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II. Student Perceptions of CMC: Roles and Experiences*

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WHAT THE MEDIUM IS FOR THE USERS

It's kind of a mix. Some people get on there and they don't do a heck of a lot. They'll read the notefiles and their notes if they have any, and they'll check around and see what's happening and that's about it. But some people will get on there, and they'll write notes to everybody, and they'll talk [term talk] to everybody and all that. There is one group of people who just goes in there all the time. They are always in there, whenever they can be. I call them junkies because they just overdose on PLATO. It's sort of funny. They'll go in between periods when they only have 5 minutes—they'll get in there for 4 of those 5 minutes. Then they'll race off to their class. All their time they'll spend on PLATO. Helen, for example. She knows almost everybody from IMSA through PLATO. She knows all about them and everything. People she's never seen you know. In the general notes, if a junkie puts something in there, then everybody knows these people already through PLATO.

Paul, a freshman, Uni High

The CMC Community: A Close-Up

For some people, CMC (all three uses: notefiles, notes and term talk) was an extremely important part of their lives. Interestingly, even though PLATO was used for different activities, students consistently used the word "PLATO" to mean CMC. For some, at least, the dominant use of PLATO was communication. My observations matched student perceptions of the frequency and intensity of involvement by a core of relatively closed circle of participants in the notefiles. Usually, engaging in CMC was a solitary activity. When involved for

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extended periods of time, students could be seen at the far end of the lab, huddled in the farthest chair near the wall, legs up on the table, totally absorbed in the notes. Occasionally they could be heard laughing aloud to themselves in response to a humorous exchange. Even though in a public space, the user seemed to be enclosed in a private world.

To examine some of the roles and functions of CMC as perceived and experienced by students, attention will be switched now to individuals. Jackie, an 18-year-old senior, is a heavy user of CMC. On the average, Jackie spends 2.5–3 hours a day on CMC (both conferencing in notefiles and notes), but some days she spends as many as 4 hours. Jackie:

I use PLATO when I am in school and do not have class. Lunch, free periods, I have 5 minutes between classes, sometimes I go to check my notes. I stay after school. On weekends what I do is I go on Saturday afternoon to CERL, which is open 7 days, 24 hours a day), and sometimes I go on Sunday, but not so much. On Saturday, there are a couple of other PLATO junkies that I see that I know. I don’t have people there talk to me other than people I have known before. We sometimes work on PLATO for CS, but then it’s work, unless I finished all the programs I was supposed to do. Then I see who is around (on the PLATO system).

Jackie’s hobbies include “writing poetry, PLATO, knitting sweaters, and playing the violin.” She reads a lot, with special affinity to science fiction, fantasy, mystery books, historical novels and classics. She also writes short stories, but “none of them are really that good,” she says. Jackie is the editor of the school magazine, Unique, but is careful not to abuse her power. When the staff does not like her work (the poems are submitted anonymously), it does not get published.

Perceived Characteristics

**Quality Feedback in CMC.** In addition to participation in the Uni High notefiles—animate notes, Inanimate and Inставлен—Jackie participates in and contributates regularly to some general PLATO notefiles. The “poet” notefile (see Figure 1) is a special favorite. Jackie:

The base note is a poem, and then people comment on it. It’s not only a place to get your poem out there, but also where other people can comment on it, so you can figure out how you can change it. I know that when other people read my poems and they comment on it, I usually change it. Comments are typically on structure, or the way something makes you feel, whether the word choice is right, or whether there are too many cliches.

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1Information on students is based on extensive interviews and conversations with them, in three cases also with their parents. Names of participants have been changed for confidentiality.

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I asked if writing in the Poet notefile is different from the school magazine. Jackie:

It is different, because you get feedback. If you publish in Unique, you don’t get feedback, not so much at any rate. People will come up and say to you, “I like your poem,” but that’s it. The person isn’t necessarily another poet who knows what sort of feedback you’d like to get. In the notefiles you get more feedback because the people who read it are the people who write these thing themselves. So they really know what the other people want to know. In Uni High I get the same kind of feedback from two people whom I know, because I hand them the poems and ask them to give it to me. But with Unique it’s not so much asking other people to give you feedback, as to publish my poetry. It’s publication compared with work.

