

Noah Text in Action

Results of Pilot Study

*Conducted by Michigan State University
in conjunction with New Century Education Foundation*

Executive Summary

- Eight middle school students with reading challenges (seven of them identified as dyslexic) showed improvements in reading after using Noah Text for just **two weeks** during a summer reading camp in Rhode Island
- Specific results were as follows:
 - The students gained an average of 22% in oral reading fluency in plain text*
 - Seven of the eight read more words per minute using Noah Text versus standard text passages
 - All made fewer mistakes reading Noah Text versus standard text
 - Their vocabulary scores improved an average of 31% from pre- to post-test in plain text
 - They achieved an average percentile gain of 3.9% in reading comprehension in plain text*

**Based on DIBELS assessments at the fifth-grade level in plain text*

Study Setting and Participants

LOCATION

- Rhode Island Tutorial and Educational Services (RITES) Summer Reading Camp (two weeks, three hours per day)

TEACHERS

- One certified teacher (BA and MA) and one education major completed two-hour training and served as teachers

STUDENTS

- Eight middle-grade students (6-8th grade) identified with reading challenges, seven of whom had reading disabilities/dyslexia

ASSESSMENT PROCESS

- Director of RITES (two MA's with 30+ years' literacy experience, Orton-Gillingham trainer) and a doctoral candidate at Michigan State University completed all pre- and post-assessments



Research Questions

Researchers were interested in a variety of issues, including:

- 1. Does Noah-Text® help students with word-level reading accuracy and passage-level fluency and accuracy?**
- 2. Do lessons that employ Noah Text improve vocabulary knowledge on the words taught (63 words) in the lessons?**
- 3. Did the Noah Text lessons improve students' reading fluency and comprehension of normal text?**

Profile of the Students

STUDENT	GRADE	PHONEMIC DECODING EFFICIENCY	SIGHT WORD FLUENCY	ORAL READING FLUENCY
Jessica*	7	3 %ile	7 %ile	11 %ile
Samantha	7	2 %ile	14 %ile	11 %ile
Morgan	6	1 %ile	19 %ile	56 %ile
Jacquelyn	7	1% ile	9 %ile	5 %ile
Josh	7	3 %ile	9 %ile	11 %ile
Johnny	7	3 %ile	13 %ile	14 %ile
Avery	6	1 %ile	1 %ile	1 %ile
Zion	8			70 %ile

