

K – 20 Competitiveness Subcommittee

Wednesday, October 5, 2011

1:30 PM – 3:00 PM

17 - HOB

Meeting Packet

**Dean Cannon
Speaker**

**Erik Fresen
Chair**



AGENDA

K-20 Competitiveness Subcommittee

October 5, 2011

1:30 p.m. – 3:00 p.m.

Morris Hall – 17 HOB

- I. Call to Order/Roll Call
- II. Opening Remarks
- III. Update on the Transfer of Florida's School Nutrition Programs
- IV. Presentation on Reading (MetaMetrics)
- V. Presentation by the University of West Florida on K-12 STEM Education/National Flight Academy
- VI. Closing Remarks and Adjournment

Promoting College and Career Readiness for All Students

Carl W. Swartz, Ph.D.
Executive Director
Learning Sciences and Technology
MetaMetrics

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School of Education
University of North Carolina-Chapel Hill



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LINKING ASSESSMENT WITH INSTRUCTION

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Agenda

- The Goal
- The Problem
- Bridging the Readiness Gap
- Bending the Curve
- Tools to Promote Readiness

“If we can dramatically increase high school graduation rates, if we can dramatically increase the number of graduates who are college and career ready, that’s what this is about. Everything’s a means to that end. That’s the Holy Grail here. Are our students being prepared to be successful?” – Arne Duncan

Education Week, December 9, 2009.

Quick Facts

- Each year, approximately 1.2 million students fail to graduate from high school, more than half of whom are from minority groups.
- Percent of freshmen that enroll in at least one remedial course

Community College	Four-Year Institution
42%	20%

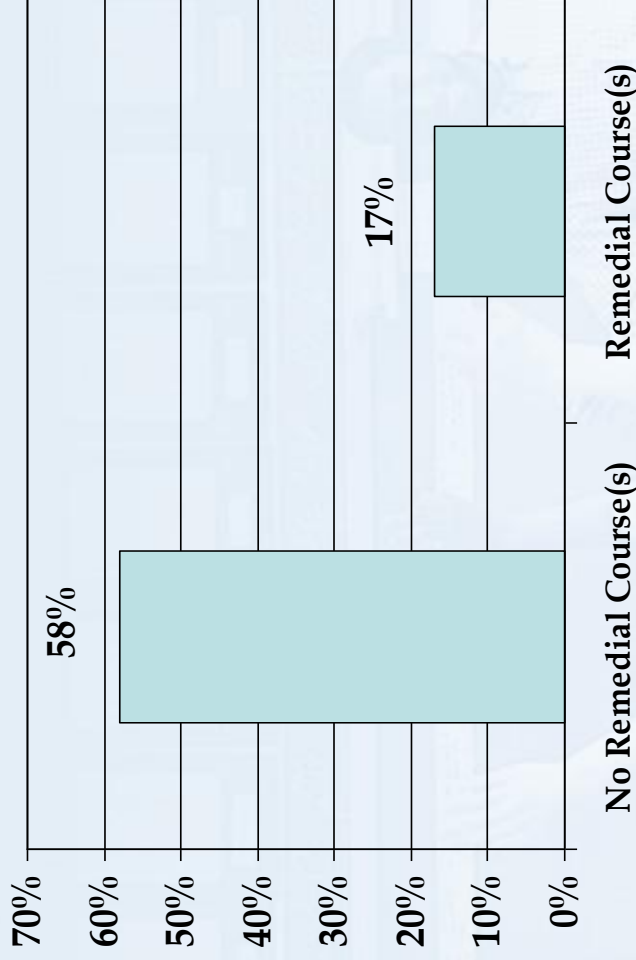
Alliance for Excellent Education, February 2009 edition.

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Students Obtaining Bachelor's Degree in Eight Years



Students who enroll in a remedial reading course are 41 percent more likely to drop out of college. (NCES, 2004a)

Alliance for Excellent Education, February 2009 edition.



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“High school completion does not equal college readiness.” – Education Week

Gewertz, Catherine. “College-Readiness Program Hard to Gauge.” *Education Week* 30.18 (2011): 1+. Print



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Common Core Standards and Lexile Measures



"The college instructor blames the high school teacher, the high school teacher complains of the grade teacher, each grade teacher above first grade finds fault with the poor work of the teacher in the grade below, and the first grade teacher in turn is chagrined at the shortcomings of the home training. Must this go on indefinitely? Whose opinion shall prevail? Is it not possible to get away from personal opinion to an agreed-upon consensus of opinion? May we not replace the constantly conflicting subjective standards with definitely defined objective standards?"

—Wilson & Hoke, 1921¹

MetaMetrics is proud to be an ["Endorsing Partner"](#) of the [Common Core State Standards Initiative](#). This historic endeavor was sought to establish a clear set of K-12 standards that would ensure all students graduate from high school "college and career ready." Initially, [48 states, 2 territories and the District of Columbia](#) signed on.

The teams charged with drafting the Common Core Standards asked that we share our collective research on text complexity and the reading demands of college, careers and life in general. This research was conducted over the past 20 years using our widely adopted Lexile[®] Framework for Reading and is embodied in much of Common Core's [Appendix A](#). Today, Lexile measures are used at the school level in all 50 states, and [21 states](#) report Lexile measures statewide on their year-end assessments. Each year, more than 30 million Lexile measures are reported from [reading assessments](#) and [programs](#), representing over half of U.S. students.

To follow are some key points of our research which are fueling the need for common standards across the states.

- **The text complexity of K-12 textbooks has become increasingly "easier" over the last 50 years.** The Common Core Standards quote research showing steep declines in average sentence length and vocabulary level in reading textbooks.
- **The text demands of college and careers have remained consistent or increased over the same time period.** College students are expected to read complex text with greater independence than are high school students.
- **As a result, there is a significant gap between students' reading abilities and the text demands of their postsecondary pursuits.** Research shows that this gap is equal to a Lexile difference between grade 4 and grade 8 texts on the National Assessment of Educational Progress (NAEP). ([Read more](#) or [watch a video](#) about Lexile measures.)

Based on our research, the Common Core Standards provide [text complexity grade bands and associated Lexile bands](#) that are intended to put students on a college- and career-ready trajectory. These [grade and Lexile bands](#) are the basis for determining at what text complexity level students should be reading—and at which grades—to make sure they are ultimately prepared for the reading demands of college and careers.

