

An International and National Perspective of K-12 Online Learning and the Future of Education

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www.inacol.org

iNACOL
International Association for K-12 Online Learning

International Association for K-12 Online Learning (iNACOL)

- iNACOL is the premier K-12 nonprofit in online learning
- Provides leadership, advocacy, research, training, and networking with experts in K-12 online learning.
 - 3800+ members in K-12 virtual schools and online learning representing over 50 countries
 - Annual conference – Virtual School Symposium (VSS): Indianapolis in November 9-11, 2011
- “Ensure every student has access to the best education available regardless of geography, income or background.”
- Next Generation Learning Challenges – Gates Foundation
- Our strategic areas of focus in online and blended learning:
 1. Policy
 2. Quality
 3. New Learning Models

International Perspective

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World Future Society

Top 10 breakthroughs transforming life over the next 20-30 years
Best forecast data ever assembled

1. Alternative energy
2. Desalination of water
3. Precision farming
4. Biometrics
5. Quantum computers
6. Entertainment on demand
7. Global access
8. ***Virtual education or distance learning***
9. Nanotechnology
10. Smart Robots

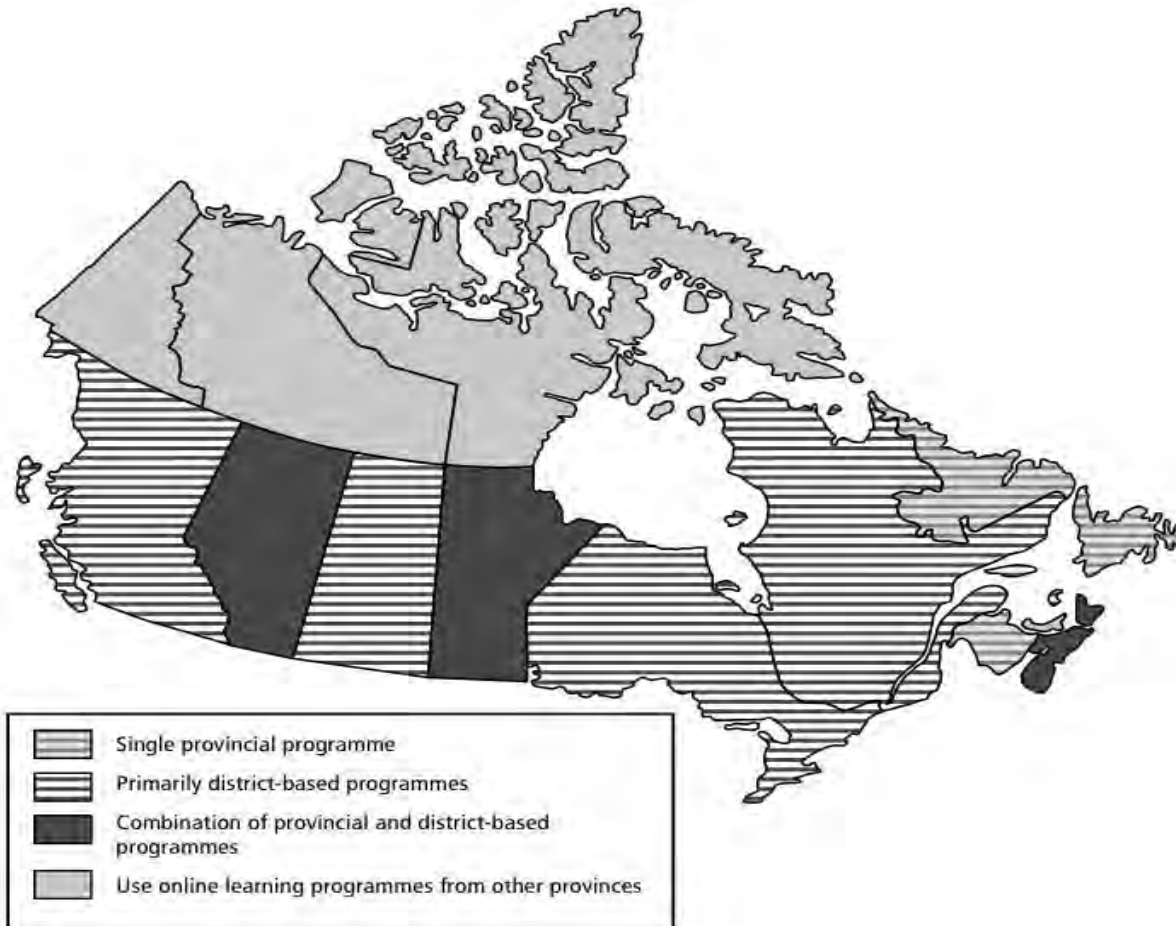
Mexico

- K-12 Digital Content, Laptop for Every Teacher, Pre-service methods using engaging digital content, new strategies



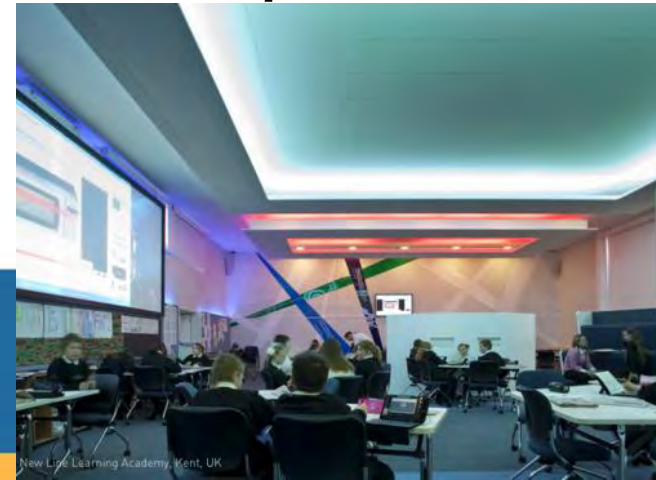
iNACOL Canada Study

All 13 Provinces and Territories offer K-12 online learning



European Union

- EU:
 - EU E-Learning Action Plan
 - IB Diploma Programme Online (125 countries)
- UK: E-Learning Exports - 29 billion pounds annually; deal with China
 - Education as an export



