising" a contribution to the group's performance under the direction of the moderator. The result is a new kind of text.

Games, collaborative writing and jazz improvisation each supply a piece of the puzzle that is online discussion. These pieces come together in the idea of the online discussion as an *improvisational game played with text*. From the world of writing, online discussion borrows the unique property by which texts propel us forward from the first to the last line through establishing patterns of generic expectation and deploying suspense and surprise to generate intrinsic motivations for continuing to read. These motivations are transformed in the course of "play" into the cement of a continuing social interaction that consists in the exchange of "improvised" texts.

II. The Moderating Functions

Online discussion forums promote collaborative work and learning. Indeed, communication in a forum is by its very nature collaborative. This poses special problems for education on which I will focus from time to time in this section. However, the general principles of moderating outlined here apply in many other types of discussion forums as well. These principles have to do with the central importance of leadership in the online environment, where spontaneous coordination is made difficult by the lack of paralinguistic signs, tone of voice, and other features of face-to-face conversation that substantially reduce the burden of mutual comprehension. Moderating is a compensatory function of online discourse in a group. The moderating functions described here are essential to group success but they need not all be concentrated in a single individual. Often some of them are performed by many participants and only the most basic are concentrated in a role with an official status such as the teacher.

The Moderator

Like many other types of small groups, online forums are most successful when skillfully led. The technical conditions for this are usually defined in the forum software as a 'moderating function', i.e. setting up groups of participants as forum members, establishing and naming a file in the central computer in which to store discussions, and deletion of irrelevant messages from the file.

These technical powers represent, however, only a small part of the moderating groupware, which Hiltz and Turoff describe as follows:

> In order for a computerized conference to be successful the moderator has to work very hard at both the 'social host' and the 'meeting chairperson' roles. As social host she/he has to issue warm invitations to people; send encouraging private messages to people complimenting them or at least commenting on their entries, or suggesting what they may be uniquely qualified to contribute. As meeting chairperson, she/he must prepare an enticing-sounding initial agenda; frequently summarize or clarify what has been going on; try to express the emerging consensus or call for a formal vote; sense and announce when it is time to move on to a new topic. Without this kind of active moderator role, a conference is not apt to get off the ground. (*The Network Nation,* MIT Press)

These are certainly important moderating functions, but perhaps the most important of all is missing. The moderator's first and most basic task is to construct the social reality of the electronic meeting room by choosing a "communication model" for the group. The basic human relationships of communication differ in characteristic ways from one communication model to another, for example, in meetings, courses, informal conversations, parties, doctor's visits, and so on. As soon as we enter a room, we orient ourselves more or less consciously in function of tacit cues we notice in the context of the communication process we are about to join. These contextual cues establish a shared communication model from which flows norms, roles and expectations. Since no tacit signs visible in the environment can establish a communication model for participants in on-line discussions, moderators typically must make an explicit choice

for the group they lead, reducing the strangeness of the medium by defining a familiar context with a familiar system of roles and rules imitated from everyday life.

This contextualizing function has the unusual property of proceeding largely through the use of "performative utterances." These are statements which bring about the very reality they describe. An example would be the principal's statement to the assembled students to the effect that "school is now open for the new term." Such an utterance effectively "opens" the school, and so is called a "performative."

In most face-to-face interaction, performatives play a minor role because so much tacit contextualizing information is available to establish the communication model. In online discussion forums, on the contrary, explicit contextualization is required to define the communication model that will govern interactions. Unless someone opens the conference by saying "This is a meeting," "This is a class," or "This is a support group," the participants have no way of being sure what kinds of contributions are relevant and appropriate to the essentially imaginary "situation" in which they find themselves. The moderator's contextualizing functions are all-important in relieving some of the anxiety participants experience in a communication setting that is undefined by tacit cues.

Once a communication model has been chosen, the moderator must play the specific leadership role implied in that model, such as chairperson, host, teacher, facilitator, entertainer, and so on. In part, this role will consist in monitoring conformity with the communication model and reassuring participants that their contributions to the discussion really fit that model. Thus contextualization and monitoring are two basic moderating functions.

In an educational context, these moderating functions are combined with the pedagogical responsibilities of the teacher. The teacher defines the communication model and makes the basic procedural decisions that enable the group to form with some confidence that it has a common mission. The social duties of the moderator are not entirely separate from the communication of educational content. On the contrary, it is in the course of performing the one that the other is best performed. For example, setting an agenda for the discussion can also be an opportunity to introduce basic concepts in the field of study; granting students explicit recognition for their contributions can often be combined with substantive comments on those contributions; raising topics and summarizing discussions both keep the conversation flowing (a social function) and communicate ideas (a pedagogical function.)