CCSSI and Lexile Measures

[Common Core Standards and Lexile Measures](#)

[Common Core Standards and Text Complexity](#)

[Defining Text Complexity](#)

[Text Complexity Grade Bands and Lexile Bands](#)

[Helpful Links](#)

Resources for:

[State Consortia](#)

[Departments of Education](#)

[Educators](#)

[Test Publishers](#)

[Text Publishers](#)



COMMON CORE STATE STANDARDS FOR

English Language Arts
&
Literacy in History/Social Studies,
Science, and Technical Subjects



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Common Core Standards for English Language Arts and Literacy in History/Social Studies & Science

Appendix A: Findings

- Students who fall short of ACT's college readiness benchmarks have the greatest difficulty with the test items involving the most complex text.
- K-12 reading assignments have become much less demanding in the last half-century, with an especially large drop-off in high school expectations.

Weston, S. P. (2010). "The giant text complexity challenge inside the new literacy standards." The Prichard Committee for Academic Excellence



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Common Core Standards for English Language Arts and Literacy in History/Social Studies & Science

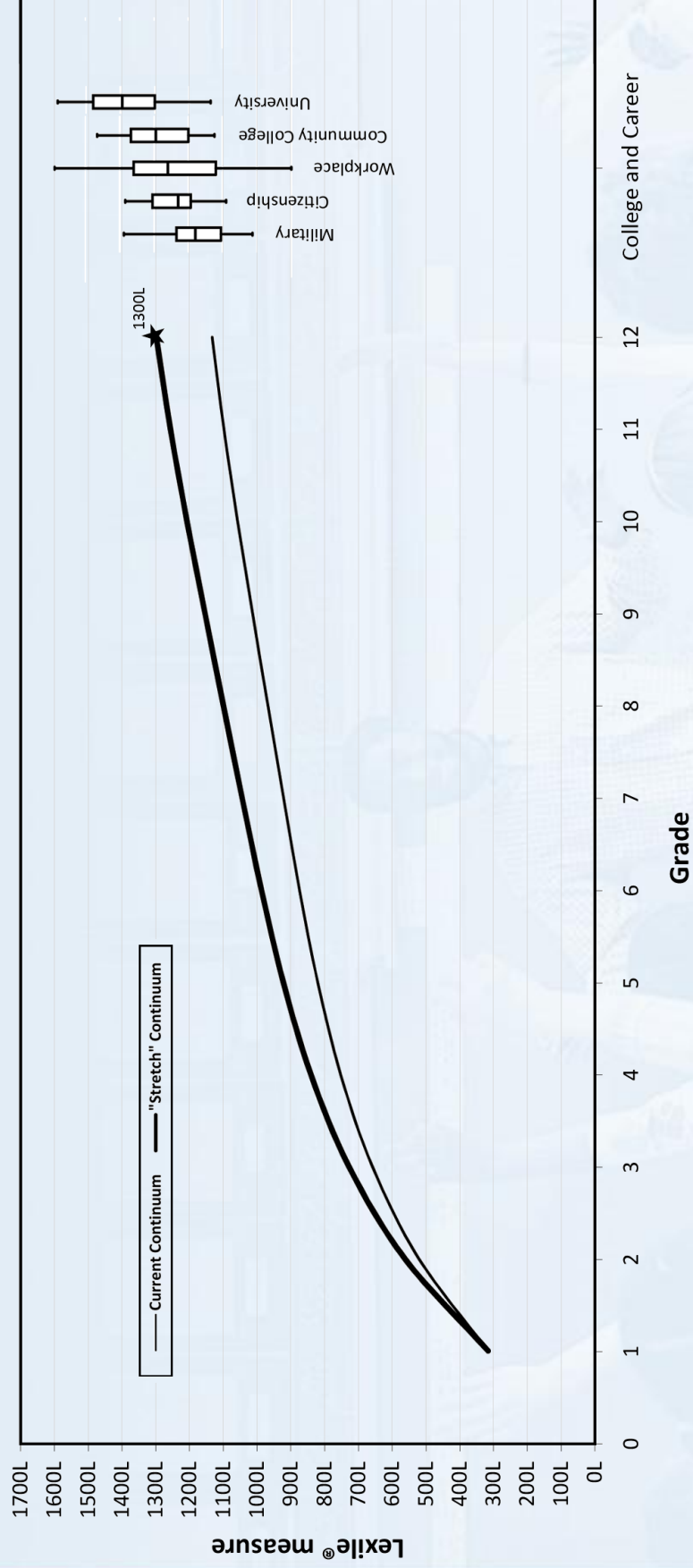
Appendix A: Findings

- College reading assignments have moved in the opposite direction, becoming a bit harder over the same fifty years.
- High school teachers commonly give students many kinds of support and coaching to help them figure out the material, but college teachers expect students to pull the knowledge from the text on their own, making the gap in practical ability even wider than the gap in the texts themselves.



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Text Gap



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Common Core Appendix A

Text Complexity Grade Bands and Associated Lexile Ranges

Grade Band	Lexile (L) Range
K–1	N/A*
2–3	450–790
4–5	770–980
6–8	955–1155
9–10	1080–1305
11–CCR	1215–1355

