

1:1 Teaching and Learning: What We Know

Presented by:

**Leslie Wilson
One-to-One Institute**

**Digital Learning Environments
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This Keynote Will:



- Outline research-based critical success factors
- Discuss and demonstrate the ‘new education ecosystem’
- Provide concepts for encouraging education innovation

1:1 Programs...

1. **ARE EDUCATION** initiatives; **NOT** ‘Laptops for Kids’ programs
2. **Transform the learning environment from teacher-centered to learner-centered, leading to:**
 - **Enhanced student engagement & achievement**
 - **Improved access to educational opportunities for all**

Today's Overall Trends-Ed Tech

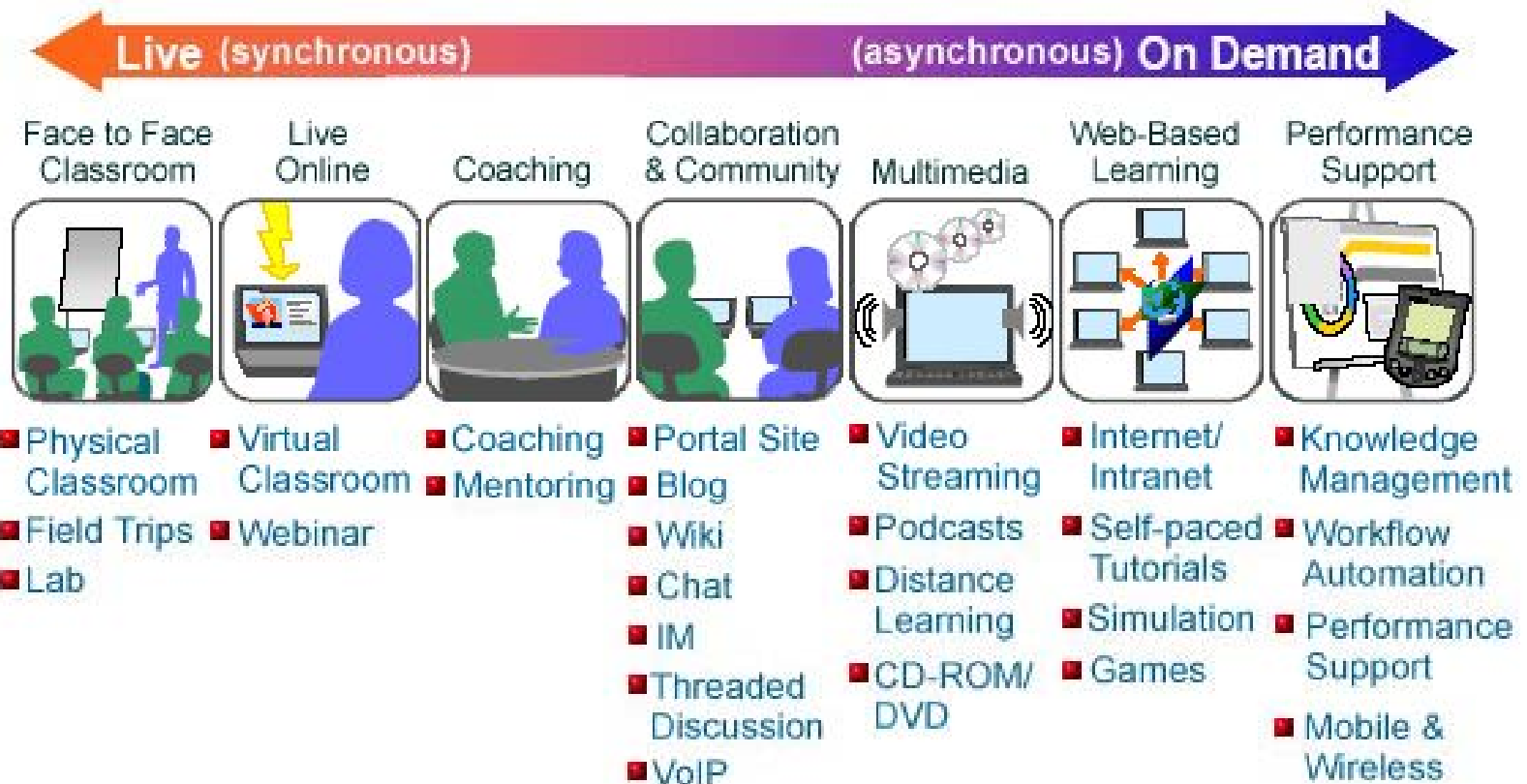
- Simplicity-easier to use and implement
- Invisibility-embedded
- Ubiquity-ambient
- Personalized-yours



