



Implementing Programs of Study

**Issues and Possible
Solutions**

James R. Stone III Director
National Research Center for Career & Technical
Education, University of Louisville



Year 2 – A National Research Center



Disclaimer:

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If Programs of Study are the
Solution . . .

What's the problem?

Our Many Challenges . . .

- ▾ A high and rising drop out rate of secondary students
- ▾ Students who graduate are lacking in basic math and science skills
- ▾ Most students think they are going to college but do not prepare for it or any other possible future
- ▾ Extraordinarily high remediation rates for two-year college applicants

A Framework for discussion . . .

- ↘ **Engagement** – Completing high school, completing PS programs
- ↘ **Achievement** – technical and academic; acquisition of industry credentials
- ↘ **Transition** – to continued formal learning without the need for remediation; and to the workplace

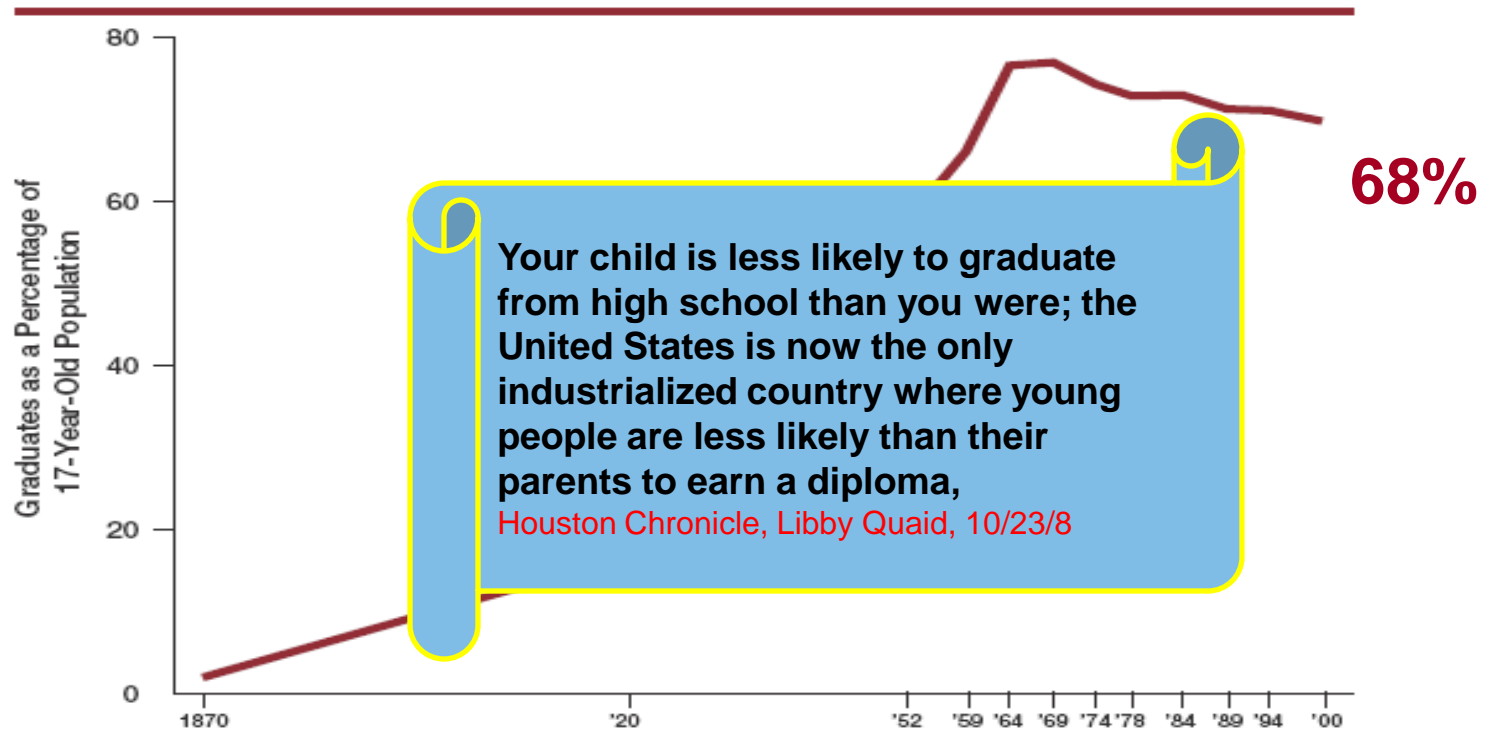


Engagement

The engagement challenge

According to the National Assessment of Educational Progress, a majority of ninth-graders in low-performing high schools begin their freshman year with significant reading difficulties. Poor reading ability is a key *predictor* of academic disengagement and, ultimately, dropping out.