Texas Higher Education Coordinating Board (THECB) Study

Texas Higher Education Coordinating Board

Text Measurement and Analysis

MetaMetrics Technical Report Update

August 29, 2008

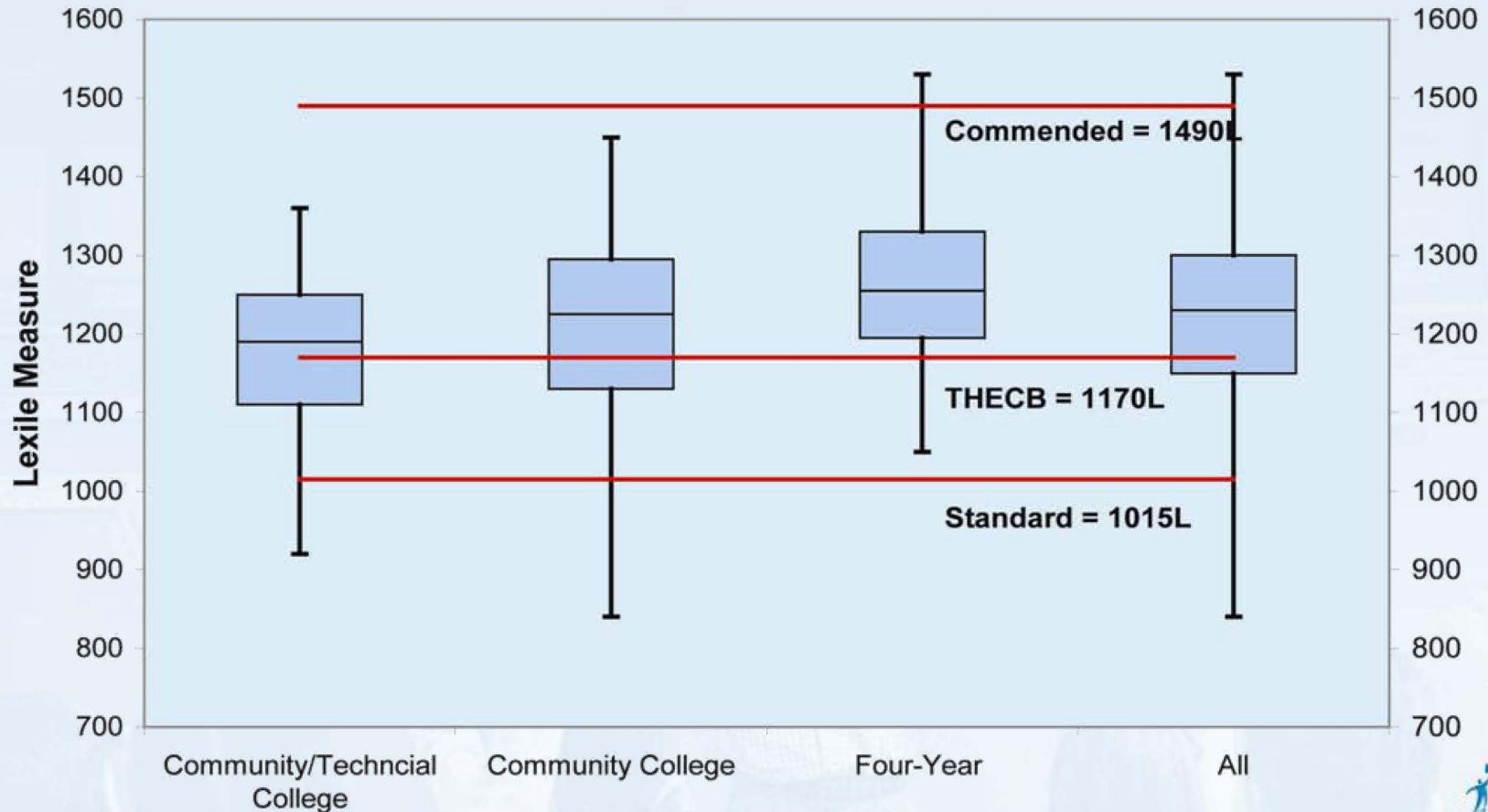


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Distribution of Text Readability Measures for the Texas Higher Education Coordinating Board (Box Plots: min, 25th, 50th, 75th, max)



Forecasted Comprehension Rate (%) for Readers at Three Reading Ability Levels Reading Texts at Selected Percentiles of the Distributions

Percentile of the Text Distribution	Corresponding Lexile	Standard (1015L)	THECB Readiness (1170L)	Commended (1490L)
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Texts for Four-Year Institutions



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Ensuring Students Are College and Career Ready & Bending the Curve

- *Mitigate* summer loss (Just Read, Florida!)
- *Build* individual growth trajectories
- *Increase* the text complexity challenge for K-12 students
- *Increase* the diet of non-fiction text
- *Utilize* instructional tools, assessments (FAIR/FCAT) and resources that blend assessment and instruction to promote personalized deliberate practice (Learning Oasis)

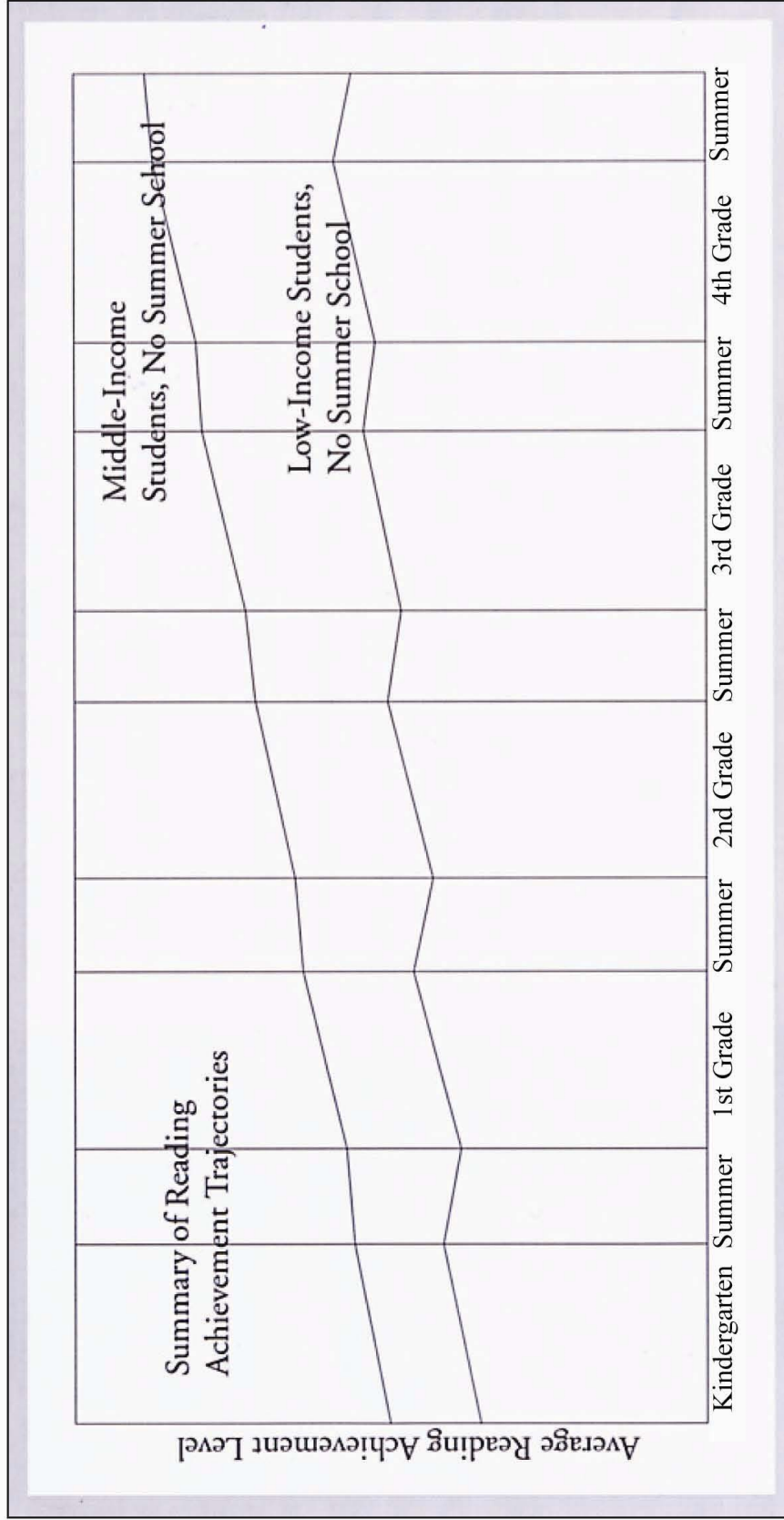


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Mitigate Summer Learning Loss



Fairchild, R. McLaughlin, B. & Brady, J. (2006). Making the Most of Summer: A Handbook on Effective Summer Programming and Thematic Learning. Baltimore, MD: Center for Summer Learning.