Jackie touches on two interrelated features: quality of feedback and the ambience of a special interest group. Not only is the feedback on CMC more extensive, but in the more serious topics, its content is usually highly reflective, thoughtful, and constructive. Belonging to special interest groups seemed to be an important experience for students, PLATO as well as non PLATO users.
Dorothy, an outgoing 15-year-old junior, had participated as an actress and an assistant director in three shows at school. She reflects about the valuable aspects her theatrical experience provided her with.

I like to be with my friends. It's nice to belong to something. At school, somebody plays basketball, somebody does this or that. It's nice to feel you do something different, not just go to school, go home, and sit. It makes you more unusual.

PLATO seemed to provide a similar kind of belonging. Users often referred to it when trying to explain the appeal that CMC had. Paul: "You know there is one common interest on PLATO already. If somebody is already on PLATO, then you know that they might possibly be interested in PLATO."

Thus, the mere fact that a person is on the system indicates a common interest: PLATO. That special interest becomes much stronger when it comes to the specific notefiles, whether poems, music, lunches, or gender-related issues. Typically, the notefiles served to enhance that feeling of belonging. The questionnaires showed that in general, the younger students—subfreshmen and freshmen—engaged in CMC more than older students. The extensive involvement, as well as the fact that almost all their interactions referred to school and class events, manifested a strong desire to establish a group cohesiveness. The subfreshmen class, a first year class in Uni High, had to establish their group sense in comparison to the other classes who were more cohesive.

The Computer as a Buffer: Allowing Time for Reflection

The knowledge that one's communication is going to be acknowledged and taken as thoughtfully as it is in poet is a big incentive to write. It also puts a responsibility on the author. Even though the poem is "in process" (rather than a finished product), Jackie polishes it as much as she can before sending it. Jackie:

I work on it before I put it on PLATO, because for me, I write something down, and then I see changes I want to make, and I don't feel quite comfortable putting something on until I know it has reached a stage it could be made public.

Most notefiles messages, however, are composed "on the screen." Jackie, like many other users says that "With regular notes, I just write it right there at the terminal." But, she adds, "You can think more of what you are going to say."

Do people take advantage of the fact that CMC is asynchronous? That they can edit the notes? Questionnaires revealed that editing is done only infrequently, most users take time for reflection, and sometimes after they finish, they decide to discard it. Dorothy describes herself as being impulsive, too impulsive at times. CMC allowed her second thoughts about the communication.

I think that PLATO is very good for me because I can stop and wait a second before I say something that might offend someone. Since I like to talk a lot I think that, in person, I'm more apt to blurt something out. People might take it the wrong way or not understand that. Once I remembered I was very angry at someone at school and I just sat down and wrote them the meanest note I could and then when I was done I decided that that wasn't exactly what I wanted to tell them, so I totally deleted it, and then just went and talked to them instead. [By writing the note] I kind of got to see what my thoughts were and I kind of realized that the way I was arguing with them or what I was thinking was kind of ridiculous.

In this case, writing released some of the feelings, and provided a perspective on the situation.

Another heavy user is Paul, a bright, gregarious 15-year-old freshman, who has an attention deficit disorder which causes him to be distractable and impulsive. He is accused of monopolizing conversations, impulsively saying things that are offensive, or "sounding silly." On CMC, these problems are much less apparent. Paul also claims that with CMC, there is less distraction caused by having to attend to the other person's physical presence.

It's easier to type things rather than just to say them, because you don't have to look at the person's face. It gives you a chance to think about what you have to say. And if you don't like what you wrote, you can erase it.

The computer's function as a buffer carries over beyond the physical to the psychological level. The fact that writers don't face their audience enables them to concentrate more on what they want to communicate, the content, and on themselves, rather than on the receiver's immediate reaction. Sometimes, users said, writing on CMC had a quality of almost writing to oneself. That quality of buffer operates on the sender's as well as on the receiver's end. Paul:

I know there would be a lot of things that I would write to somebody on PLATO that I wouldn't say to them, but I think some of the reason why it would be so is because if I write to them, they aren't going to be right there and responding like that. It just sort of has a barrier in between. It's just not quite as up front as saying it, because if I just said something to someone, they might take it differently than if I typed it, because then they wouldn't be actually seeing me say it. Meaning, it's from a computer. It's intermediary.

