

College and Career Ready: What Does This Mean for My State's Data System?

A webinar presented by the
Appalachia Regional Comprehensive
Center (ARCC) at Edvantia

Welcome



Dr. Donna Carr
Assistant Director for
Regional Initiatives
ARCC at Edvantia

Agenda

Opening and Welcome	Donna Carr
Data Quality Campaign National Meeting	Belinda Black
Feedback Reports	Charles McGrew
Aligning the Journey with a Destination	Gary Williamson
Reflections and Questions	Participants
Using the Data	Dorothyjean (DJ) Cratty
Reflection and Questions	Participants
Summary and Evaluation	Dee Braley
Closure	Belinda Black

Today's Webinar



Margie Johnson

Instructional Technology & Design
ARCC at Edvantia

Host



Belinda Black

Technical Assistance Team Leader, Data Systems
ARCC at Edvantia

Objectives

- To provide relevant information on data system needs
- To hear concerns and address questions
- To offer new insights as they relate to State Longitudinal Data Systems (SLDS)

Recap of Data Quality Campaign Meeting

- October 5, 2011 in Washington, DC
- Data Quality Campaign
(<http://www.dataqualitycampaign.org>)
- College Summit
(<http://www.collegesummit.org/>)

Using Data to Support the College and Career-Ready Agenda

- *Seizing the Measurement Moment: Why Now is the Time for States to Help High Schools Get the Postsecondary Data They Need and Want*
(<http://www.collegesummit.org/>)
- Sheds light on the big unknown: How do students fare after they graduate?

Recommendations for State Action

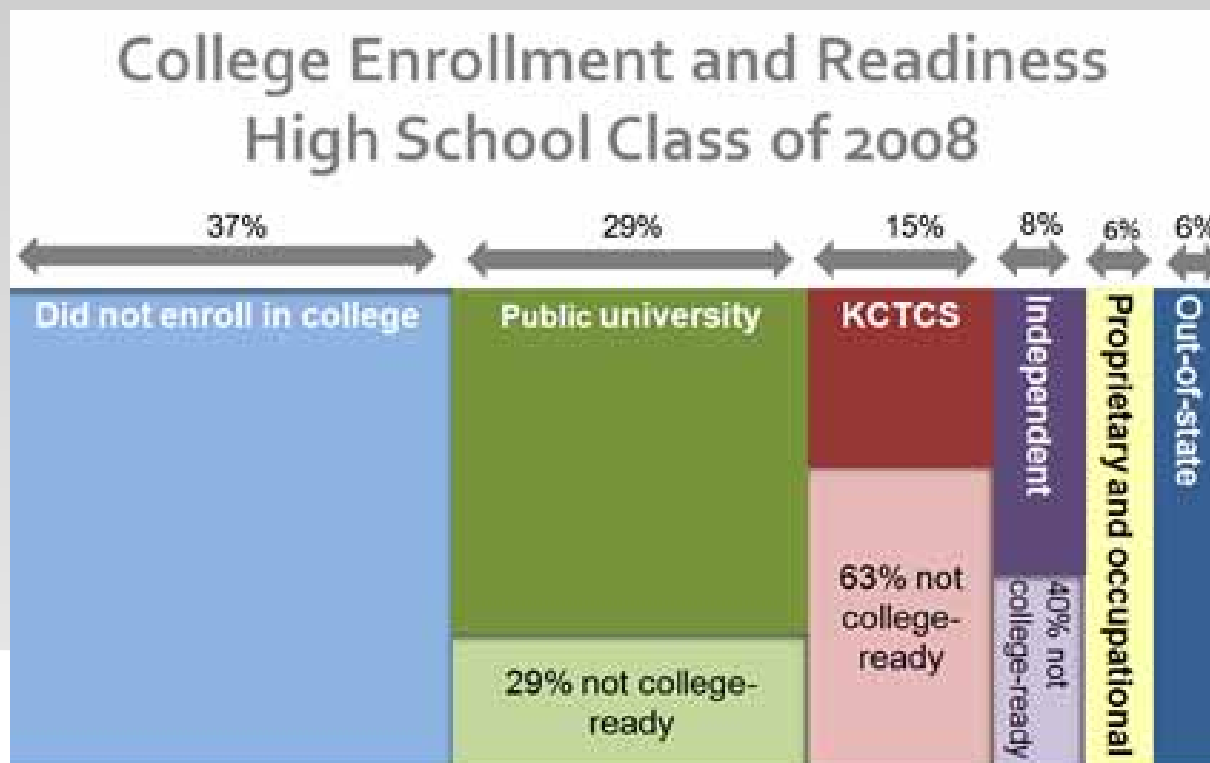
- Improve the ability to measure students' postsecondary success
- Make the postsecondary success data available statewide
- Provide technical assistance to help districts translate data and reports into action
- Reward districts and schools that improve students' enrollment and postsecondary performance

Kentucky P20 Data Collaborative Feedback Reports

Charles McGrew

Executive Director
Kentucky P20 Data Collaborative

Kentucky College and Career Readiness High School Feedback Report



College entrants include all graduates of Kentucky's public and certified non-public high schools who enrolled in a college or university in the summer or fall semester following graduation.

Selected Resource

DQC's Primer on Using Early Childhood, K-12, Postsecondary, and Workforce Data

www.dataqualitycampaign.org/resources/details/1426

Steps for States:

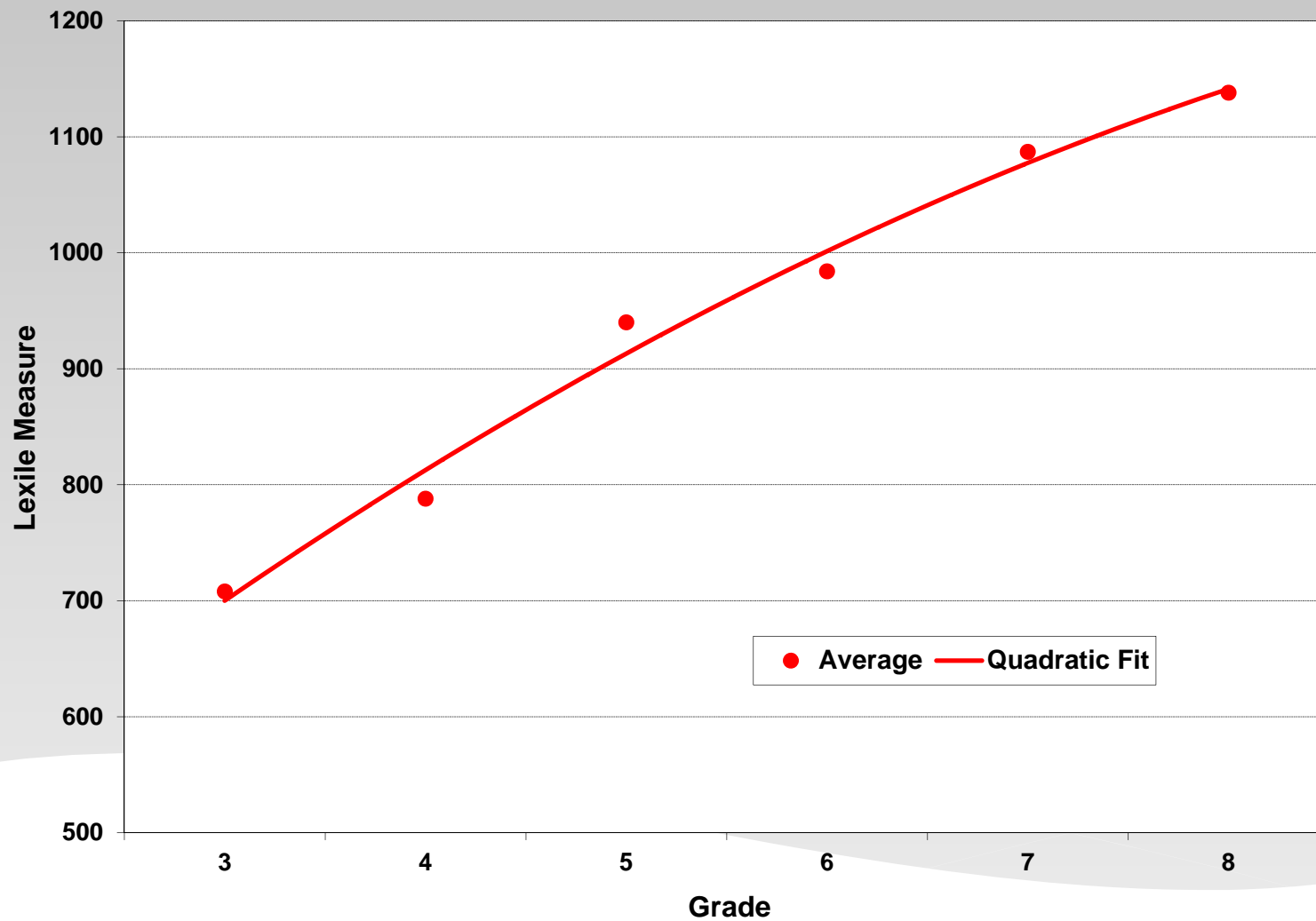
1. Link systems
2. Match data
3. Share information

Aligning the Journey with a Destination



Gary Williamson
Senior Research Scientist
MetaMetrics, Inc.