Leading to a more effective teaching & learning model

Learning in the 21st Century

The Learning Continuum



<http://www.cognitivedesignsolutions.com/ELearning/BlendedLearning.htm>







Instructional Approach 1

- Teacher as content expert
- Focus on subject mastery
- Students organized in rows
- All students engage in same tasks

Instructional Approach 1

in the 1:1 Environment

- Students use laptop for word processing and presentations
- Students use informational websites as a primary resource

Instructional Approach 2





Instructional Approach 2

- Teacher as facilitator of learning
- **Personalization**
- “Just in Time” direct instruction
- Meaningful integration
- Tech tools used for feedback/assessing
- Classroom environment is flexible
- Students engaged in a variety of individualized and collaborative tasks

Transitioning to Instructional Approach 2

Key questions

1. What beliefs do students, teachers, administration, parents in your community have about learning and teaching?
2. Who holds the power to make decisions about learning and teaching in your school and in your classroom?

Instructional Approach 3



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Immersion and Virtual Realities



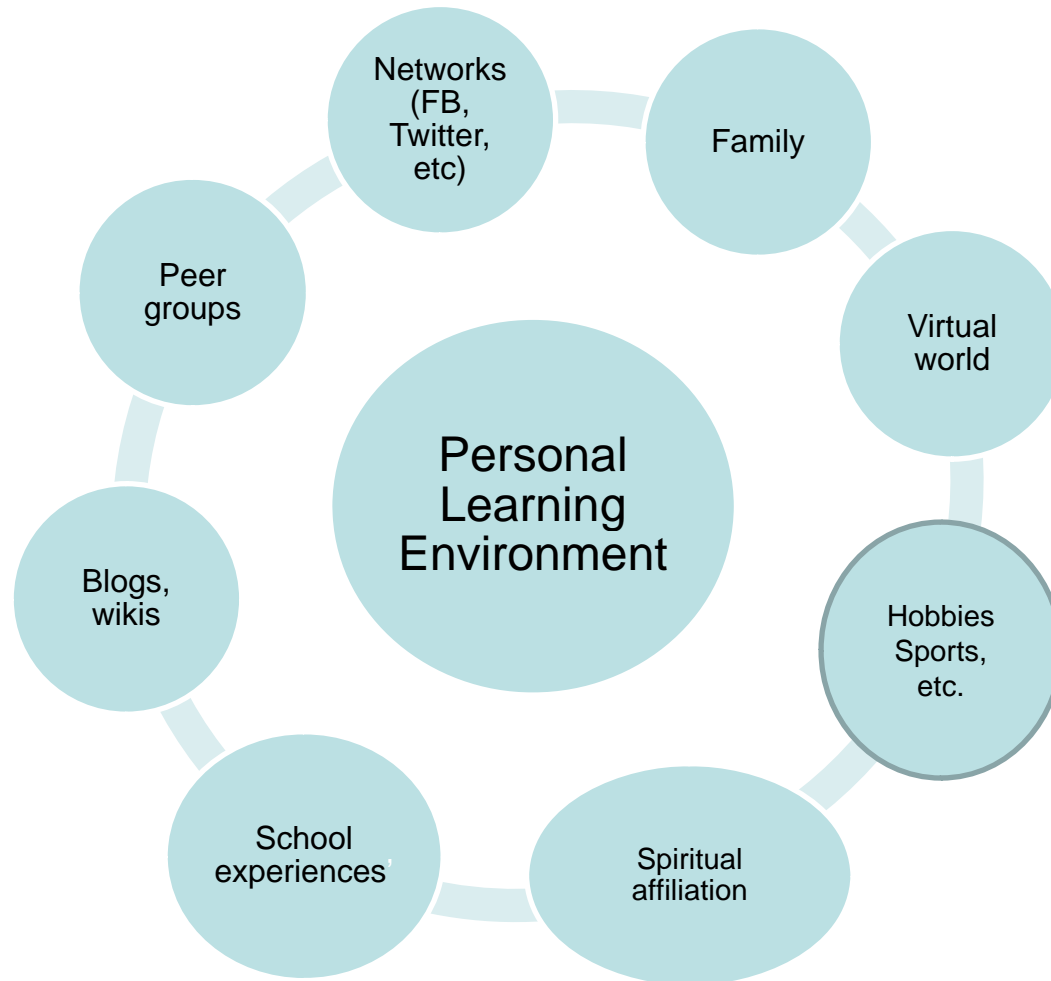
Second Life & Augmented Realities



Instructional Approach 3

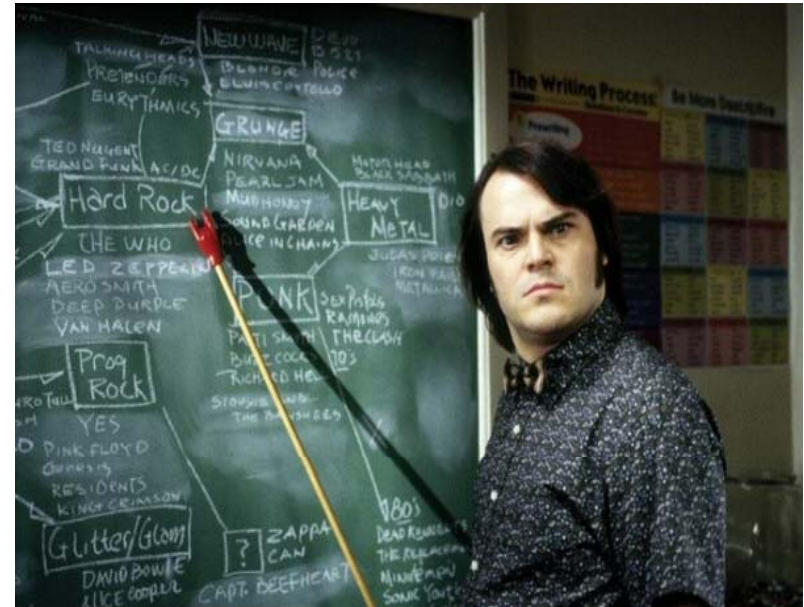
- Teacher as advisor
- **Personalization**
- True mobile learning (classroom is not always necessary)
- Students in control of:
 - ✓ What they learn
 - ✓ How they learn
 - ✓ When they learn