That intermediary quality produced feelings of safety. Users said time and again that it allowed them to be more daring, vulnerable, or confrontational in expressing their ideas and emotions than they would normally be in a face-to-face situation. Several notefiles (like Poet and Interpersonal notefiles—where people discussed personal problems seeking advice and help) had an anonymous option, where people could write without identifying their names or groups. That option was especially useful when it came to delicate topics. Users claim that it allowed them to ask things they wouldn't otherwise be able to ask, because nobody could identify them.
CMC as Enhancing Spontaneity. The fact that the writer does not interact directly with the addressee, and the lack of immediate, real-time response are important features for users. At the same time, users also emphasized spontaneity as facilitating writing and communication. When I ask Paul how CMC influences his interactions with others he says:

I think it would just be sort of more. It is a lot of spontaneous talk. Things just happen. I think there’s a lot more personality in PLATO than there would be if I were just talking to somebody, because you can just say things and people will sort of come up with something that they wouldn’t have come up with otherwise.

The unusual combination of spontaneity and buffer zone will be discussed later in this article. At times, the spontaneity that the physical and psychological distance of CMC promotes has negative aspects. Young adolescent men, especially, experiment with the use of strong language. Dorothy tells me about Dick, a sub-freshman, who occasionally writes her “all sort of nasty remarks on PLATO.” But “If he sees me in the hall, he just walks away.” “Many people,” she says, “don’t have the nerve to say things in people’s face.” Paul describes that phenomenon in general:

In some notefiles, you see people going around and they will slam on people— they make fun of people and cut people so low. It is a joke. [A sad joke he adds later on.] Everyone takes it that way. That person will come back and get the other guy back. We’ll make jokes back and forth. It does not happen that often when people are facing each other. Perhaps because people will see it on the screen and turn around to you and say ‘Hey, man’ and they might get mad and start a fight or whatever.

There are, however, ways to minimize the use of strong language on CMC. For one, it is forbidden and monitored. Paul:

You don’t write somebody hate notes forever, because they’ll get on there and they’ll talk to your supervisor and they’ll get your sign-on taken away or whatever.

Notefiles are Public and Permanent. According to Terry, a school alumnus and a graduate student at the University of Illinois, the relatively permanent and highly public nature of notefiles was another reason not to use strong language:

You are expected to keep your language fairly clean. In all other forms of communication, you sweat at someone specific, and once done, you don’t go around telling everyone else that you swore at so-and-so. Whereas the notefile response stays around for quite a while.

The public and permanent features of CMC bring out the wish to excel, to be at one’s best. Paul:

Many people try to write the cleverest remarks or the best joke. They will try to be the funniest. With events which are more serious they will try to be the most knowledgeable or show that they know what they are talking about.

Eliminating Static and Dynamic Cues: CMC for Equalizing Communication. A diminished effect of physical appearance was another factor in facilitating CMC interaction. Several students said that “It does not matter what you look like or how your body movements are.” In its negative manifestations, people used strong language where they would not do it face to face. Dick, for example, a rather young looking 12-year-old boy, wrote “nasty remarks” to the older Dorothy, remarks which he did not feel quite as secure to say in a face-to-face interaction. Usually though, people experienced in the lack of static and dynamic cues a positive and liberating attribute. Often, it had an impact on the participants in the interaction. Paul:

On PLATO, I might talk to people that I normally wouldn’t have talked to. When you are at school, you think ‘that person is a nerd. I’m not going to talk to them.’ On PLATO you don’t see the person, you don’t hear the person so you can’t judge what they are doing or whatever. You have to take a step back from the person and you know they are there but you don’t see the personality there. You are willing to accept somebody you might not otherwise accept.

Thus, the willingness to communicate with others is based on content rather than contextual factors (e.g., convincing voice, popularity, glamorous appearance, body language).

Comparison of CMC with Other Media

CMC versus Letters. Some of the CMC features that students mentioned (creating physical distance and serving as a buffer, allowing time for reflection, removing dynamic cues) are features of an old medium, letters. Initially, I hypothesized that there would be a strong correlation between the activities of conferencing and letter writing. I also assumed that engaging in the former would take time from the latter. On both assumptions (as in several others) I was proven wrong. All users claimed apologetically that they were bad letter writers. Jackie:

I am very bad about sitting down and writing letters to people. I always have been. I'll probably always be. Actually, I started to write more letters since I am on PLATO. That's because I met somebody on PLATO to whom I write letters. Writing letters, I don't know what it is, it just seems less immediate. You are writing a letter to somebody that takes three days to get and three days back to get a response. [voice trailing off]

Speed of delivery is one factor. Removing intermediate steps is another. These factors affect the content and tone of CMC. Dorothy
Just bothering to get the envelope, get to a mailbox. Somehow I have a hard time getting to a mailbox. It can take there for weeks and weeks. It’s quicker on PLATO I can just type five words and press return. That would be enough to respond to a note. I couldn’t send five words in a letter. Each time you put on a stamp, it would seem stupid if you just said “Hi.” It’s just too short. You should make it longer.