It is getting worse



Your child is less likely to graduate from high school than you were; the United States is now the only industrialized country where young people are less likely than their parents to earn a diploma,
Houston Chronicle, Libby Quaid, 10/23/8

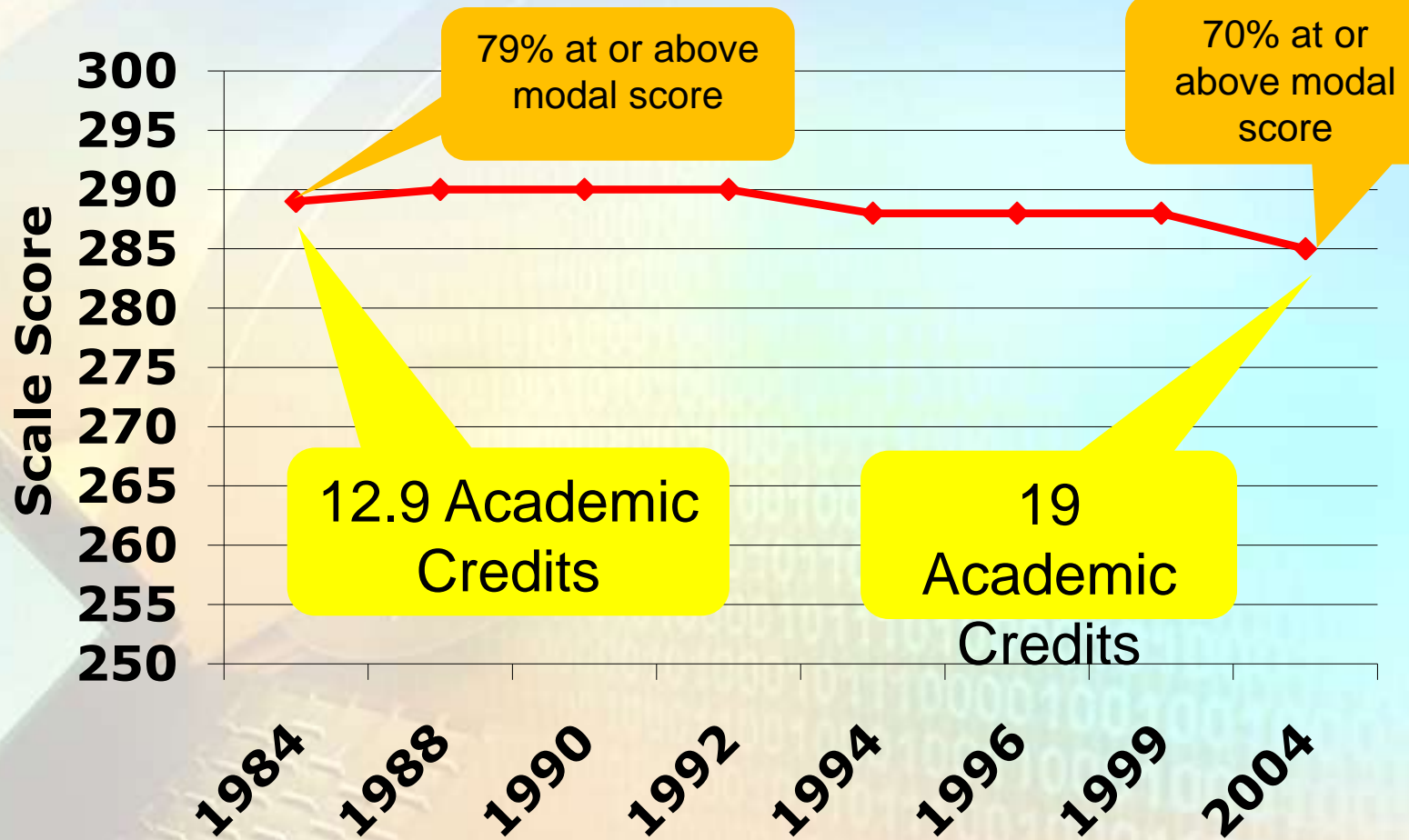
Note: Graduates are of regular day school programs.
Source: U.S. Department of Education, National Center for Education Statistics.

