When One Size Doesn't Fit All

Strategic Differences Between Middle and
High School Laptop Programs,
and Their Long-Range Implications

Lausanne Laptop Institute 2008
Jim Heynderickx
American School in London

Private, Independent Schools can “turn the ship faster” than other schools.

What we do may be more advanced, but hopefully it is related to near future of many schools.

Part of this discussion will be about the future of 1:1 laptop programs in general.

A foolish consistency is the hobgoblin of little minds.

Ralph Waldo Emerson

Agenda

- Background
- Uniform Laptop Programs
- Ten MS Characteristics and Implications
- Ten HS Characteristics and Implications
- A K-12 Technology Sequence
- The Long-Range View
- Questions and Discussion

Background

- Over the last 20 years, I've worked full time at four schools.
- Three had laptop programs.
- Two had major issues between MS and HS laptop program designs.
- I've also visited schools where conflicts between MS and HS laptop programs were significant and ongoing.

Background

- Schools starting brand new programs face similar questions.
- The right approach will vary according to the culture and objectives of the school.
- It's important to realize that there is more than one approach.

The 5-12 Uniform Program

- The 5-12 Uniform Program is one where the laptop program is pretty much uniform from grades 5 or 6 through 12.
- The school provides the laptops, or the families buy a recommended laptop, and the academic programs are built around all the kids having roughly the same hardware and software.
- Tech department provides imaging or support help or loaners, etc.

The 5-12 Uniform Program

- The Uniform Program has several technology advantages:
  - Equity of Access for All MS and HS students.
  - Easier to support one or two types of laptops.
  - Assumed adoption curve by faculty in both divisions.
  - Assumed Progressive Technology Use by Students
  - Clearer rotations of equipment every 3-4 years as kids go up through grades.

A Misconception

- Uniform Programs are typically optimized for Middle Schools, and often implemented there first.
- They have success, and it is “assumed” that the High School program will be equally embraced and successful.
- There’s a misconception that the presence of the tool will create positive change in High Schools.

Resistance

- In many schools, the Uniform Program doesn't match the needs or desires of High Schools.
- It's a mistake to think the reason is "old-fashioned faculty."
- In effect, Middle and High Schools, even in the same building, may need entirely different laptop programs.

What is Wrong?

- All technology aside, it is worth taking an objective look at the typical differences between Middle School programs and High School Programs.
- The differences may shed light on sustainable laptop program designs for both divisions.
- The contrasts may also shed light on the future of 1:1 laptop programs.

Ten MS Characteristics

1. Students are segmented into homeroom groups and have a single homeroom teacher.
2. Most classes are single grade level groupings.
3. Academic planning is typically done by grade level teams, not departmental groups.
4. Most Middle School projects are based on all kids reaching similar goals.

Ten MS Characteristics

5. There is uniformity in how subjects are taught by grade level, in part based on the discussions by the grade level teams.
6. A fair part of the learning objectives at the Middle School level is to "learn how to do school" and be organized, efficient and enthusiastic about big picture learning.
7. There are after-school athletics and performance opportunities, but less extensive and time-consuming than in High School.

Ten MS Characteristics

8. The primary focus of students and faculty is internal to the program, and not external to college applications.
9. There are some standardized tests, but not entire courses focused on AP exams.
10. There is more opportunity for pedagogy experimentation and customization.

MS Implications

- Uniform MS Laptop Programs play directly into the opportunities offered by the ten characteristics above.
- Students in uniform groups can easily be guided to use technology.
- Homeroom teachers typically manage and set expectations for the routine uses of laptops.

MS Implications

- All students with the same laptops and software at the same time can achieve uniform learning and project goals with laptops.
- MS curricular and pedagogy design is always in discussion, and faculty as teams can make uniform decisions about laptop integration.
- Many MS achievements with laptops occur afterschool as students invest their own time in creative uses and experimentation.

MS Implications

- Responsible and effective laptop use enables students to learn how to organize their time and work.
- All students reach the plateau of routine and effective use of productivity, research and communication/collaboration tools, as well as project-based learning successes.

Ten HS Characteristics

1. There may be advisors, but not homerooms or homeroom teachers.
2. Academic programs are separated into HS departments.
3. Most courses have multi-grade level students, and not single-grade level or homerooms.
4. There is increased choice in terms of what courses and sequences students take.

