Children Online:
Constructing Community Standards

Michele Evard
Epistemology & Learning Group
The MIT Media Lab
Cambridge, Massachusetts, USA
mevard@media.mit.edu

Introduction

One week into her design of an educational video game, ten-year-old Renee asked the following question:

> How do you make words appear on the screen when you reach a certain point of the screen or you reach a shape that is on the screen?

This query itself is unsurprising, but the fact that this quiet girl addressed it to the combined populations of two classrooms, rather than to a teacher or one of her friends, is unusual. In the environment described in this paper, however, it was welcome and became a frequent occurrence. Seven fifth-graders answered this question; three from Renee's class and four from the other. Of these children, four were male and three were female; three were African-American, one was Hispanic, and three were Caucasian. Given that these two classes rarely had contact about academic matters, and that even among themselves, these boys and girls most often asked questions of friends of their own gender, these responses were somewhat surprising. After receiving eight helpful messages, Renee replied to her own question, saying:

> Stop answering this question. #1, I have too many answers, and #2, I have solved my problem and am using something else. Thank-you very much.

Two children replied to this message with additional information.

Children can learn through both asking and answering authentic questions—questions which are personally important to them. When asking a question, a child needs to articulate what he or she wants to learn or obtain. If the response is not what was desired, the child has the opportunity to observe a different perspective on the question. The child may also realize that a single statement of a question may provoke different reactions in different people. Similarly, answering a question requires articulation of thoughts; in addition, it implies some interpretation of the question and what kind of answer was desired. Although these might not be conscious processes or ones in which people choose to engage, they are possible in a question/answer scenario, particularly when the participants really want to communicate.

To begin to study these issues, I provided a computer-based environment and activities in which children could communicate easily and feedback was valued. The software I helped design and then used is called NewsMaker; it is a computer-based newsgroup environment similar to Usenet written by Mark Kortekaas [1994]. During my pilot project, I introduced NewsMaker to three classrooms of fifth-grade and two of fourth-graders.

The students were all given the ability to use NewsMaker to read, write, and modify articles, but were not assigned to use it for any particular purpose. Although children posted many kinds of messages to newsgroups they created, most did not use the system to hold conversations. The ones who did were those discussing particular projects. In particular, one group of children who were creating educational video games had access to NewsMaker whenever they were at the computers, and used it extensively.

In this paper, I describe the game designers' development of community standards for messages. They discussed the appropriateness of certain types of questions, the quality of the messages, and rude behavior online. Even this preliminary study demonstrates what can happen when children are given the ability to exchange online messages about topics which are important to them.

A Context for Communication

My primary focus is how the children learn through communication with other people irrespective of the particular topic, but the nature of the topic, as well as the environment of the participants, strongly impact the development of communication. In this case, the fifth-grade students' discussions were about one particular project on educational video game design in a constructionist environment.

Constructionism is based on the idea that people learn particularly well when making things—especially things which can be shared with others. A strong emphasis is placed on created objects being external to their creator, since things "in the world" can be "shown, discussed, examined, probed, and admired" [Papert 1993]. Sharing a creation can result not only in its refinement, but also in the learner obtaining a deeper understanding of other people's perspectives on the object and on the ideas to which it is related.

Yasmin Kafai [1995] developed an environment in which, over the course of several months, children design and implement educational video games for younger students. During the project, each child maintains a private notebook of ideas and plans, but these are not generally shared. The designers do discuss their projects with the others in their class, and also have the younger children test their games and give them feedback. These demonstrations, and the discussions which surround them, are critical to the process of creating objects for others; they provide the designers with new perspectives on their games.

These discussions have generally been ephemeral; the children rarely have even taken notes on what their classmates or play-testers said. Although the verbal articulation of ideas about their projects is an important step, it is important to think not only about what is said, but how it is said. When reading the text displayed after a game player did something wrong, many of the designers recognized the effects of the words they had chosen. Their verbal questions or explanations, on the other hand, have not been recorded in any way that would allow them to examine their own words.