***Note:** All student names in this presentation are pseudonyms.

Knowing letter
sounds to decode
unknown words

Automatic
and accurate
word retrieval

Accurate and
efficient
reading of a passage

Sources of Data

QUANTITATIVE MEASURES

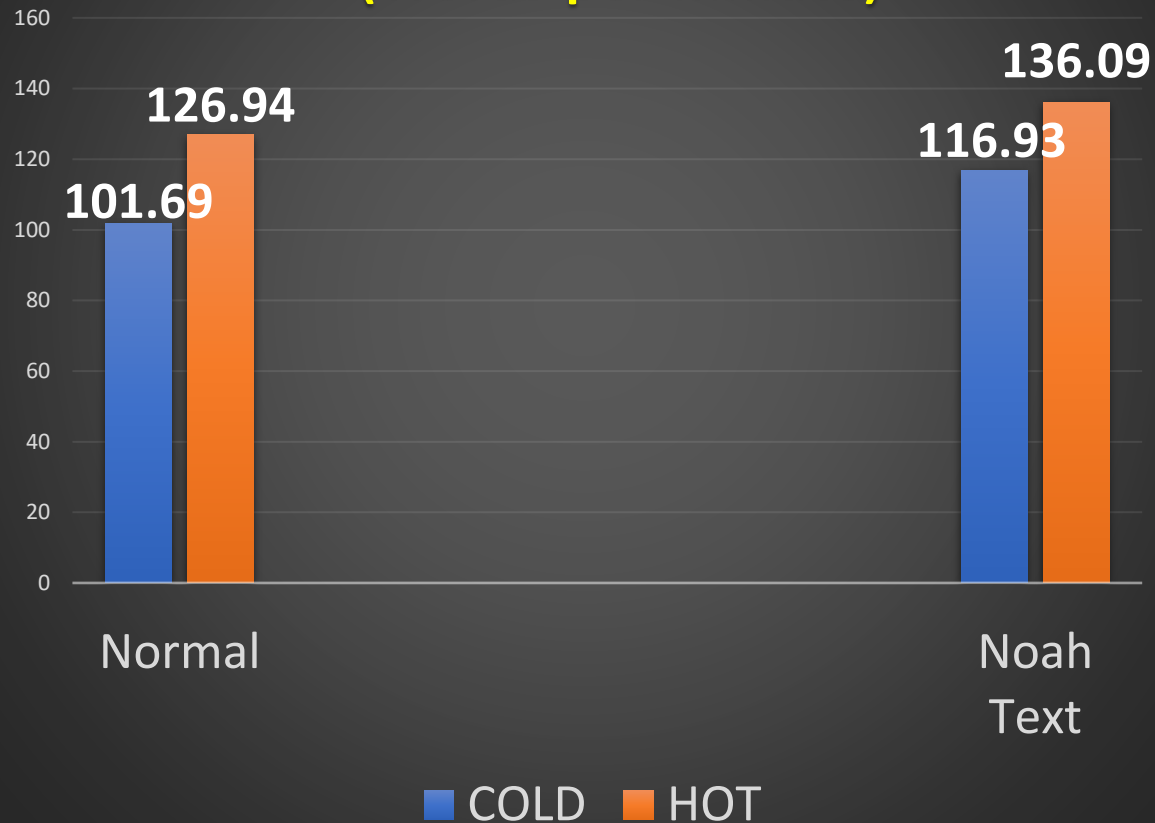
	WORD LEVEL READING	VOCABULARY	PASSAGE FLUENCY	COMPREHENSION	LESSONS COMPLETED AND TIME PER LESSON
MEASURE	TOWRE-2 (pre- and post-test) - Sight word fluency - Phonemic decoding efficiency Academic vocabulary (20 words daily)	Multiple choice Pre- and post-test on 63 words 3-4 vocabulary lesson reviews	DIBELS-8 oral reading fluency (pre- and post-test)	DIBELS-8 MAZE (pre- and post-test) Lesson comprehension for each chapter	New Century lesson reports

QUALITATIVE MEASURES

	BELIEFS ABOUT READING	STUDENT SOCIAL VALIDITY	TEACHER SOCIAL VALIDITY	VIDEOS OF ORAL READING FLUENCY	TEACHER INTERVIEWS
MEASURE	Experience with reading survey	Noah Text social validity survey	Noah Text social validity survey	1-min video of “cold” and “hot” reading	Emails/transcripts