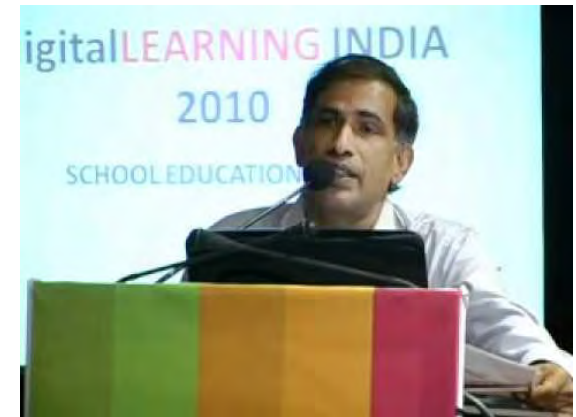
Turkey, the Middle East & Arab Spring

- Turkey: online courses
- Arab Bureau of Education for the Gulf States



India

- Size
 - 1 billion+, 70% rural population
 - Need 200,000 more schools
- Internet Accessibility
 - 2007-08 - 42 million users (3.7%)
- Online Learning
 - Universal access for K-12 in 10 yrs
 - Shortage of good teachers
 - *“Leverage teachers using technology to bring to scale”*
 - Educomp digitizing learning resources for K-12 Education



Hong Kong

- Blended learning for Continuity of Learning



South Korea

- **South Korea**
 - National Virtual School
 - Switch to digital content from textbooks



China

- China: 1.3 billion people
 - Digitized K-12 curriculum
 - Training Master Teachers to teach online
 - With online learning: increase educational opportunities to 100 million new students

The Futurist: Education 2011

China may be the first country to succeed in educating most of its population through the Internet.

- From 2003-2007, China spent about \$1 billion to implement online learning projects in the rural country-side.



“Web opens world for young Chinese . . .”

-Christian Science Monitor, May 14, 2007

- Beijing -- “Excited and emboldened by the wealth of information they find on the Internet, Chinese teens are breaking centuries of tradition to challenge their teachers and express their opinions in class. . . .”
- “Students at Tianjin’s No. 1 Middle School are encouraged to challenge their history texts.”
- “The Internet has given Chinese children wings,” says Sun Yun Xiao, vice president of the China Youth and Children’s Research Center.
- 137 million online in China at the end of 2006 (in 1999 there were just 4 million connections in China)
- 87% of urban youth in China use the Internet

Singapore

- Singapore: 100% of Secondary schools use online learning
- All teachers trained to teach online
- Blended Learning Environments
- E-Learning Weeks



National Perspective

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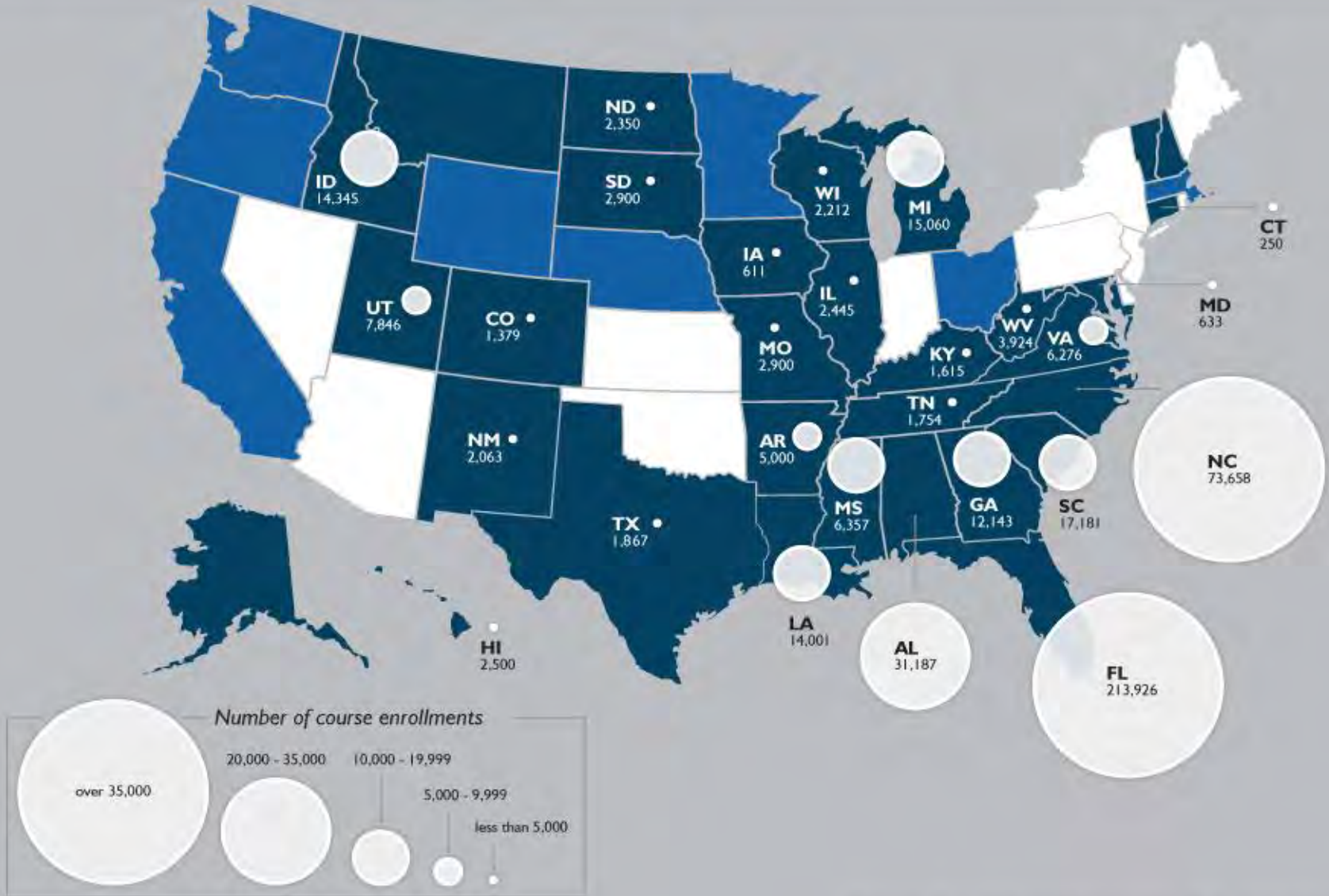
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U.S. Online Learning Facts

