

Gamma Group Digital Inequality

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1. Scenario

You and your group members are members of a Digital Inequality Task Force hired by your State Superintendent of Public Instruction. She has been given a special allocation of \$50M to address digital inequalities in the state, and she wants the Task Force to consider the following seven options:

- 1 Install computers in all public libraries in the state and expand the hours when the computers are available.
- 2 Expand staffing and other resources so that public schools can be open to the public after normal school hours, on weekends, and during the summer months.
- 3 Provide individuals in disadvantaged communities with computers.
- 4 Provide high-speed Internet and mobile access for all state residents.
- 5 Subsidize Internet Service Providers to provide low-cost Internet to all state residents.
- 6 Provide information literacy courses to enhance computer skills and enable knowledgeable use of digital technologies.
- 7 Develop free online educational content, giving first priority to content most relevant to lower socio-economic groups before content that is relevant to the rest of the public.

Your Assignment

As a member of this Task Force to the State Superintendent of Public Instruction, you are assigned the task of evaluating these alternatives, possibly suggesting other alternatives, and giving recommendations. She has asked your group to prepare a multimedia presentation that will be delivered to all the relevant stakeholders. In this presentation, you will:

- 1 **Explain** your concept of digital inequality and why it is a critical issue in education today;
- 2 List the seven options suggested by the State Superintendent of Public Instruction;
- 3 Describe any alternative(s) in addition to the seven you believe should be considered; and
- 4 Identify the strongest alternatives and the weakest alternatives and why you rate them as you do.

Group Outline

Fiona--1. Introduction to Digital Inequality

A. Once simply seen as inequality in access to technology between the rich and the poor within a country and also at international level. It included persons who were unable to or chose not to use technology in their daily life.

Now redefined by realizing the context is critical: factors such as socio-economic level, age, educational background, ethnicity, rural/urban location, disability impact on use.

Therefore, inequality takes into account physical, digital, human and social resources so social development can take place.

DiMaggio and Hargittai, *Digital Divide to Digital Inequality* -that digital inequality is not only the difference in access, but “inequality among people with formal access to the Internet.”

Dimensions of this inequality based on:

- 1 equipment: hardware; speed of connections; software (paid/open source); sites and applications that call for expensive upgrades
- 2 autonomy of use: where accessed- at home/work/school; monitoring; competing for time online; filters, rules.
- 3 skill: Knowledge of how to use, search, troubleshoot, evaluate information sought.
- 4 social support: from tech support; experienced users; emotional support.
- 5 purpose of use: for productivity (education, employment opportunities); social/political (news, civic issues); entertainment

Should we include all of this in our definition of digital inequality? sure

Fiona- italics

Stef: especially if we use a table to organize.

2. Ryan -Impact on Education

Signs the gap is getting smaller – lower overhead costs, lessons, audio visual files free to download

Signs the gap is widening- lack of effective training/resources in rural schools and other countries. Teachers in more affluent areas have access to more resources, current and emerging technologies.

Programs designed to shorten the digital divide

Global Text Project-open source textbooks-much less expensive than normal books

One Laptop Per Child

Edweek article: Tech budgets are being used to buy software and subscriptions to drill and kill methods, not project based learning activities.

See Scripting article for the rest of the information!

If there is no inequality, can maximize productivity by extending the school day, week and year
Based on NETP creating communities of teachers, students, administrators who have access at any time to resources- experts, multimedia, learning content, colleagues, best practices which all help to strengthen the quality of education.

3. Alternatives and Evaluation

A. Option Pros and Cons

- 1 Computers in all state public libraries; expanded hours.

Pro: Helpful for low income and minority communities. Can reach a lot of people, and extended hours = more time exposed to technology for people with busy lives.

Con: Competing for time online; Location of libraries in relation to those who need it. Staff education for aid and support (training librarians or others to address

troubleshooting and other needs). The library option sounds great, but \$50M computers would require increased bandwidth, increased network backbone, and increased staffing. That might run into disparity of service when small communities could not provide money for maintaining servers/networks, accessing the Internet, and paying support staff. In optimal conditions, year one might be okay, but who will pay for continued use?

- 2 **Jake----**Expand public school staffing & resources; open aftersch. hrs, wkends, summer .