1999-2004 NC Average Reading Growth Curve



Equation for the Average Growth Curve

Parameter $\hat{\gamma}_{00} = 700.0$

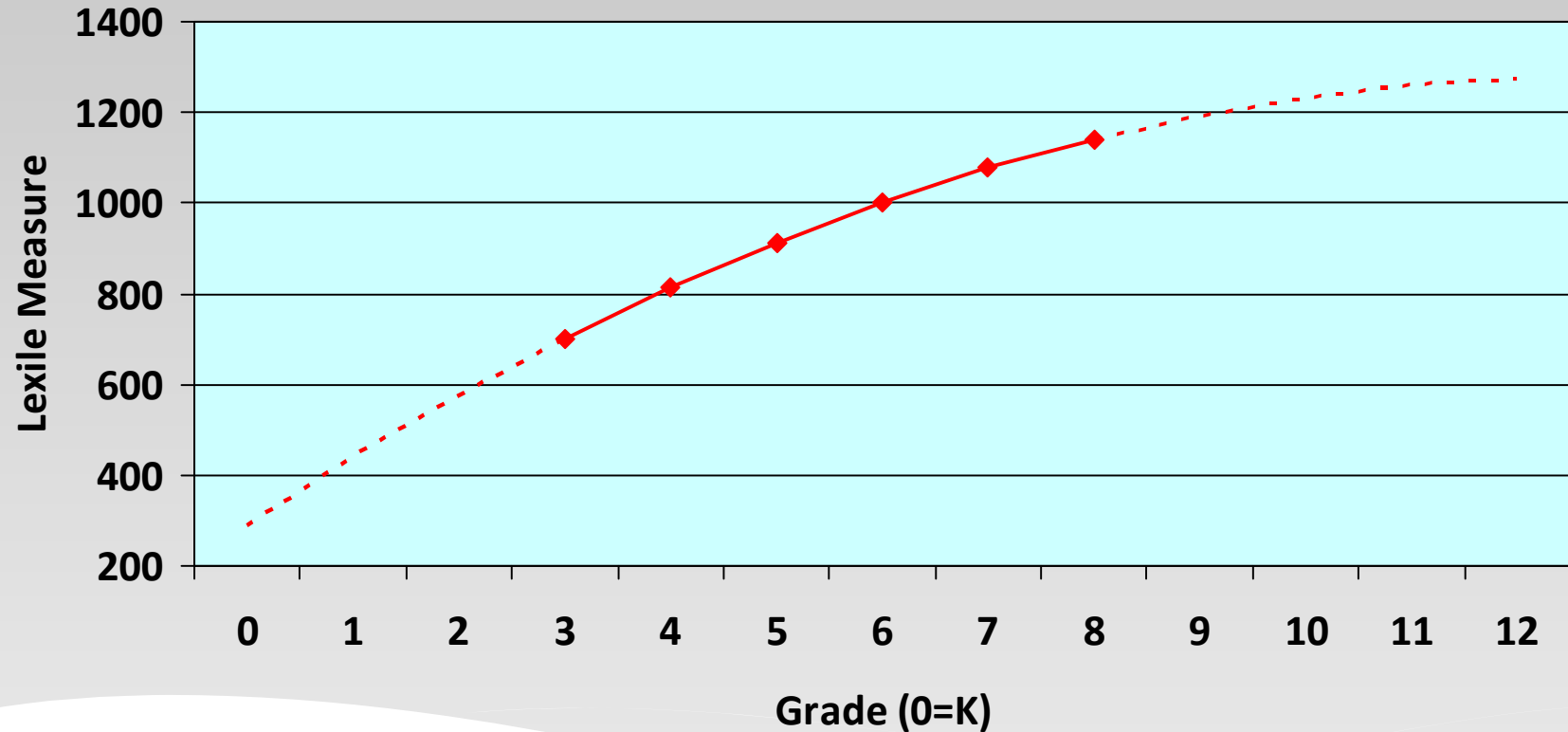
Estimates $\hat{\gamma}_{10} = 118.7$

$$\hat{\gamma}_{20} = -6.1$$

Equation:

$$E(\text{Lexile}) = 700.0 + 118.7 (\text{Grade} - 3) - 6.1 (\text{Grade} - 3)^2$$

Average Growth Curve with Extrapolations



—◆— Estimated Growth Curve - - - Extrapolations

Postsecondary Reading Demands

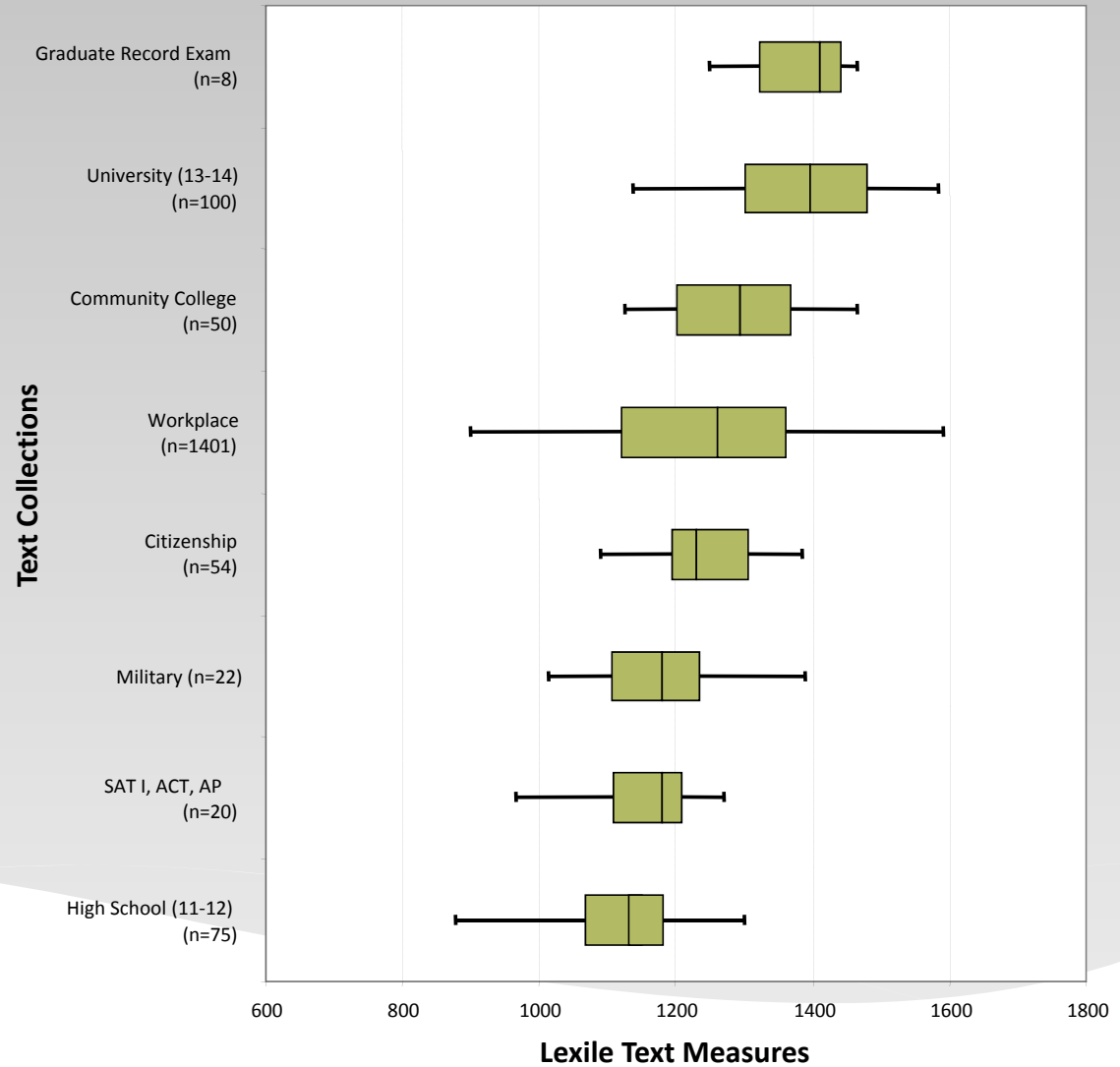
- Military
- Citizenship
- Workplace
- Community College
- University
- SAT, ACT, GRE

Text Sources

- U.S. Army; General Dennis J. Reimer Training and Doctrine Digital Library
- Citizenship (various sources)
- ICLE (workplace materials)
- Questia Media America, Inc.
 - Community College
 - University
- Released/published admissions tests

Post-secondary Options

Box Plots for Selected Text Collections That Inform the Transition from High School to Postsecondary Experience
 (Percentiles: 5th, 25th, 50th, 75th, 95th)