Source: *One-Third of a Nation* (ETS, 2005)



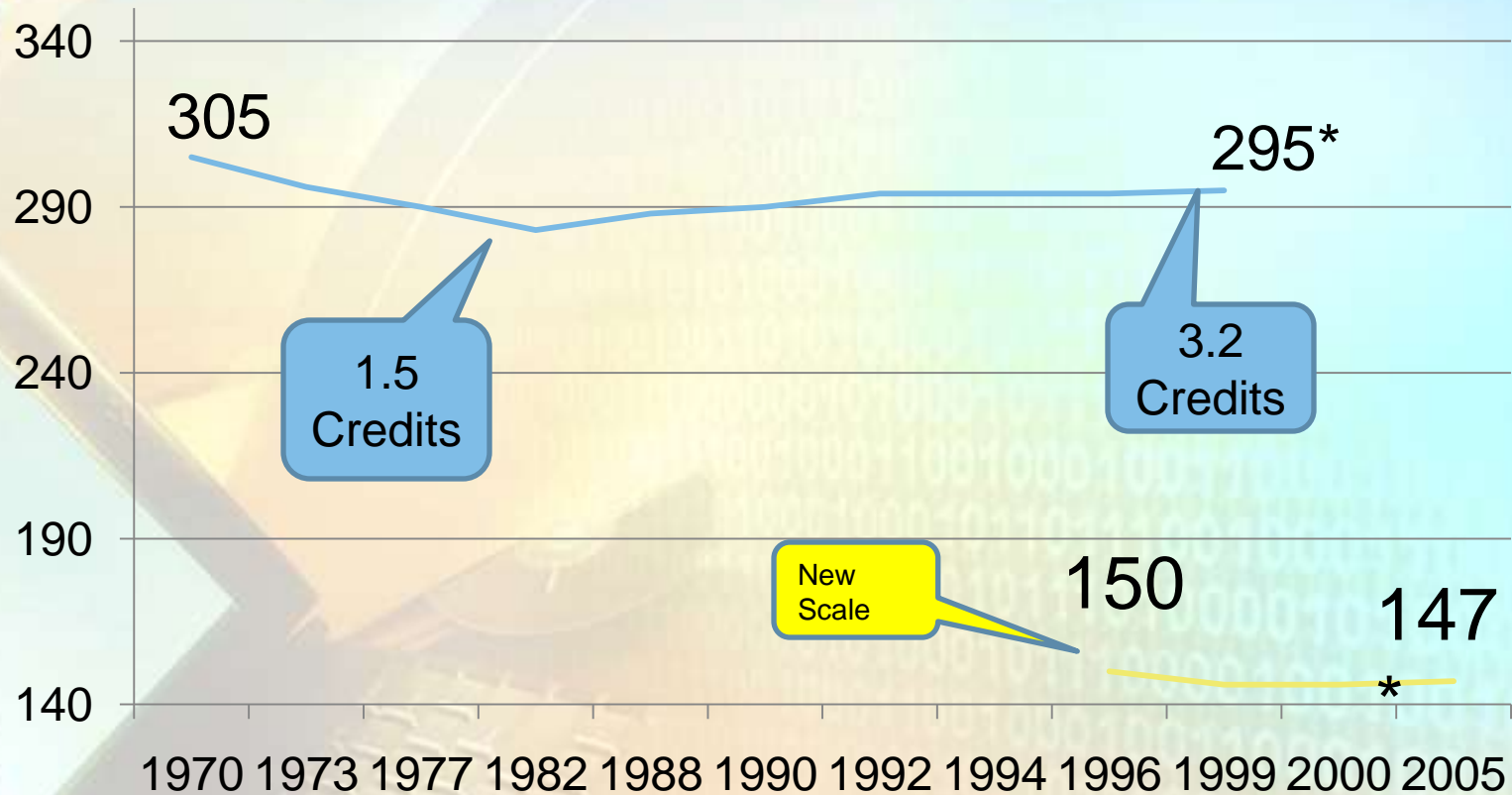
Achievement

Achievement Flat or Declining in Reading, 17 year olds, NAEP