Pro: Additional resources would benefit both the school and community. Would promote schools as the center of the community and life-long learning centers. **Empower the educators (could receive additional training, or new hires) to empower the learners.**

- 3 Computers for individuals in disadvantaged communities.

Pro: May help close the gap

Con: If the push is for all to have access, there will be a need in more developed communities as well and that a not be ignored **This is my option two. \$50M spread statewide does not go far. A temporary "Bridge" initiative could be made to reduce the digital divide in this manner.**

- 4 Provide high-speed Internet and mobile access for all state residents.

Pro: All residence would have access high-speed Internet and mobile connections **Wow. This would be cool, but really not feasible for a long-term solution. This is a close third (to number three) if we plan a "free-for-all" campaign and incorporate educational content on a login page similar to what you see on hotel wireless access pages.**

Con: Highly unlikely to gain support in time of financial recession. Access to Internet and mobile lines doesn't address questions about quality of equipment or skill.

- 5 Subsidize ISPs: low-cost Internet to all state residents.

Pro: All residence would have access high-speed Internet and mobile connections **I think this would get the most bang for our buck. I would use my marketing background to try and get the ISPs to "match" funds if possible.**

Con: Highly unlikely to gain support in time of financial recession. Access to Internet and mobile lines doesn't address questions about quality of equipment or skill.

- 6 Information literacy courses: computer skills, knowledgeable use of digital technologies.

Pro: **Could be done with libraries to raise awareness of new technology and how to most effectively use it. Creates jobs for instructors. Assures technology is used for best practices.**

Con: **Raising awareness and attention to new courses can be difficult. How expensive will the course be, and how long will it last/survive? Plausible, but not my favorite. There would be too much documentation associated with paying for facilities across the state, paying instructors, tracking attendees, reimbursement documents/processes, etc.**

- 7 Develop free online ed. content: priority-relevant to lower socio-econ

Pro: **A good tool that can be used over a long period of time once in place.**

Con: Without the infrastructure place already (hardware, internet access), this will be difficult. Content is already abundant. Training on how to access content would be necessary. [Raising awareness of content.](#)

4. Additional Options

8. Afterschool Training and Access. Install equipment at schools in highest need areas* and provide after school training programs on computer literacy. (*highest need would be identified as lowest people home computer ratio based on census data)

9. New idea #2. Currently our state (Idaho) does not provide funding to pay for technology staff. This is a real hardship on rural districts which are dependent upon online courses and high speed bandwidth to supplement course offerings. Often times the smaller districts cannot afford to keep current on switches, routers, and network improvements.

Solution: Take it to the cloud. The state could create a data center where all school districts could store sensitive data in a secure and up-to-date server- every public school/library would access their own apps, storage, and data through VPN. Virtual servers would provide storage and performance on a demand basis.

The data center would need ongoing management, but would save taxpayers a lot of money by consolidating the resources. Help desk support could be centralized. Maybe this idea gets a bit complex, but I wanted to throw it out there. Any thoughts?

Gillian--5. Evaluation Criteria and Group Rating

Options Summary List

- 1 Install computers in all public libraries in the state and expand the hours when the computers are available.
- 2 Expand staffing and other resources so that public schools can be open to the public after normal school hours, on weekends, and during the summer months.
- 3 Provide individuals in disadvantaged communities with computers.
- 4 Provide high-speed Internet and mobile access for all state residents.
- 5 Subsidize Internet Service Providers to provide low-cost Internet to all state residents.
- 6 Provide information literacy courses to enhance computer skills and enable knowledgeable use of digital technologies.
- 7 Develop free online educational content, giving first priority to content most relevant to lower socio-economic groups before content that is relevant to the rest of the public.
- 8 Afterschool Literacy programs in high need areas. Combination of option 2 (extending hours schools are accessible) and 6 (provide information literacy instruction in neighborhoods where the ratio of people to Internet usage is the lowest).