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Search for books by Lexile measure, title, author, ISBN, or keyword.

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Enter Lexile **[+]** Select Interests



Search Results



Reading List

Find **BOOK** for the right **YOU!**



Enter your Lexile measure, select your interests, and find books you'd like to read! Whether you're reading for school or for pleasure, you can use this site to build a custom reading list on the subjects that interest you the most.

My Lexile measure is

Please enter either a Lexile measure or range.

Measure: L

OR

Range: L to L

[Continue](#)

I don't know my Lexile measure

Please enter your grade level and check one of the options below.

My current grade is: Kindergarten

I find the books I read for school difficult.

I find the books I read for school challenging.

I find the books I read for school easy.

[Continue](#)

Look up a Book

Search for books based on title, author, keywords, and more.

Title:

Author:

Keywords:

ISBN:

[More Options](#)

[Search](#)



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Increase the Diet of Non-Fiction Text

- Duke, Nell K. “The Real-World Reading and Writing U.S. Children Need.” *Phi Delta Kappan* 91, no. 5 (February 2010): 68-71.
- PIRLS 2001 International Report: IEA’s Study of Reading Literacy Achievement in Primary Schools, Mullis, I.V.S., Martin, M.O., Gonzalez, E.J., & Kennedy, A.M. (2003), Chestnut Hill, MA: Boston College.

Percentage distribution of literary and informational passages

Grade	Literary	Informational
4	50	50
8	45	55
12	30	70

National Assessment Governing Board. *Reading Framework for the 2009 National Assessment of Educational Progress*. Washington, D.C.: American Institutes for Research, 2007.



Utilize Instructional Tools & Resources that Promote Differentiated Instruction & Deliberate Practice

- Research suggests that a novice develops into an expert through an intricate process that includes:
 - *Targeted practice* in which one is engaged in developmentally appropriate activities
 - *Real-time corrective feedback* that is based on one's performance
 - *Intensive practice* on a daily basis that provides results that monitor current ability
 - *Distributed practice* that provides appropriate activities over a long period of time (i.e., 5-10 years), which allows for monitoring growth towards expert performance
 - *Self-directed practice* for those times when a coach, mentor or teacher is not available.

Glaser, 1996; Kellogg, 2006; Shea & Paull, 1996;
Wagner & Stanovich, 1996



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Ideal Characteristics of Next Generation Instructional Tools & Resources

- Assessment and instruction are blurred – to “mine the exhaust” of the instructional experience
- Computer-adaptive engines are applied to “targeted” instructional content
- Assessment engines connect day-to-day progress with year-to-year summative tests

*Excerpted from MetaMetrics' white paper,
"Next Generation Assessments" (www.Lexile.com)*



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Ideal Characteristics of Next Generation Instructional Tools & Resources

- Scoring, feedback and reporting are immediate
- Perspectives and monitoring are longitudinal across the development lifespan of the student for each skill
- The focus is student-centric, not teacher-centric

Oasis

Oasis

Sean Hanlon
[Dashboard](#) | [About](#) | [Logout](#)

Reading
Writing
Vocabulary
Portfolio

Reading

1400L

1300L

1300L College & Career

1200L

1100L

1210L Grade 10

1000L

1110L My Ability

My Ability
 Text Complexity

Words Read: **28,773**

Time Spent: **2h 14m 19s**

Writing

1400W

1300W

1250W College & Career

1200W

1100W

1175W Grade 10

1000W

995W My Ability

My Ability
 Text Complexity

Words Written: **1,213**

Time Spent: **56m 57s**

Vocabulary

capitalist 1065L
Noun

contra 1070L
Adjective

boogie 1140L
Verb

blotchy 1150L
Adjective

These are random words near your level.
[Click on a word to learn more.](#)

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Oasis – Reading Data by Cohort – Corinth School District (MS)

	Student Count	Mean Reader Measure	sd	Encounters	Words	Time Spent	WPM	WPM sd	Items	Observed Correct	Expected Correct	Observed Performance	Expected Performance
Overall	1,960	1046L	353	305,997	199,546,316	2y 180d 1h 32m	147	81	3,338,692	2,377,900	2,426,819	73.77%	74.93%
Grade 1	4	420L	262	3	718	27m	42	30	29	20	19	67.59%	64.30%
Grade 2	144	365L	254	2,366	516,895	6d 1h 43m	60	38	19,955	12,571	13,043	63.25%	65.36%
Grade 3	226	755L	236	21,249	4,739,293	42d 2h 3m	77	45	173,572	121,284	126,363	70.53%	72.80%
Grade 4	186	874L	257	27,965	7,200,752	56d 8h 26m	95	53	240,880	161,100	167,794	67.95%	69.66%
Grade 5	177	962L	290	29,920	10,221,649	69d 12h 42m	108	58	278,279	189,208	196,444	69.21%	70.59%
Grade 6	192	1063L	206	38,101	16,515,448	99d 23h 2m	123	60	374,921	267,675	276,596	72.33%	73.77%
Grade 7	189	1155L	227	34,841	16,720,527	80d 8h 52m	147	68	336,329	245,540	253,535	74.18%	75.38%
Grade 8	175	1177L	205	23,156	10,859,967	47d 12h 45m	157	73	201,122	147,615	152,111	74.31%	75.63%
Grade 9	187	1254L	214	29,436	22,003,246	89d 19h 5m	169	78	320,877	240,351	245,982	76.24%	76.66%
Grade 10	153	1321L	243	24,093	22,742,888	93d 16h 51m	172	80	293,909	226,645	229,785	77.74%	78.18%
Grade 11	122	1251L	205	23,118	24,810,671	94d 7h 35m	192	84	299,073	225,750	228,888	75.66%	76.53%
Grade 12	98	1307L	157	24,110	28,986,120	108d 4h	195	84	333,202	256,685	260,883	77.44%	78.30%
Graduated				27,639	34,228,142	122d 4h 1m	206	85	366,444	283,456	289,289	78.15%	78.94%

