CLIME Meeting...from page 11

Dorothy Fitch (Terrapin Software) described a set of programs that Terrapin has developed that were inspired by the hands-on approach in *Mathematics Their Way* and *Mathematics: A Way of Thinking* a pair of early elementary mathematics curricular materials whose philosophy of education is very much aligned with that of Logo. These are two of several educational programs directed by the Center for Innovation in Education, Inc. in California. Dorothy noted that Terrapin made sure that the Logo activities offered benefits not possible away from the computer. (Note: These programs are available from Terrapin Software Inc., 400 Riverside Street, Portland, ME 04103 Tel: (207) 878-8200.)

Doug Clements (SUNY at Buffalo) shared some details about his latest project in progress and the new version of Logo called *GeoLogo* which he is helping to create. This development is part of an NSF supported project that is creating a K-6 mathematics curriculum from scratch. Doug and Michael Batista (Kent State) are doing the Geometry & Spatial Sense strand. The software still has a long way to go, but Doug hopes that many of the problems that Henri talked about that are present in older versions of Logo will be corrected here. Particularly important is designing Logo so that it makes mathematical problem solving easier, and does not bog down the individual in the detail of doing Logo. A constant question related to ease of use is what should be easy and what should be hard. Also important is maintaining a language component. Relating to this issue, Doug shared an anecdote about an incident at his school. A few years ago Doug asked the university's computer lab coordinator why Logo was no longer in the library. The coordinator said that he threw out Logo because the university had just purchased Dazzle Draw. "Why would you need Logo, once you have Dazzle Draw?" he asked. "And this was someone with a PhD! If students don't go through any cognitive processes, what's the point of doing it?" Doug asked.

The final presentation was given by **Dan Watt** (EDC, Cambridge), the author of several Logo books, who said that his talk would be lower than low tech; It would be "no tech". He was impressed by how using these new tools bring out the spirit of Logo. He shared with the group that he is involved with a "microworld" project initiated by IBM and does not use Logo. Yet, he still feels there is enormous value in the old "corny" Logo stuff. He described how he and his wife Molly worked with teachers doing research in their classes. They were working in the classic Logo mode. He emphasized the value of teachers focusing on articulating what is being learned by their students while they are working on Logo projects. This idea of teachers as researchers is the focus of a book he co-authored with Molly entitled *Logo Learning - Strategies for Assessing Content and Process* which is published by ISTE. Classic Logo has value, because it gets teachers and students to reflect on their learning process, to work in groups, and to share their projects and have them assessed in a community spirit. Dan closed by saying, "Isn't this vision of Logo really what the NCTM Standards are aspiring to? So it seems that we need to remind people in ways that are appropriate for each of us that Logo's vision is what we have for mathematics education."

Editor's note: Our next annual meeting will be this April in Indianapolis. We hope you can join us. If you are interested in helping with the planning, please let me know.

Rec Lab... from page 4

students to check the converse statement: if it is possible to have rectangles with the same perimeter and different areas, is it possible to have rectangles with the same area, but with different perimeters? If students seem to have trouble getting started on this, you might begin by asking how many different rectangles they can construct with an area of 12 square centimeters. When I was using this program with my fifth graders, I found that several of them had finished early (you'll need about 60 class minutes to get this far) and were looking for something more. Off the top of my head I asked them to find out how many

See Rec Lab...on next page