 - ✓ Where they learn

Personal Learning Environments- Access to Multiple Source Resources



Need to Focus on Creation and Communication

Not On Content Completion



www.armadaschools.org/ma2s/ma2s_academics.htm

Systemic Reform vs. Innovation Retrofit

- **Square pegs don't fit in round holes**
 - The many innovations and reforms engaged in schools have been 'force-fit' into the traditional settings
 - The traditional 'system' cannot and does not embrace or sustain the needed elements for the innovation
 - Root issues have not been addressed



Architectural Changes Needed

- The Future Is Now:
 - Personalized teaching and learning
 - Interdisciplinary discourse, instruction, resources
 - Reconsidering ‘seat time’, calendar, curriculum
 - Not all knowledge/skill has to be taught in isolation; i.e.. calculus and engineering
 - Instituting best practices
 - For example, project-based learning



Study, Share, Implement for Success

- Codify what works in successfully ‘shifted’ schools/classrooms
- Embed within professional development and ‘mission’ of the school/district
- Lead to ensure the shift to new architecture



A Shared Vision Among Stakeholders

- **Willingness to let go of outdated, entrenched past practices**
 - Will cost avoid
 - Recoup resources/funds for short and long term ed. tech planning
 - Web-based vs. textbook resources, etc.
 - High quality professional development



Keys to Successful One-to-One Teaching and Learning Programs

The Top Three Success Factors (Bebell et.al Lynch School of Education: Boston College 2009)