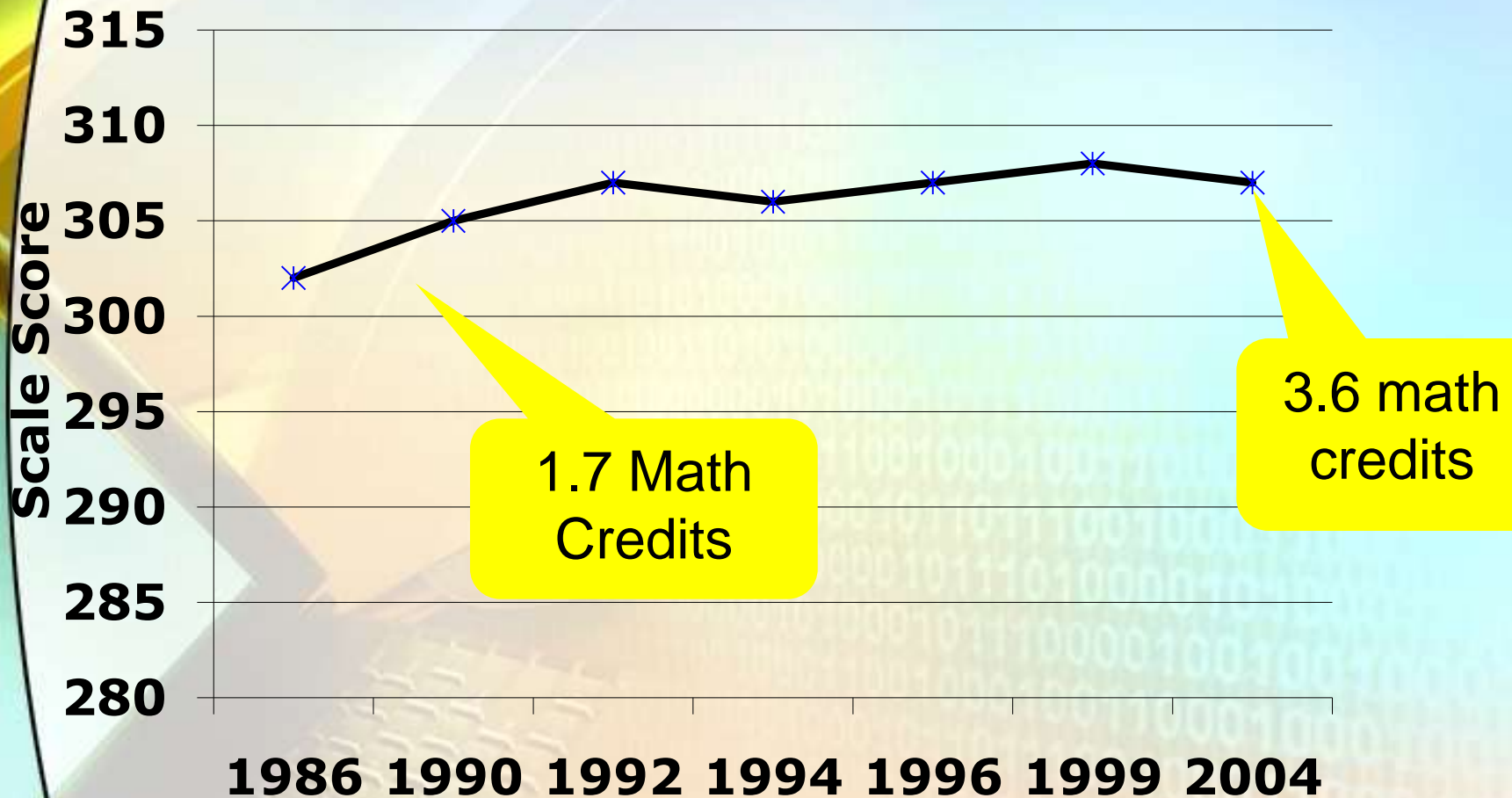


Note: Long-Term Trends NAEP

NAEP Science Scores – High School



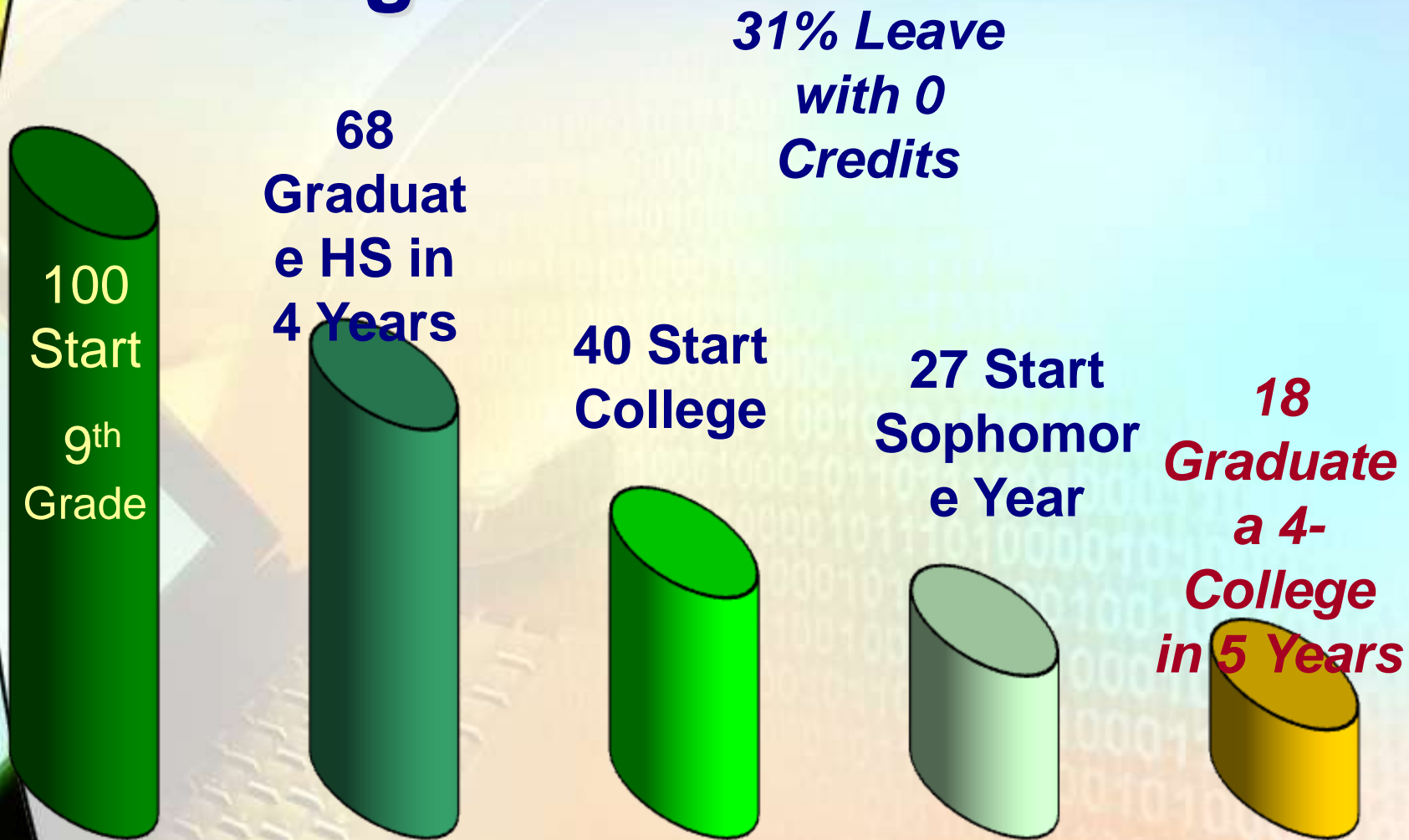
HS Achievement In Math



Note: Long-Term Trends NAEP

Source: NAEP 2004 Trends in Academic Progress and NAEP 1999 Trends in Academic Progress.

