Tail of a Turtle: the Valiant Effort
by Glen Bull and Paula Cochran

In the beginning, there were turtles. Plexiglass hemispheres rolled across the floor, and delighted children of all ages as they drew elaborate designs with a pen in their belly. These floor turtles were the ancestors of modern screen turtles, triangles of light darting across the screen. Screen turtles soon left the laboratory, and can now be found in schools and homes everywhere. Their ancestors, the floor turtles, have been slower to evolve.

For primary and elementary children, a floor turtle may be more valuable than a printer. A floor turtle operates in the real world. When children play turtle, they can walk beside a real turtle. Combined with Tom Lough's NLX ABC's, the turtle can draw letters across a strip of paper to make a banner, for example.

A TURTLE, PRECISELY

Recently we received a Valiant floor turtle from Harvard Associates (260 Beacon Street, Somerville, MA 02143 (617) 492-0660). The Valiant floor turtle is made in England. The examination model we received appears to be a precision instrument. When it draws a closed figure on a piece of paper on the floor, it returns to its original starting position. The current price of the Valiant turtle is less than most printers (about $400). This is the best combination of price and performance we have found in a floor turtle.

CUT THE CORD

One of the most remarkable features about the Valiant is the absence of a cable connecting the turtle to the computer. Instead, the computer talks to the turtle with an infrared light beam. (According to the manual, the range of the light beam is about 18 feet.)

At first, we made use of this feature by sending the turtle out into the hall. It was fun to watch the stares of startled passers-by as the turtle scuttled under foot. However, there are more serious reasons for eliminating the cable. As young children use floor turtles connected to the computer, the cable gradually becomes tangled as the turtle turns round and round. Teachers are forced to devise ingenious strategies to deal with this problem. However, the best solution is the one used by Valiant: eliminate the cable altogether.

We were able to control the Valiant turtle with regular Logo commands for the versions we tested. (Some floor turtles require special commands instead of regular Logo commands, such as TFD in place of FD.) To make the Valiant turtle follow the same commands as the screen turtle, the user simply types: TURTLE ON. To turn the turtle off, the user types: TURTLE OFF. This is important because it allows a child to make use of procedures created before the turtle arrived.

IS IT ALIVE?

The Valiant floor turtle looks like a turtle. It has a head and feet, and a shell shape. Children can easily tell in which direction the turtle is heading.

One feature the Valiant turtle does not have yet is touch sensors. A touch sensor would require a two-way infrared link between the turtle and the computer, adding to the expense and complexity of the turtle. We prefer an affordable turtle without touch sensors.

Interfaces for the Valiant turtle are currently available for Apple, IBM, and Commodore 64 computers. The turtle comes with an infrared box for transmitting commands, and can be connected to the computer through a variety of serial and parallel ports. The task of supporting all versions of Logo with all brands of input/output (I/O) ports available for computers is a massive task. Harvard Associates is currently developing software for additional versions of Logo, and for different kinds of I/O ports.
Valiant continued

The Valiant turtle appears to be a remarkable instrument for the price. We hesitate to use the word "break-through" until we can do more extensive testing, and see whether all models are as precise as the one we received for review. If it lives up to its early promise, the Valiant turtle may be the advance that makes turtles practical for kindergarten.

At one time computers in the classroom were a revolutionary idea. Now it is routine to see toddlers playing with them. Some day soon, floor turtles may be as common a sight as printers. And the Valiant turtle is pointing the way.

Glen Bull and Paula Cochran are regular columnists for the NLX.

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