

Blended/Hybrid Learning

The Convergence of Online and Face-to-Face Education

SLATE Convention –December 2011

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Josh Watt-Virtual Education Coordinator GHS

Mark Johnson– Math Teacher GHS

This Session

- What is Blended Learning?
- What are the Benefits? Drawbacks?
- Types of Models
- Grantsburg Initiatives
- National Policy Considerations

Education is Shifting

Blending of traditional classroom instruction with online learning

Biggest single shift in public education in more than 100 years

Definition

- Combines on-line teaching with F2F learning
- Blends virtual and physical resources
- Online learning tools inside brick /mortar classroom.
- 30%-80% online. Remainder is F2F or non web-based.

Growing rapidly

- More high quality courses & teachers available
- Majority of USA school districts offer online courses
- Students want online options (HS/MS)
- Vary : Charter schools, direct purchase, Consortium, for-profit companies
- Many countries are exceeding USA
 - Singapore
 - South Korea

Models Vary

- Class instruction/online components -extend learning
- Fully on-line curriculum/teacher (over distance) with on-site mentor
- Fully on-line curriculum with F2F options
- Mostly on-line, some required days in classroom
- Mostly on-line, in lab or classroom every day

Dimensions of Blended Learning

LEVEL OF INSTRUCTION

Unit/Lesson

Single Course

Entire Curriculum

INSTRUCTIONAL METHODS

Mostly Face-To-Face

Equal Mix

Mostly Online

TIME

Fixed Daily Schedule

Modified Schedule

Open Entry /Open Exit

ROLE OF ONLINE COMPONENTS

Enhance
Traditional
Instruction

Supplement
Traditional
Instruction

Digitize Traditional
Instruction

Replace Traditional Instruction

LOCATION

School

Learning Center

Combination

Home

TEACHER ROLE

Teacher Creates
Digital Lessons

Teacher
Leads
Instruction

Teacher Supports
Instruction

Teacher Facilitates
Online Learning

Teacher Coaches
Students in
Independent
Learning

STUDENT ROLE

Receives Instruction

Teacher Guided Learning

Independent
Learning

Creates and
Designs Own
Learning

STUDENT SUPPORT

Student is self-directed and
self-taught

School Provides Mentoring and
Student Support Services

Personal Mentor Support

E-LEARNING COMPONENTS

Online
Courses

Virtual Field
Trips

Webcasts

Internet
Research

Second Life

Videoconferencing

Grantsburg an “Early Adopter” in On-line Learning

Timeline

- 2001-02 Team Think Tank /Site visits
- 2002-03 \$10,000 Charter Planning Grant- DPI
 - » built staff capacity
- 2003-04 \$40,000 grant funds -DPI
- **2004-05** **GVS Officially Chartered**
\$150,000 + 50,000 implementation grant - DPI
- 2005-06 \$200,000 Implementation Renewal Grant- DPI
- **2006-07** **Launched ISWI- New Charter On-line HS**
- 2007-2008 ISWI Year 1
- 2008-2009 ISWI Year 2
- 2009-2010 ISWI Year 3
- 2010-2011 ISWI Year 4 **Part-time enrollment added**
- 2011-2012 ISWI Year 5

Grantsburg Context

- Insight School of Wisconsin.
 - 650 WI Students
- Tech innovation a part of our culture
 - Computer labs, staff and student e-mail
 - Smart boards in all classrooms
 - ITV network (2 classrooms, HPLL cart)
 - Most GHS students take on-line classes at GHS sometime in HS
 - Students full-time online at ISWI
 - Can offer any class, anytime, anywhere
 - Staff expertise (built capacity)
- Hybrid/Blended learning
 - Moodle Server from GVS charter
 - Teachers & Administrators develop on-line components

Why? What is the Value?

- Student centered instruction
- Enhanced active learning- engagement
- Personalization-interests and learning levels
- Depth of rigor and exploration into content
- Additional learning time and materials
- Socialization, collaboration. Interactions & Relationships
- Data to inform instruction
- Additional student support

<http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>

Good for Students

- Students embrace the technology
- Students learn at their own pace
- Flexible scheduling
- Small group instruction + 1:1 Support
- Expands educational opportunities
 - Personalization
 - Differentiation
- Benefits small & rural schools

Student Testimonies

Research Supported

- U. S. Dept. of Ed ... students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction.
- Those who experienced a mix of online and face-to-face instruction performed best of all.