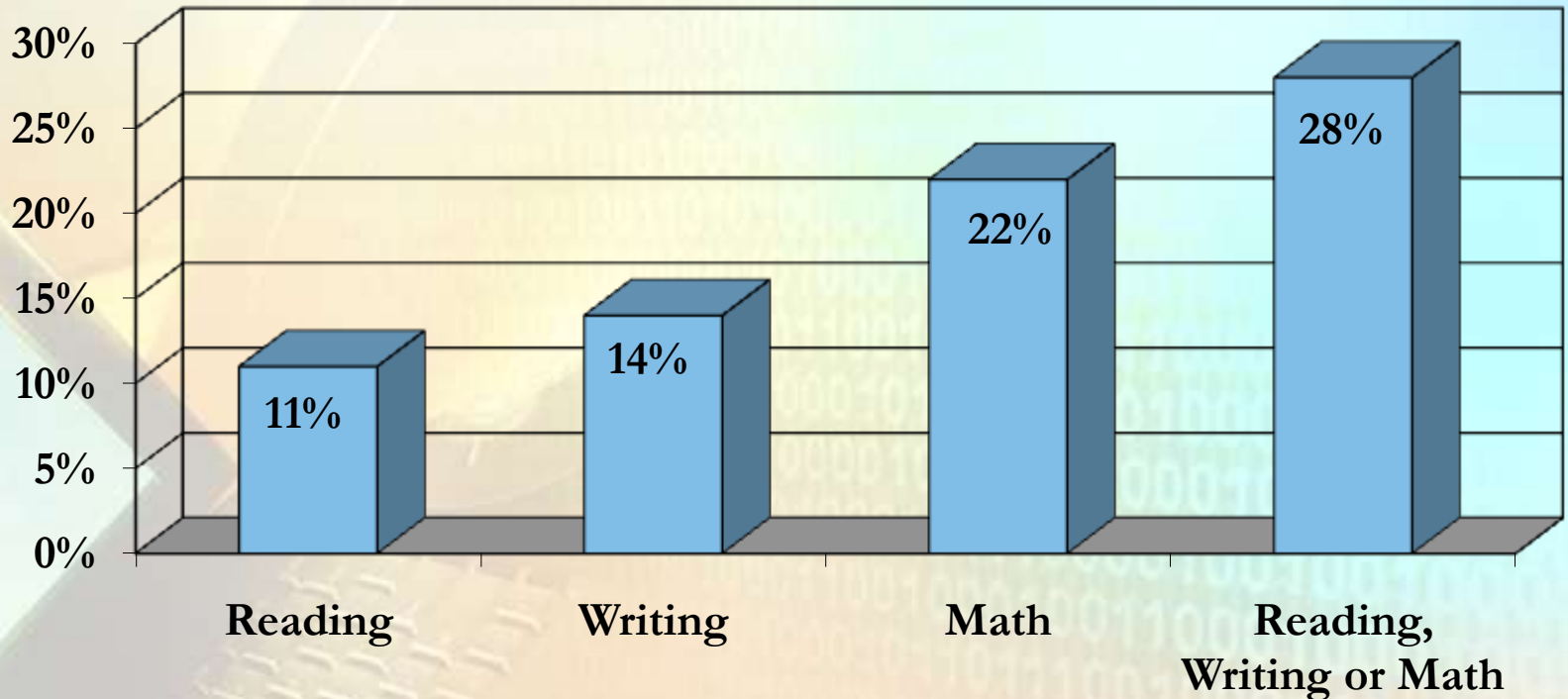
Transition to college: The Challenge



Remediation

Once many of these same students get into college, 40% of four-year students and 63% of two-year students require remediation. (a report from *Education Commission of the States*)

Nearly 30% of HS Graduates Require Some Remediation



Source: NCES (2003), *Remedial Education at Degree Granting PS Institutions in fall 2000*

Programs of study

WHAT THE LAW REQUIRES

Perkins – “Programs of Study”

- *State approved programs, which may be adopted by local education agencies and postsecondary institutions to be offered as an option to students when planning for and completing future coursework, for career and technical content areas.*
- *Incorporate secondary education and postsecondary education elements;*

Programs of Study Element 2

Include . . .

- ↙ coherent and rigorous content*
 - ↙ aligned with challenging academic standards*
 - ↙ and relevant career and technical content*
 - ↙ in a coordinated, non-duplicative progression of courses that align secondary education with postsecondary education*
- . . . to adequately prepare students to succeed in postsecondary education;*

Programs of Study – Element 3

May include the opportunity for secondary education students to participate in dual or concurrent enrollment programs or other ways to acquire postsecondary education credits;

- ▾ What systems issues will you need to address?
- ▾ Dual Enrollment Options
 - Student attends CC
 - CC Instructor comes to HS
 - HS teacher teaches CC course

Programs of Study – Element 4


Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

Enhanced Programs of Study Should Include . . .

- ✓ Validated academic and industry outcomes
- ✓ Extended learning opportunities: WBL, CTSOs.
- ✓ Professional development for faculty & administrators
- ✓ Seamless articulation of technical courses
- ✓ Data collection system to document outcomes
- ✓ On-going secondary-Postsecondary collaboration
- ✓ Pre-HS graduation remediation


CTE Based School Reform

Work
Based
Learning



**Class
Innovation**

CTSOs



Programs of
Study

Career Clusters

Programs of Study Require a Career Development Framework:

▾ Elementary

- Students begin CD by heightening their awareness of career opportunities

▾ Middle School

- Focus: Exposure to and exploration of careers

▾ High School

- Students investigate and prepare for their future careers through experience based work opportunities (IL State Board of Education, 2000)

CD Model - SC

Steps to Success

Employment: Career Advancement

Continuing Education and Lifelong Learning

Postsecondary: Career Preparation

Achieving credentials: college, certification, apprenticeship, military

9-12: Career Preparation

Academics and technical courses, intensive guidance, individual graduation plans

Grade 8: Transition

Choosing a career cluster and major (can change easily at any time later)

6-8: Career Exploration

Discovering interest areas

K-5: Career Awareness

Introduction to the world of careers

Tech Prep
Career Pathways
Youth Apprenticeship
Dual Enrollment

They are kind of like . . .