Paul elaborates on the different expectations that CMC and letters involve:

When you write on PLATO, within a few seconds it’s over there and people can read it then. The speed is one thing and another thing is it’s more informal and when you write a letter you sit down and you pull out a piece of paper and you write it down and you try to make sure it’s nice because you spent your time on it and you know they’re going to read it and they say “hey, they finally got down and wrote me a letter.” When you’re on Plato everybody is writing them and so to write a note on Plato isn’t quite as big deal as it is on the other, because it takes less time. Also because they tend to be shorter. Since you write more often then, it creates the need to write less.

Thus, the ease in which a message is sent affects not only the quantity but the etiquette: expectations regarding length, content, and formality. How about expectations for response? CMC users agreed that most people expect a response to a note the next time you sign on, unless the questions asked are not immediately answerable. In the latter case, says Terry: “A response stating that you are looking into the matter is advisable, to get them to know you are simply not ignoring the note.” The exception to that speedy response pattern was when students received notes from people they didn’t know (e.g., somebody from IMSA would initiate contact with them, by getting their name from a friend.) In that case, they were likely to be more cautious, get some information on that person, think about the “what” and “how” in a different way than they would usually.

Most of the expressive devices mentioned earlier, like poetic structuring of lines, pen names and emotive symbols were rarely if ever used in letters, even though there is nothing in the medium of letters to prevent it. Animation, quite popular in CMC, is technically impossible in letters. Animation ranged from elaborate moving messages to an individual way of signing one’s name. Paul:

I will sign my name, but I’ll write it so that it looks different. It won’t look like just typing the letters P-A-U-L. Because I will change it with a little bit of animation, so that it comes out differently. It looks like I’ve sort of signed it, and it comes out funny.

One can, of course, draw in letters, but the activity and the associations that go with it are completely different than the use of animation. Animation, creative and communicative, has, in CMC, the added function of establishing contact with others. While both animation and drawing involve creation of visual properties, animation makes use of a new technology. Here, creativity is not enough. One has to master certain, often complicated, rules and programs. In Paul’s case, animation served to bring him acknowledgement and recognition and enlarged his social circle. He told me of incidents when students in IMSA have seen his animation products and contacted him just because they liked the animation so much. The high visibility of animation made it into an effective attention getter.

**CMC versus Telephone.** Adolescents, in particular, are notorious for using the telephone as a communicative-social tool. Some of the positive features that students attributed to CMC (e.g., the diminished effects of body language and physical appearance) are also true for the telephone. I asked students to reflect on their uses and experiences in both media. Two users mentioned telephone cost as a barrier to a prolonged interaction. Getting beyond the technical level, users referred to the different audiences involved in each media, as well as to issues of etiquette concerning length of time and possible misinterpretations. Dorothy:

Telephone is different from PLATO. With PLATO it was not as embarrassing to talk with somebody that you don’t know. Most people I talk with over the phone are friends or relatives, or somebody that I know. Also, on PLATO it is usually shorter. Over the telephone I could talk with somebody for an hour but on PLATO after a while it gets sort of boring [laughs]. Sometimes it’s hard. You can’t really communicate emotions well over the computer. There is a limit to what words can say. I can’t use my voice to show what I mean. I know I can’t be sarcastic on PLATO. Sometimes somebody would think I am nasty while I am just kidding. When they read it, the words can go the wrong way. People can misinterpret what you mean through writing, but your voice can have lots of more meaning. 2

Thus, while all users said it’s easier to write on CMC, some commented that it was also a potential source of misunderstandings. Misunderstandings, due mostly to nuances of intonation, were more likely to occur when discussing emotional and intimate content, typically on phones. The differences between the public notefiles and the personal note files and their use by gender are discussed elsewhere (Bresler, 1989).