Research Study Findings

National Survey of Student Engagement (NSSE) --not only solves problems of space and access...

....more likely to engage students in learning.

Beginning stages- Now

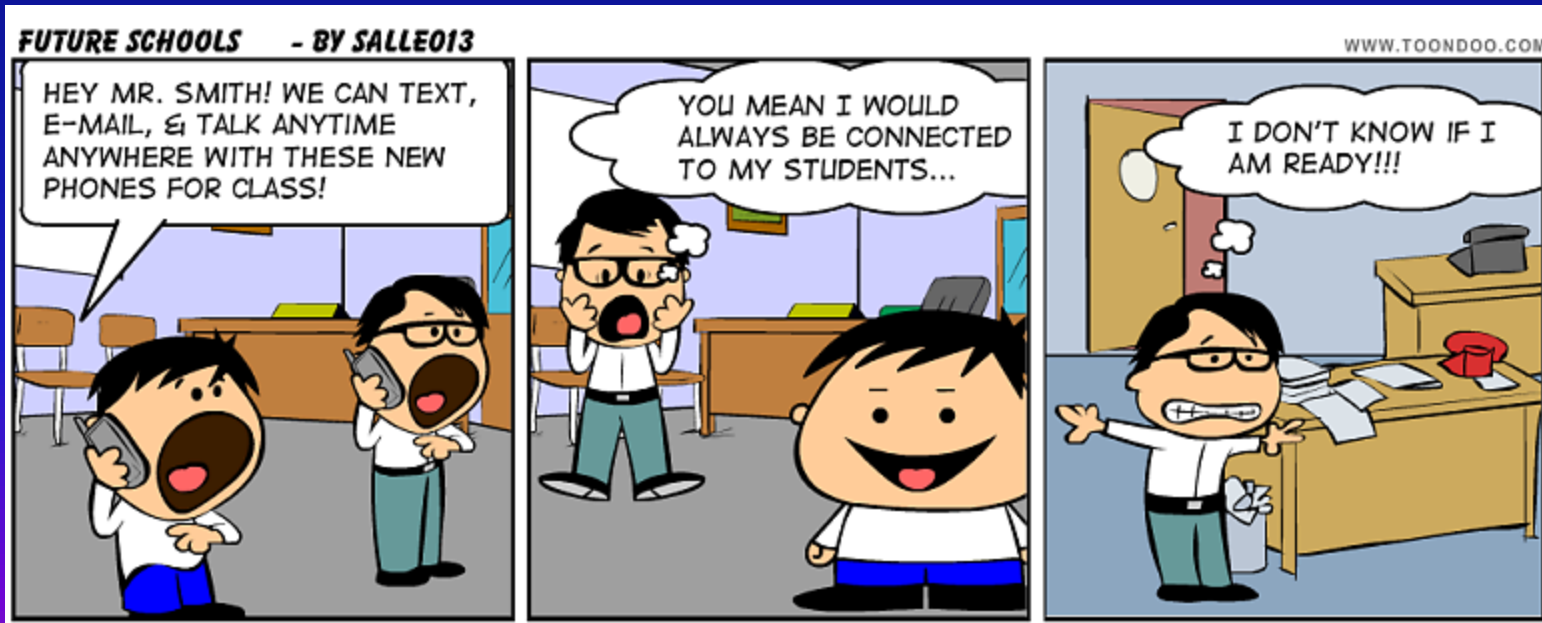
- No single “type” of blended education
- Text-based content less effective than animation, video, simulations and illustrative content
- Course management system to organize content and facilitate communication.
- Requires new methods of instruction

Change

- Teachers approach their role differently, as guides and mentors instead of purveyors of information.
- Students learn in a variety of ways, communicate and collaborate outside their school and perhaps outside their country.

Carefully Crafted Instruction

Instructors consider objectives
and understand how to apply the technologies
that will work best



Teacher Examples

Professional Development New Teacher/Mentor Program

- <http://moodle.gk12.net/>

Introducing....
Mark Johnson- Math Teacher

What will the future of education look like?

Where could you be watching this?

Live:

- In the room where it is being recorded.
- From another room at school.
- From another school in the district.
- At the public Library.
- At home.
- Any place in WI.
- Any place in America.
- Any place outside the USA.

Recorded:

- From another room at school.
- From another school in the district.
- At the public Library.
- At home.
- Any place in WI.
- Any place in America.
- Any place outside the USA.



Mark Johnson

High School Math and Physics teacher at GHS.

ITV Facilitator at GHS.