<u>Value Rating System</u>	<u>Point Value</u>	<u>Options Rating System</u>	<u>Point Value</u>
No/ Not Valuable	0	Not Likely	0
Some what valuable	1	Somewhat likely	1
Valuable	2	Likely	2
Very Valuable	3	Very likely	3

Option Choices

Criteria Value Rating 0-3	User Adoption Criteria	#	#	#	#	#	#	#	#	#
		1	2	3	4	5	6	7	8	9
*G*R*S*F*J	1. Autonomy									
3, 3, 3 =9	a. Accessible 24/7	1 1 1 1 1 8	1 1 1 0 1 8	2 0 2 2 2 7	3 2 3 3 7 2	1 3 3 2 6 3	0 0 0 0 0 0	0 0 0 0 0 0	1 2 1 2 3 3	1 2 2 3 3 5
3,3, 3 1 110	b. Accessible 24/7	1 1 0 0	1 0 0 0	2 0 2 1	3 3 3 3	1 3 3 2	1 0 0 0	3 0 0 0	1 0 1 2	2 3 3 3

=9		1 8	9	3 6	8 1	6 3	9	2 7	1 8	7 2
2,1, 1 =4	c. monitoring for highest and best use purposes	1 0 1 1 8	1 1 1 1 2	0 0 0 0	0 0 0 0	0 0 0 0	3 1 3 2 8	2 0 2 2 8	3 3 2 2 3 2	1 1 2 2 1 6
2,2,1 =5	e. free from filters	1 0 0 1 5	1 0 0 0 5	3 2 3 2 4 0	2 0 3 2 2 5	3 3 3 3 4 5	1 1 1 1 5	2 0 0 1 0	1 1 1 1 5	1 1 1 2 1 5
2,22,2 1 1 =236	f. free from competition of time online	1 1 1 1 1 8	1 1 1 1 1 8	3 2 3 2 4 8	3 2 3 2 4 8	2 2 3 2 4 2	1 1 2 2 2 4	2 0 3 2 3 0	1 1 3 1 1 8	2 2 3 3 4 2
2,1,2 =5	g. guides for use	2 1 2 2 2 5	2 1 3 2 3 0	1 1 0 1 1 0	1 1 0 1 0	0 0 0 0	3 2 3 2 4 0	2 0 3 3 2 5	3 3 3 4 5	1 1 2 2 2 0
	2. User Skill									
3,3, 3 = 9	h. ensure knowledge on usage	1 1 2 2 3 6	1 2 2 2 4 5	0 1 0 1 1 9	0 0 0 0	0 0 0 0	3 2 3 3 7 2	2 0 2 3 3 6	3 3 3 8 1	1 1 2 1 3 6
3,2,2	i. ensure knowledge on search	1 1 2	1 1 2	0 1 1	0 0 0	0 0 0	3 2 3	2 0 1	3 3 2	0 1 1

=7		2	1	0	0	0	3	2	2	1
		2	2	1	0	0	5	2	5	1
		8	8	4			6	1	6	4
3,3,3	j. minimal trouble shooting	3	3	1	1	1	2	2	3	2
=9		3	2	1	0	0	3	0	3	3
		3	3	0	0	0	2	1	2	3
		1	2	1	1	1	3	2	3	3
		8	7	1	9	9	6	2	7	7
		1	2	8			3	7	2	2
2,2,3	k. evaluates quality information sought	0	1	0	0	0	3	2	3	1
=7		0	2	0	0	0	2	0	3	2
		0	0	0	0	0	3	2	3	0
		0	1	0	0	0	2	2	3	0
		0	2	0	0	0	5	2	6	2
			1				6	8	3	1
	3. Purpose Of Use									
3,3,3	l. productivity (education/employment)	2	2	2	2	2	3	2	3	2
=7		3	3	2	3	3	3	0	3	3
		3	2	1	1	1	2	3	2	1
		3	2	2	2	3	3	2	3	2
		5	4	3	4	4	5	3	5	4
		6	9	5	2	2	6	5	6	2
3,3,2	m. social political issues	2	2	2	2	2	3	2	3	1
=8		2	2	1	3	3	3	0	3	3
		2	2	1	1	1	2	2	2	1
		2	2	1	1	3	3	2	3	2
		4	4	3	4	4	6	3	6	4
		8	8	2	8	8	4	2	4	0
2,2,2	o. entertainment	2	2	2	2	2	3	2	3	2
=6		2	2	2	3	3	3	0	3	3
		1	1	3	3	3	2	1	2	3
		1	1	1	3	3	1	0	1	0
		3	3	4	4	4	4	1	4	4
		0	0	2	8	8	8	8	8	8
	4. Equipment									
3,3,3	p. high speed connection	3	3	2	3	2	1	2	3	1