- Effective planning
- Stakeholder buy-in
- Strong leadership



What Matters Most

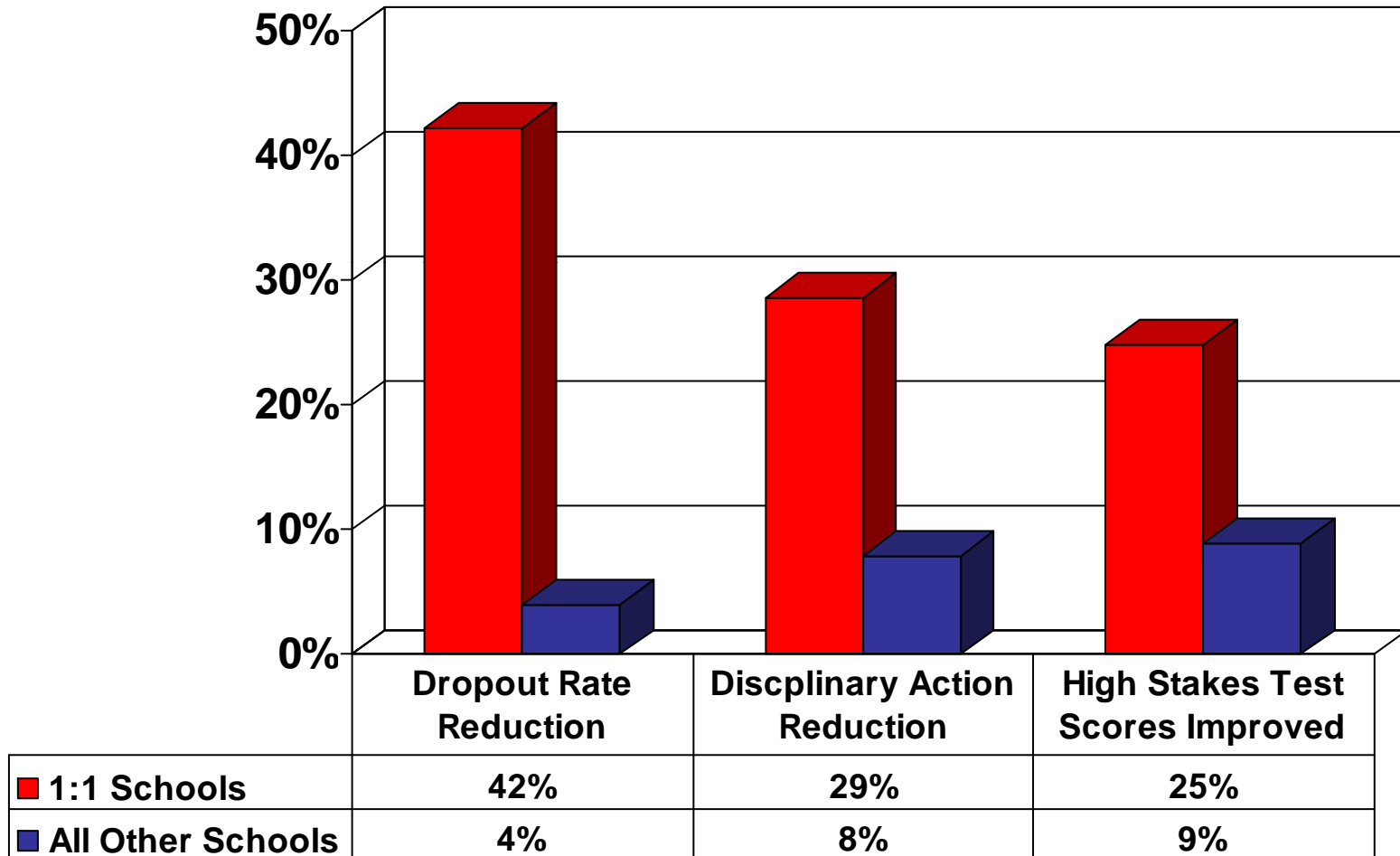
- Teachers' buy-in and early use of device
- Teachers' ongoing, embedded professional learning and practice
- Teachers' meaningful integration of technology tools and time to develop
- Teachers' time to adapt instructional techniques, retool, engage new strategies

What Matters Most

- Students' use of tools to drive the initiative as early as possible
- Students' participation in vision, steering committees, formative and summative evaluations
- Student interviews, products and publications

Learning Outcomes Improvement

Pct. of Respondents
Reporting Great Improvement



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The Greaves Group, The Hayes Connection

Igniting 21st century learning[®]

Technology alone will not facilitate the perceptual shift necessary to reform schools and prepare our students for their future. Technology is an important tool, but if the tool is only used in traditional ways, transformation will not take place.



Change of this magnitude takes:

Time

Patience

Evolutionary vs. Revolutionary

Hard Work

Cooperation

Being mindful that this is second-order change in schools! (McREL 2005)

Consistent and open communication

1. Planning

- Well designed plan for implementation & sustainability
 - Participants: Principals, Teachers, Technology Coordinators & Curriculum Directors (along with parents, students, local community members)
 - Vision, mission, goals, milestones, resources, roles, responsibilities, monitoring, evaluation
 - Develop a shared vision!