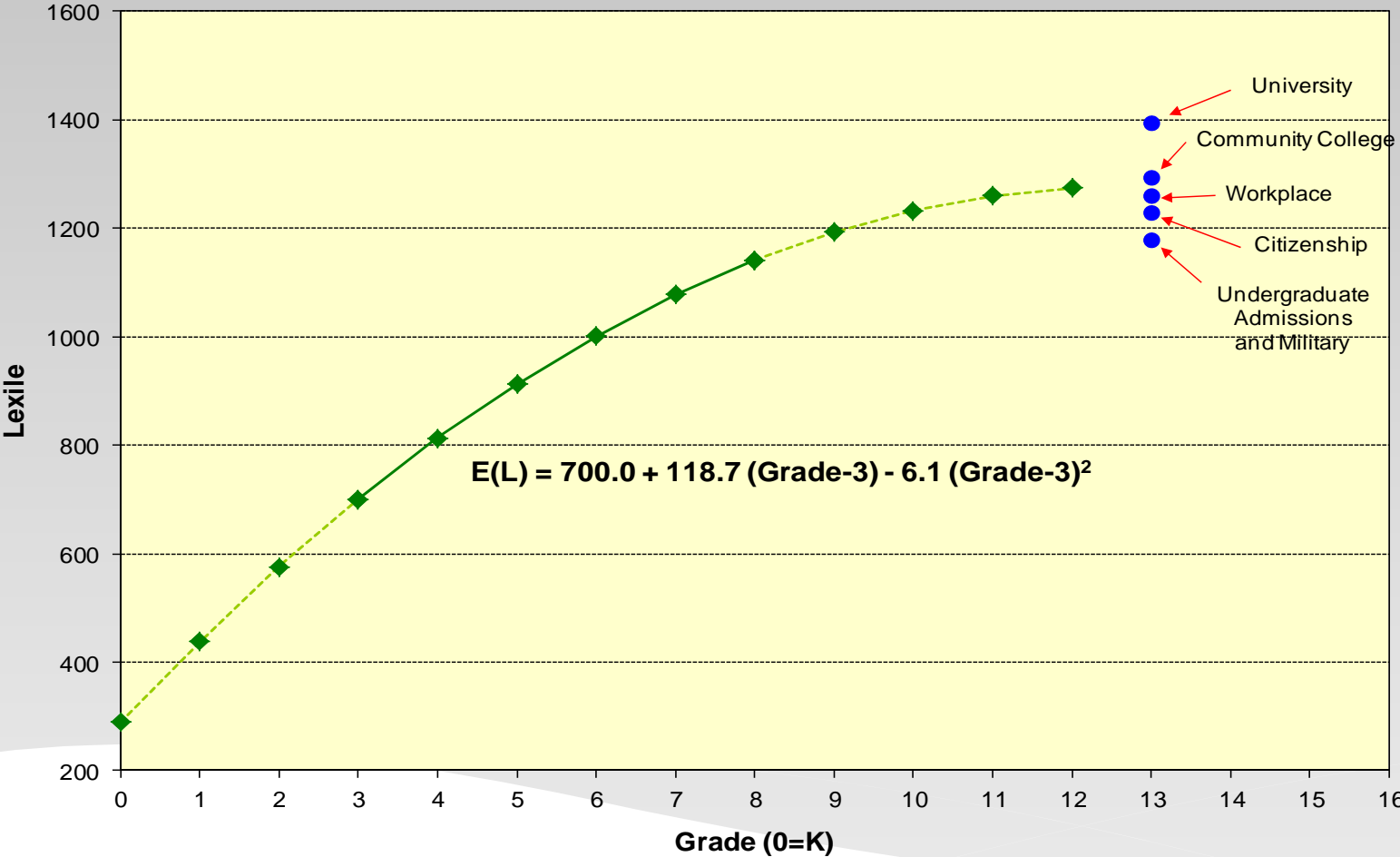


Median Postsecondary Text Measures

Text Collection	Median Lexile Measure
University	1395
Community College	1295
Workplace	1260
Citizenship	1230
Military	1180
SAT, AP, ACT	1180

*Combining these two threads
of research ...*

Extrapolated Growth Curve with Median Postsecondary Text Measures

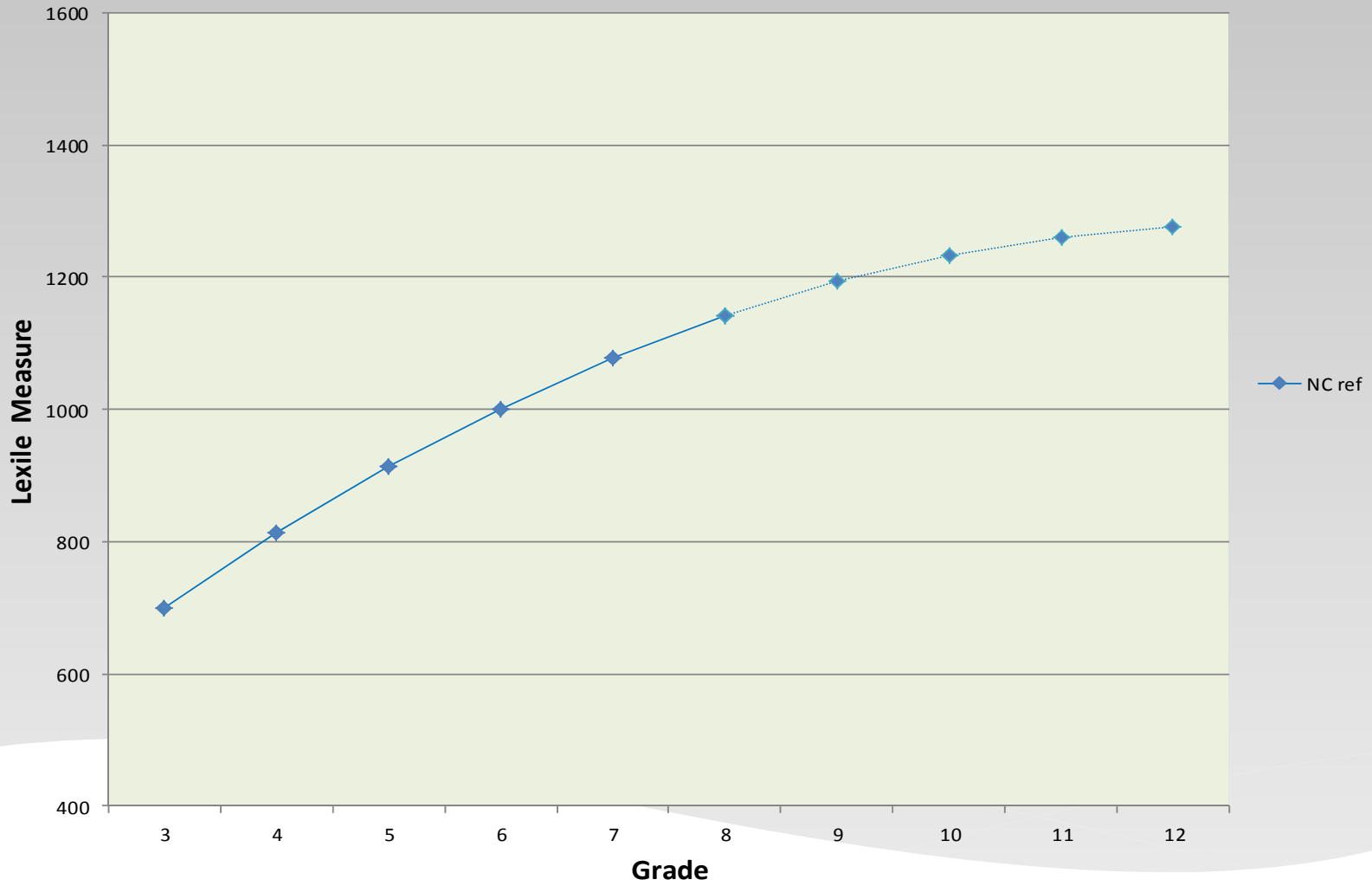


Source: *Aligning the journey with a destination: A model for K-16 reading standards.* (Williamson, 2007).