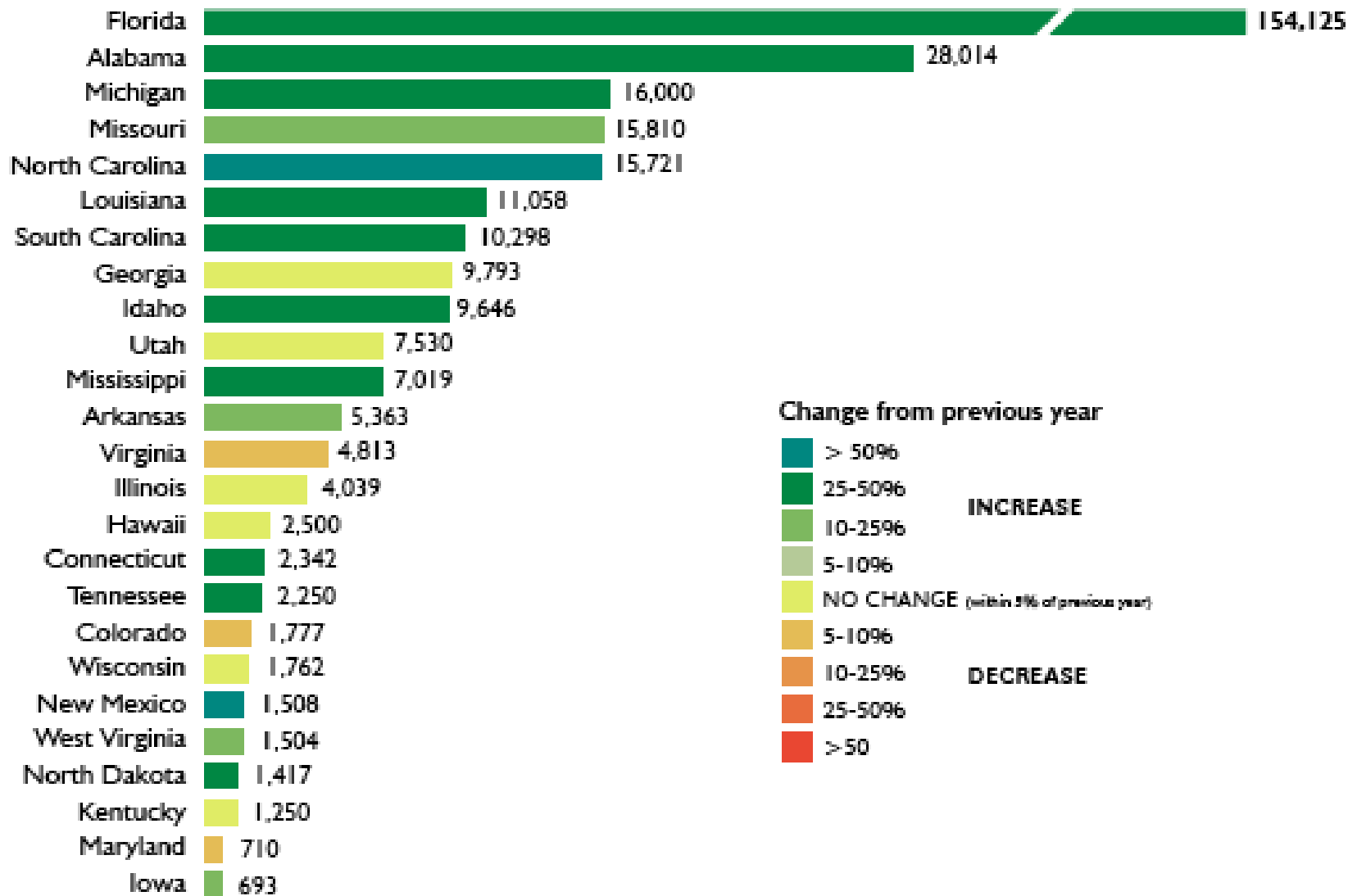
- 48 states have significant state policies (KP 2010)
- 32 states have state virtual schools (KP 2010)
- 27 states allow 220 full-time virtual charter schools with over 225,000 students (CER)
- 4 states require an online course for high school graduation
- 50% of employers use e-learning for training
- 82% of school districts had one or more students in a fully-online or blended course
- More universities are offering K-12 courses online
 - Stanford, Northwestern programs for gifted
- K-12 Online Learning enrollments growing 30% annually nationwide with 50,000 in 2000; over 2 million enrollments in 2008-2009; 4 million enrollments in 2011

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

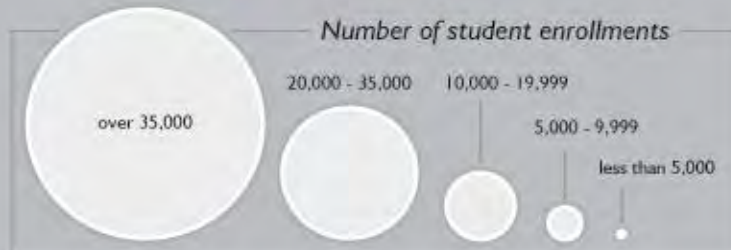
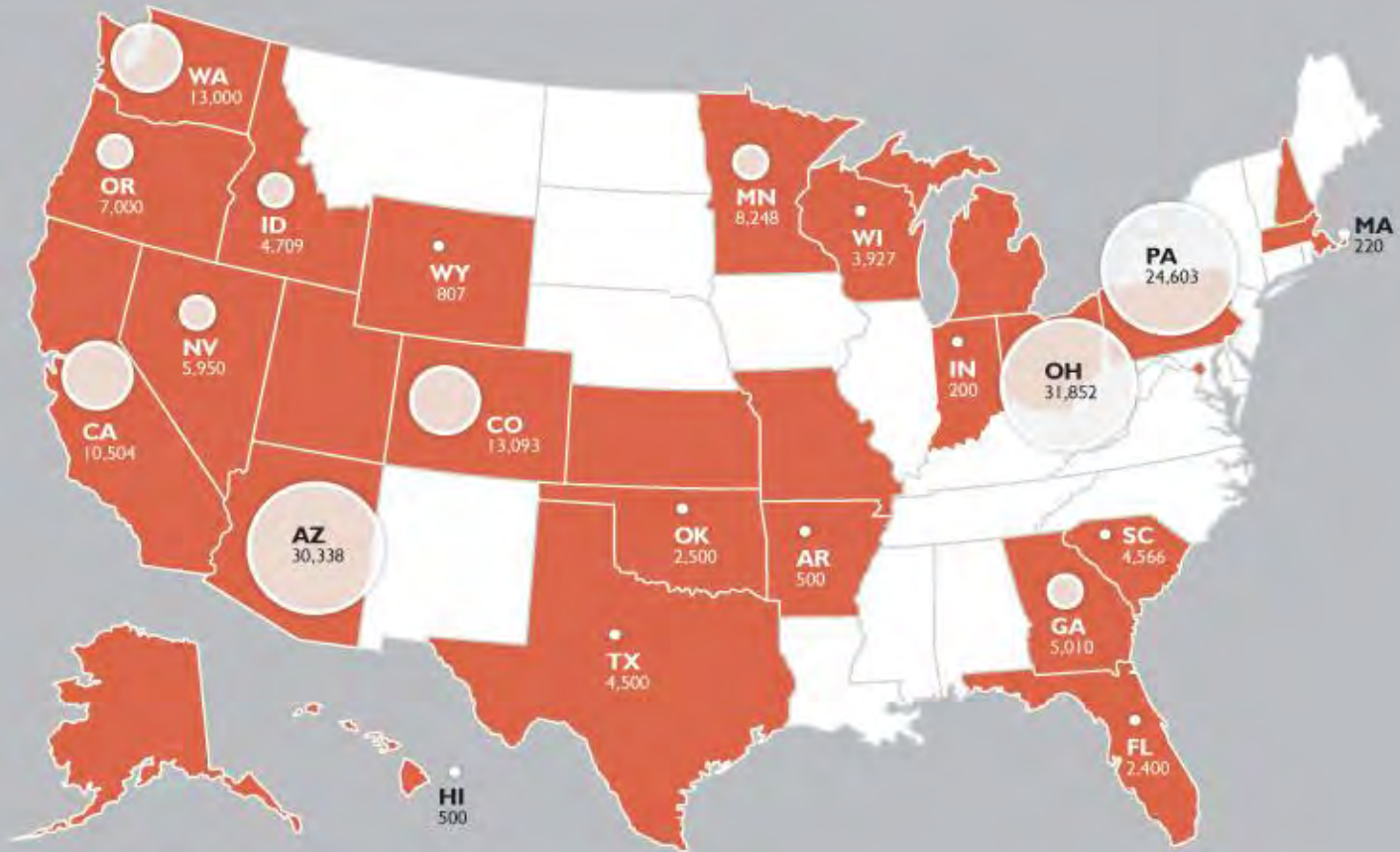