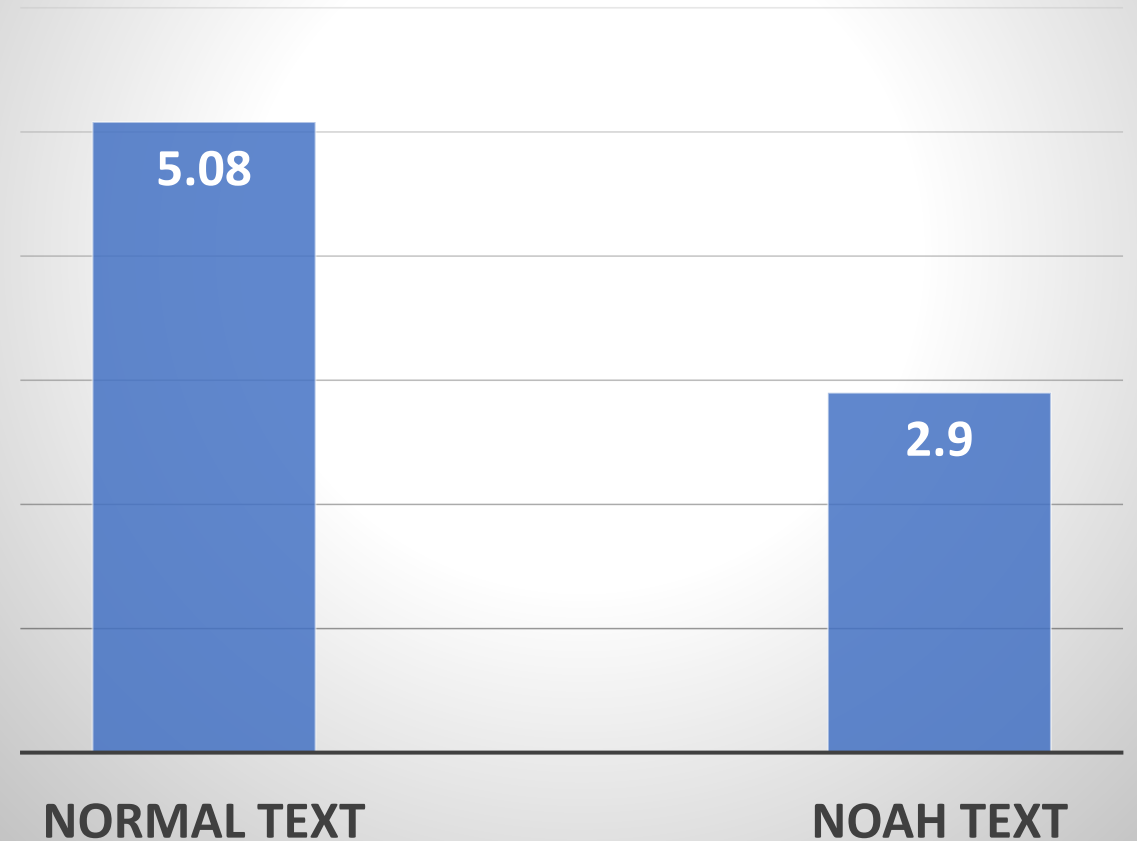
Results

Cold and Hot 1-Minute Reads with Normal Font and Noah Text (Words per Minute)