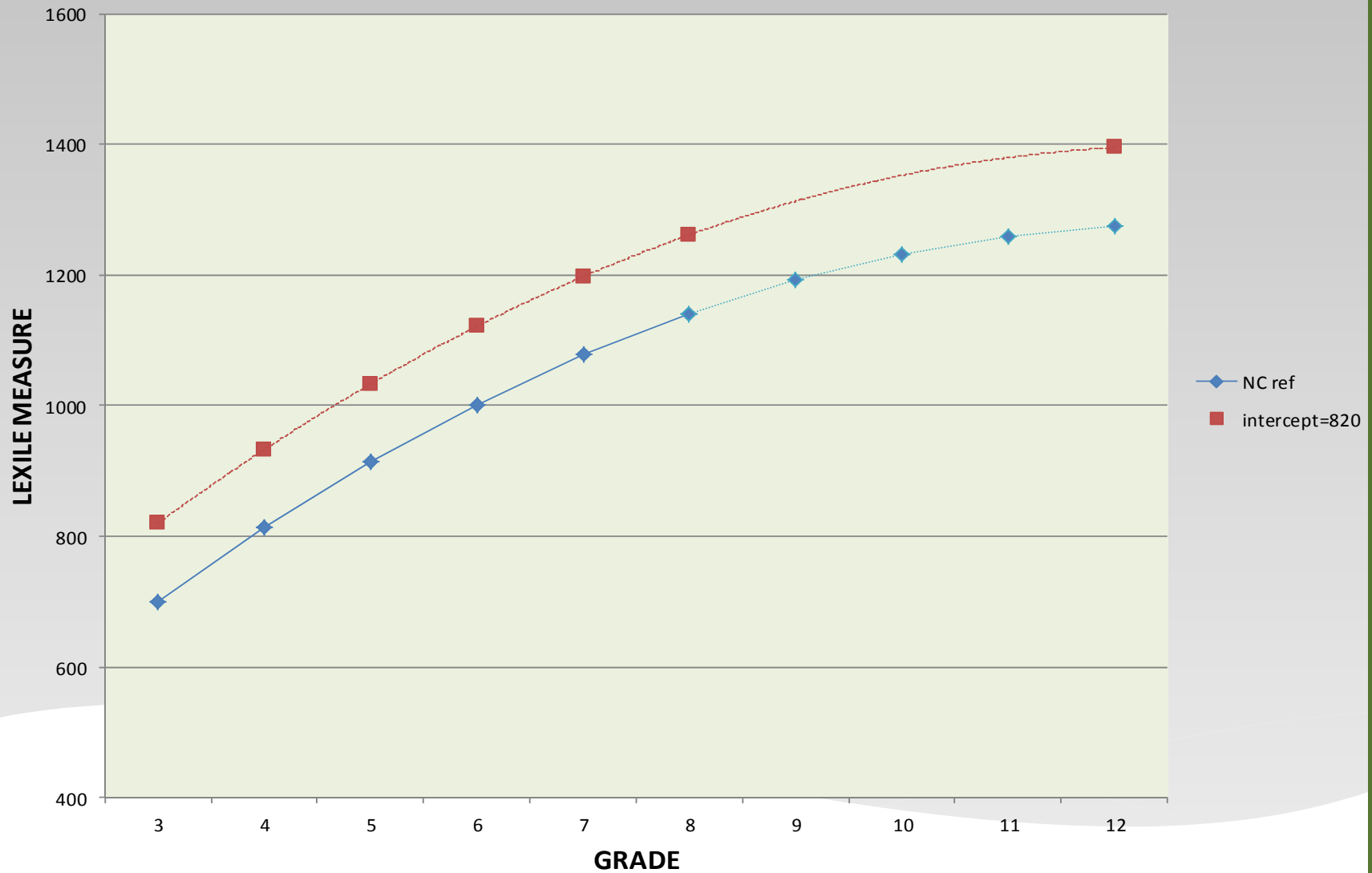
How to Modify an Empirical Growth Standard to Reflect Values

- Start with the (state) average growth curve
- Envision a desired trajectory (or endpoint)
- Change the intercept
- Change the velocity
- Change the acceleration (deceleration)
- Some combination of the above three

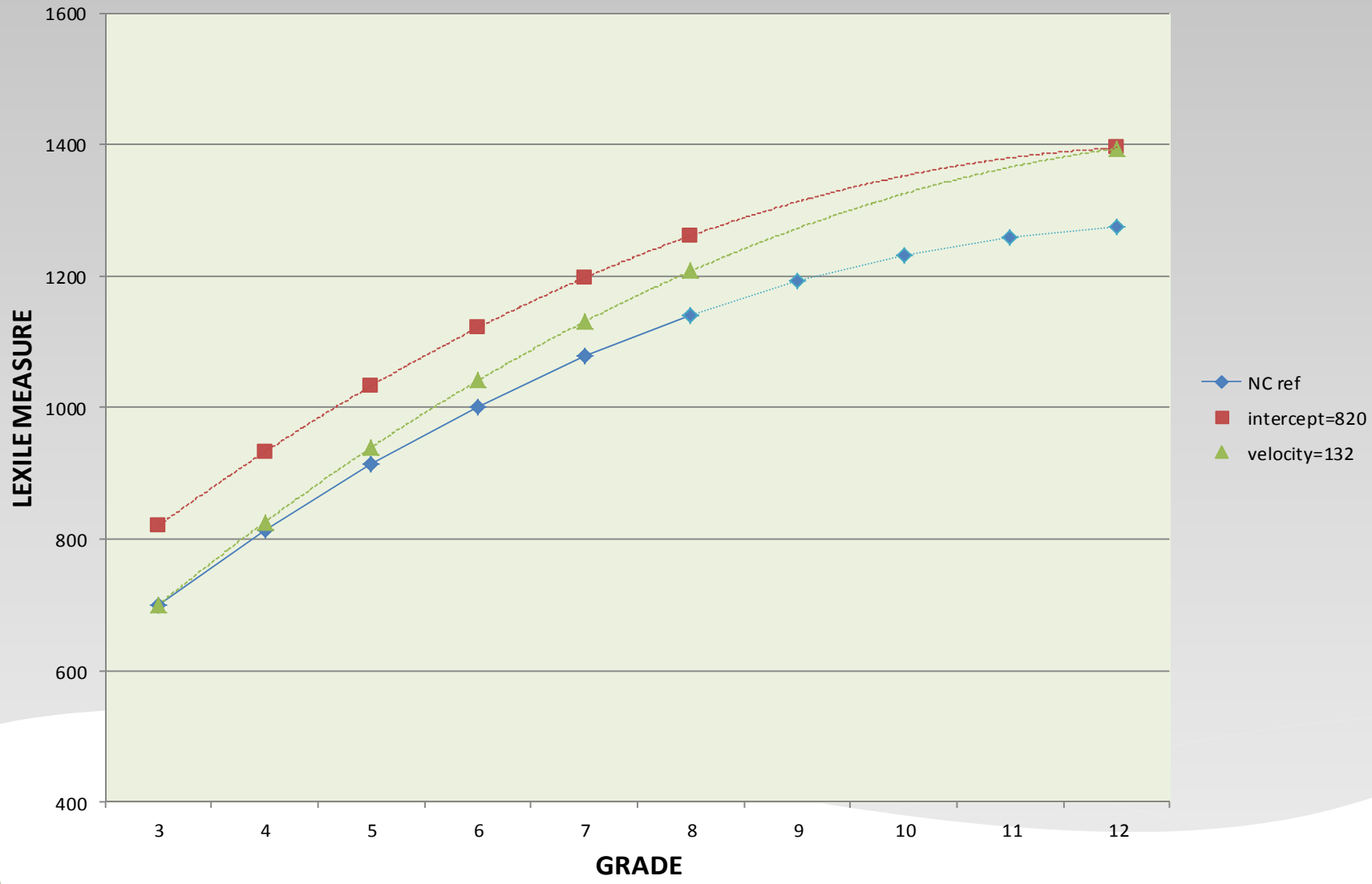
Start with a Baseline Growth Curve



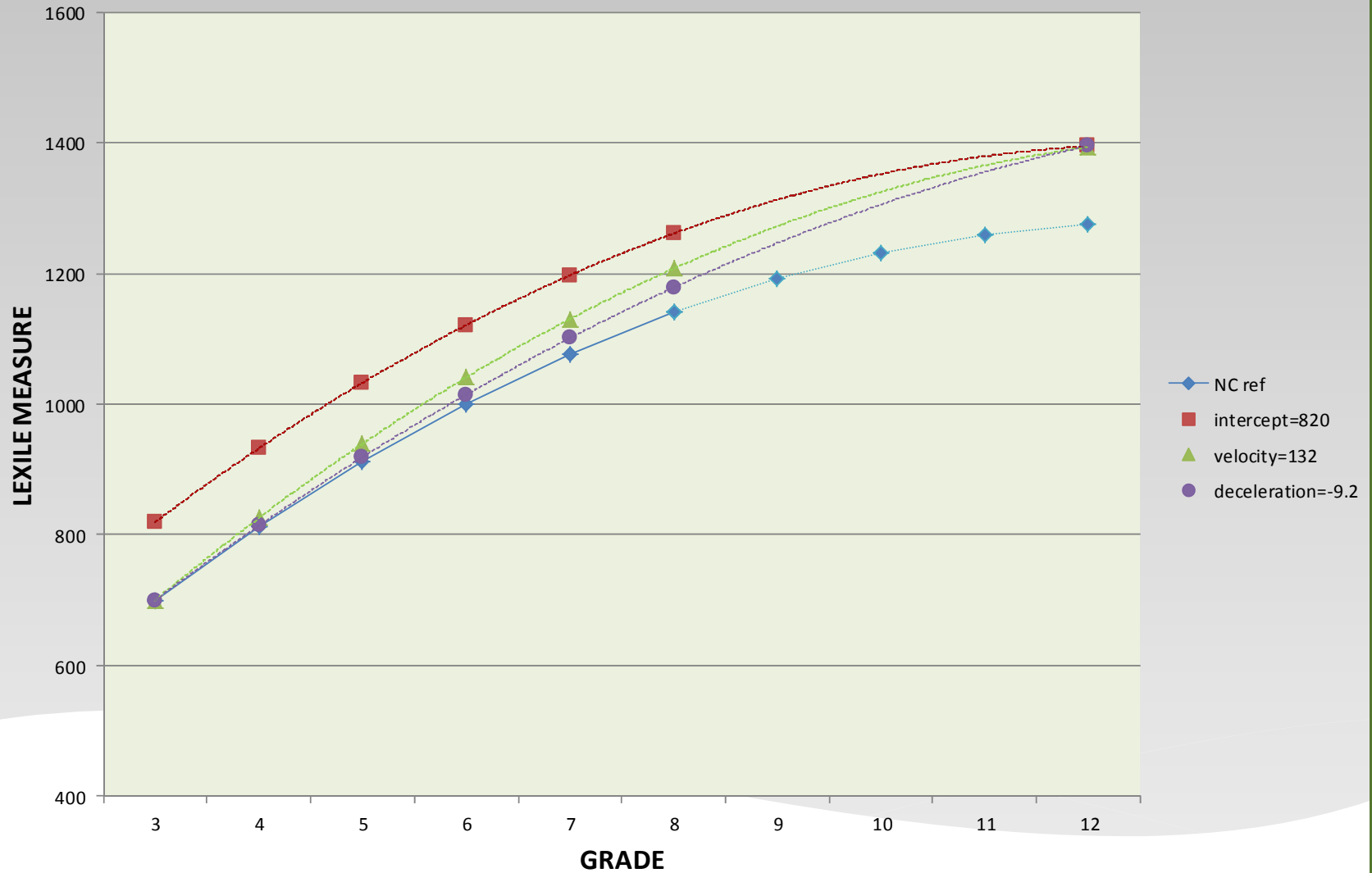
Alternate Paths to a Higher Twelfth-Grade Outcome