State Virtual Schools: Size and Growth 08-09



States with Multi-district Full-time Online Schools

■ states with a multi-district full-time online school
■ states without a multi-district full-time online school



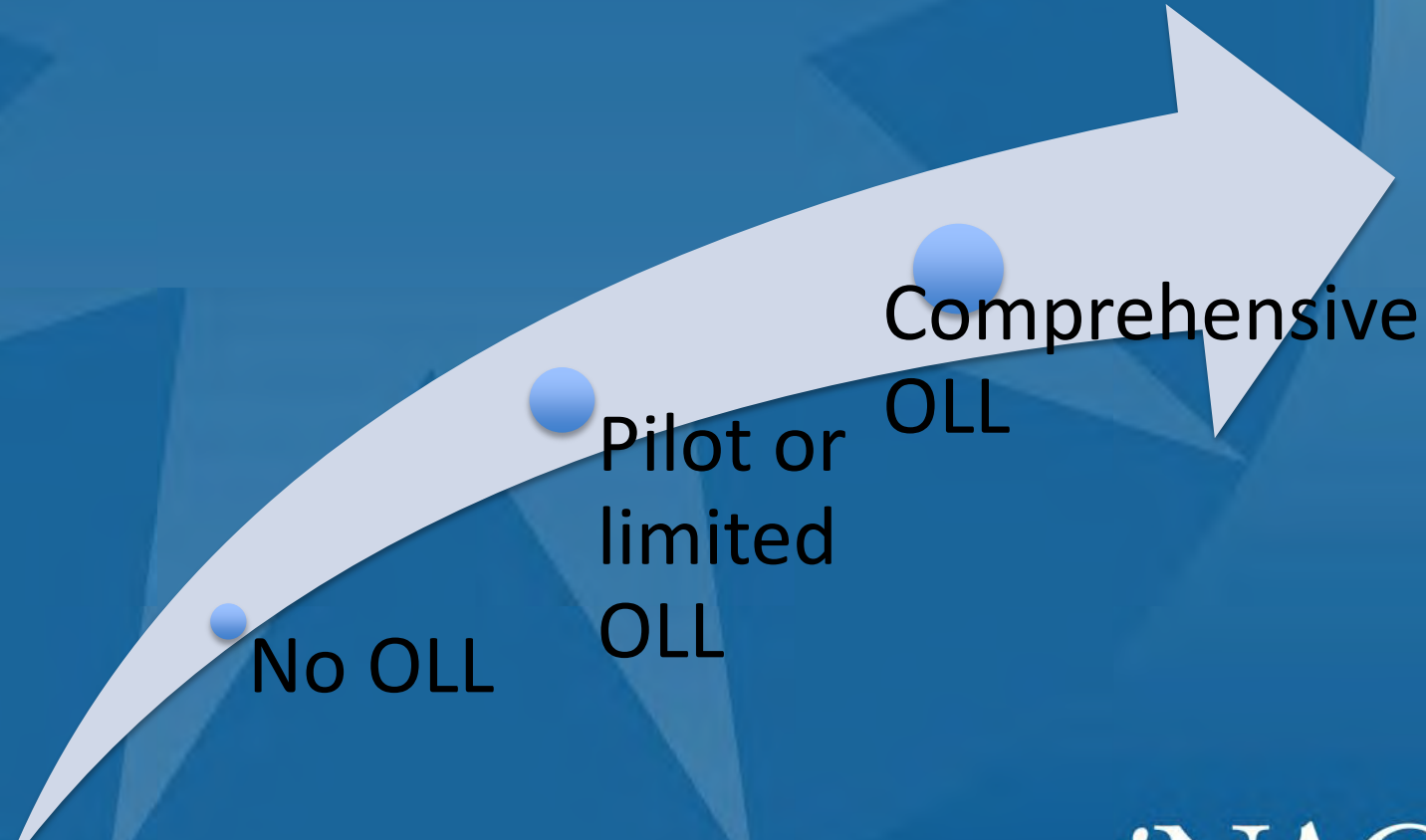
Providing Opportunities to All Students



District online learning progression



evergreen | education
group



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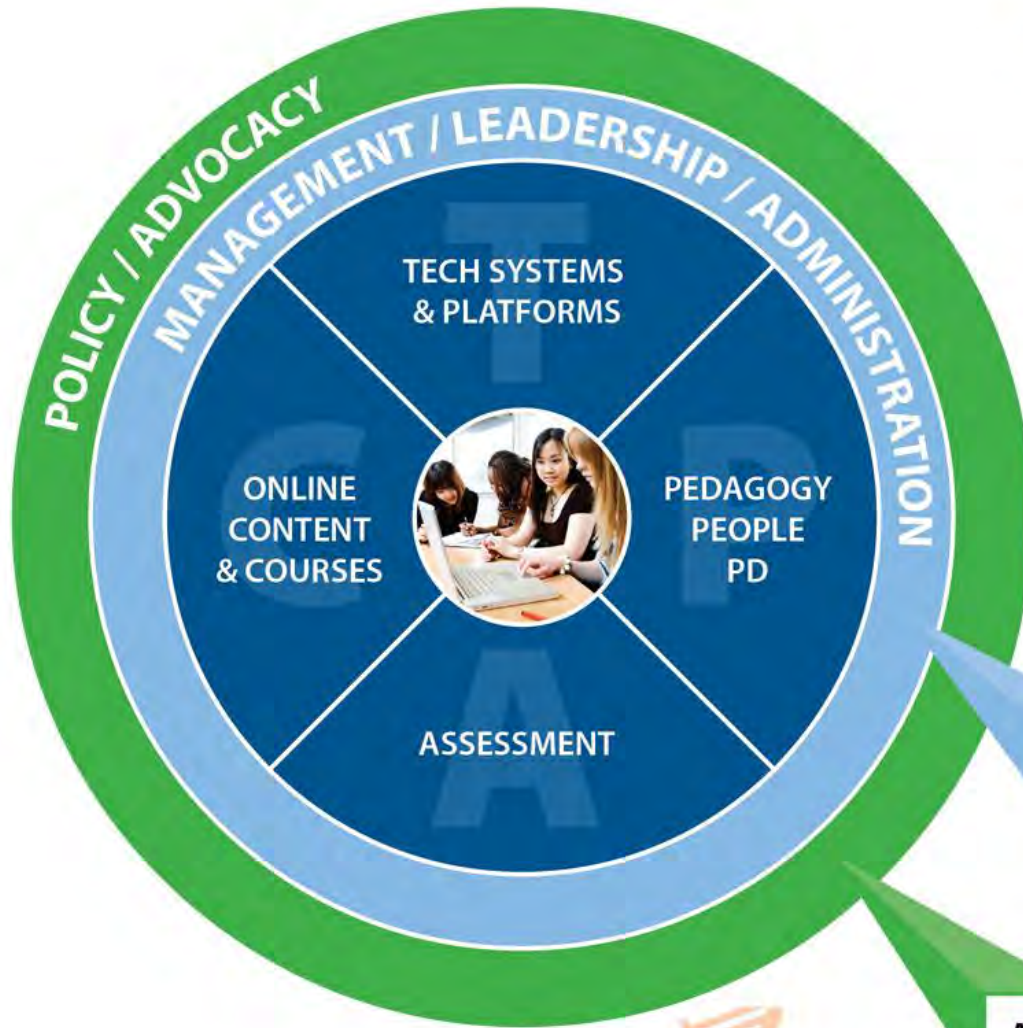
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Blended Learning: The Convergence of Online and Face-to-Face...the “Best of Both Worlds”

“Blended learning should be approached as not only a temporal construct, but rather as a fundamental redesign of the instructional model with the following characteristics:

- A shift from lecture- to student-centered instruction where students become interactive learners (this shift should apply to entire course, including face-to-face sessions);
- Increases in interaction between student-instructor, student-student, student-content, and student-outside resources; and
- Integrated formative and summative assessment mechanisms for student and instructor.” - Educause, *Blended Learning* (2004)

New Models Using Online & Blended Learning



T TECHNOLOGY PLATFORMS

- Enterprise architecture
- Learning management system/virtual learning environment
- 1:1 computing
- Broadband internet infrastructure
- New SIS models for standards-based and competency-based approaches

P PEOPLE / PEDAGOGY / PD

- Teachers need new skills to teach online
- Administrators need new skills to manage online programs
- New Response to Intervention (RTI) models through blended
- Personalizing instruction allowing students to accelerate at their own pace