During this pilot project, the game designers were given unlimited access to NewsMaker whenever they were at the computers. Children from another fifth-grade class acted as consultants to the designers, answering online questions. These consultants had less frequent access to NewsMaker; generally they could use it during the last 10 minutes of their daily computer period.

The addition of a public communication space to the Game Design Project provided designers with the ability to not only share their questions and ideas with more students, but to reflect on their own words.

Appropriateness of Questions

Two types of questions were considered inappropriate by many of the students of this community: those which the questioner could or "should" have looked up without help, and those for which the NewsMaker technology was not suited. These limits to the children's communication were not formally dictated by any classroom rules, but were informally discussed (both in person and online) and agreed upon by the students.

The first in-class discussion of questions was the result of the following message by a designer named Jorge:

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Subject: How  many mammals live in the ocean?
--Jorge X
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A few minutes after this message appeared, a designer named Emilie came up to me and asked "how many mammals are there in the ocean?" When I asked her if she meant how many kinds or how many of each kind, she did not seem to know. We talked about it for a while, then she went and looked up some things in one of the reference books. She spent at least five minutes of the forty minutes of computer time trying to answer this question, and finally returned to her computer to send this reply:

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I DON"T KNOW THE ANSWER  BUT THERE ARE 20 SPEICIES OF WHALES+DOLPHINS
EMILIE
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Another designer, Jaques, also spent some of his time searching for the answer to Jorge's question. He found a poster in the classroom that listed several types of seals, whales, and dolphins, and typed

them all into NewsMaker. He was quite persistent, and went back the next day to finish typing in the list. Jaques and Emilie could have simply spoken to Jorge, giving him the information they had found, but both of them chose to share what they learned with the entire community.

These two students did not seem to take exception to Jorge's question, but others certainly did. One of the consultants, Isabel, posted this response:

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Dear Jorge,
     Why don't you go and see if you can look up your question somewhere in a
book or ask someone else okay.
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It is unclear if Isabel thought Jorge should not have asked on NewsMaker since she added that he could ask "someone else," but her tone seemed to imply that he should have known to try looking it up in a book. Most of those who considered the question inappropriate were students in the design class, who stated in a classroom discussion that ocean questions were things that they should search out answers to on their own. The designers' teacher posted two messages during the entire project; one was her response to Jorge, in which she said he was responsible for doing his own research.

The distinction between the science content of their games and the questions related to Logo programming was the first line drawn by the students, many of whom mentioned the question before the teacher posted her message.

Several students went beyond the ocean/programming distinction to say that there were some kinds of questions, such as those about the appearance of an image, for which the NewsMaker environment was not conducive. This topic went beyond mention in one classroom discussion to be incorporated in the children's discussions, and also in later posts. In his post entitled "False Answers" as well as in conversation, Albert stated that questions such as those about graphic design "don't make sense" in plain text.

There were some answers which children chose not to deliver online, particularly when the questioner was asking for examples of programming code. Some students included short code segments in their messages to demonstrate certain techniques; since there was no connection between Logo and NewsMaker, however, the sender needed to retype the code. To avoid this problem, several of the students answered a question with a proposed meeting time, generally at lunch or on the bus. For example, a consultant named Cheryl replied to one of Emilie's questions with this message:

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I can't write out the whole procedure right here because it's too long, but
maybe I can print it out and give it to you on the bus.
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It was important for the children to be able to recognize the limits of the technology that they were using, and to work out other means of communication when necessary.

Through exchanges such as these, the quality of questions became part of the discourse in the game designers' classroom. Several times a student mentioned to me or to another student that some of the answers received were not helpful because the question was not worded clearly, or because the question simply was not appropriate in the NewsMaker context. These children began to be aware of other students' perspective of their messages, and recognized that they were responsible for communicating clearly to their audience. They also developed more of a sense of what was helpful to ask about in the given context.

