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# Synergy Unleashed

A Tabula Rasa

Discussion of Laptop Schools

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# A Scary Thought

I once heard the following:

*A Teacher should never ask a question that he or she already knows the answer to.*

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# This is a “What If” Discussion

- What if you could create a school from scratch?
  - Your Objective: maximize the synergistic benefits of 1:1 laptops.
  - What would be the defining characteristics?
  - What could we expect to achieve?
  - What would be the limiting factors?
  - Of these factors, which would be realistic to work toward at our current schools?
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# Primary Goals

- The goal here isn't to maximize the school design to crank up the use of laptops to 110 percent.
  - The goal is to redesign a school so that the positive synergy of laptop use and learning can be maximized.
  - **Let's raise the ante:** in the following slides, let's aim for achieving things with laptops that **COULD NOT** be done without them.
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# Grade Levels

- What grade levels?
    - Pre-k to 12?
    - Grades 4 to 12?
    - Grades 6 to 12?
    - Grades 9-12?
  
  - When is the optimal grade level for 1:1 laptops to begin? Would an optimal laptop school have early grades without laptops?
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# Size of School

- Population of School
  - Classroom size: 10? 15? 20? 25?
  - Classrooms per grade level: 1, 2, 3, 4, 5, 6
  - Total School Size: 400, 600, 800, 1000, 1200, 1400?
  
  - How relevant is classroom size and total school size to laptop programs?
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# Demographics

- Demographics.
    - Students of uniform economic and ethnic backgrounds?
    - Students of diverse economic and ethnic backgrounds?
    - Students of high, moderate or low family income levels?
  - Question: do laptops still address digital divide issues for all students?
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# Type of Campus

- The School Campus
    - Urban
    - Suburban
    - Rural
    - Single Building
    - Multi-building on large campus
    - Distributed storefronts and offices in a community?
    - Home Offices (via VPN)
  
  - Where would laptops have the greatest impact, and why?
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# Tuition Costs

- Tuition per year
    - None (charter school?)
    - 5K (hybrid of public and family funding)
    - 10k
    - 15k
    - 20k
    - 25k
    - More than 25k
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# School Workspaces

- The School Workspaces
    - Traditional classrooms?
    - Large open areas?
    - Small group cubicles?
    - Café settings?
    - Private work carols?
    - Boardrooms?
    - Local offices, labs, facilities, libraries near campus in the community?
    - Home offices? VPN? WiMax?
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# Physical Classrooms

## ■ Classroom Design

- ❑ Large, medium or small rooms
  - ❑ Traditional desks
  - ❑ Large rectangular tables or work surfaces
  - ❑ Round Tables or Pods
  - ❑ Open carpet areas or floor spaces
  - ❑ Couches
  - ❑ Individual chairs with laptop surfaces
  - ❑ Business-like or home-like atmosphere
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# Physical Classrooms

## ■ Classroom Components

- ❑ Many electrical outlets (Note: some schools no longer allow AC adapters to be brought to school– laptops are used for one full charge a day.)
  - ❑ Wireless projector(s)?
  - ❑ Smartboards (or tablet computers?)
  - ❑ Scanners, Document Camera, Color Printer, Poster Printer, Digital cameras and camcorders?
  - ❑ Cleaning supplies for screens and keyboards.
  - ❑ Integrated storage for laptops when not in use
  - ❑ Charging areas for laptops
  - ❑ External mice, keyboards and monitors.
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# The Library

## ■ The School Library

- ❑ What would the school library look like in an “optimum” laptop school.
  - ❑ What type of physical spaces?
  - ❑ How many stacks compared to a typical school?  
What’s in the stacks?
  - ❑ What would be the best, typical uses of the library? What type of support there?
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# Media Resources

## ■ Media Resources

- ❑ Would there be a media resource center, or not?  
In the library, or not?
  - ❑ Does it still make sense to centralize support and check in/out of cameras, camcorders, USB recorders, scanners, document cameras, head sets, or have them distributed throughout school workspaces?
  - ❑ What about student-owned media tools?
  - ❑ Might there be fewer media devices if the laptops were used to full extent?
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# Student Laptops

- The Student Laptops:
    - ❑ Mac, PC or Both?
    - ❑ Regular laptop, ultra-light, tablet, or all types?
    - ❑ Students local administrators, or not? (Or “not” until a certain grade level?)
    - ❑ School-owned or family-owned (Or “school-owned” until a certain grade level?)
    - ❑ Taken home, or left at school?
    - ❑ Wireless all the time, or just at school, or a mix?
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# Faculty Laptops