A

ASSESSMENT

- Online / adaptive
- Personalization engines
- Performance-based

C

ONLINE CONTENT

- Online courses
- Dual enrollment
- Credit recovery
- Common core curriculum

STUDENT SUPPORT SERVICES

- Online tutoring
- Technical support
- Registration
- Counseling

ADVOCACY / POLICY

Does every student have access to online learning?

- Policies and funding models
- Remove barriers that limit enrollment

NEXT GEN MODELS
Competency-based
learning pathways

Blended/Hybrid Learning

- “Combining face-to-face with fully online components optimizes both environments in ways impossible in other formats” - Educause Research Bulletin, 2004
 - Digital content/curriculum, LMS, online assessments, data system, AI, simulations
 - Shift in instructional model and PD/training



Struggling student, low-engagement,
(More direct student support needed)

Self-direction, high engagement,
(Less direct student support needed)

Online Learning Research Highlights

- U.S. Department of Education study of Online Learning, “Evaluation of Evidence-based Practice in Online Learning: A Meta-Analysis and Review of Online Learning Studies” (2009)
 - “Overall, the meta-analysis found that 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.”
 - “instruction combining online learning with face-to-face elements had a larger advantage . . . students the participated in online learning and who spent more time on task benefited the most.”

National Standards for Quality Online Programs, Online Teaching & Online Courses

National Standards for Quality
Online Programs

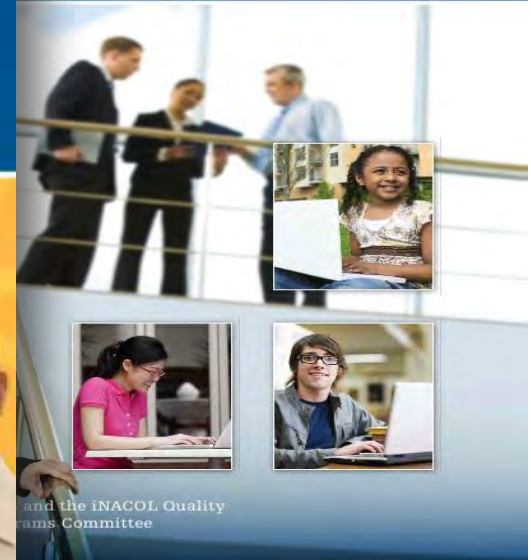
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National Standards for
Quality Online Teaching