**WHAT DO WE KNOW ABOUT
PROGRAMS OF STUDY**

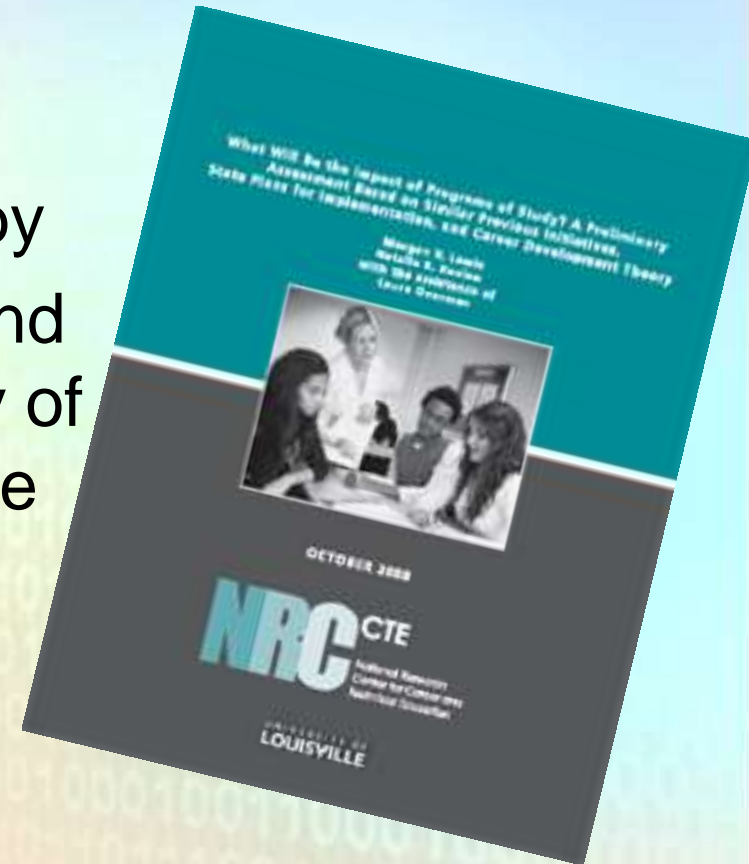
PofS: What do we know?

	<i>Components and Special Features</i>	<i>Evidence of Effectiveness</i>
Tech Prep	<ul style="list-style-type: none"> • <i>Program</i> • Very similar to POS • First major initiative to encourage articulation of secondary and postsecondary instruction 	<p>Few significant differences between Tech Prep participants and similar nonparticipants</p>
Career Pathways	<ul style="list-style-type: none"> • Very similar to POS • Comprehensive templates for educational planning • Increased emphasis on the rigor of content in academic and technical content 	<ul style="list-style-type: none"> • Higher rates of postsecondary enrollment • Higher grade point averages in high school • Less remediation at the postsecondary level
Youth Apprenticeships	<ul style="list-style-type: none"> • Very similar to POS • Technical training delivered by employers • Academic instruction linked to training 	<ul style="list-style-type: none"> • No good evidence of effectiveness • Enroll a very low percentage of secondary students
Concurrent/Dual Enrollment	<p>Postsecondary courses and credits available to secondary students</p>	<ul style="list-style-type: none"> • Higher rates of postsecondary enrollment & persistence • Higher grade point averages at the postsecondary level • More postsecondary credits earned • Self-selection bias?

Programs of Study:

This October 2008 report on Programs of Study was led by Morgan V. Lewis (NRCCTE) and Natalie R. Kosine (University of Louisville) with the assistance of Laura Overman (UofL)

Also available at
<http://www.nrccte.org/>



**What Effect Are POS Likely to Have on the Delivery
of CTE and Student Performance?**

QUESTIONS AND ANSWERS(?)

Question 1

To what degree can secondary and postsecondary instruction be articulated?

- ▾ *POS should align secondary and postsecondary instruction, but college-level content may not be appropriate for most CTE high school courses. Rather than teaching college courses in high school, it may make more sense to focus on using students' interest in the occupations they study to improve their academic skills through curriculum integration.*

Question 2

To what degree can rigorous and relevant technical content be aligned with challenging academic standards?

- ▾ *States should work to align rigorous and relevant technical content with challenging academic standards through local development of POS. CTE and academic teachers at the secondary and postsecondary level should be given the time and support needed to work together to develop POS.*

Question 2, continued

- ▣ *The cost and logistics of making such opportunities available are formidable but have a high potential to yield the kinds of POS that are needed. POS developed and disseminated without the involvement of those who must implement them will not produce the desired results.*

Question 3

What are appropriate measures of the effectiveness of POS?