My School District

VISION PLANNING COSTS & RATIOS

	2006-07		2007-08		2008-09		2009-10		2010-11	
	RATIO	NUMBER	NO.	COST EA.	NO.	COST EA.	NO.	COST EA.	NO.	COST EA.
COMPUTERS <small>REMC PRICES</small>										
ELEMENTARY	5.0	900	1,466	\$1,000	2,180	\$900	2,927	\$800	4,407	\$700
MIDDLE SCHOOL	5.1	450	765	\$1,200	1,155	\$1,100	1,500	\$1,000	2,185	\$900
HIGH SCHOOL	5.4	500	935	\$1,200	1,443	\$1,100	1,984	\$1,000	3,074	\$900
OTHER STUDENTS	7.5	100	151	\$1,200	253	\$1,100	385	\$1,000	766	\$900
STAFF	1.2	700	774	\$1,600	774	\$1,500	851	\$1,400	851	\$1,300
TOTALS/AVERAGE	4.2	2,650	4,090		5,805		7,647		11,283	
	RATIO	NUMBER	RATIO	COST EA.	RATIO	COST EA.	RATIO	COST EA.	RATIO	COST EA.
PRINTERS, SCANNERS, ETC	18	150	18	\$300	18	\$300	18	\$300	18	\$300
	UNIT	TOTAL	UNIT	TOTAL	UNIT	TOTAL	UNIT	TOTAL	UNIT	TOTAL
SOFTWARE & SUPPLIES	\$ 57	\$ 150,000	57	\$ 82,078	\$ 57	\$ 91,349	\$ 57	\$ 122,044	57	\$ 182,650
LOCAL NETWORK <small>REMC PRICES</small>	RATIO	NUMBER	NO.	COST EA.	NO.	COST EA.	NO.	COST EA.	NO.	COST EA.
SERVERS	53	50	77	\$3,500	110	\$3,500	144	\$3,500	213	\$3,500
PRINTERS	53	50	77	\$600	110	\$600	144	\$600	213	\$600
NETWORK ELECTRONICS	\$ 15		1,440	\$ 20,160	1,715	\$ 24,010	1,842	\$ 23,942	3,636	\$ 43,636
TOTALS										
STAFF	RATIO	NO.	NO.	COST EA.	NO.	COST EA.	NO.	COST EA.	NO.	COST EA.
INSTRUCTIONAL	3,402	3.00	3.01	\$ 75,000	3.03	\$ 75,000	3.05	\$ 75,000	3.07	\$ 75,000
TECHNICAL	442	6.00	9.26	\$ 60,000	13.14	\$ 60,000	17.31	\$ 60,000	25.55	\$ 60,000
TOTALS										
STUDENT ENROLLMENT		2006-07		2007-08		2008-09		2009-10		2010-11
ELEMENTARY		4,465		4,397		4,360		4,390		4,407
MIDDLE SCHOOL		2,286		2,295		2,310		2,250		2,185
HIGH SCHOOL		2,705		2,804		2,886		2,976		3,074
ALL OTHER STUDENTS		750		755		760		770		766
TOTALS		10,206		10,251		10,316		10,386		10,432

MAIN MENU

TECHNOLOGY VISION

VISION FACTORS

MAIN MENU

2. Leadership

- Full principal support & involvement
 - Ongoing PD for leading school reform
 - Scheduled team meetings
 - Observations
 - Communications
 - Leading second order change in schools
 - Digital Funding Integration Tools

3. Tech Prep & Support

- A solid technology infrastructure and maintenance/service plan
 - Connectivity and access points
 - Support policies and procedures
 - Charging and storing
 - On-Site presence by Tech. personnel
 - Developing ability of teachers and students to troubleshoot

4. Professional Learning and Development

- Regularly scheduled professional development for administrators, teachers and tech personnel
 - Coaching/Mentoring Model
 - Changing the classroom culture
 - Focus on curricular integration
 - Dedicated time & resources

5. Communications

- Sharing information with key audiences
 - Internal – Teachers, Librarians, Students, Custodial, Bus Drivers, Tech Support, Curriculum Director, Board Members, Support Staff
 - External – Parents/Guardians, Local Media, Legislators, Businesses

6. Policies

- Policies and procedures guided by instructional goals and documented
 - Board assurance agreement
 - Student acceptable use
 - Remain flexible – you may learn some things that influence you to move policies in a different direction

8. Expectation Management

- On average, the research says that it takes 3-5 years for teachers to effectively and seamlessly integrate technology and instruction
- Student achievement will not increase as a result of having 24/7 technology
- Student achievement will increase, over time, when an adopted curriculum and instructional program is integrated with 24/7 technology

9. Program Evaluation

- An objective, outside research organization is needed to provide consistent and focused results relative to program goals
- Need to be accountable and responsible for reaching benchmarks, massaging program as needed
- Need to build replicable and sustainable models

1:1 Implementation Checklist

- Leadership
- District and School Infrastructures
- Professional Learning Plan
- Timelines
- Stakeholders
- Communications
- Testing
- Formative and Summative Assessments



How It Will Look and Feel: Facilitating Change – Building Your 1:1 Program

www.youtube.com/watch?v=L2zqTYgcpg

Thank You!!!

Leslie Wilson

President

One-to-One Institute

www.one-to-oneinstitute.org

lesliew@1two1.org