Another difference from telephone (and face to face interaction) was the permanence of CMC. Greg, a frequent user of CMC, said: “If you talk, it disappears. If you write, your opinions are forever registered.” Earlier on, we heard

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2Discussing misunderstandings on CMC, Terry said that

Sarcasm should be applied very heavily or not at all. It is near impossible to detect sarcasm from dots on the screen and someone out there will inevitably take offense at a note intended sarcastically otherwise.
Terry's comment about the permanence feature discouraging the use of strong language, and Dorothy's sharing her decision not to send a "mean" message.

Location was another difference between CMC and telephone. While telephone conversations (and letters) are usually conducted in private, interacting via CMC was done in a public place. Users coped with that by creating a private space within the public one. At the beginning of this article, we observed students' body language—huddled in chairs, laughing to themselves in response to a CMC message—which indicated that they isolated themselves from the geographical environment to concentrate on CMC.

Extending Social Circle. Many CMC users mentioned that CMC enlarged their social circle allowing them to "meet" new people. Even though CMC does not disclose much of user identity, the various Uni sign-ons are indicators of student status. Some PLATO users might have a slight bias against high school students as equal participants. When it comes to communication with other schools, though, Uni students are equal. IMSA was the main communication site. Daly College was another. As a result of CMC, there was a great amount of contact and friendships evolved through the notefiles. Students visited each other and communicated with each other, mostly through PLATO, but also face-to-face, and by telephone and letters. The latter were always in CMC. When IMSA students moved from there to other places, communication usually stopped even though the other modes of communication were available.

A subcategory of that was the CMC role as a facilitator of intimate relationships. There are quite a few couples who met on PLATO, corresponded for a while, then started to date. Jackie, who met her IMSA boyfriend on PLATO, is one example. CMC users tell me that some men look to see who is on the system, then "page" (call) the sign-ons that have girls' names, in order to talk with them, trying to establish relationships and to find a girlfriend. It can also get to be too much. Jackie:

Once somebody at CERL asked me to go out with him. I have never even met the guy before! (uninhibited voice) When I talk to several people on talkomatic, and I don't always know who they are, sometimes I have to be very careful. Some of the guys on PLATO don't have girlfriends and they are looking for girlfriends. And they go about it in a rather crude manner. So, if they say anything I don't like, I tell them straight out!

Cohesive as the PLATO community is, there are limits.

Unique Features: Novelty and Freedom from Conventions. Compared to other media, CMC seems to combine qualities from different media (e.g., the ability to reflect as in letters, the spontaneity of face-to-face conversations) to form a new communication tool. It also has its unique characteristics. The obvious one is its novelty. Especially for novices, writing a note on PLATO had the effect of a gimmick. Paul:

It's a different thing than what the normal thing is. Normally, when you want to tell somebody something, you either write it or you tell them. A computer is sort of like a toy almost. It's something you can do.

A long lasting (after the initial novelty wore off) feature of CMC is the freedom associated with it, the relative lack of social expectations, conventions, and rules. Paul first touched on the lack of social expectations and its motivating power when he compared CMC with writing letters:

It's [CMC] not something you have to say. 'True.' I'll set aside time and I'll write my letter. 'Instead, it's just something like 'hey, why don't I go write a letter.' It differs because when you're writing a letter on PLATO it's more just because you want to write it and not because it is something you should do, like a thank you note or whatever.

Emphasizing freedom and the ability to create one's own rules, Paul made the analogy of writing a story compared with an essay:

When you have an essay you play by the rules. You have to have your introduction, paragraph, thesis statement, body and conclusion. You can try and do it a little bit differently, but it's basically the same thing. [In contrast] When you write a story you can start it out however you want, and you can say, "Once upon a time." or you can say, "It was a dark and stormy night." You're unlimited and you're free, and it's that sort of thing with PLATO. You get on there and you can do whatever you want. People on PLATO as a tendency don't act normally because they have that freedom and they don't in the normal world. At PLATO it does not matter. You can get away with it because everybody's getting away with it. And everybody wants to be able to do that so they let you get away with it so they can get away with it too.