More often than not, when forums fail it is because the person in charge is unable to overcome the initial difficulty of transposing leadership skills acquired in face-to-face settings to the on-line setting. The usual way in which we learn to play dominant roles is through our experience in dominated roles. Thus the ability to chair a meeting is widespread among people who have attended meetings; and the ability to teach is readily cultivated by many who have been taught. It is in the course of these experiences that participants acquire an understanding of the implicit codes on the basis of which a specific type of group communicates. But since relatively few people have participated in online forums, it is often difficult to find an experienced leader who knows the on-line equivalents of the codes operative in face-to-face groups. Furthermore, the codes of on-line activity are still very much in formation and to some extent each forum

contributes to inventing them. These are transitional problems, but for the moment they are very real and that those responsible for moderating should make an effort to learn how from others with more experience. Much of what I report here is the sort of lore available in that way.

Opening Discussions

Even experienced moderators are not always sure how to begin an online discussion. They are staring at a computer screen and not at attentive faces. It is sometimes hard to know when the discussion has actually begun since the participants read the announcement opening the discussion at different times. The moderator cannot expect acknowledgment from the participants in a synchronized fashion as occurs in face-to-face meetings. They sometimes deal with this problem by issuing a request for an initial communicative act on the part of the participants to serve as the functional equivalent of "coming to attention" as the conference begins. For example, participants are sometimes asked to write a simple, brief opening comment about themselves.

Discussion flows more smoothly where topic raisers are offered on a regular basis. Topic raisers state a problem and provide the conceptual means or background to understanding it so as to provoke response. The degree to which a topic raiser must be planned and elaborated to be effective will depend very much on the type of discussion involved.

In an educational context, one of the most effective types of topic raiser resembles a miniature essay. Essays offer an example, an "occasion" that has been selected because it is particularly rich in implications. The occasion serves as a point of entry into the theme of the conference. Participants are encouraged to comment on it and to draw their own conclusions about it. The moderator too enlarges on the occasion, offering various interpretations of its meaning. Thematic unity and interaction are reconciled in the essay comment by the fact that a single concrete instance, the occasion, is used to discuss a general theme.

The essay comment invites many-faceted and open-ended discussion because the occasion on which it is based can be approached from as many different angles as there are participants. Each participant can contribute a comment modeled on the topic raiser and serving as another occasion for discussion. This approach suits educational purposes very well. While a linear narrative or expository logic is interrupted by the participants' comments, and therefore silences them, the fragmentary form of the essay is enhanced by interactive uses of the medium.

Setting the Norms

Since there are few shared expectations among participants, moderators are often expected to open the conference with comments that establish the conference norms and agenda. Clear rules are not experienced as oppressive by participants but on the contrary help to relieve communication anxiety and enable participation. Such things as the appropriate length of comments can be stated explicitly and the moderator can encourage participants to relax about their writing, at least to the extent of not wasting a lot of time on formatting and spell checking.

Most participants in online discussions draw on their previous experience of face-to-face classes

and meetings to make sense of virtual ones. The moderator can rely on some aspects of this experience as a resource to establish the communication model. But there will also be aspects that obstruct effective performance. For example, many participants have had long practice sitting silently in classes and meetings. This attitude must be overcome in the online forum where success depends on interaction. The moderator can frame participants' expectations by offering a clear statement of how often they are expected to contribute. Otherwise, they may assume that all they have to do is sign on and read. The moderator must reverse the expectations shaped by lecture courses and meetings dominated by a single voice so that participants become resources for each other.

Another type of norm concerns "where" items should be placed online. The "social architecture" of an online discussion refers to the subdivision of the group's discussions among several related forums that serve as virtual conference rooms to accomplish different sorts of activities. These subforums should have characteristic names and specific themes. Participants must have clear directions on how to get into these discussions and what is appropriate in each of them.

Setting the Agenda

In conferences with a mission of some sort, participants need a road map in the form of an agenda to help them to keep their bearings, know where they have been, where they are, and where they are going. The agenda should contain a brief outline of the process, mention the background materials of the discussion, and describe a more or less precise schedule indicating when participants will be expected to be ready to discuss these materials. An agenda setting message should also contain specific instructions regarding deadlines and other matters of timing. It may direct participants to address different aspects of the agenda in the corresponding subforums.