Data from 2007-06-01 to 2011-06-01

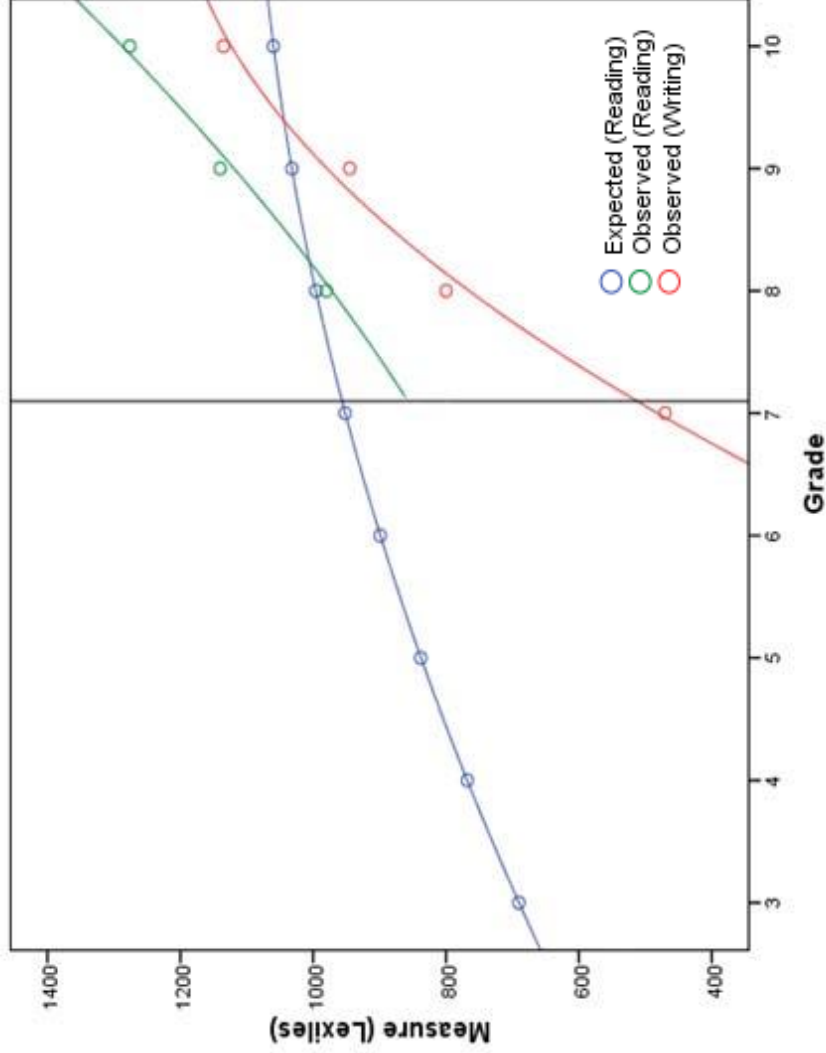


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Implications of the Lexile Framework for Monitoring and Promoting Growth Through Deliberate Practice



“Nicholas Davis”
(Male; African-American;
Free/Reduced Lunch)

Words Read: 117,340

Items Taken: 1,415

Words Written: 7,149

Convention Items: 1,563



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The National Flight Academy and UWF

Dr. Pam Northrup
College of Professional Studies
University of West Florida

What is the NFA?

- The National Flight Academy (NFA) is a comprehensive suite of immersive; aviation inspired learning programs using serious games to engage students in Science, Technology, Engineering, and Math. NFA has the potential to change the STEM education equation and as an outcome increase America's competitive posture.

<http://natflight.com>

Product Suite

- **NFA ACE:** The core Aviation Classroom Experience,
- **NFA Super ACE:** Higher Ed Classroom Experience
- **NFA AIM:** Aviation in Museums. - Museum and Science Center programs encouraging community participation,
- **NFA AWE:** Aviation Web Experience. - A media rich interactive virtual world linking STEM with social media, and
- **NFA AIR:** Aviator in Residence. - The pinnacle In Resident STEM education program