The flexibility of rules allowed users to experiment with different roles, tone, and personality styles. Paul:

You create what happens. There are just no rules on PLATO. You can make notes and you're reminded. You can get on there and you can act like whoever you want. You can talk to people who have never seen you and don't know you or supposedly don't know you and you can act like you're some different personality than who you really are and there are a lot of people like that. There is a freedom of speech. You can go on there and you can be a little bit different every time you get on there. You can act like you're somebody else, even though you know they know who you are and it's a game. It's fun because you can say and act in different styles of speech patterns, and later do it completely different. You can give talk, do rapping. You can use split personality even signing names. People can sign their names in different ways. I've used something called Su James, which is using my middle name and I talk in the Shakespearean type. People just laugh because they know who it is (because it says who I am up there), but it's just so funny. It's me, but there is a twist on it. If you get on the phone and talk funny then they think
The people who use communication a lot can sort of become addicted to it. And that was the reason I stopped. I was worried I would get addicted to it. I did not want to become like that. Some of the people I met at PLATO I did not really like, and I felt they were my only friends. I was getting out of touch with other friends here, spending time with people I couldn't even see. It's kind of hard to get along with the rest of the world that way. My mother, too, was sort of annoyed. She thought I was doing PLATO [CMC] too much.

Thus, the very same qualities that made communication on CMC so attractive for some users—being able to concentrate on one's communication, the creation of a world of its own—made CMC addictive and isolating.

School Culture, Classes and Pranks. An anecdotal use of CMC in school's culture was as a means for pranks. Subfreshmen, by their voice status in the school and in PLATO, are a particularly attractive target. Paul tells me about an author who played a terrible trick on the subfreshmen. He told them: 'You can write to some of the stars on this one system and you can write to California and just give them the first letter of your last name.' So all the subfreshmen were writing to all the stars, you know, like to Robert Redford and saying: 'Hi, Robert, how are you doing?' They were terribly frustrated when the notes came back...

Although CMC was not integrated into the formal curriculum, it seemed to be well integrated by students into the school culture. Ranging from anecdotal to serious use, covering a variety of subject matters and topics, it affected communication patterns among the students as well as the profile of participants.

DISCUSSION

CMC is a new medium of communication in which students express themselves and interact in a different way than they do via other communication channels. CMC's features of speediness and control (e.g., in making changes of content or deleting a message altogether), combined with its flexibility of etiquette and ease-of-use (e.g., bypassing the envelope-stamp-mailbox procedure of letters), makes the activity of writing—an initial base-note as well as the responses—extremely gratifying. The extensive feedback on one's messages, in turn, renders writing even more gratifying. There starts a positive, self-reinforcing circle.

The paradoxical combination of spontaneity and buffer zone can be conceptualized in the kairos/chronos distinction of thinking about time. Erickson (1981) reintroduced from Greek the distinction between an experienced time—kairos—and a mechanically measurable time—chronos. In kairos time, an event occurs when it is appropriate for it to occur. Thus, kairos seems more related to the order of events. In contrast, chronos time emphasizes the independence of time from people's perceptions of it, as well as the independence of events from each other.

This study reveals the importance of the kairos features in students' experiences of CMC. People write when it feels appropriate to respond. Often it is when they receive the communication, but it can also be some time later, after they have had time to digest it. Scollon (1983) who introduced the kairos/chronos distinction in the context of a theoretical discussion of CMC, regards speed in CMC as almost incidental. In this study, however, students highlighted the role of speed in communicating the message and receiving feedback.

Face-to-face interaction would appear, in many respects, to be a kairos experience. In a classroom environment, however, when a teacher has to regulate a whole class, usually 30-some diverse students, it is difficult to foster a spontaneous environment. Even when it is possible, it may create a strong bias against some groups of students. Immediate response favors quick, confident thinkers (or prevents them from speaking when the teacher feels that they dominate the lesson). Some, however, need more time to digest the communication, to reflect upon it. While in most situations it is impossible to have both—spontaneity and time for reflection seem almost contradictory—CMC facilitates both styles. Furthermore, face-to-face interaction carries other social factors, such as dynamic and static cues, which affect who speaks and how others perceive the content. CMC's attribute of diminishing these social and dynamic cues, as discussed earlier, renders it a "democratizing" instrument where the impulsive, the bright and the slower students, all have their chance of expressing themselves and being listened to. Thus, CMC seems to provide a potentially promising tool for group interaction.