Ten HS Characteristics

5. The academic focus is more individual and achievement based, instead of all students working toward uniform goals or benchmarks.
6. There is a increasing academic independence and opportunities for specialization.
7. There are more external considerations, including AP exams and college admissions.

Ten HS Characteristics

8. Curriculum and Pedagogy are closer to college or university models, where laptop use is more voluntary and routine than required or innovative.
9. More time after school is devoted to extensive sports and performance opportunities.
10. Students invest more time in social networking with technology to support increasingly active personal lives.

HS Implications

- HS students are expected to manage more of their time, academics and technology use independently.
- It's assumed that they know "how to do school."
- Pedagogical uses of laptops is less uniform. Students are rarely expected to have laptops all at the same time in a course, unless it is to use a specific program or to do specific research.

HS Implications

- There is less “ownership” of laptop programs by HS faculty, and there is less direct management of specific student groups.
- A Math department may strongly support a 1:1 laptop program for students if Calculus is specifically taught using Mathematica, but the support of the program is based around the need of the application, and not the holistic use of laptops by HS students.
- There is less afterschool time for all students to play with technology.

Vertical by Choice

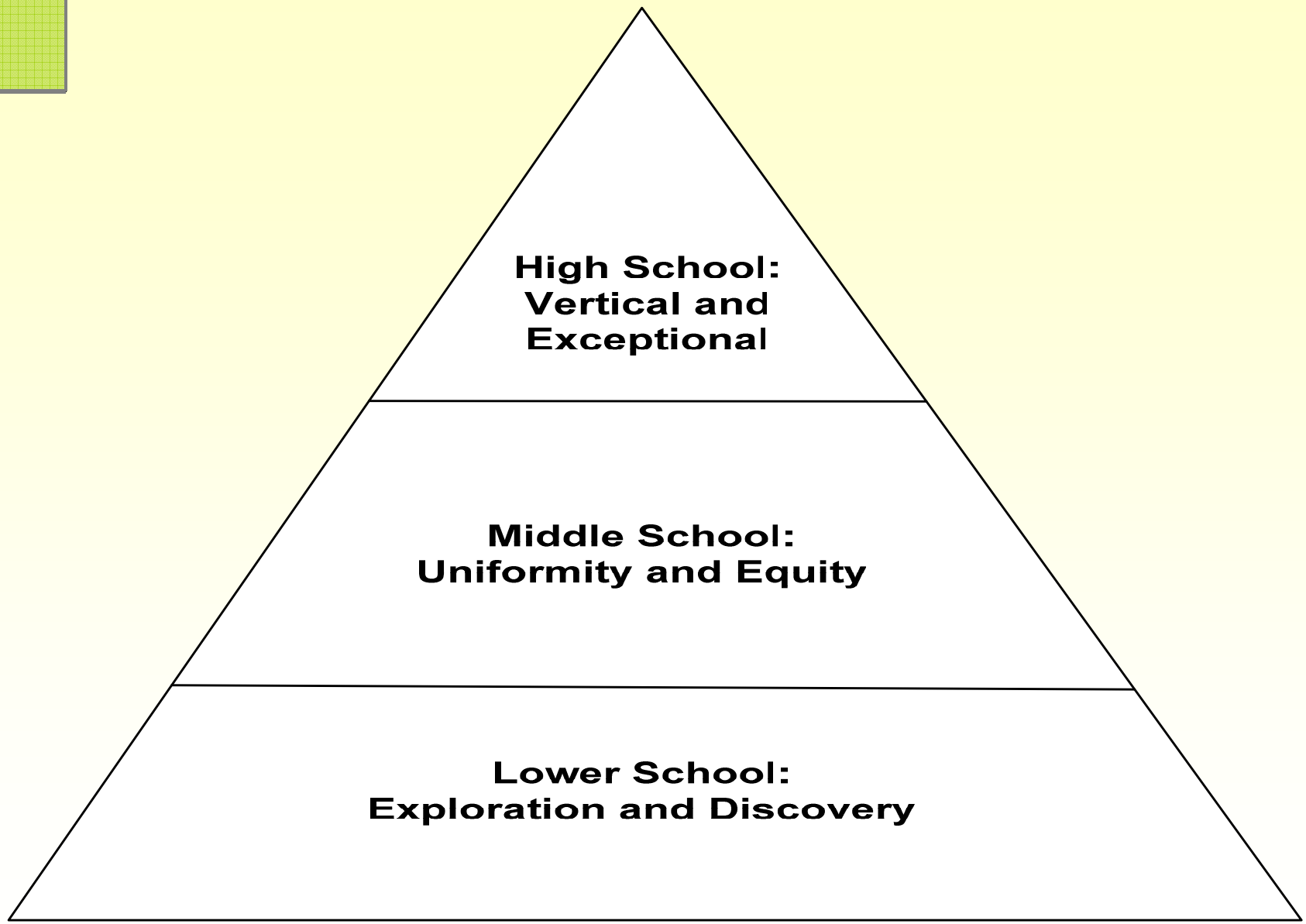
- HS students may do outstanding individual work with laptops in Science or Math or Art, and this may be recognized and rewarded, but it isn't an expectation of all students.
- Achievements in HS Laptop Programs are often defined by independent choice and initiative.
- Sometimes, the most advanced work is done entirely outside of the HS curriculum, but by a minority of students.