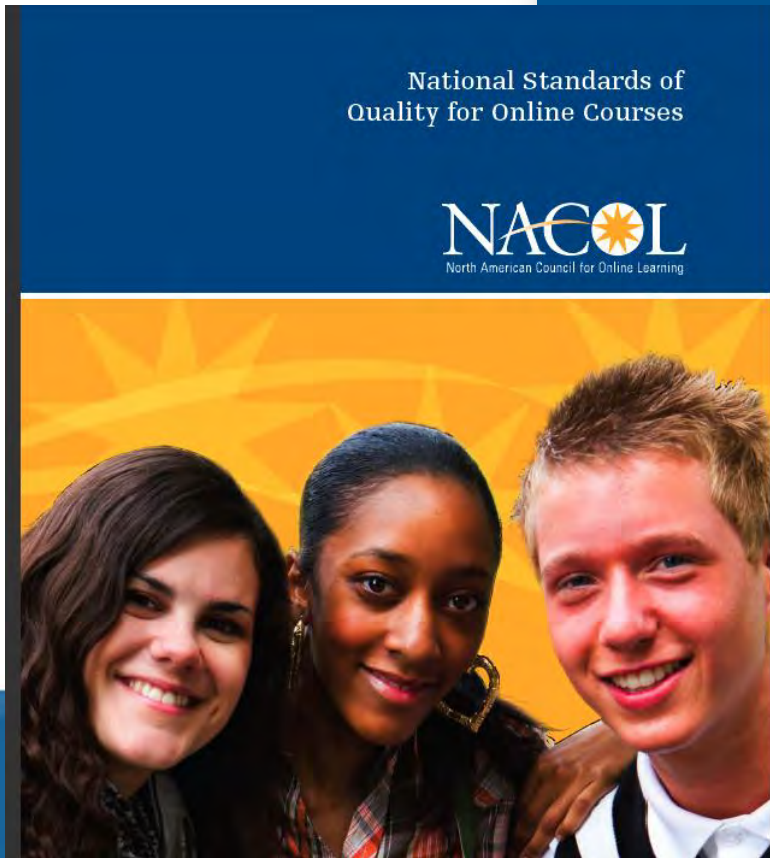
NACOL
North American Council for Online Learning

National Standards of
Quality for Online Courses

NACOL
North American Council for Online Learning



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Project Tomorrow Survey (2009)

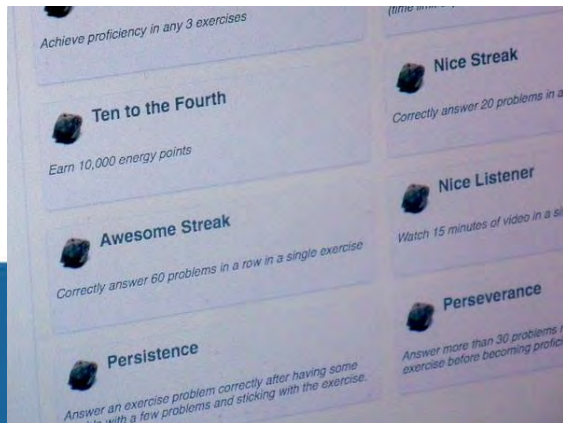
- Benefits of taking a class online?
 - According to students:
 - 51% said it allows them to work at their own pace
 - 49% to earn college credit
 - 44% said it allows them to take a class not offered on campus
 - 35% said it was to get extra help
 - 19% said they took online courses to get more attention from teachers

How Students Learn

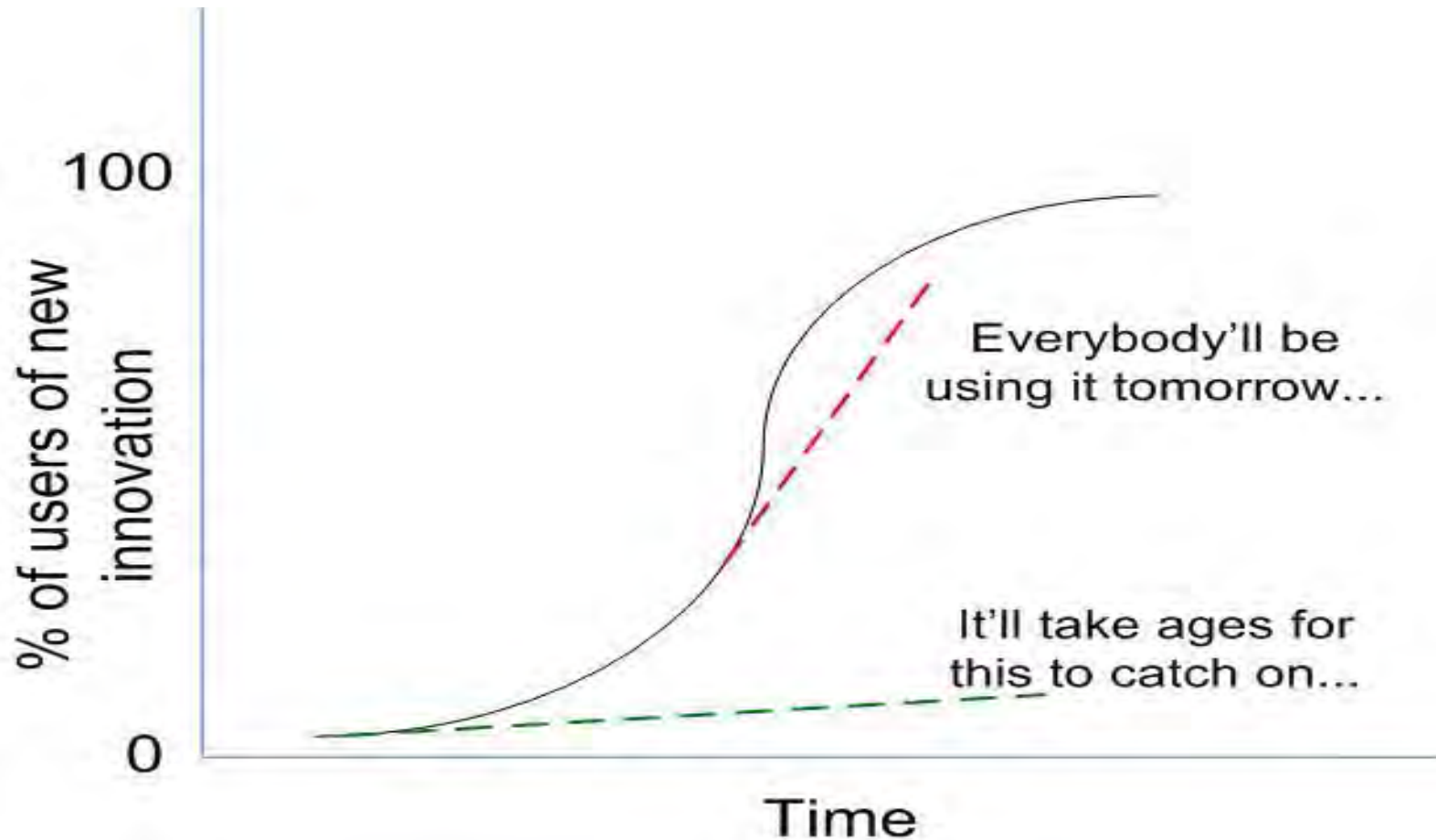


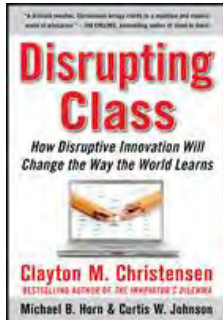
Khan Academy, Los Altos, CA

- **NPR August 22, 2011: Khan Academy Pilot in Los Altos Schools**
 - Teacher Courtney Cadwell says she saw students become 'active learners' and the tool 'stretches us as educators.'



