

# **Schools for Our Times**

notes on a discussion led by Gary S. Stager

MLC Computer Forum 12/8/93

## **Schools fo Our Times**

A wise man once spoke of two horizons, the present and the future. For the purpose of discussing educational progress, the latter horizon is much too ambitious. From my perspective as a school-based educator, I view two horizons, yesterday and today.

Schools of the Future are most often corporate lemonade stands or warehouses of computers in which the objective is to get kids "on" as much technology as their nervous system can withstand. The school of the future believes that all technology is good technology, teachers are facilitators, and libraries are a thing of the past. Log the kids in at three, strap them to the chair, set the machine on stun, and hand them a diploma at eighteen. Classrooms are wired with hundreds of thousands of dollars worth of fibre-optic cable so that students may have round-the-clock access to a bad version of the Guinness Book on CD-ROM. The primary mission of a school of the future is publicity and seeing how much free stuff they can get from vendors.

So what sorts of characteristics describe a school for our times?

A school for our times...

Believes that all students can learn

Creates a rich and nurturing environment in which students have many opportunities to construct their own knowledge

Respects the knowledge, skills, and experience students bring to class and makes every attempt to make meaningful connections to the school's curriculum.

Provides stimulating classroom environments complete with a variety of tools, books, living things, and other objects to think with

Does not track or label students

Celebrates individualism

Provides quality open-ended learning opportunities for all children

Uses all appropriate technology that may enhance a student's understanding

Reflects the literature on learner-centered education

Expects teachers to trust their experience and continue successful practice

Employs administrators who spend the majority of their time in

classrooms

Does not confuse workbooks and pre-test post-test pedagogy with constructionism

Views curriculum as the buoy not the boat

Blurs the artificial boundaries between subject areas

Eliminates arbitrary grade level grouping

Encourages composite classes

Has smaller class sizes - not larger ones

No "class" should be more than 15 students and no teacher should be responsible for the work of more than 80 students

Encourages collaboration between students and teachers

Views parents as resources

Places the same importance on art and music as on academic subjects

Sets priorities based on the needs of children

Always strives for the highest common denominator, not the lowest

Believes that schools need to be more hospitable to children's intentions

Trusts teachers with assessment

Trusts students with the enterprise of schooling

It is the last topic that I wish to spend some time addressing. I promise that this talk will eventually have something to do with school computing.

### **The Enterprise of Schooling**

While much of the discussion of constructionism and personal computing focuses on learning, it is impossible to avoid the realistic desire to make schools places of learning. Since most children will continue to be compelled to attend school, it is imperative that they assume ownership both for their own learning and for the operation of school.

While educational leaders such as Ted Sizer suggest that students be involved in every aspect of school, including sweeping up and serving lunch, I have more modest goals.

If children are not trusted or expected to do things like videotape conferences, sell play tickets, or operate the lighting in the assembly hall, then their academic expectations will naturally be lower.

*How can we make students stakeholders in their school?*

*How can we ensure that students are trusted with their own learning?*

### **Trusting Kids, Trusting Ourselves**

Kids are much more able and enthusiastic learners than schools often ask them to exhibit. Most teachers are better than schools ever give them the opportunity to demonstrate. How might we create an environment in which teachers will feel secure in creating open-ended learning opportunities for all of their students.

There is a belief among many of MLC's Logo-using teachers that constructionism, Logo, freedom, respect - whatever you wish to call it - is appropriate only for the students who have demonstrated educational achievement in the traditional ways. These teachers also believe that while they are capable of teaching in a constructive environment, the majority of their colleagues are not. This belief structure leads to depriving many students of potentially rewarding experiences and prevents more teachers from serving their students.

A concrete example of how this belief manifests itself is in the way mathematics and Logo are treated in the junior secondary school. The standard syllabus is still followed, without concern for the new insights the students have as a result of their Logo-use. A cannon of narrow teacher-conceived LogoWriter projects are assigned each year and teachers are given solution sheets for the assignments. It is amazing how quickly the solutions given to well-meaning maths teachers find their way into the students' projects. The teachers seem all too concerned with covering curriculum, student "success," and the calendar.

This is understandable. No adult wants to watch a child fail, although we create such opportunities regularly. When a year seven teacher can't trust what the year six teacher does and the year eight teacher does, they must reinvent the subject each year in a teacher-centered way. The two year seven girls designing a LogoWriter tennis game are exploring many sophisticated mathematical concepts at an appropriate time for them, but a teacher of 30 kids who teaches something called, year seven maths, can not depend on serendipity. A school that creates these sorts of personal learning opportunities on a regular and ongoing basis, can depend on students learning most of the important mathematical concepts in a much more meaningful way, perhaps not always in the same sequence.

The primary purpose of using LogoWriter in the domain of mathematics is for

the learner to confront intellectual obstacles that need to be overcome. Learners need time to develop such strategies. Handing a student a solution sheet prematurely prevents the student from mathematical understanding any deeper than that derived from "full-frontal teaching" and the student is unlikely to gain any programming fluency either.

#### **Instruction leaves much more to chance than construction.**

Teachers need to work in an environment that respects their personal insights and encourages routine to derive from their practical experiences. There is a menacing voice in the heads of many teachers that tells them to teach in other ways than they know are successful and rewarding. The teachers who participated in Idit Harel's Instructional Software Design Project still refuse to continue teaching in the open-ended environment their students thrived in, in spite of teacher and student satisfaction, successful student projects, and even improved standardized test scores.

Educational leaders ask students to share their experiences and support them in their evolution as both intellectual guides for students and architects of rich educational environments.

#### **Dirty Computing**

I was recently told by a Logo veteran that the student projects at MLC looked much the same as projects created by kids in other parts of the world. My initial reactions were: "So, what? What the MLC kids are doing is great." and "Why should there be dramatically different results?" However, I have recently begun to reflect on this issue.

Should not a school with 1,600 personal computers and a commitment to constructionism have an occasional student-created project that is demonstrably different from what has appeared before? How do we translate this glimmer of hope into a reality?

The fact that MLC has accomplished much with very little LogoWriter is both a tribute to the teachers and the software. However, most of the MLC LogoWriter projects are expository in nature. How do we encourage the development of more interactive LogoWriter projects?

One concern I have is that personal computing at MLC has been sanitized and is school-sanctioned computing. How can brave new hacking feats be nurtured and achieved in an environment in which even the teachers are supposed to know how to use the computer?

When students are denied Email access because they sent naughty notes or typed messages to the person next to them, how can we create an atmosphere of dirty computing that stimulates the curiosity of adolescents?

To Be Continued...