Clarity of Questions and Answers

After the children had some experience online, more of their messages included some kind of evaluative content. Many times students used phrases such as "it depends" or "I don't understand" and then explained the ambiguity they saw. For example, a consultant named Rachel replied to Jorge's mammal question by saying:

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Dear Jorge,
It depends on if you mean how many kinds or how many of each kind.
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Sometimes misunderstandings or ambiguities were identified when the initial message (generally a question) was read, and then resulted in a conversation between two or more students. For example, when Albert wrote:

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Does anyone know how to reverse a shape: make the black part white, and the
white part black?
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Lisa replied simply "no," but Renee realized that there was an ambiguity in the question. Instead of answering one of the possible questions Albert meant, she responded by asking for clarification.

```
What do you mean?  Do you mean on the shapes page?  Or on the screen?
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After Albert replied "The shapes page", Renee suggested a solution:

```
Can't you just click space on all of the blocks in the square and then make
the picture by clicking again?  Then the black or background would be white
and the picture or the white would be black?
Renee
```

After this exchange, Renee and Albert talked in person about the problem.

There were also times when students who responded would not realize they had misunderstood the question they were answering, but the questioner would see that the answer was not what had been desired. In several of these cases, the designer who had asked the question stated that he or she had not explained the situation in enough detail. Many of the students who asked questions clarified their own words after reading the responses. For example, when Renee asked:

```
How do you make one shape fallow another?  One shape moving by the arrow or
letter keys, the other moving by computer, following the other shape?
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Tina, who was new to programming, tried to help by replying:

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WELL YOU COULD USE YOUR FOUR TURTLES,THEN SEE WHAT HAPPENS.
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Renee did not seem to take offense at this vague response, but replied by restating her question more clearly:

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I could use four turtles, but that doesn't answer my question.  How do you
make a shape follow another shape that a person is controlling?  How do you
make the shape that is following, follow by computer?
Renee
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During face-to-face conversations it seems very common for children of this age to assume that they are not at fault if someone does not understand their words. There is no need for them to clarify what they said; after all, they already explained it once, so the other person must just be stupid. Perhaps in their minds they explained it; and because they cannot review their verbal communication, all they have to go on is what they think they said.

In this on-line environment, however, children could go back and see what they had actually said. This happened many times during the project, and several children were surprised to see what they had really typed. Children said "oh, my question wasn't clear!" to others or just to themselves; another comment they made was "I should've explained that I'd already tried that!"

These exchanges demonstrate how the children learned to clarify their written messages for each other, as well as to identify misunderstandings. The quality of original questions also increased with the children's experience. Students who did not participate in evaluative or clarifying remarks did not disparage these exchanges; rather, a community sense that such interactions were helpful began to develop.

Rudeness Online: Duh!

Most of the time, the children were not rude in their messages; although there were some striking exceptions, none of the messages approached the nastiness which some people might expect. One exception was this reply, written by Carrie:

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RENEE I DON'T MEAN TO BE RUDE BUT YOU'RE ACTING DUMB AND YOU'RE NOT
THINKING!!!!!!!!  GO TO YOU'RE TIME LINE AND COPY YOU'RE PRECEDURE THAT DOES
THAT!!!!!!!!!

UN NAMED
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After repeatedly trying to delete her message, Carrie asked me for help, and said that the message was too rude. This was the strongest message any of the girls wrote; there were a few blunt ones, such as Emilie's "Renee, just go to your timeline!", but these were not considered rude by the children.

Messages with "Duh!" in them, however, were labeled rude by many children. For example, a consultant named Ken sent this message in response to a question Carrie had posted about shapes:

```
> How do you make a round circle using two shapes?
Make a semi-circle on one shape and another semi-circle on the other.
DUH!!!
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Don, another consultant, chimed in "Yeah!" Carrie replied by writing the only message from a girl that said "duh!" to someone:

```
Don I tried that and it made a skinny oval  DUH!!!
CARRIE
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Several designers considered these boys' messages rude; no one said that they thought Carrie's response was also rude. Although four of the boys sent these kinds of messages very early in the project, many of the others were generally helpful and non-offensive.