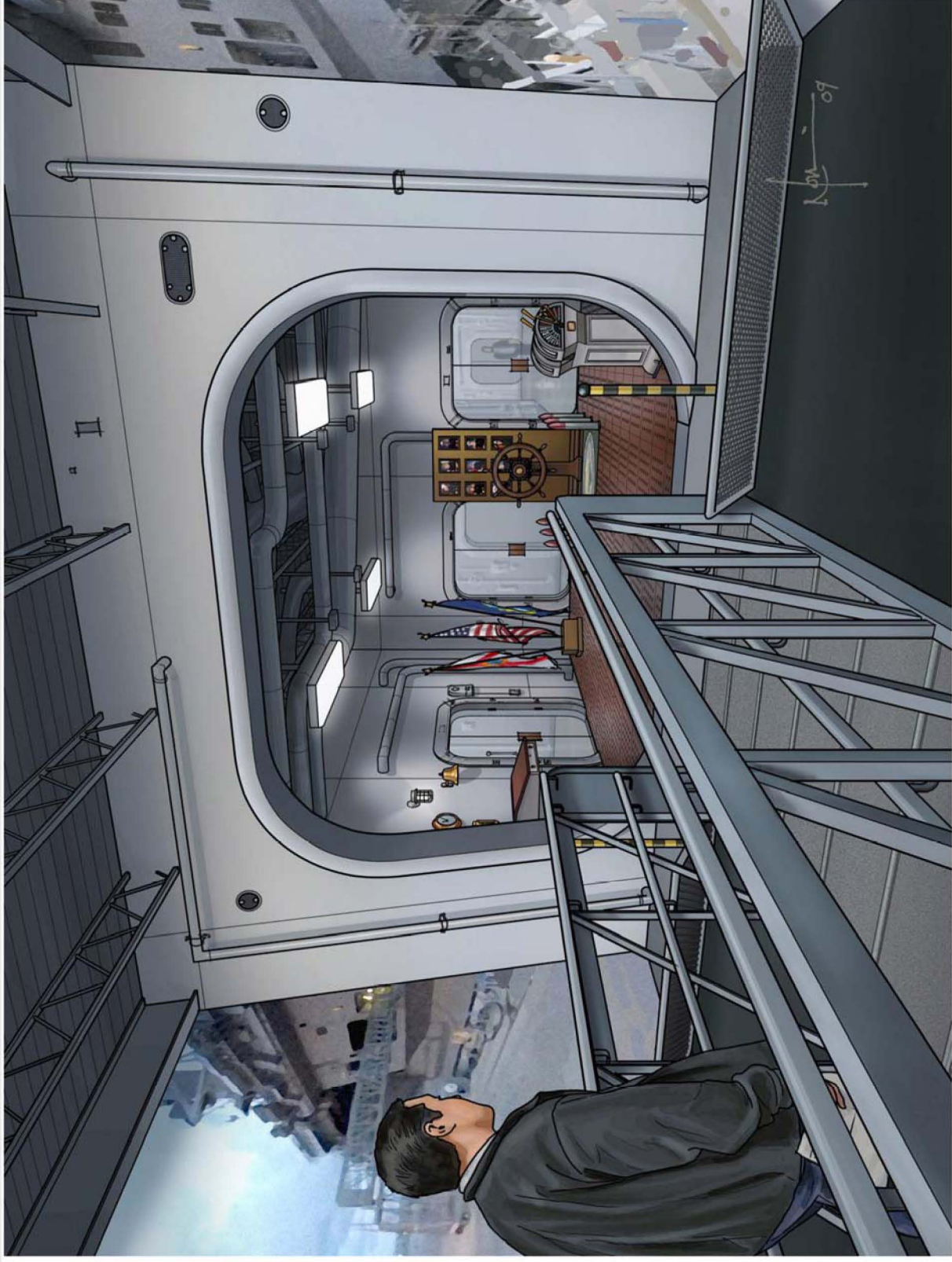
Team

- National Museum of Naval Aviation Foundation
- TEQGames, Inc. Universal Studios
- **University of West Florida**
- David Nixon Video Productions
- Full Sail University
- Lockheed-Martin
- Pinnacle
- Disney Imagineer
- Imagine Creative, Inc.

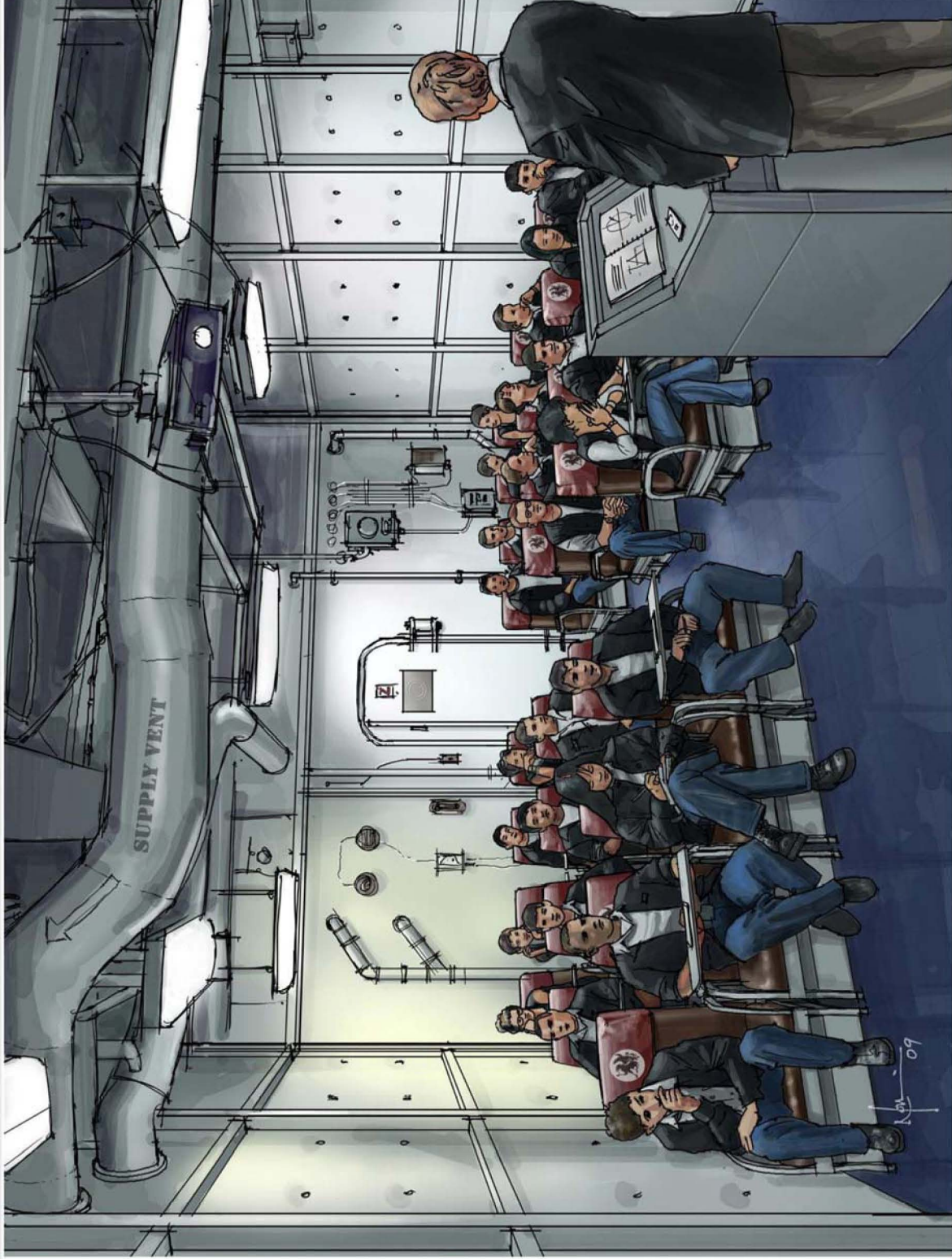
NFA – AIR (The Ambition)



Aviators in Residence: Boarding the "Ambition"