SOME EDUCATIONAL IMPLICATIONS

Some of the basic beliefs I subscribe to in education (beliefs which predate Dewey and even Socrates) involve the crucial role of an involved learning, where students digest the material and adapt it to their own frameworks and experiences. Equally important is the practice of expressing ideas and listening to others. Thinking, articulating, and communicating are intertwined. Reflection is intensified by the knowledge that others will listen and respond to it. The process of articulating ideas is not sequential, coming after ideas have been formulated, but dynamically shapes and changes these ideas. The engagement in a lively dialogue rather than in fixed statements produces a higher level of thinking (falling under synthesis and application, rather than memorization and knowledge categories). Peer communication invites students to engage in a lively dialogue and critical thinking, because the role of the teacher becomes that of a facilitator rather than the ultimate source of right and wrong. 1 The implicit model of right and wrong itself is transformed. The goal becomes a deeper understand-
ing through the presentation of the complexity of views and aspects of an issue. This study suggests that CMC goes a long way towards achieving these goals.

A number of researchers have pointed out the problems of the “right–wrong,” “top-bottom” model in the classroom. Davis (1984), for example, cautions against putting too much faith in “telling” students knowledge in the form of simple statements to achieve true understanding. Slavin (1982) stresses the importance of collaborative learning and points out that school is one of the few environments in society where cooperation is typically discouraged. Easley (1984a, 1984b) addresses the importance of communication in classrooms: having children speak clearly and with confidence, and, having them learn to listen to each other and listen critically, not just for memorization. He questions some of the traditional key assumptions about teaching: teachers’ role as presenters of clear explanations and the leaders of class discussions, the effectiveness of knowledge transmission to the students, students’ primary focus on content and only later on expression. Easley believes that children should strive first to develop expression in some form by working in heterogeneous groups, trying to convince each other by clear speaking and writing. (They should also learn to say in advance what kind of contribution to the dialogue they are trying to make, such as making an objection, offering a supporting view, or offering an alternative). Since there is a good fit between what he advocates and the properties of CMC, we can expect that it will result in effective communication. In his research, Easley (1983) found that the use of peer group dialogues helped children recognize alternative schemes and deal with them. Once they have such skills, their learning from their peers and others increases rapidly, and the conflicts between their own framework and other frameworks, which otherwise would remain hidden, can surface.

But listening to many students, encouraging communication, and letting people collaborate is not an easy thing to do. Easley and Zwoyer (1975) observed that, unlike intimate conversations, teachers, when faced with 20 or more students, tend to lose their passion for the subject matter and often focus their attention on their own presentation rather than on their audience. Sometimes they focus their attention on one student, assuming that his or her thoughts and understanding represent a true picture for all students in the room. Since interaction via CMC diminishes discipline concerns and removes the burden of the primary focus on the teacher, it can help achieve that goal.

The weakness of the traditional classroom model, in which the “conduit” metaphor (discussed in Part I) is prevalent, is manifested in the much-lamented student lack of motivation and interest in classrooms. CMC, with its highly interactive environment and kairos features, promotes “berry picking,” as evidenced by student involvement, writing from individual perspectives, framing ideas in their own words, and adopting them to their realities. CMC at Uni High on the one hand, and traditional classroom on the other hand, represent two extremes: the first of entirely student-dominated discussion, the second of an entirely teacher-dominated classroom. One can envision a multitude of intermediate situations and models between the “conduit” and “berry-picking” models. One such model, which I wish to propose, is where classroom practice is supplemented by CMC, where the teacher provides initial topics for discussion, and creates a supportive, listening environment but allows the students to present and discuss ideas, reveal opposing frameworks, and construe meanings in a relatively authority-free environment. Because of its inherent features, CMC can facilitate that model, helping the teacher to get off the beaten track of lecturing and maintaining discipline.

The establishment of CMC in classrooms provides a new tool. A change in classroom practices involves much more than that. It involves change in instructional activities and pedagogical beliefs. The established dynamics and rules of the classroom are questioned in order to explore a new mode. Many teachers operate on the basis of the sender–receiver conduit model of communication. That model fits with established classroom constraints, schemas, and techniques. Trying to implement a new model is not an easy task. It challenges teachers to embrace a belief in the usefulness of student interaction and in the importance of communication.

REFERENCES


Easley, Jack (1984b, November). Further thoughts on teaching by listening. Lecture presented at the University of Hawaii, Hilo.