Pace of adoption





Disrupting Class

Christensen suggests that by 2019 about half of all high school courses will be online.

Funding & Policy: Policy Changes to Allow Innovation

- “Seat-time” (instructional minutes) vs. “competency-based learning” policies; performance-based funding; rewards quality
- Equity; does every student have access?
- Assessment; modular; real-time
- Accountability model
- Information systems

Exploring the Future of Learning

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NEXT GENERATION

LEARNING
CHALLENGES

Transforming education through technology

\$12M Grants for Wave 3 RFP

**BILL & MELINDA
GATES** *foundation*

EDUCAUSE



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Next Generation Learning Challenges will provide investment capital to bring effective technology-enabled learning solutions to more students. Next Generation Learning Challenges initiative will:

- provide grant funding to accelerate new models of advanced learning
- evaluate the projects we fund to build a body of evidence regarding their impact,
- and will also help create an active community of innovators and educators committed to driving next generation learning forward.

Competency-Based Pathways

- Many related phrases: Proficiency, Outcome-based, Standard-Based, Performance-based
- Competency is being integrated into federal policy
- Eliminating time and place as barriers to learning is a focus in many state reforms

for Partnership
Next Generation
Learning

Next Generation Learning

Shifting the Focus to the Student

CCSSO – Six Critical Attributes for Next Generation Learning – Design Principles for New Systems for Learning

1. World Class Knowledge and Skills
2. Planning for Personalized Learning
3. Authentic Student Voice
4. Comprehensive Systems of Support
- 5. Performance-based Learning**
6. Anytime, everywhere learning

A 5-Part Working Definition: Competency-based Learning

1. Students advance upon mastery.
2. Competencies include explicit, measurable, transferable learning objectives that empower students.
3. Assessment is meaningful and a positive learning experience for students.
4. Students receive timely, differentiated support based on their individual learning needs.
5. Learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions.

In a proficiency system, failure or poor performance may be part of student's learning curve, but it is not an outcome.

----- *Proficiency Based Instruction and Assessment, Oregon Education Roundtable*

Designing Competency-based Pathways for Next Generation Learning

- Move away from content packed into traditional course sequences
- Leave grade and age level grouping behind
- Focus on each student's progress through the continuum of learning
- Use embedded assessment as part of the learning process
- Design learning trajectories of BIG IDEAS and key concepts
- Student learning plan is based on attainment of mastery/competency through these progressions (and not all students in the same sequences!)
- Evidence of learning can be varied
- Failure is no longer an option

Requires New Models of Accountability

- Federal & State Accountability **MUST** be using an individual student growth model
- Performance-based: Moving away from seat-time to competency-based learning models of policy and funding
- Performance-based funding: Provide incentives for schools that do the most with the most challenged students to incentivize success

State Recommendations

- Redefine Carnegie unit into competencies
- Allow personalized learning (any time, any place, any pace)
 - personalized learning plan
 - Informal, formal and online learning opportunities
- Student-centered accountability and assessment models
 - Individual student growth models
 - Rethink AYP and assessment to modularized testing throughout year measuring individual progress regularly
- Learning empowered by technology
 - SIS, integrated LMS, more online/blended, open architectures and resources (OER)

State Recommendations (cont'd)

- Financing a Competency-based System
 - Redefine Carnegie unit as competencies, thus removing funding based on seat-time
 - Incentivize high-quality, competency-based learning models by rewarding schools and districts that are most effectively serving traditionally underserved students
 - Streamline funding across K-20, so that students can advance to higher-level courses (and dual-enrollment, while remaining in their school)
 - Modularize courses so that schools serving highly mobile students can receive proportional credit for modules they master

Federal Recommendations

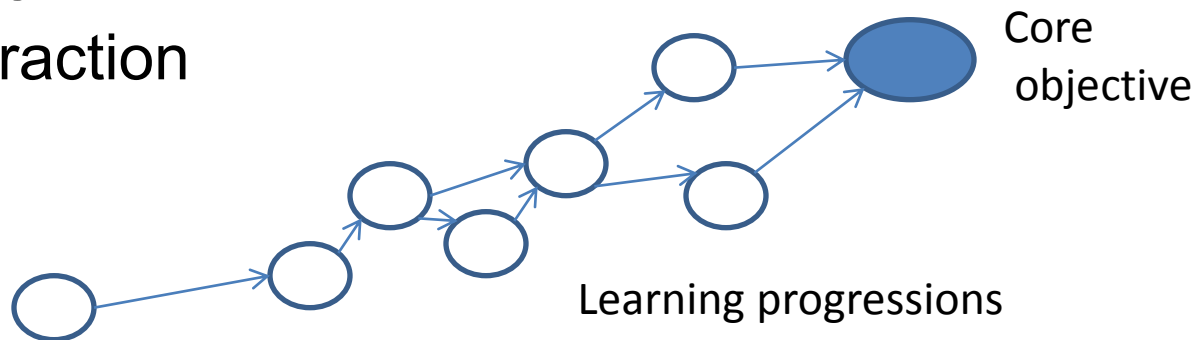
- Wilhoit: “There is a major issue between state accountability and the federal requirements for AYP and end-of-year assessments”
- Integrate Competency-based learning into major policies as design element
 - Elementary and Secondary Education Act (ESEA) Reauthorization
- Eliminate time-based regulations in federal policy
- Changing roles of educators/Highly Qualified Teacher
- Assist in creating innovation zones and capacity
- Provide political cover