Vertical by Choice

- The “vertical by choice” paradigm is part of the academic separation and independence theory at the heart of many High School programs.
- The main opportunities created by the use of an open-ended tool like Mathematica, for example, is to have an avenue for exceptional discoveries by Math students.

A K-12 Technology Sequence

- With these characteristics and implications in mind, it's possible to craft a different view of a K-12 technology program.
- The goal is to enable the technology to support and parallel the intended academic culture of the three school divisions.
- The goal is also to innovate and not just automate.


High School:
Vertical and
Exceptional
Middle School:
Uniformity and Equity
Lower School:
Exploration and Discovery

A K-12 Technology Sequence

- **Lower School:** Labs and laptop cabinets or carts
- **Middle School:** 1:1 Laptops provided by the school, uniform and supported.
- **High School:** Laptop-friendly environment, loaner laptops, individual laptops chosen and supported by families and brought to school. High-end computer labs.

The Long-Range View

- 1:1 Laptop Programs have always been transitional programs.
- They should be designed with an end in mind– what we are laying the foundation for?
- The next stage could be very interesting– if the foundation is established.

The Long-Range View

- Faculty and student abilities with technology evolve forward each year.
- In the past, High School students would not have been considered capable of choosing and supporting their own laptops.
- Some students still struggle, but dealing with bad technology choices may be the most effective learning experience for some students.

The Long-Range View

- Moore's Law eventually has to catch up with laptop technology used in school.
- Over the past five years, we've seen price decreases and increased functionality, but typically in the same 5 pound footprint of a traditional laptop.
- Smaller and lighter laptops existed, but the price penalty was high.

The Long-Range View

- There are now smaller, lighter and less expensive laptops.
- My favourite examples are the Advent Netbook (MSI Wind) and HP Mini-Note. (A Dell competitor is supposedly in the works.)
- They are less than $500, less than 3 lbs, long battery life, no optical drive, Windows XP or Linux, 10 inch screens, and have decent keyboards.

The Long-Range View

- The truth is that kids want computers to be like cell phones– not a big deal if dropped or broken.
- The new, smaller and less expensive laptops may reach that goal in the near future.
- They won't edit videos well, but they could do 80% of what a student needs to do during a school day. (Reading, writing, research, Excel, communications.)

The Long-Range View

- Thus, 1:1 laptop programs evolve into systems of increased choice and student ownership of technology, but with a smaller footprint and smaller price tag.
- Schools will be laptop-friendly and provide excellent online resources and information systems, but the primary hardware/software investment will not be in 1:1 laptops.

The Long-Range View

- For the remaining 20% of needs, the goal could be to provide high-end shared resources:
  - Digital Music and Sound Recording Studios,
  - Video Production Facilities
  - 3D Modelling Stations
  - GIS Labs
  - Math and Science Technology Installations
  - Robotics Labs and Workspaces
  - Circuit-Building Facilities

The Long-Range View

- Over time, the K-12 model shown earlier will evolve to include more of the MS students in vertical and exceptional opportunities.
- In the near future, MS students may begin to choose and support their own smaller, lighter and less expensive laptops.
- Hopefully, there will be an Apple model soon.

The Next Phase

- Overall, our goal is to create improved opportunities for both routine and exceptional uses of technology.
- Schools may re-direct funding and support away from routine technology use toward high-end, integrated technology installations.
- Students will have greater access to technology and tools that do not routinely exist at home.

A foolish consistency is the hobgoblin of little minds.

Ralph Waldo Emerson

Questions and Discussion