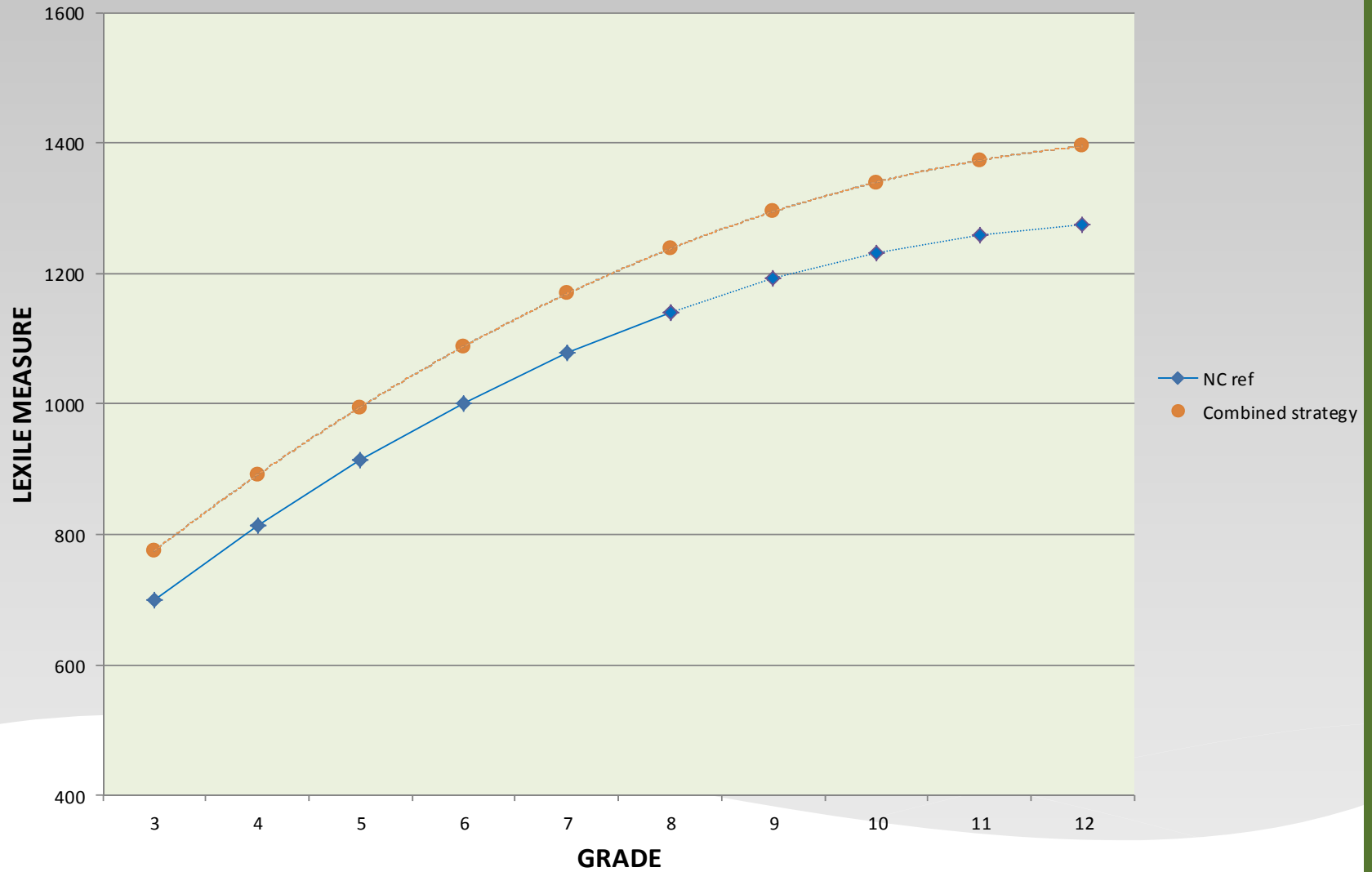
Alternate Paths to a Higher Twelfth-Grade Outcome



Alternate Paths to a Higher Twelfth-Grade Outcome



Alternate Paths to a Higher Twelfth-Grade Outcome



Numerical Comparison of the Four Strategies

Parameters (in Lexiles)	NC	Higher Intercept	Higher Velocity	Lower Deceleration	Combination Strategy
Intercept	700.0	820.0	700.0	700.0	775.0
Initial velocity	118.7	118.7	132.0	118.7	122.0
Deceleration	-12.2	-12.2	-12.2	-9.2	-11.8

Contact Information

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References

Williamson, G.L. (2008) A Text Readability Continuum for Postsecondary Readiness. *Journal of Advanced Academics*, 19(4), 602-632.

Williamson, G.L. (2007, March). Aligning the journey with a destination: A model for K-16 reading standards. Paper presented at the 2007 Annual Meeting of the North Carolina Association for Research in Education (NCARE). Greensboro, NC.

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States Using Lexile or Quantile Frameworks

States using Quantiles®	States using Lexiles®
WY, OK, NC, KY, WV, VA (2012)	AZ, CA, DE(2012), GA, HI, IL, KS, KY, MN, NC, NM(also Spanish), OK, OR, SC, SD, TN, VA, WV, WY, FL(FAIR—progress monitoring)

Questions

- Reflections

College Readiness

State Data Techniques and Resources



Dorothyjean Cratty

Research Scientist

NCES, U.S. Department of Education

Experience Linking State Administrative Data

- **Data Specialist on Duke Research Team Linking NC DPI K-12**
 - NC Community College System
 - NC Department of Corrections
 - NC Employment Security Commission
 - (Linking and De-Identifying Done by Duke's Data Center)
- **Combined Ten Years of State Injury and Claims Data**
 - Maine's Workers' Compensation Board
 - Maine's Bureau of Labor Standards
- **State and District Administrative Data Support at NCES**
 - Share best practices, advise on research partnerships
 - Assist states in accessing and linking NCES survey data



The Realities of Administrative Education Data Files

Most School Data:

- Record students' info
- Manage teaching staff
- Schedule classes
- Inform parents
- Aggregate reports

Ideal Research Data:

- Longitudinal
- Student-representative
- Teacher identifiers
- Course information
- Household variables

Options for Conducting Detailed Longitudinal Analysis:

- Design analysis around research-ready subsets of data
- Innovate to make use of all existing data on all students



What is Meant by Tracking College Readiness

- **Linking Individual Students: Secondary to Postsecondary**
 - Need to account for all high school students
 - Need course-taking and performance
 - Need links to (all) postsecondary institutions
- **Assess Secondary Students Using External Research Model**
 - Track established college readiness indicators
 - Create more tailored indicators
- **Track Aggregates for Subgroups by Outcome by Year**
 - More affordable aggregate results from clearinghouse
 - Compare existing school/district benchmarks (e.g., SDP)



Challenges of Linking Administrative Data Systems

Data Linked for K-12:

All Administrative
and Test Records

Course Identifying
Info to Students

Teacher Files to
Student Files

K-12

Data Linked Beyond K-12:

Community
College System

In-State, Public
4-Year Colleges

Out-of-State,
Private Colleges

K-12



Mapping College-Readiness Potential of K-12 Data Files

3rd-12th Grade Statewide Longitudinal Dropout Analysis

By pooling ten years of all administrative and test records and confirming exit types: Graduated, Dropped, Transferred

3rd-12th Grade Longitudinal College-Readiness Analysis

Using sequential cohorts from years with course files:

2nd-4th Grades in 2006-2008

4th-6th Grades in 2006-2008

6th-8th Grades in 2006-2008

8th-10th Grades in 2006-2008

10th-12th Grades in 2006-2008

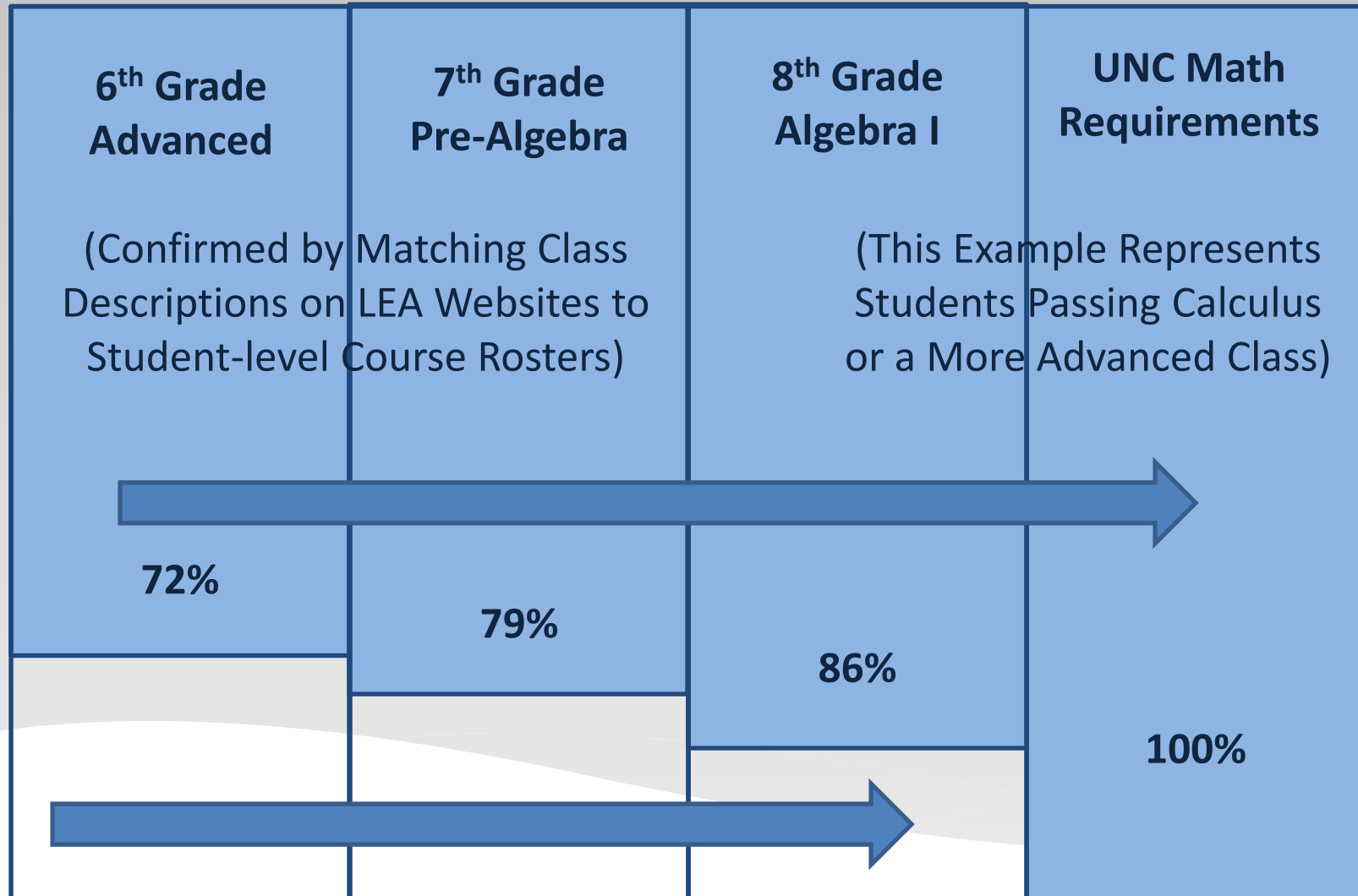
Model College-Readiness on Existing Linked Data

Using NCES National Longitudinal Survey Results

Benchmark Subgroups, Schools, Years, to Promising Indicators



College Readiness Research Using Math Prerequisites



North Carolina DPI Student-level Data Files

	1 9 9 8	1 9 9 9	2 0 0 0	2 0 0 1	2 0 0 2	2 0 0 3	2 0 0 4	2 0 0 5	2 0 0 6	2 0 0 7	2 0 0 8
3rd	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange
4th	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange
5th	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange
6th	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange
7th	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange
8th	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange
9th	Blue, Grey	Blue, Grey	Blue, Grey	Blue, Green, Orange	Blue, Green, Orange	Blue, Green	Blue, Green, Orange	Blue, Green, Orange	Blue, Green, Orange	Blue, Green, Orange	Blue, Green, Orange
10th	Blue, Grey	Blue, Grey	Blue, Grey	Blue, Green, Orange	Blue, Green, Orange	Blue, Green	Blue, Green, Orange	Blue, Green, Orange	Blue, Green, Orange	Blue, Green, Orange	Blue, Green, Orange
11th	Blue, Grey	Blue, Grey	Blue, Grey	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange
12th	Blue, Grey	Blue, Grey	Blue, Grey	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange

TESTS		CHARACTERISTICS		DISCIPLINE		COURSES	
Scores		Demographics (Age, Race, Gender)		Suspension (Some Years)		CTE (2001-2006)	
Proctors		SES (Parents' Education, School Lunch)		Absenteeism (Some Years)		All (2007-2008)	
Classmates		Special Education Services (LD, Gifted, etc.)		Tardys (Some Years)		Teachers (2007-2008)	



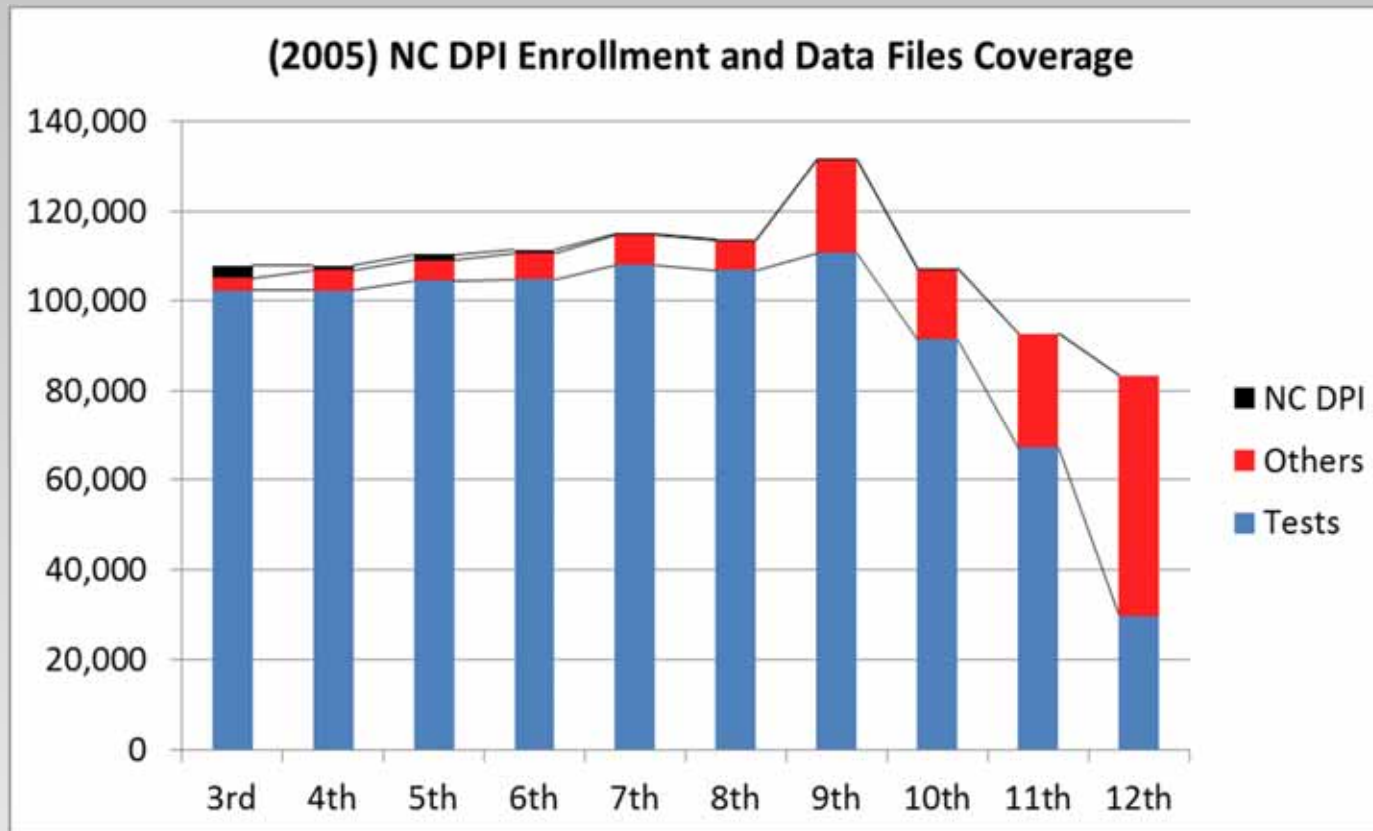
Pooled Administrative and Test Data Files