- ▾ *The percentage of students obtaining postsecondary degrees or certificates should be one of the indicators used to assess the effectiveness of POS, but the core indicators required for all secondary CTE students (Perkins IV, Sec 113(b)(2)(A)) will provide more useful information.*
- ▾ *Add a measure of career development*

In Summary

- POS can enhance the effectiveness of CTE, especially by aligning technical instruction with rigorous academics.
- Given that most high school graduates are in the exploratory stage of career development, we do not expect high percentages to continue in the POS they followed in high school. *This does not mean that the POS have failed.*
- POS that increase *student engagement*, improve *academic skills*, and deepen *student understanding of occupations* have succeeded even if graduates decide not to continue their high school POS at the postsecondary level.



Sustaining Education Reform

A visit to the graveyard of
education reform

Ghosts of Past Reforms . . .



Career Clusters & Tech Prep: A cautionary tale

- ❏ Few schools fully implemented Tech Prep in its 2+2 form.
- ❏ Complete tech prep programs serve only 5% of the students enrolled in programs that are nominally Tech Prep.
- ❏ Tech Prep as a program has become virtually meaningless.
- ❏ Led to recommendation to eliminate funding



Keys to successful education reform

- ↙ Use well-established **core elements** (e.g., instructional materials, professional development program, leadership plan) that were commonly accepted as standard practice.
- ↙ **Fidelity of treatment** - True implementation based on established elements
- ↙ Strong **curriculum framework**; not just rearranging deck chairs
- ↙ **Accountability**- measuring success (engagement, achievement, transitions)
- ↙ **Critical mass**
- ↙ Change the **culture**
- ↙ Involve the **decision makers**
- ↙ Sustain **leadership**
- ↙ Provide sufficient **resources**
- ↙ **And much more**

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NEW RESEARCH



Improving CTE:

Three foci for the New Center

- ↘ **Engagement** – Completing high school, completing PS programs
- ↘ **Achievement** – technical and academic; acquisition of industry credentials
- ↘ **Transition** – to continued formal learning without the need for remediation; and to the workplace

Programs of Study: A Longitudinal Analysis

Alfeld and Charner, AED

- ↘ A look at “mature” Programs of Study
- ↘ What are the key “ingredients” of success?
- ↘ Does it incorporate all of the components for POS identified by Perkins?
- ↘ Are there other components leading to success?
- ↘ What are the student outcomes?
- ↘ *Longitudinal*

Rigorous Test of Student Outcomes in CTE Programs of Study Castellano and Sundell

- ✦ Assess the effectiveness of POS in three states
- ✦ Three randomized controlled trials, one in each state
- ✦ Does the program of study lead to improved student outcomes as compared to outcomes at comparison group schools?
- ✦ Effectiveness measured in ways consistent with the Perkins IV legislation
 - ✦ academic achievement
 - ✦ technical skills achievement
 - ✦ high school completion
 - ✦ placement in postsecondary education, work, or the military
 - ✦ program participation and completion by nontraditional students
 - ✦ program participation and completion by students from special populations as defined by Perkins IV

Longitudinal Study of South Carolina's Personal Pathways to Success

Smink and Drew, Clemson

- ↙ Examine the impact of a statewide implementation of a Perkins IV type intervention and program of study policy on school and student outcomes.
- ↙ To what extent are integrated, career-focused programs of study developed through the implementation of state policy?
- ↙ What impact has the implementation of this state policy had on student high school outcomes, postsecondary employment and education/training outcomes?
- ↙ Which aspects of this state policy, or other program elements, have been most instrumental in the development of integrated, career-focused programs of study?

Relative Impact of Interventions to Improve Achievement and Retention in Postsecondary Occupational Programs

Bremer and Johnson University of Minnesota

Castellano and Hirschy University of Louisville

- ▾ Assess the impact of existing postsecondary interventions for improving achievement and retention for community college occupational students
- ▾ Short-term analysis of the impact of interventions
- ▾ Longitudinal study of selected interventions in four community colleges

State Technical Assistance Academy for Career and Technical Education *Green-Focused Programs of Study*



Challenge to you

Build an appropriate response

- Career clusters to organize pathways to a productive future
- Program of studies to help parents and their children plan for that productive future
- Teach the critical core curriculum in a context that adds meaning and value to student learning



James R. Stone III

James.stone@nrccte.org

www.nrccte.org