Ready Room



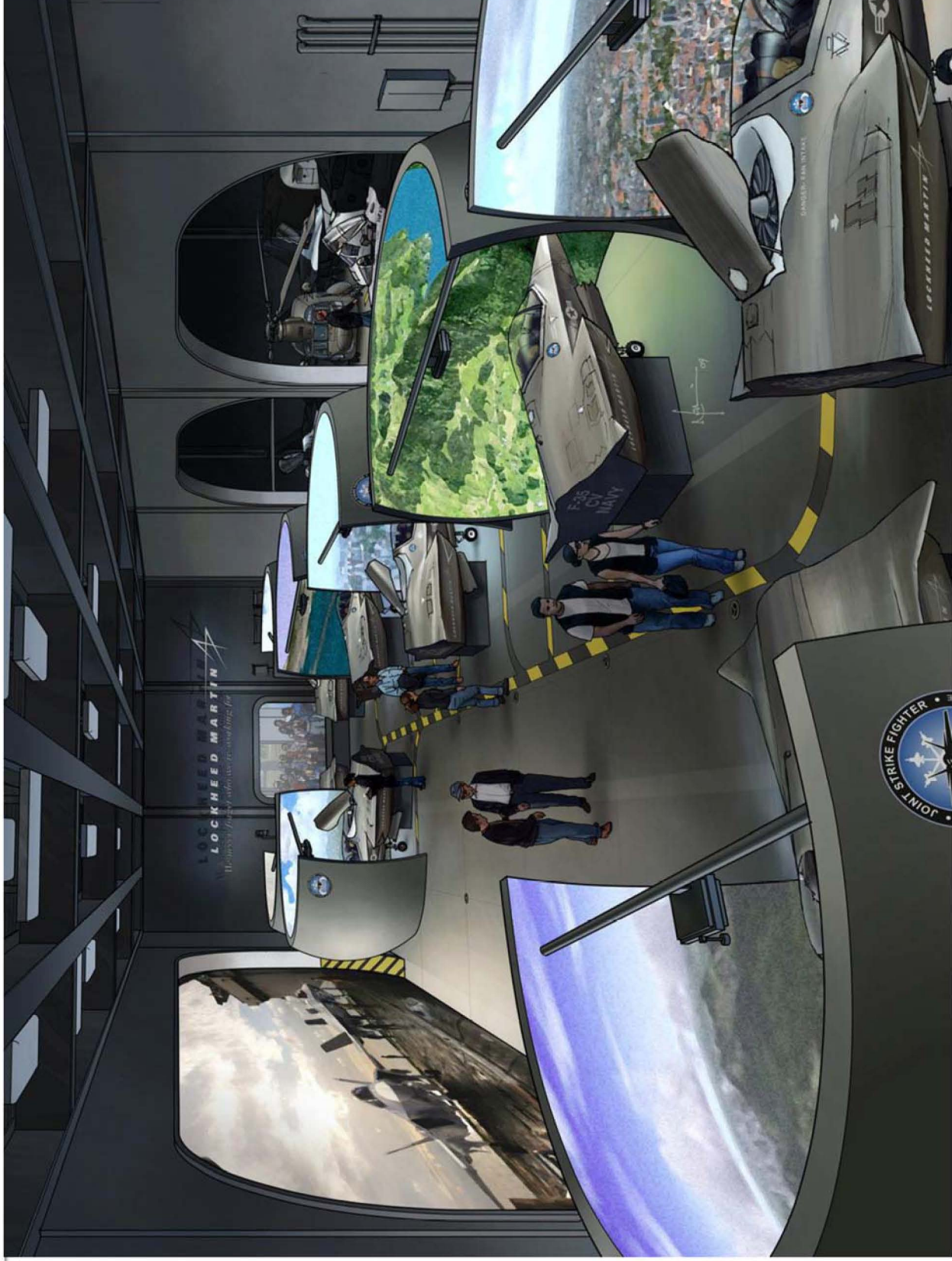
Joint Information Center



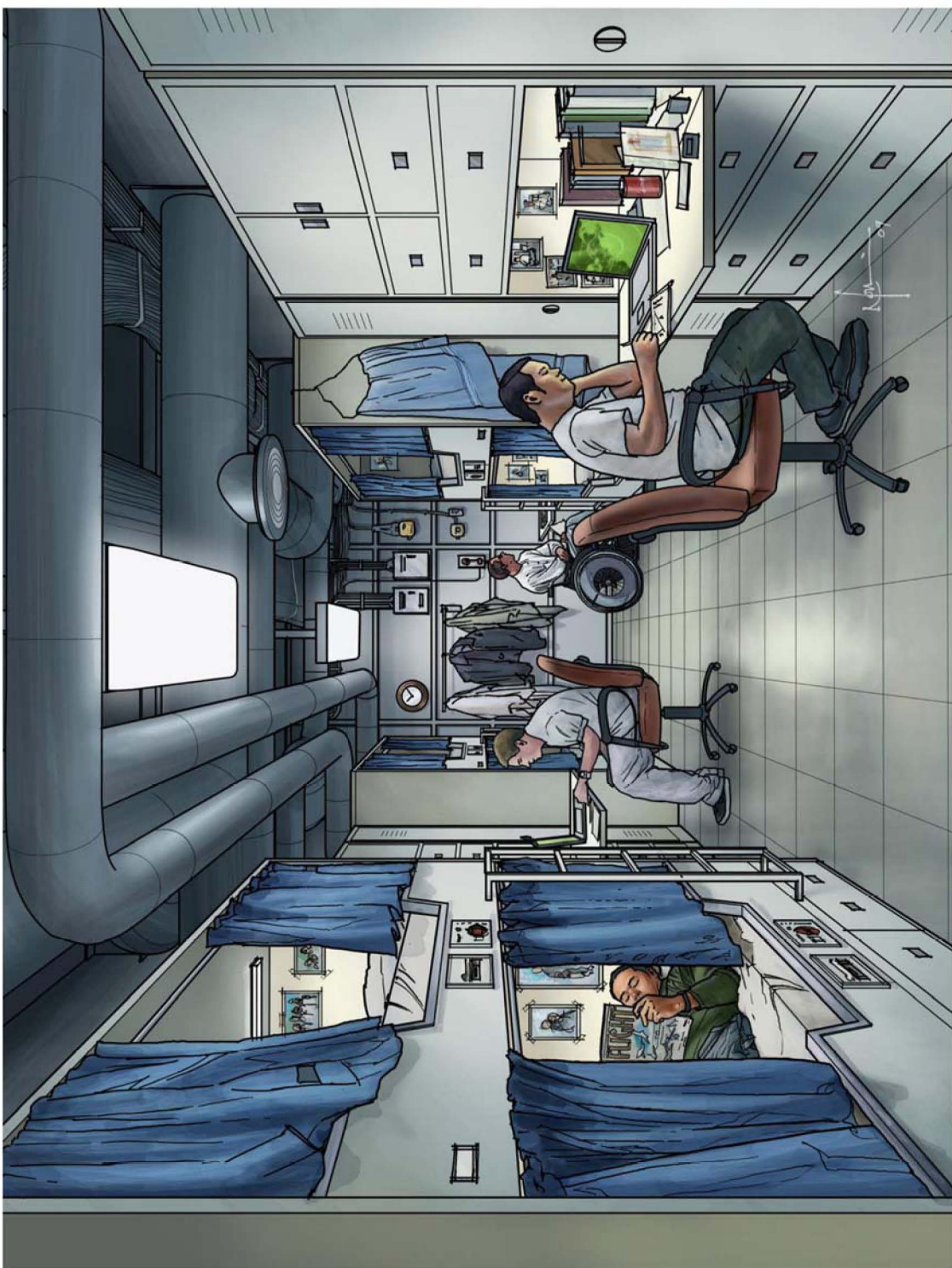
Hangar Bay



Hangar Bay



Berthing

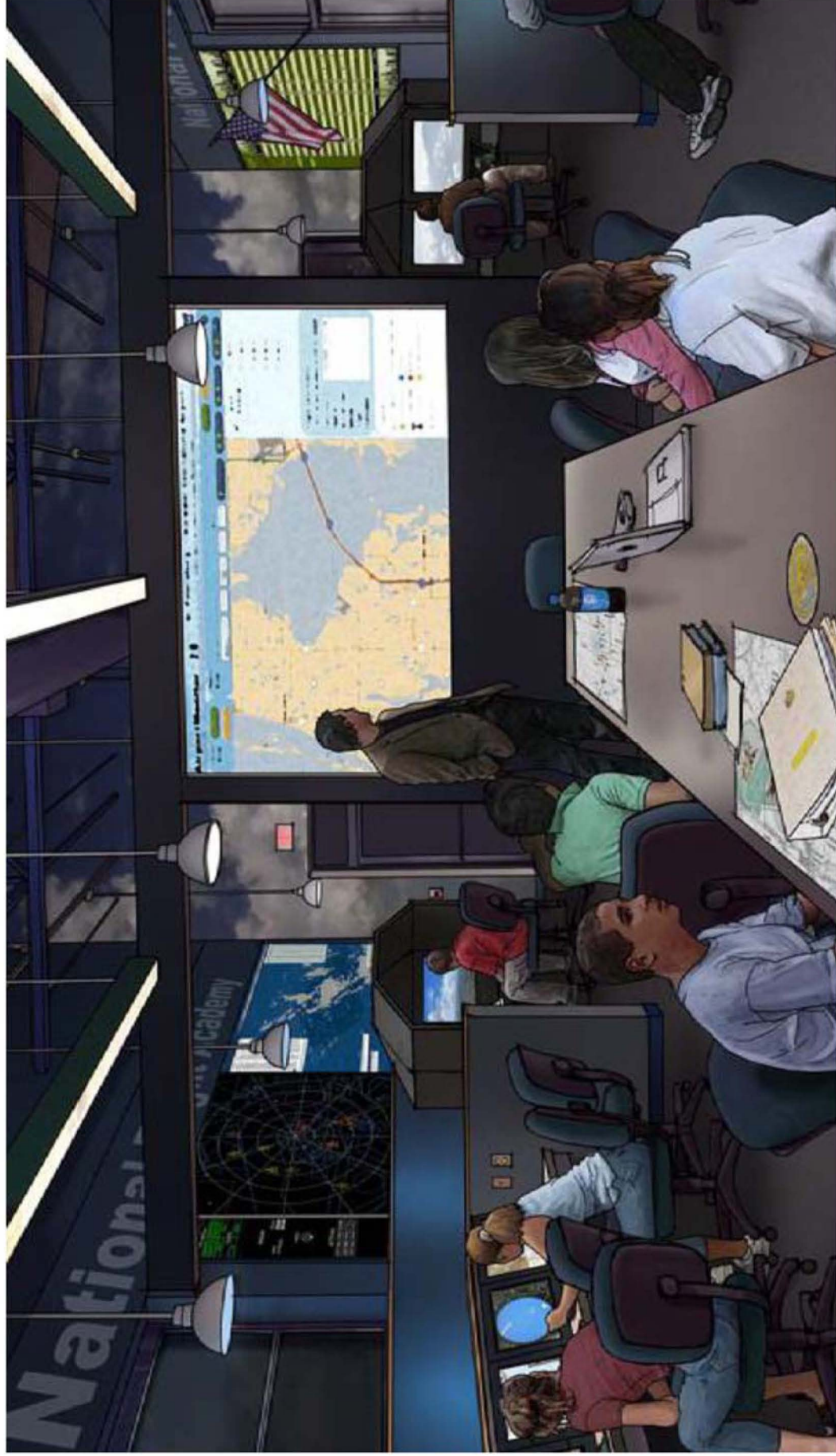


General Curriculum Concepts

Major Outcomes	Description	Streams
Flight Planning	<ul style="list-style-type: none"> •Calculation of: <ul style="list-style-type: none"> -Speed -Fuel -Distance -Lat/Long -Weather 	<p>Grades 7-8 Navigation</p> <p>Grades 9-10 Meteorology</p> <p>Grades 11-12 Aviation Physiology</p>
Application of STEM	<ul style="list-style-type: none"> -Drop Calculations -Propulsion -Trajectory -Glide Slope -Ground vs Air Speed -Temp/Air Pressure -Radiation Impacts -Grid Coordinate Conversion 	
Teamwork	21 st Century Skills	
Problem-solving	21 st Century Skills	

General Curriculum Concepts

Aviation Classroom Experience



ACE Classrooms in our Region

- Warrington Middle School
- Milton High School
- Escambia High School
- University of West Florida [Oct 1, 2011]

Evidence of Success: Year 1

- Demographics for Warrington Middle School
 - 846 students
 - 92% (779) receive free or reduced lunches.
 - 25% of all 7th and 8th graders participate (118)
- Year 1 Findings
 - ACE students in attendance 5% more time than non-ACE students
 - 4% less likely to receive in-school suspension
 - ACE students scored significantly higher (25%) than non-ACE students on Math and Science FCAT.

Center of Inspiration: 1st in the Country

- University of West Florida