Academic Decathlon Coach at GHS.

High School Math and Physics teacher at Insight Schools of WI.

Some Technology Changes.

1980-1985 Student at Grantsburg High School

- Scientific Calculators
- Using manual typewriters-electrics burned up in the fire.
- Apple IIe computer

1985-1990 Student at Bethel College

- Still using typewriters, but they had correcting ink.
- Started using the main frame computer for Word Processing.

1990-1998 Teaching at Webster

- Started adding grades on the adding machine and by the end I was using the schools grading Program.
- Graphing Calculators (TI-81)
- Desk top computers (Macintosh) some teachers had computers in their rooms.
- Purchased first home computer (used).

ITV at Grantsburg High School



Main room



Cart

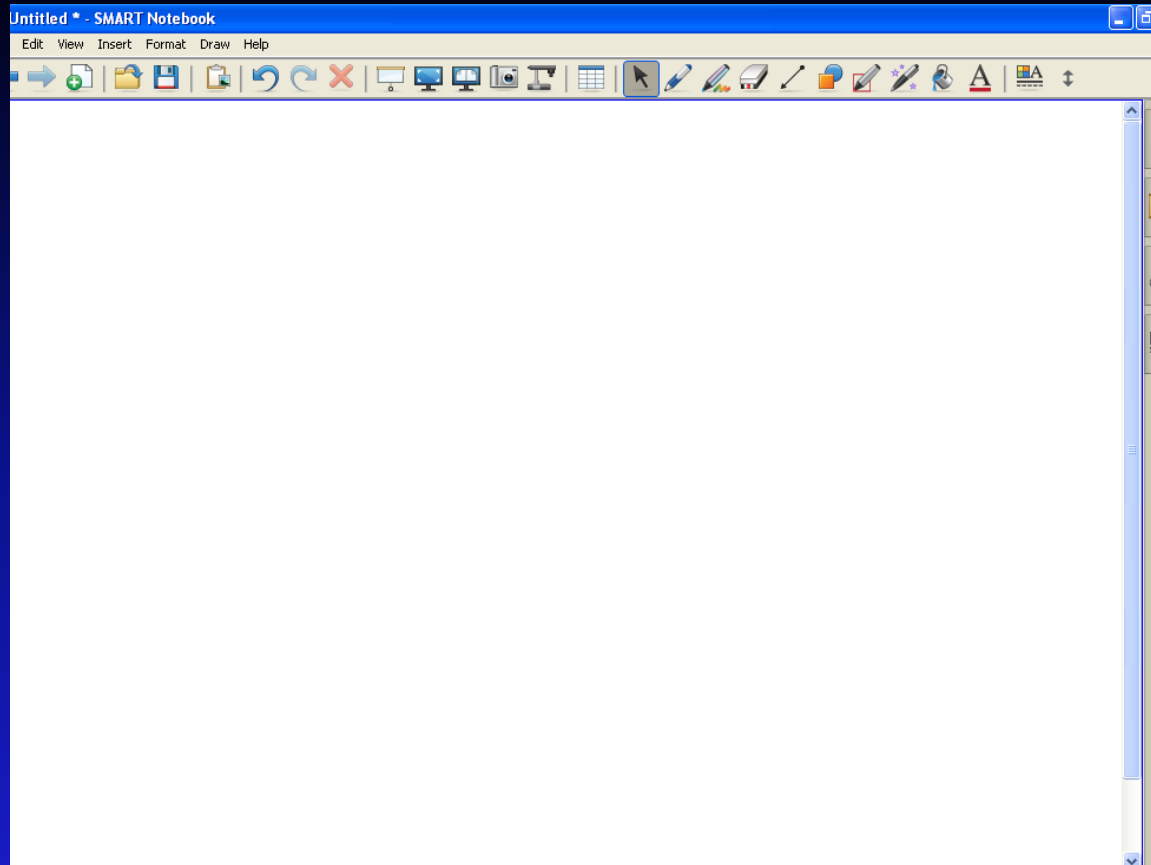


Portable Cart

The screenshot displays a web-based lecture interface. On the left, there is a sidebar with three sections: 'Participants' showing a list of participants (Participant#3, Participant#2, Participant#4), 'Chat' with a message log and input field, and 'Audio - Participant#3' with a microphone icon and volume controls. The main content area is titled 'Application Sharing' and 'ActivInspire - Studio'. It shows a presentation slide for 'Mini Lesson Unit 3 E-3 10-19-1' on 'Page 4 of 6'. The slide content includes the equation $F = \frac{\Delta p}{\Delta t}$ and the text 'and this can be modified as $F\Delta t = \Delta p$ '. Below this, it states 'The equation $F\Delta t = \Delta p$ is called Impulse-Momentum Theorem'. A multiple-choice question is presented: '1. A force of 50 Newton acts on a body for 0.05 second. What is the change in velocity if the mass of the body is 250 kg?' with options A) 2.5 m/s, B) 12.5 m/s, C) 25 m/s, and D) 125 m/s. The interface also shows 'Points Earned: 0.0/2.0' and 'Correct Answer(s):' with a red box. At the bottom of the slide, the equation $F\Delta t = mv_f - mv_i$ is shown, followed by the text 'Total initial momentum = Total final momentum'.

2007 Started teaching for Insight Schools of WI.

Using Elluminate to Lecture on-line and record my lectures



2009 Started recording lectures using Smart Notebook and posted them in Moodle (size was an issue.)

Algebra I - Johnson

Home ► My courses ► ALG1-J

Navigation

Home

- My home
- Site pages
- My profile
- ▼ My courses
 - Personal Financ
 - Int II
 - PreC
 - AP Calculus
 - **ALG1-J**
 - MCT
 - Physics
 - Lit Corner
 - 6+1
 - NTM101

Topic outline



News forum



Welcome to Class Sec 0-1 and 0-2 Lecture 9/2



Sec 0-3 and 0-4 Lecture 9/6



Sec. 0-5 and 0-6 Lecture 9/8

1



Sec. 1-1 Lecture 9-9-11



Sec. 1-2 Lecture 9-12-11



Sec. 1-3 Lecture 9-13-11



Sec. 1-4 Lecture 9-14-11



Sec. 1-5 Lecture 9-15-11



Sec. 1-6 Lecture 9-16-11



Sec. 1.7 Lecture 9-19-11