What It Looks Like

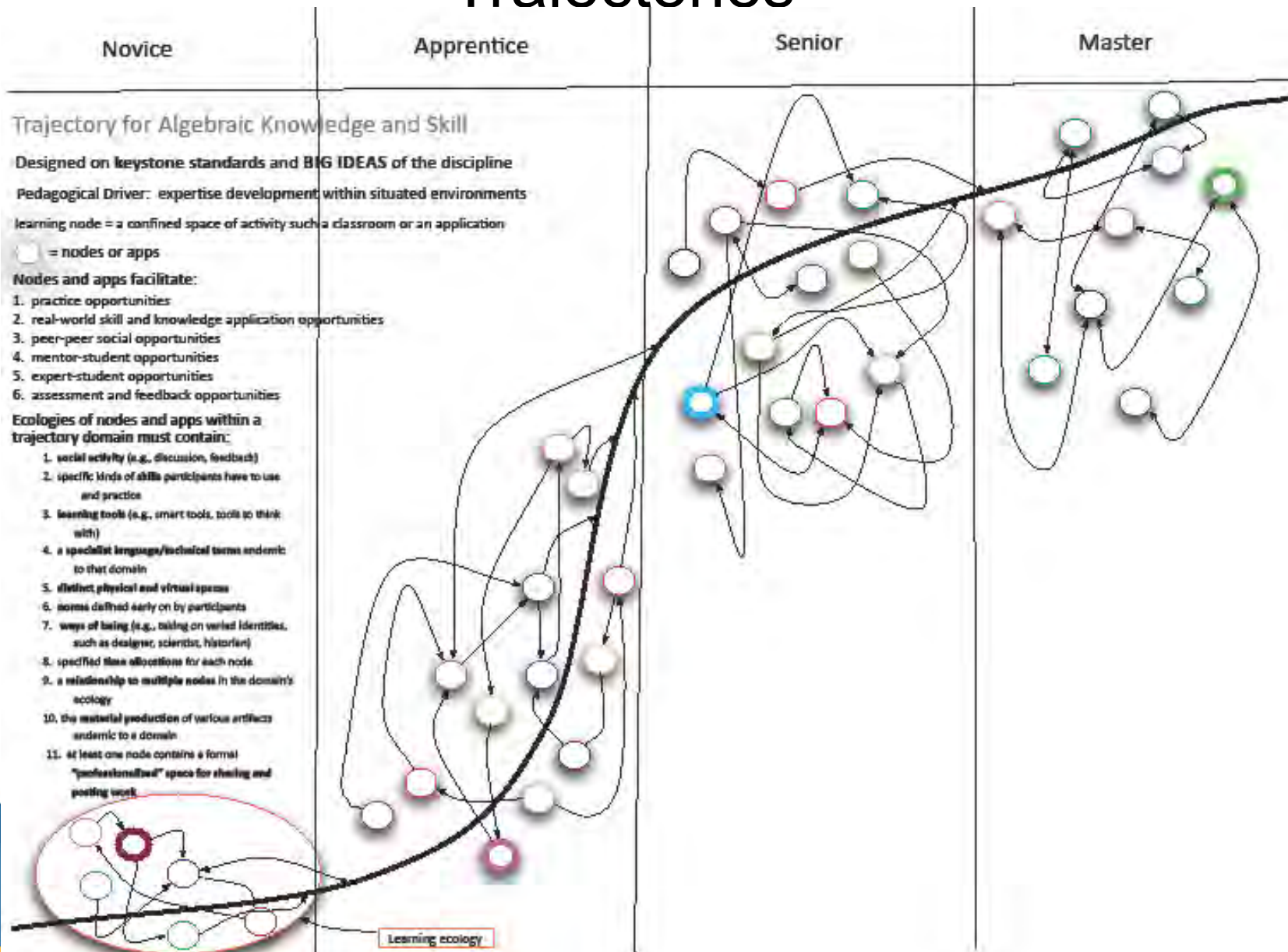
- Every student with a learning “map”
 - Competencies for each level - academic+
- Rubrics to help teachers understand what proficiency looks like
- Adults shifting roles
 - Personalization, grouping, teacher specialization
- Students know their targets; collaborate w/each other
- Data systems to support teachers and students clearly indicating level of progress on each academic standard and efficacy standards (to monitor student progress)
- Classroom, online, expanded learning opportunities
 - After school, museum, NASA, formal & informal learning
- Individual growth models for accountability

Concept: Learning Progressions with Differentiated Trajectories

- A learning trajectory is a reasoned structured set of intermediate objectives and content leading to a certain core objective (Allard Strijker, Kennisnet)
- Important concepts with learning trajectories:
 - Make teaching differentiation possible
 - Facilitate interaction
 - Scalable



Applications and Tools within Learning Trajectories



Fundamentals of Learning

- Using platform of the common core:
 - Approaches should anticipate the future of learning
 - Active, situated and experiential learning improves engagement, problem solving and achievement
 - Learning best measured by mastery rather than seat-time

Next Generation Learning Models: Blended Learning

- In this paradigm of “next generation learning models,” students and teachers – from secondary to postsecondary – will access high-quality, relevant and engaging content in multiple modalities.
- Class time and structure will become more flexible, based on the learning needs of the students.
- Students will access multiple sources of instruction as needed and use assessments and diagnostics to gain more control over the pace and format of their own learning.
- And teachers will spend their time in different ways, tailoring their help to ensure acceleration and mastery for all students, with a focus on those who have historically been underserved.

Competency-based learning

Performance or competency based learning is fundamental to personalizing learning at scale

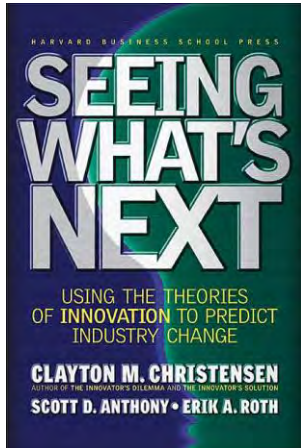
and

It challenges almost all of our assumptions about the present system

Resources: www.inacol.org

- Reports

- *When Success is the Only Option: Designing Competency-based Pathways for Next Generation Learning (2010).*
- *Clearing the Path: Creating Innovation Space for Serving Over-Age, Under-Credited Students in Competency-Based Pathways (2011).*
- *It's Not a Matter of Time: Highlights from the Competency-based Learning Summit (2011).*
- *Cracking the Code: Synchronizing Policy and Practice for Performance-based Learning (2011).*



“Using the Internet to deliver courses seems to contain great disruptive potential. It could allow a radical transformation to happen in an incremental, rational way.”

- Clayton Christensen, Harvard Business School

Discussion: Q&A

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