- Escambia County School District (Warrington Middle School; Escambia High School)
- Santa Rosa County School District (Milton High School)
- National Flight Academy/National Museum of Naval Aviation

Centers of Inspiration Requirement

- Four Aviation Classroom Experience (NFA ACE)
- One Aviation in Museum (NFA AIM) program that can be deployed in a Museum or Science Center
- Super ACE Program to be deployed at a regional University or College to provide
 - teacher development and training,
 - corporate familiarization and events, and
 - localized mission development in concert with the NFA Academic Advisory Board and the NFA Serious Game Development Studio,
- A Teacher Development Program
 - primary teacher training and development as well as
 - continuing education for teachers involved in game based and immersive learning programs,
- A Community Engagement Program
- An NFA AIR scholarship component

Academic Advisory Board Partners

- University of West Florida
- Full Sail University
- Texas A&M University
- Tuskegee University
- Purdue University
- Albany State University
- Georgia Tech Research Institute

In 5 years, the goal is to be serving over 1 million learners

- By EOY 2012 10 COI's, each one has 4 school ACE, launch of AWE, 5000 users
- By EOY 2013 20 new COI's, 50000 AWE users
- By EOY 2014 200 new schools, 100000 new AWE users
- By EOY 2015 400 new schools, 250000 new AWE users
- By EOY 2016 400 new schools, total of 1M AWE users

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