=9		3 3 3 8 1	3 3 3 8 1	2 1 1 4 5	3 3 1 8 1	3 3 3 7 2	2 2 2 4 5	0 2 2 3 6	3 2 3 7 2	3 3 3 3 2
2,3,2 =7	q. access to variety of software	1 1 1 1 5	2 3 1 2 2	1 1 1 2 1	1 1 2 2 8	1 2 2 3 5	2 2 2 4 2	1 0 2 2 1	2 3 2 4 9	2 3 2 4 9
3,3,3 =9	r. access to upgrades	2 2 2 2 5 4	2 2 2 2 5 4	1 1 0 0 1 8	1 1 1 1 2 7	1 1 1 1 2 7	2 2 2 2 5 4	1 0 1 0 1 8	2 3 2 2 4 9	3 3 3 3 8 1
	5. Social Support									
3,3,3 =9	s. tech support	2 2 2 1 5 4	2 2 2 1 5 4	1 1 1 1 2 7	1 1 1 1 2 7	1 1 2 1 3 6	3 2 2 1 4 9	2 0 2 0 3 6	3 3 2 1 7 2	2 1 3 3 5 4
3,3,2 =8	t. experienced users	2 2 2 2 4 8	2 3 2 2 5 6	1 1 1 1 2 4	1 2 2 1 4 0	1 2 2 1 4 0	3 3 3 3 7 2	2 0 2 2 3 2	3 3 3 3 7 2	1 3 2 3 4 8
1,0, ? =1	q. emotional support	0 0 0 0 0 0	2 0 1 1 3	1 0 1 0 2	1 0 1 0 2	1 0 1 0 2	3 0 2 0 5	1 0 1 0 2	3 1 2 0 6	1 1 1 0 -3
		6 2 3	6 7 5	5 1 1	5 8 8	5 7 2	7 9 8	4 5 5	9 2 4	7 8 1

We used 19 different criteria points to evaluate the 9 options. The highest point value that could be assigned to any criteria was 81. When we multiplied 19 areas times 81 total points possible the highest score that could be received by any option would be 2,165.

6. Final Analysis

A.

7. References (probably should make a slide for these) Stef will create...

Digital Divide. Retrieved September 18, 2011,

from: <http://www.shootingatbubbles.com/archives/the-digital-divide-in-canada/>

Trotter, Andrew (September 12, 2007). Digital Divide 2.0. *Digital Directions*. Retrieved from <http://www.edweek.org/dd/articles/2007/09/12/02divide.h01.html>

Digital Inequality. (n.d.). Retrieved September 15, 2011,

from: <http://ashleykibler.files.wordpress.com/2011/06/digitaldivide3.png>

Global Text Project. (n.d.). Retrieved September 18, 2011,

from: <http://globaltextproject.blogspot.com/>

One Laptop Per Child. (n.d.). Retrieved September 18, 2011

from: <http://laptop.org/en/laptop/start/>

DiMaggio, P., & Hargittai, E. (2001). From the 'digital divide' to 'digital inequality':

Studying Internet use as penetration increases.

Princeton University Center for Arts and Cultural Policy Studies, Working Paper Series number, 15.

Retrieved from <http://www.princeton.edu/~artspol/workpap/WP15 - DiMaggio+Hargittai.pdf>

National Educational Technology Plan. (2010). Washington D.C.: US Government Printing Office.

<http://www.ed.gov/technology/netp-2010>

No Child Left Behind (n.d.). Retrieved September 24, 2011 from:

<http://www.texasprojectfirst.org/NCLB.html>

Sun, Jerry. (n.d.). *The Digital Divide and It's Impact on Academic Performance* [PDF slide]. Retrieved from <http://net.educause.edu/ir/library/pdf/WRC08034.pdf>

Web 2.0 and Emerging Learning Technologies/Digital Divide. (n.d.). Retrieved September 17, 2011 from the Web 2.0 and Emerging Learning Technologies Wiki: http://en.wikibooks.org/wiki/Web_2.0_and_Emerging_Learning_Technologies/Digital_Divide

References

DeBell, M., and Chapman, C. (2006). Computer and Internet Use by Students in 2003 (NCES 2006–065). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved September 14 2011 <http://nces.ed.gov/pubs2006/2006065.pdf>