## ■ The Faculty Laptops

- ❑ Mac, PC or Both?
  - ❑ Regular laptop, ultra-light, tablet, or all types?
  - ❑ Students local administrators, or not? (Or “not” until a certain grade level?)
  - ❑ School-owned or faculty-owned? (Which is optimal?)
  - ❑ Taken home, or left at school?
  - ❑ Wireless all the time, or just at school, or a mix?
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# Student Software

- The Student Software
    - Small, medium or large array of software installed?
    - Software installed for exploration, or only for specific courses?
    - Commercial, open source or both?
    - Should students be able to recommend software?
    - Should students install their own licensed copies of software?
    - VPN?
    - School-run IM system?
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# Faculty Software

## ■ Faculty Software

- ❑ School-related software only, or also personal software?
  - ❑ Same software as students, or special titles only for faculty?
  - ❑ Apple Remote Desktop or NetOP for classroom management?
  - ❑ VPN?
  - ❑ Content management system, online grades, full database access to Student Information System?
  - ❑ School-run IM system?
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# Daily Schedule

- The School Day Schedule
    - 4 periods, 5, 6, 7, 8?
    - Mixed block schedule?
    - 8 a.m. to 3 p.m? 8-1? 9-4? 9-2? 10-2? 10-5? 12-4? 7-9?
    - Always in class-sized groups (average class size), or sometimes in combined groups or half/quarter-sized groups?
    - Does the schedule specifically support project-based learning in some way?
    - Would you consider hybrid (part in class, part online) schedules, or fully virtual courses or schedules?
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# Curriculum Sources

## ■ Curriculum Sources

- ❑ Do laptop schools benefit from comprehensive academic content management systems? If so, how?
  - ❑ Should faculty be encouraged to create more of their own curriculum content, moving away from text books to course/teacher web page content?
  - ❑ Should students be actively involved in shaping course curriculum?
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# Curriculum Depth

## ■ Curriculum Depth

- Would the “optimum” laptop school cover the same, more or fewer subject areas during a typical school year?
    - English/Humanities
    - History/Social Studies
    - Mathematics
    - Science
    - Art
    - Music
    - Foreign Languages
    - Physical Education
    - Computers and Technology
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# Learning Experiences

- Learning Experiences
    - More traditional, progressive or a mix?
    - What would be the balance of content-based and project-based learning experiences? 50/50, 75/25, 25/75?
    - Would units run shorter, the same, or longer than in a typical school?
    - Would multi-year projects be considered or implemented?
    - How about collaborative projects with other schools (or other countries)?
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# Assessment

- Assessment-- What would be the most common assessment tools?
    - exams
    - quizzes
    - papers
    - worksheets
    - oral presentations
    - performance rubrics
    - journals
    - portfolios
    - self-assessments
    - peer-assessments
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# Homework

- Homework
    - With Laptops, is homework individual work or group work?
    - Is it a time of creative production or content-access?
    - Could the focus of in-class work actually change because of the changes in homework?
    - Is the value of laptop-enhanced homework great enough to play a greater role in the daily schedule of student work— i.e., fewer periods and more time for independent work?
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# Balancing Laptop Use

- The “Balance” of Laptop Use
    - Should laptops be used every period of the day?
    - Half of the periods?
    - What are examples of courses where laptops would be used little if at all, even at the “optimum” laptop school?
    - Is it possible to use laptops too much?
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# Student Organization

- Could laptops radically change the way students organize, access and use their information?
  - If there is potential here, how could it be focused?
  - Do you think the kids are ready for a unified, content-rich, and regularly updated source of online information about their courses and progress?
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# Student Communications

- Do the laptops offer communication opportunities that could change the structure of how work, socializing and developing relationships with teachers?
  - How could the potential of these tools be focused and used to take the learning experience to a new level?
  - What might happen in the summer, for example, in an optimum laptop school?
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# Student Innovation

- Would symbolic reasoning and logic skills be expected of all students?
  - Would elements of computer science become a significant part of the curriculum?
  - How would students become more than “consumers” of the technology?
  - How would student innovations be supported?
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# So What's the Take Away?

- Many of us are reaching the limits of improving productivity with laptops.
  - Much of this has involved automation of traditional school structures and cultures.
  - Even advanced content management systems are simply used to replace paper handouts and syllabi.
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# The Last Question

- Nature or nurture?
  - In some, or most, successful programs, are laptop part of a larger educational reform agenda, instead of a standalone initiative?
  - When planning or maintaining a laptop program, how important is it to also know the details and objectives of the educational reform?
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# Stay in Touch

- See my blog at [www.k12converge.com](http://www.k12converge.com)
  - Take the survey (links at my blog and on the Lausanne Laptop website).
  - Post ideas and questions on the “Design a 1:1 Laptop School” group on the Lausanne Laptop website.
  - Catch me at lunch or in the evenings if you want to talk more (or hear about London).
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