In designing an agenda, it is critical not to expect too much of inexperienced participants. This is an experience where technical and social skills are being learned at the same time as an academic subject or work related agenda. Thus, it is important to develop a supportive spirit supplemented where possible with technical assistance for new participants experiencing problems. The pacing of the conference should allow those with early problems to catch up. This may require considerable flexibility on the part of the moderator, more than is customary in a familiar face-to-face environment.

Referring

Most face-to-face courses and meetings rely on contextualizing materials such as textbooks or documentation. This is true of online classes and meetings as well with certain differences. It is possible to very efficiently broaden the context of discussion with hyperlinks to relevant information on the Internet. Textbook or other reading materials are also used routinely as in a face-to-face setting.

Recognition

Participants need frequent reassurance that their performance conforms to the norms of the

group. This cannot be delivered tacitly online and so must take the form of explicit written recognition of their contributions. There may also be occasions when participants need explanations or answers to questions. In such cases the act of recognizing the participants is contained in the very response to their intervention.

Some unexpected problems with recognition can arise in online forums. Occasionally the moderator and/or participants will feel ignored or even snubbed by the group without any real evidence of ill will. The unpredictability of responses often gives rise to the question, "Is anyone out there reading me?" Participants, including the moderator, may feel hostility when there is no response to an eloquent comment. This is particularly true of students. When they do not receive direct feedback they may feel neglected and experience self doubts. Discouraged, they may withdraw.

The moderator's frustration is often directed at the group as a whole. When participants appear too slow to communicate, it is tempting, but ill advised, to send a text expressing anger or ridicule. The moderator may use humor to soften the criticism, but this may make things worse. Humor is very difficult to express in this medium without danger of being misunderstood. What is the solution? Withdrawal is not an option for the moderator, unless he or she is willing to see the group fail in its mission. If a moderator is upset he or she should take advantage of the asynchronicity of the medium to reflect, to gain perspective on the problem, and to exercise emotional control.

Participant alienation can usually be prevented by making sure no comment goes without a response. If no one else seems interested, the moderator can intervene. Even the briefest mention of a comment will reassure its author. Recognition can also occur in the form of a private message, although public acknowledgment in the forum is more likely to have an impact on the participants' willingness to comment again.

Prompting

The moderator will often want to request specific actions from individual participants or from the group as a whole. Many standard pedagogical activities fall under this heading. Asking a question about the material is a form of prompting. Asking one person to comment on another's ideas belongs under this heading as well. Prompting also has more specifically social roles to play.

Once norms have been laid down, the moderator is responsible for enforcing them. This may require diplomacy and firmness. For example, it is important to gently insist on civility. In the rare case when a participant becomes truly troublesome the moderator can delete his or her comments, or, in a more severe action remove the participant from the forum. More complicated is the case of the overly verbose participant. In an online discussion verbosity does not hog the floor, but it is annoying. Sometimes a gentle reminder about brevity will suffice to obtain the normative behaviour.

Another type of prompting involves helping those who fall behind to get back into the discussion. Some online discussion programs offer a way for the moderator to keep track of a

participant's progress. It is important to insure that no one falls too far behind in reading comments. This can quickly become discouraging to participants who feel that they will never catch up. When the moderator notices that a participant has a problem keeping up, it is appropriate to send an email asking what is wrong. In this manner special assistance can be provided outside the conference, avoiding potential embarrassment.

Assessing

Assessing consists in any formal and usually scheduled activity aimed at insuring that individual participants are in fact fulfilling the substantive purpose of the online forum. In educational contexts, this usually takes the form of testing. In project meetings it can be carried out through reporting sessions in which participants are responsible for sharing their progress with the group.

Meta-Commenting

Moderators play an important role in initiating and sustaining meta- communication, i.e. , communication about communication. Meta-communication is particularly important as a means for re-establishing a threatened communication link by calling attention to problems in the communication process. Most meta-communication in face-to-face interaction is tacit although occasionally we engage in explicit meta-communication, as for example, when we ask our interlocutor to speak up or to come to the point. However, tacit signs, cues we give with our bodies and tone of voice, are so effective that we can often carry on quite complex conversations without ever employing explicit meta-communication. Not only can we get along most of the time without making our meta-messages explicit, it is often embarrassing to do so.