Emilie dealt with the "duh" responses to her questions in a different way. She posted this question initially:

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DOES ANYBODY KNOW HOW TO MAKE DIFFERENT MUSIC THAN TONE C ,TONE B,...
EMILIE B.
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Two of the male designers answered her the same day. Mark stated:

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Noooooooooooooooo!   Duh
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And Stephan wrote:

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Nope!! You can't. DDDDUUUUUUUHHHHHHHH!!!!!!!
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Emilie did not respond to their messages directly, but immediately put up a second question on the same topic:

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(STEPHAN + MARK DON'T ANSWER THIS)
DOES ANYBODY KNOW HOW TO MAKE MUSIC ON THE COMPUTER???????????
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Neither Stephan nor Mark responded to this query, although other children did assist Emilie.

One of the girls, a designer, felt strongly enough about rude messages that she decided to post the following message:

```
Subject: Rude!

I think that some of the answers that are given  are rude and impolite.
NewsMaker is not a place to talk about what happens during the day , it is a
place to ask questions and get answers. Some of the answer that we are
geting are rude and the people that write them should stop. People should
also stop answering question impolitely. I think that if someone asks a
question people should not answer the question if they have nothing to say.
They should also not end the question writing something like "Duh!" they
should answer it with something like "And that is how you do it.". So please
stop thank you.
                                                  Whitney
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Three girls responded to this post, agreeing with Whitney. The only boy to reply was Ken, who only typed lines of random characters. He had posted various derogatory comments in other groups, as well as nonsense such as this, but none of his remarks were ever answered, and those to whom they were addressed continued to participate. Although Ken was certainly not supportive of Whitney's message, he did not flame any of the girls involved, nor did he ever write "duh!" again. In addition, none of the children ever wrote "duh" or anything similar in their messages after Whitney's post [Evard 1996b].

None of the teachers involved with the project gave guidelines about rudeness, or talked with students about writing "duh!" to each other. The students came to their own conclusions about such messages, and used their own means to make it clear that rudeness was inappropriate.

Conclusion

Many issues were raised during this pilot study and need to be considered in more depth. In this paper I have introduced the children's development of community and personal standards for acceptable topics, responses to poor quality messages, and appropriate behavior. Further study is required to treat the subject in appropriate depth, including a comparison with other studies of in-classroom development of community standards, but even a preliminary report has demonstrated that these children began to develop standards over time. They took increased responsibility for their words, learned through and about their communication.

At the heart of constructionism is the theory that learning involves creating personal knowledge structures and that this is facilitated during construction of a public entity. The process is active, and self-directed. While engaged with an object of his or her own creation, a child may seek out new

information "for a recognizable personal purpose" [Papert 1980]. Sharing the object with others allows the child to talk about the design process in a very concrete manner.

The context of the children's communication was certainly critical to the success of the project. The fact that the game designers were each creating something which was personally important and which they would be able to share with others in the school meant that each one had a personal interest in seeing their communication succeed.

During the course of this preliminary project, the children's use of the online environment changed [Evard 1996a], and they demonstrated their interest in successful communication in many ways. Certainly each child had a reason to see his or her own messages understandable, and through clarifications and rewriting most were able to achieve some coherence. Many children displayed concerns beyond the individual level; not only did they try to answer questions for their peers, but they requested clarification when it was required. The messages and discussions about rudeness also demonstrate some concerns about their community as a whole rather than only themselves as individuals.

Posting messages in this shared environment helped the students to think about the effectiveness of their choices when composing questions, furthering their learning about their own communication. Their experiences demonstrate that without adult intervention or pre-determined rules for topics or behavior, children can create online community standards of their own and abide by them.

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