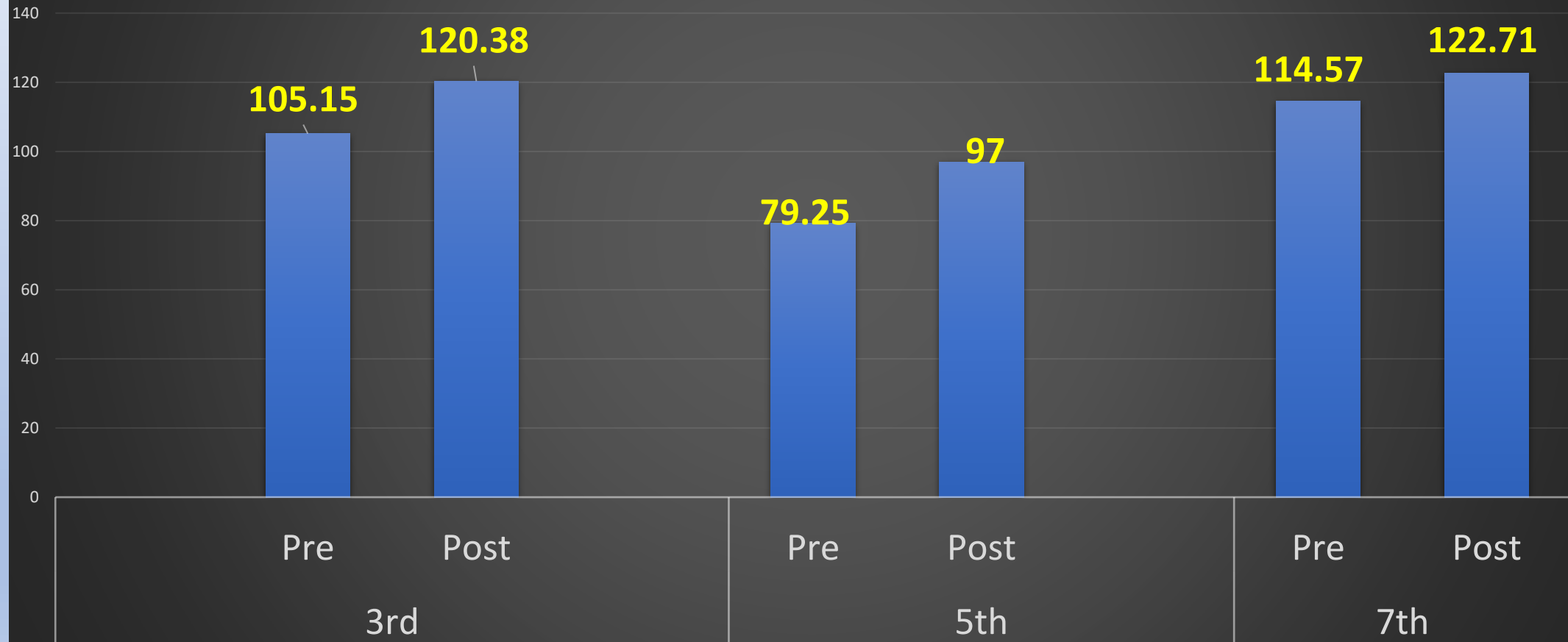


Note: A cold read is a student's first read of a text passage aloud. A hot read is the second oral reading of the same passage.

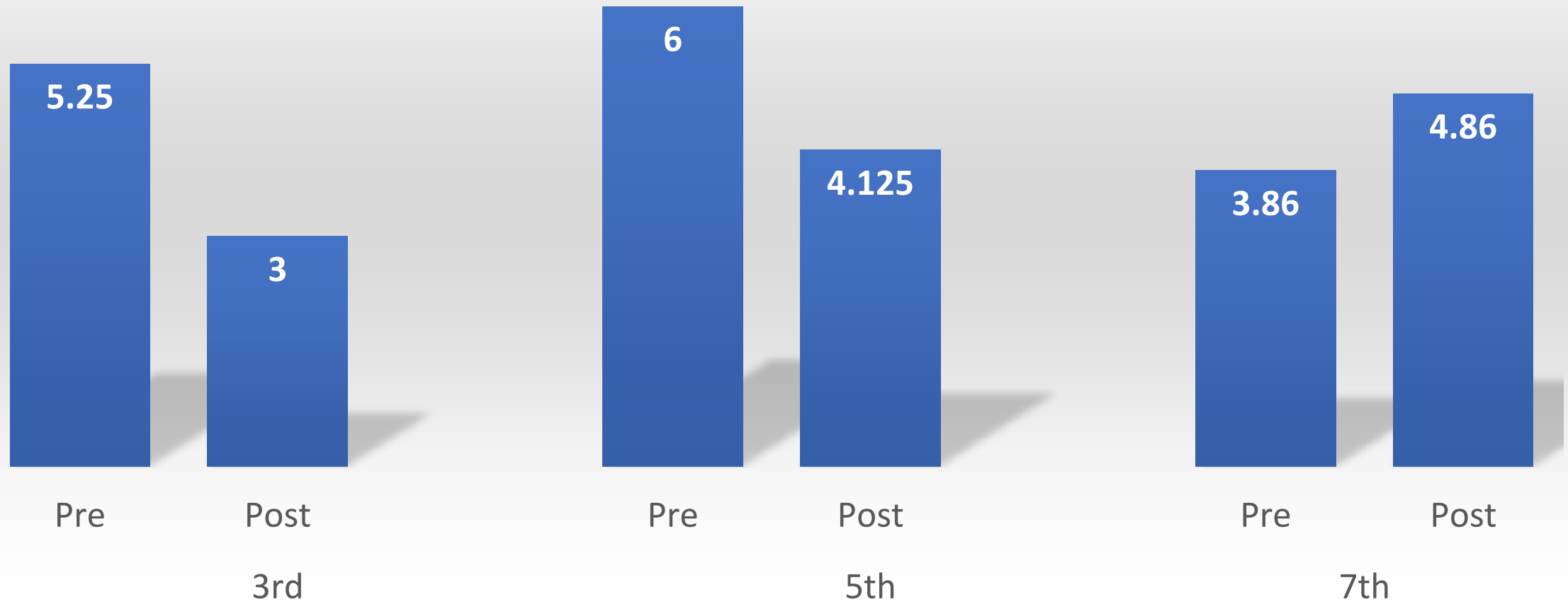
Mean Number of Reading Errors in One Minute