Sec. 1.8 Lecture 9-20-11



Review Chapter 1 9-21-11



Test Day Ch 1 and Sec. 2-1 Lecture 9-22-11

2



Sec. 2.2 Lecture 9-23-11



Sec. 2.3 Lecture 9-26-11



Sec. 2.4 Lecture 9-27-11

2010 Started recording lectures daily
using Camtasia and Posting them in Moodle.

What does the future hold?

Students Pre-watching lectures preparing for class.

Classrooms connected to Classrooms.

Watching live lessons from home.

What is holding us back?

Introducing...



Josh Watt

Teacher at Grantsburg High School

Virtual Education Coordinator

Alternate Home/School Program Director

Successful Teachers

- Know their Audience
- Know their Content
- Know How to Teach
 - Delivery
 - The “Hook”
- Take Educated Risks

Net Generation/Gen Y

- Who is our audience?
- What have they experienced in their lifetime?
 - Need for socialization
 - Organized socialization
 - Digital presence
 - Information overload
 - Instant access

GHS Hybrid/Blended Learning

Steady Migration of online learning

Best of Face-to-Face and online instruction

Flexible- variety of options

- Students in HS Virtual lab (part-time or full-time)
- Advanced students not held back
- Students can interact in person with a teacher for questions and motivation, and relationships.

Grantsburg Model

- Online curriculum in the physical setting.
- Students work in lab with online content while having F2F access to the teacher.
- Enrichment, credit recovery, electives, advanced placement, what ever is needed.
- Requires the teacher to be content and context-savvy.... Students in all different courses at the same time.
- GHS teachers “moodlize” courses
 - Physics, Geography, Multi-media
 - New Teacher/Mentor course
 - Curriculum Teams/Professional Development
 - Distance Learning Courses

Grantsburg Model- Flexible

- Learning Lab model
 - Supplements existing, traditional offerings with additional classes or remedial learning.
 - Students in reg. school. Part-time in learning lab.
 - Teacher/mentor in lab.
- Classroom model
 - Teacher has portion of class on-line as a part of instructional program.
- Professional Development

What is Moodle?

- Course Management System
 - Blackboard, D2L, Educator, WebCT
 - Subscription
- Open Source Course Management System
 - Electronic/online classroom
 - Hosts content/curriculum
 - It is open source (Free)!!

Installation

- Access - 1:1 student to computer ratio
- Server - \$5,000-\$10,000
- Professional Development – Train the trainer
- Open Source Resources
- Commitment – start small

Success Stories

- Fits the Net Generation
- Engage more students
- Online is not just for visual learners (audio)-
tactile learning – the App Market

Sample Work

- Grantsburg Online Classrooms



Why Is This Important..and What Are the National Trends?