	1 9 9 8	1 9 9 9	2 0 0 0	2 0 0 1	2 0 0 2	2 0 0 3	2 0 0 4	2 0 0 5	2 0 0 6	2 0 0 7	2 0 0 8
3rd	█	█	█	█	█	█	█	█	█	█	█
4th	█	█	█	█	█	█	█	█	█	█	█
5th	█	█	█	█	█	█	█	█	█	█	█
6th	█	█	█	█	█	█	█	█	█	█	█
7th	█	█	█	█	█	█	█	█	█	█	█
8th	█	█	█	█	█	█	█	█	█	█	█
9th	█	█	█	█	█	█	█	█	█	█	█
10th	█	█	█	█	█	█	█	█	█	█	█
11th	█	█	█	█	█	█	█	█	█	█	█
12th	█	█	█	█	█	█	█	█	█	█	█

T E S T S		C H A R A C T E R I S T I C S		D I S C I P L I N E		C O U R S E S	
Scores		Demographics (Age, Race, Gender)		Suspension (Some Years)		CTE (2001-2006)	
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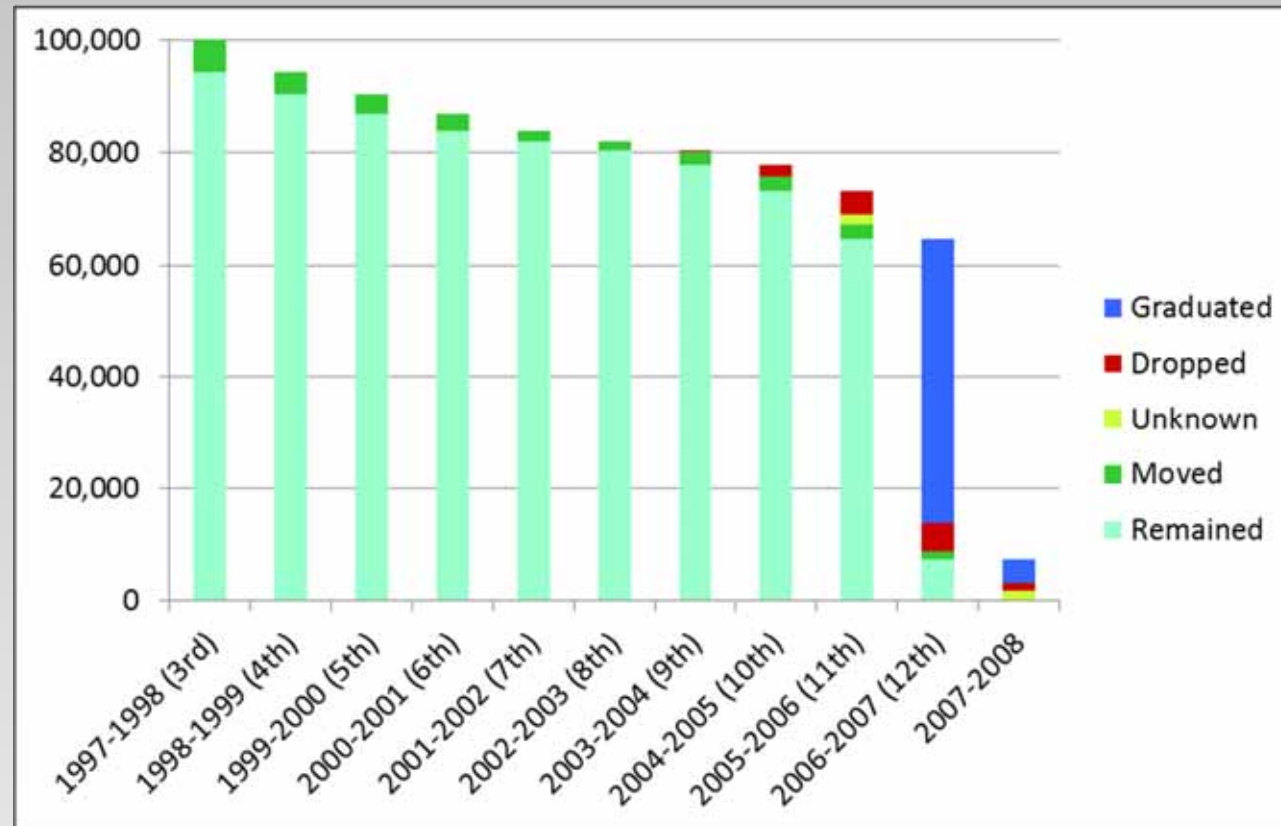
Sample Cross-Section of Students Enrolled by Grade



- Test surveys cover 95% of students in 3rd through 8th grade
- Tests plus all administrative records equal total enrollment
- 12 million total student-year observations from 1998-2008



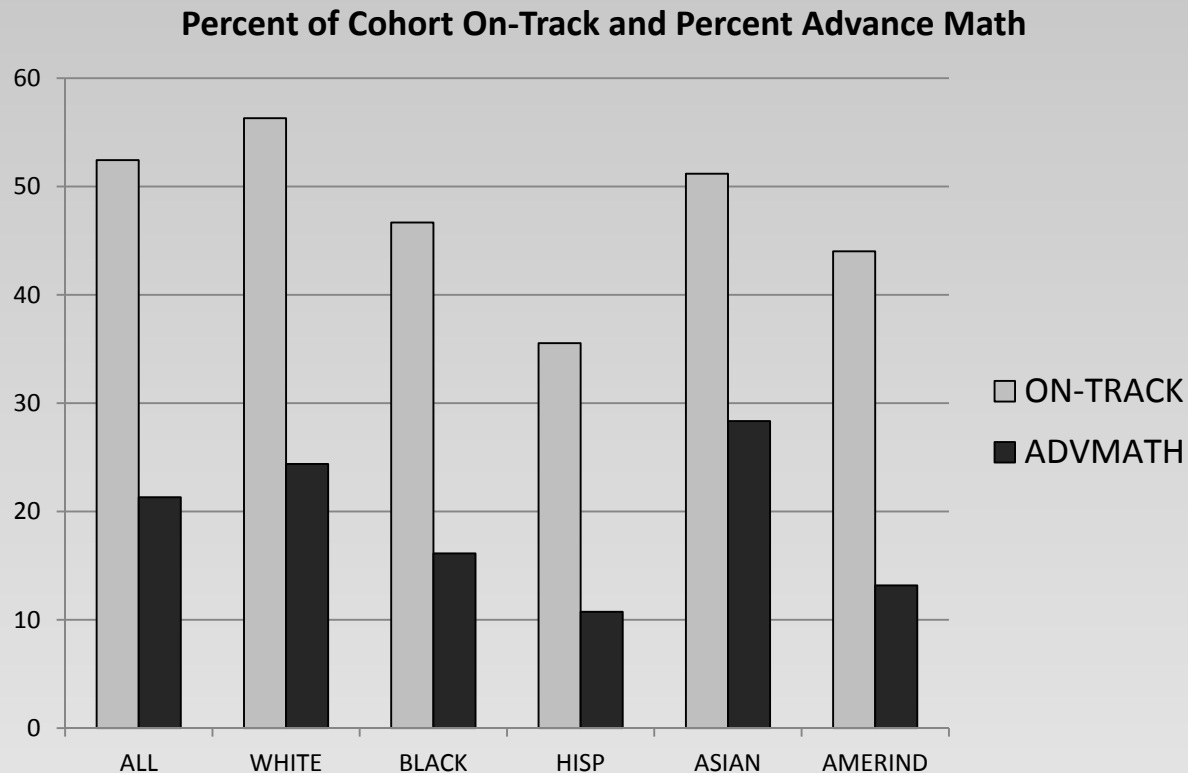
1998 3rd Grade Cohort with Confirmed Exit Types



- 100,366 first-time 3rd graders in NC public school in 1998
- 3.3% leave the state annually, and a total of 3.2% unknown
- 68,401 students observed until dropping out or graduating



Percent On-Track and with Advanced Math, by Subgroup

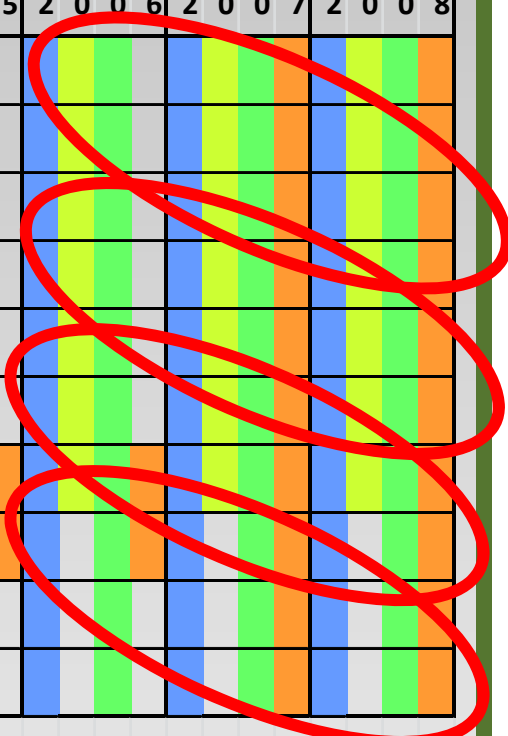


- Beginning with entire 2002-03 8th grade cohort
- Percent of each subgroup graduating on-track
- Percent graduating with advanced math credits