But the only tacit sign that we can transmit on a computer network is our silence, a message that is both brutal and ambiguous, far more so than the subtle uses of tone of voice, expression and gesture on which we normally rely for tacit meta-communication. The solution to this dilemma is explicit meta-communication. Whenever problems arise, participants must overcome their inhibitions and send comments that call for further explanation of unclear remarks, call attention to information overload, request clarification of emotional tone and intent, suggest changes in the rules of the forum, and so on. It is important that participants have a forum for this purpose alongside the main forum. This is why groups commonly have a separate meta-conference, sometimes called a café conference, which concerns itself with personal and process issues.

Weaving Comments

In addition to the various kinds of opening comments and topic raisers moderators must write, there is one other unique type of message for which they are principally responsible. These are summary or "weaving" comments that define regular phases of the discussion and sum up what has been accomplished. The weaving comment grasps in one text the pattern found in a number of previous comments. To write weaving comments, it is necessary to go over the discussion archive carefully, refreshing the memory of earlier discussions, clarifying confused expressions, identifying the themes, making connections, "indexing" the material. An artful weaving comment accomplishes several important functions: it rewards numerous participants at the same time by putting their names and ideas in print and "in" the

shared reality of the conference while at the same time advancing the agenda of the meeting or course.

To integrate many participant comments the writer of a weaving comment must find the common thread that they each contain. The weaving comment should do more than just summarize previous discussion in the language of that discussion. It should connect the comments to the themes of the forum and apply higher level concepts to the ideas and experiences expressed by the participants wherever possible. Weaving comments supply a unifying discourse, interpreting and integrating participants' contributions, and periodically "retotalizing" the unfolding discussion by drawing its various strands together in a temporary synthesis that can serve as a starting point for the next round of debate.

Weaving comments are essential to giving on-line groups a sense of accomplishment and direction. They supply the group with a code for framing its own past and advancing into its future. They thereby establish a common boundary, shared by the whole group, between past, present and future.

Delegating

The moderating role consists of functions that can be delegated to students from time to time. Just as participants can be asked to bring substantive materials to the forum for discussion, so they can be assigned to write weaving comments or introduce topic raisers. In an educational context, these are challenging exercises which can help students to understand the flow of the conversation, the ideas of their peers, and the content of the course. Subforums can be created around participants' responsibilities, and the task of moderating a discussion of his or her own work delegated to the participant.

III. Conclusion

Online discussion makes possible the effective electronic mediation of education for the first time, but on condition that its peculiarities are understood and compensations found for the losses due to narrow bandwidth communication. Moderating is the single most important such compensation. Online groups need more or less skillful and forceful leadership to succeed.

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Summary of Moderating Functions

Contextualizing functions
1. *Opening Discussions*. The moderator must provide an opening comment that states the theme of the discussion and establishes a communication model. The moderator may periodically contribute "topic raisers" or "prompts" that open further discussions within the framework of the forum's general theme. 2. *Setting the norms*. The moderator suggests rules of procedure for the discussion. Some norms are modeled by the form and style of the moderator's opening comments. Others are explicitly formulated in comments that set the stage for the discussion. 3. *Setting the agenda*. The moderator manages the forum over time and selects a flow of themes and topics of discussion. The moderator generally shares part or all of the agenda with participants at the outset. 4. *Referring*. The conference may be contextualized by referring to materials available on the Internet, for example, by hyperlinking, or offline materials such as textbooks.

Monitoring functions
5. *Recognition*. The moderator refers explicitly to participants' comments to assure them that their contribution is valued and welcome, or to correct misapprehensions about the context of the discussion. 6. *Prompting*. The moderator addresses requests for comments to individuals or the group. Prompting includes asking questions and may formalized as assignments or tasks. It may be carried out by private messages or through public requests in the forum. 7. *Assessing*. Participant accomplishment may be assessed by tests, review sessions, or other formal procedures.

Meta functions
8. *Meta-commenting*. Meta-comments include remarks directed at such things as the context, norms or agenda of the forum; or at solving problems such as lack of clarity, irrelevance, and information overload. Meta-comments play an important role in maintaining the conditions of successful communication. 9. *Weaving*. The moderator summarizes the state of the discussion and finds threads of unity in the comments of participants. Weaving recognizes the authors of the comments it weaves together, and often implicitly prompts them to continue along lines that advance the conference agenda. 10. *Delegating*. Certain moderating functions such as weaving can be assigned to individual participants to perform for a shorter or longer period.