- Spending on K-12 education
 - Average: \$9,969/per pupil in 2007-08 (more than any country in the world, except Switzerland)
- International Rankings in Science and Math (PISA 2006):
 - Science: US ranked #25 out of 30 countries
 - Math: US ranked #21 out of 30 countries
- U.S. Math curriculum: full 2 grade levels behind international counterparts by 8th grade
- HS Dropout rate – average 30% - significantly higher in some states

Wisconsin Drop Out Statistics

- Over 14,200 students did not graduate from Wisconsin's high schools in 2010; the lost lifetime earnings in Wisconsin for that class of dropouts alone total over **\$3.7 billion**.

Wisconsin could save as much as **\$202 million in health care costs over the lifetimes of each class of dropouts had they earned their diplomas.**

If Wisconsin's high schools graduated all of their students ready for college, the state could save as much as **\$86.2 million a year in community college remediation costs and lost earnings.**

Wisconsin's economy could see a combination of crime-related savings and additional revenue of about **\$101 million each year if the male high school graduation rate increased by just 5 percent.**

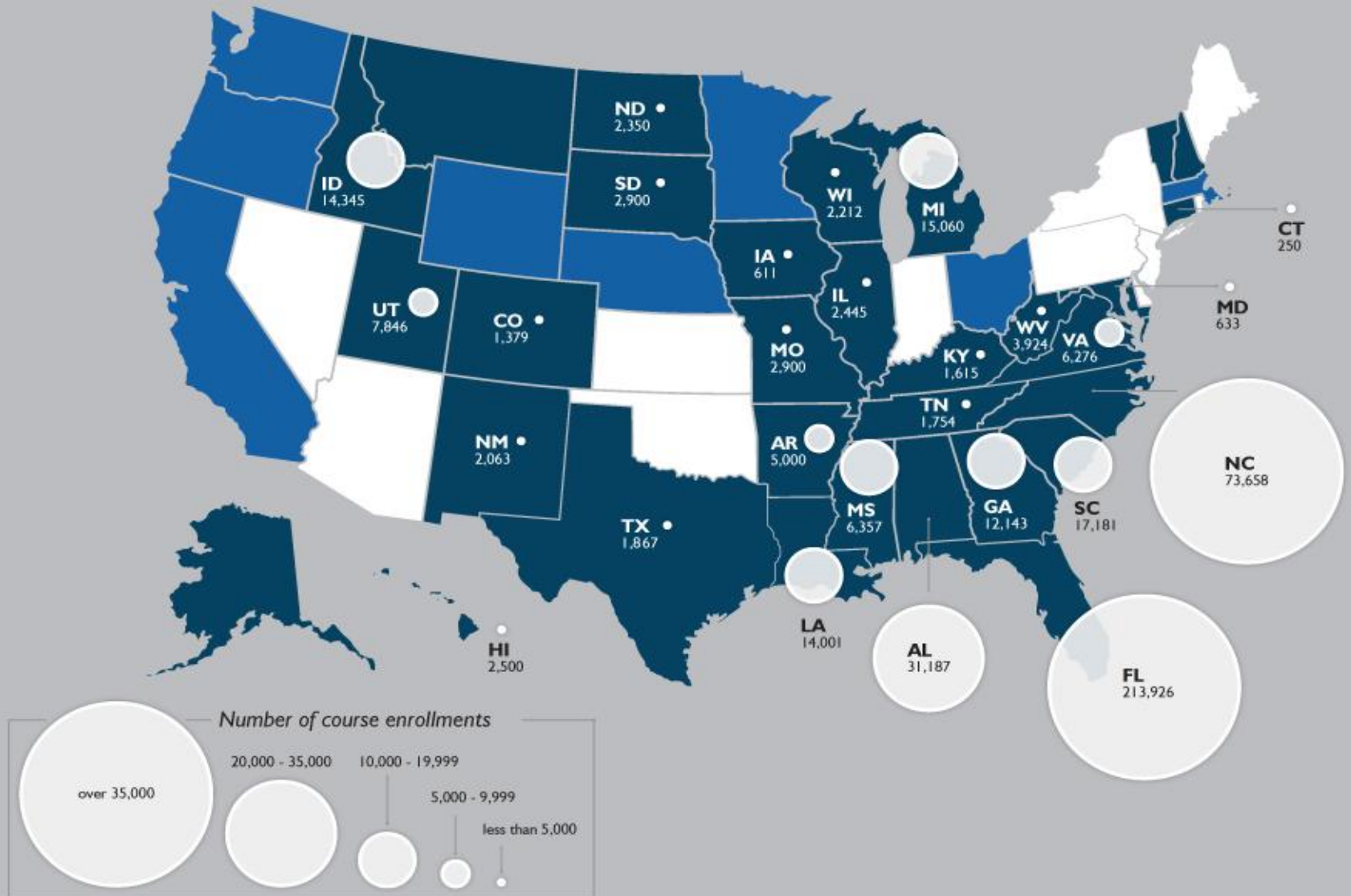
K-12 Online Learning: National Overview

- The K-12 online learning market is growing rapidly at 30% annually
- In 2007, estimated 1,000,000 enrollments in K-12 online learning in the U.S.
- By 2011, it is estimated that there will be 3,000,000 enrollments
- In K-12:
 - 39 states with statewide virtual schools; 48 states with significant policies/programs (Watson, Keeping Pace, 2010)
 - More than 50% of all school districts across the United States offer online and distance learning (Americas Digital Schools Report)
 - 27 states with 200,000+ students enrolled in full-time virtual school programs (KP 2010)

Source: iNACOL

States with State Virtual Schools or State-led Online Initiatives

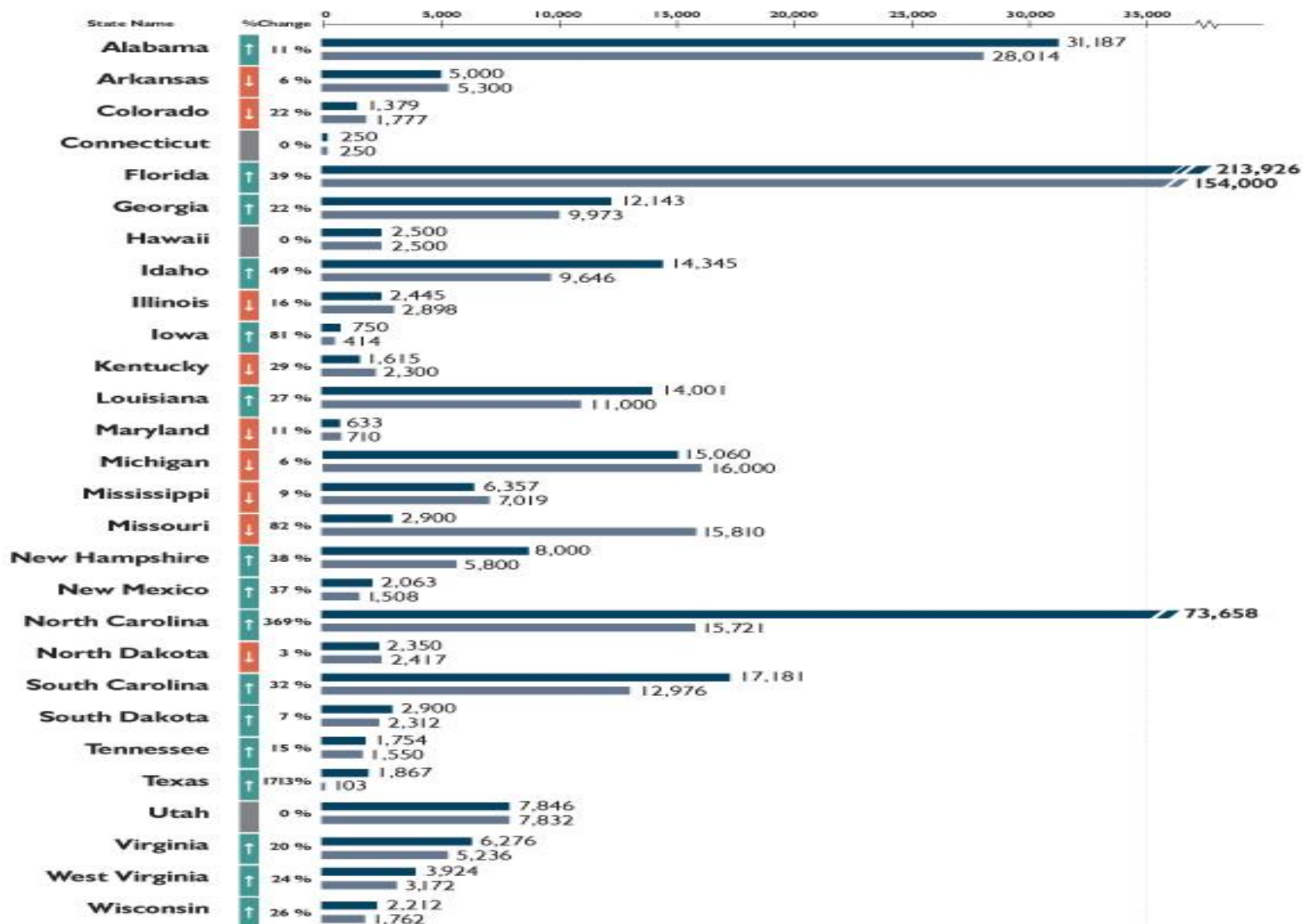
■ states with a state virtual school ■ states with a state-led online initiative ■ states with neither