Making Use of a Few Years of Detailed Course Files

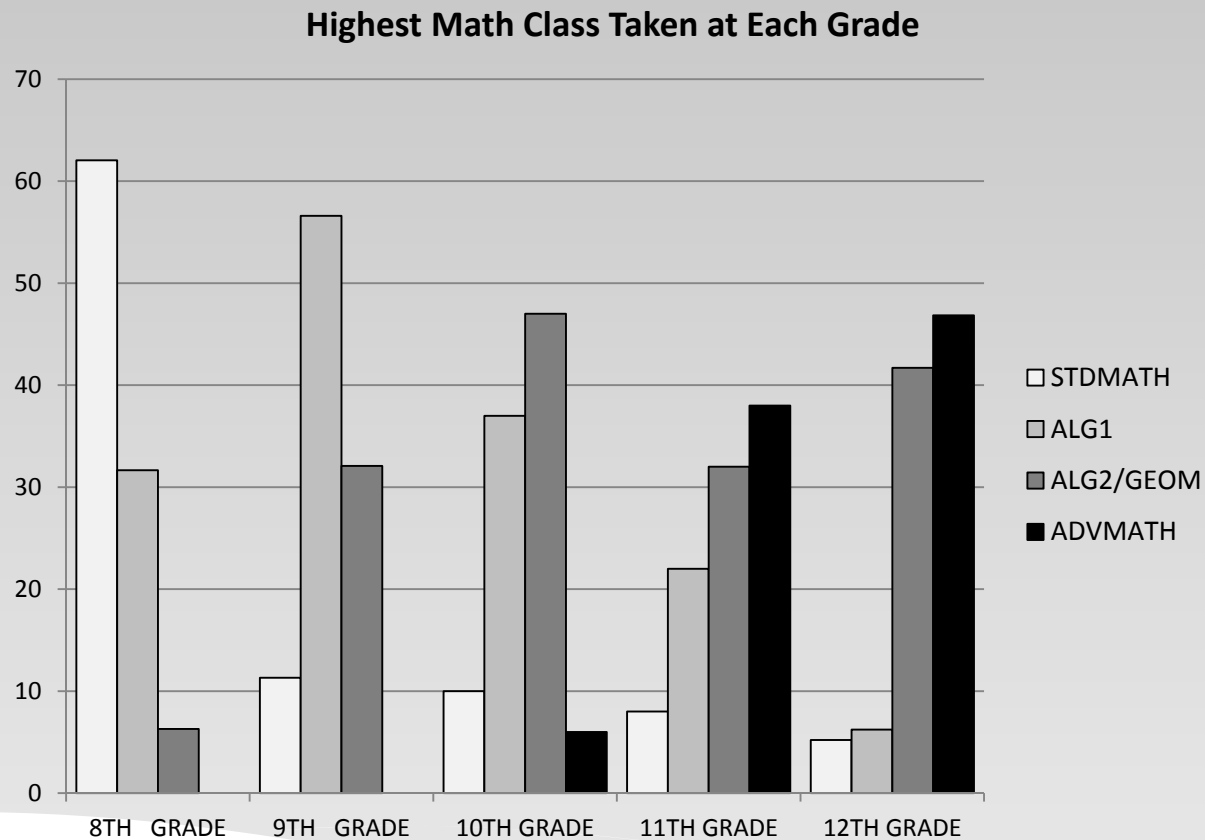
	1 9 9 8	1 9 9 9	2 0 0 0	2 0 0 1	2 0 0 2	2 0 0 3	2 0 0 4	2 0 0 5	2 0 0 6	2 0 0 7	2 0 0 8
3rd	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange	Blue, Green, Orange
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12th	Blue	Blue	Blue	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green	Blue, Green, Orange	Blue, Green, Orange	Blue, Green, Orange



	T E S T S	C H A R A C T E R I S T I C S	D I S C I P L I N E	C O U R S E S
	Scores	Demographics (Age, Race, Gender)	Suspension (Some Years)	CTE (2001-2006)
	Proctors	SES (Parents' Education, School Lunch)	Absenteeism (Some Years)	All (2007-2008)
	Classmates	Special Education Services (LD, Gifted, etc.)	Tardys (Some Years)	Teachers (2007-2008)



Percent Highest Math Class Taken, by Grade

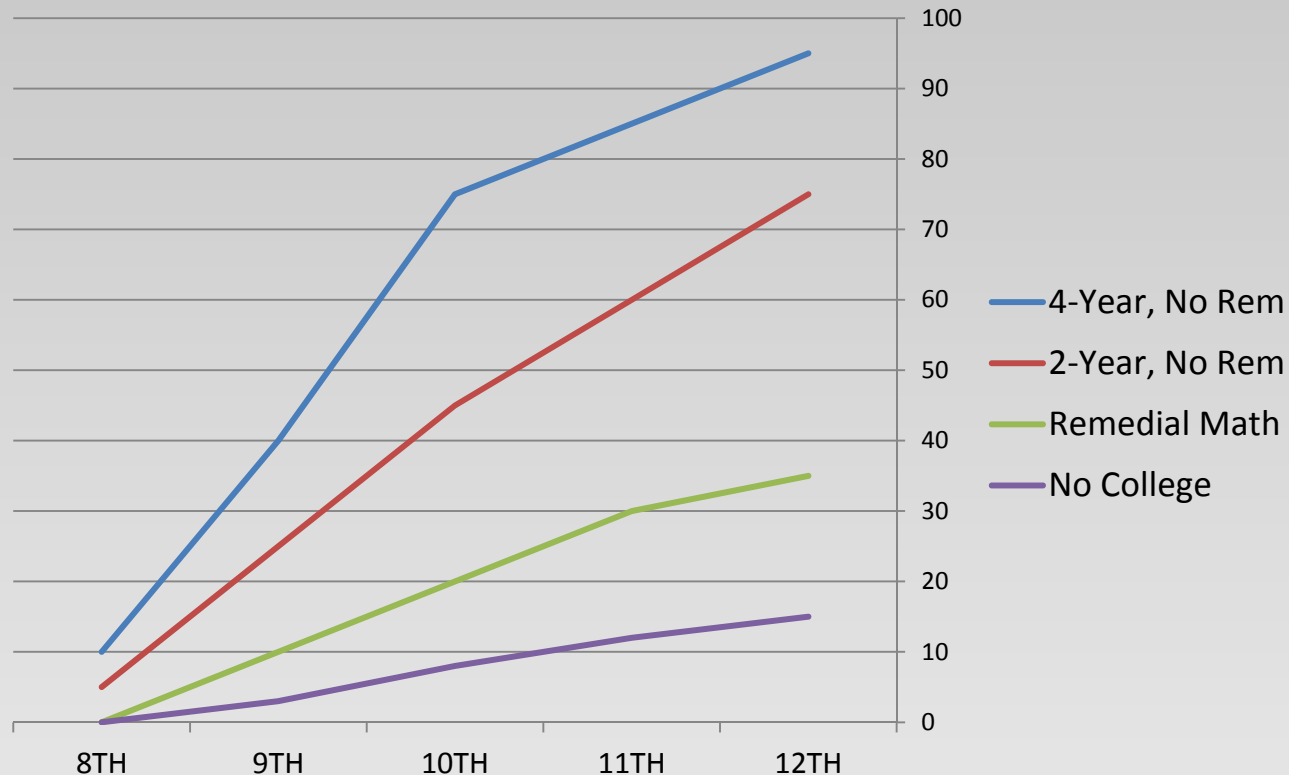


Timing of math course prerequisites for students (by school)



Percent Algebra II/Geometry, by Grade, by Outcome

(Fictitious) Percent Reaching Algebra II/Geometry by Grade



Using NCES National Longitudinal Student Survey results (fictitious, in this case) as benchmarks for college readiness



College Readiness Potential of State Data Systems

- What resources are there to help states link their K-12 and postsecondary data?
- How can states make the best use of their existing links?
- What can states do with a few years of good student longitudinal data?
- Where can states get analytical resources?



Conclusion

While states continue building linked P-20W longitudinal data systems, even a few years of high quality data can be a valuable resource for improving college readiness.

Several NCES resources are available to help states and districts do both.

Please feel free to contact me for assistance.

dorothyjean.cratty@ed.gov



Announcing NCES's New EDCI Program

EDCI: Education Data Cooperative Initiative (“ED Sigh”)
combines NCES resources for states and districts

- SLDS Grants Program (LDS, PDC, GRADS)
- CEDS: Common Education Data Standards
- Forum on Education Statistics
- PTAC: Privacy Technical Assistance Center
- Effective Practices conferences
- NCES/NCEE/RELS data use and research support

<http://nces.ed.gov/surveys/SurveyGroups.asp?group=8>



U.S. Department of Education

FY12 Statewide Longitudinal Data System (SLDS) Request for Application released

http://nces.ed.gov/programs/slds/fy12_rfa.asp



Summary



Dee Braley

Special Education Specialist

ARCC at Edvantia

Evaluation

[www.surveymonkey.com/s/College Career Ready](http://www.surveymonkey.com/s/College_Career_Ready)