Annual Course Enrollments in State Virtual Schools

2009-10

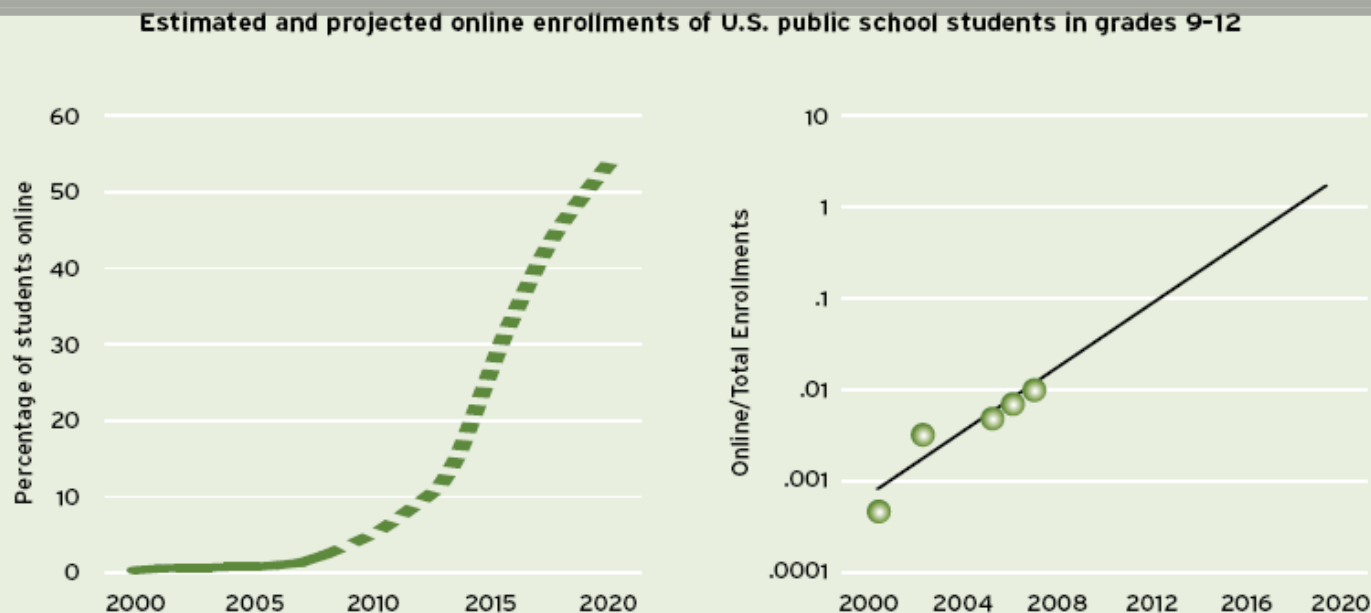
2008-09



Online learning is rapidly growing

Sunny Skies Ahead (Figure 3)

Current growth trends indicate that 50 percent of all courses in grades 9–12 will be taken online by 2019.



NOTE: Value of 1 on the logarithmic graph indicates 50 percent market share ($50\%/50\% = 1$).

SOURCES: National Center for Education Statistics; Babson Survey Research Group; North America Council for Online Learning

Enrollments up from 45,000 in 2000 to 1,000,000 in 2007

Source: Christensen & Horn (2008). How Do We Transform Our Schools?

The Rise of the District

One of the most significant trends in K-12 online learning is the growth of online and blended learning at the local school district level, in single-district programs that serve the district's own students. ...

Online learning enrollments will continue to climb rapidly over the next few years.

- Source: Keeping Pace 2010

Established District Programs

(All statistics from 2009-10 school year unless noted)



Supplemental
course enrollments



Full-time students



Blended
course enrollments

Clark County School District Las Vegas, NV

8,000 250 started in 2000

Began as credit recovery, now serves entire student spectrum. Became a diploma granting high school in 2004-05.

Jefferson County Public Schools Golden, CO

440 400 3,050 started in ~2005

All three programs are growing rapidly—training teachers to develop their own content for blended courses.

Sioux Falls School District Sioux Falls, SD

1,450 started in 2007

Half the enrollments target credit recovery. Relatively small district with the highest per capita usage rates.

Omaha Public Schools Omaha, NE

2,500 6,000 started in 2006

Supplemental program targets credit recovery, the blended program growing towards 15,000 students in 2010-11

Mesa Public Schools Mesa, AZ

17,273 217 started in 1999

All types of students. Program serves 35 other districts in the state; 50% of enrollments are from other districts. Built own LMS and course content.

Jefferson County Public Schools Louisville, KY

24,000 started in 2000

Serves students from school districts in several states.

Gwinnett County Public Schools Suwanee, GA

5,000 started in 1999

Full course catalog serving all types of students; largest enrollment period is summer.

Anchorage School District Anchorage, AK

2,618 just a few started in 2001

Rural schools target advanced courses, urban schools enroll students across the academic spectrum.

Wichita Public Schools Wichita, KS

330 3,904 started in 1999

Diploma completion in blended program, entire student spectrum for full-time program; blended program uses learning centers.

Houston Independent School District Houston, TX

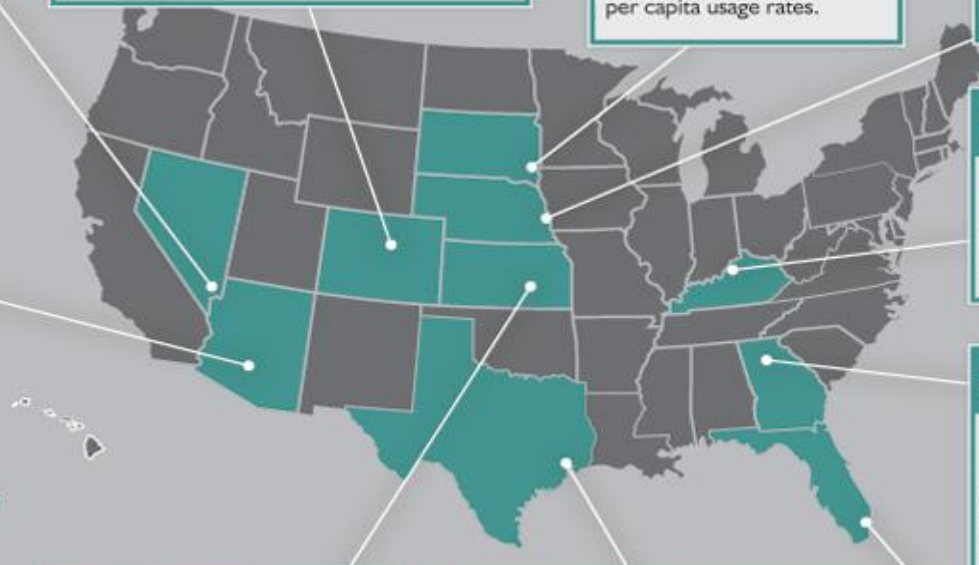
9,912 ~400

Most supplemental enrollments are in credit recovery. One of the full-time schools draws students from across Texas.

Miami-Dade County Public Schools Miami-Dade County, FL

14,254

Large franchise of Florida Virtual School.



How Can I Help?

Blended Model Is A Solution

- Expansion of course catalog
- More opportunities for students and teachers
- Save money
- Create equal opportunity for all students to succeed
- Prepare students for the 21st century workplace

Policy Considerations

- Remove barriers to full access – high quality content, class size ratios, caps on enrollment
- Online course completion for high school graduation
- Provide infrastructure for teachers and students to migrate to digital content/courses
 - Allow for digital content, courses, interactive and adaptive multimedia
 - Ensure internet access and devices
 - Staff Development and Training
 - Formative assessment system

The Future?

“The blended approach is likely to emerge as the predominant model of the future – and to become far more common than either one alone.”

Blended Learning: The Convergence of Online and Face-to-Face Education
by John Watson, published

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