Changes in Oral Reading Fluency in 1-Minute Reads of Standard Text (by Passage Level)



Mean Oral Reading Errors in 1-Minute Reads of Standard Text (by Passage Level)



Noah Text Lessons' Impact on Vocabulary

STUDENT	GRADE	VOCABULARY PRETEST	VOCABULARY POSTTEST	DIFFERENCE
Jessica	7	29%	70%	+41%
Samantha	7	56%	89%	+33%
Morgan	6	75%	98%	+23%
Jacqueline	7	35%	49%	+14%
Josh	7	71%	87%	+16%
Johnny	7	67%	78%	+11
*Avery	6	25%	22%	-3%
Zion	8	84%	85%	+1%
MEAN		55%	72%	17%

*Note: Avery (6th grader) completed the fewest lessons (12 of 21). The intervention may have been too difficult for her.

Noah Text Lessons' Impact on Reading Fluency and Comprehension of Normal Text

Oral Reading Fluency: Percentile Rank

STUDENT	PRETEST	POSTTEST	DIFFERENCE
1	11	15	+4
2	11	12	+1
3	56	62	+6
4	5	11	+6
5	11	19	+8
6	14	19	+5
7	<1	1	+1
8	70	83	+13

100% of students improved reading fluency

MAZE Comprehension: Percentile Rank

STUDENT	PRETEST	POSTTEST	DIFFERENCE
1	6	10	+4
2	10	10	0
3	9	16	+7
4	15	3	-12
5	23	25	+2
6	16	35	+19
7	4	8	+4
8	49	56	+7

75% of students improved reading comprehension

*Teacher's
comment
on the
impact of
Noah Text
on dyslexic
readers*

“My final comment is a positive one: It was really special to have the students engaging with the text in the way Noah Text allows them to. Each word becomes a puzzle that students get to work on, figure out, and feel a sense of discovery and accomplishment through, rather than a dead end or an insurmountable wall that they had no set strategy for circumvention or overcoming.”

APPENDIX 1:

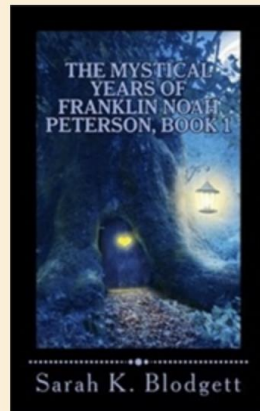
Design of the Noah Text Instructional Product

How Noah Text was deployed

- Noah Text was integrated into lessons in *The Intelligent Tutoring System* online reading instructional product developed by the New Century Education Foundation. The content used in the lessons came from the book *The Mystical Years of Franklin Noah Peterson* by Sarah K. Blodgett, who is the creator of Noah Text.
- Sample screens from the lessons appear on the following slides.



New Century Education Reading



*The Mystical Years of Franklin
Noah Peterson*

Book 1 Chapter 1

A Boy Named Frank





Habits of Good Readers

Good **reading** means **understanding** what we are **reading** and **making connections between** the **story** and our **own lives**. Good **readers** who are **reading stories** are **reading detectives**. Good **readers** are **always looking** for **special words** or **clues** or **hints** to help them think **about** what the **story means**.

All **stories** have at **least** four parts: (1) **characters**, (2) **setting**, (3) **events** or **problem**, and (4) **resolution** or **solving the problem**.

Getting Ready to Read: Anticipatory Set
and Previewing Cognitive Strategies or Text Structure





Good reading
strategy:
Elements of
story structure

- Character
- Setting
- Events/Problem
- Solution/Resolution

Stories almost always have **interesting** characters.

The **a**uthor in this **st**ory gives you many clues **a**bout the main **ch**aracter, **F**rankslin **N**oah **P**eterson. As you read this first **ch**apter, think carefully **a**bout how the **a**uthor describes Frank.

Also, in this first **ch**apter, the **a**uthor describes **several** **i**mportant clues **a**bout the **s**etting of the **st**ory – where the **st**ory takes place. The **a**uthor describes the sights, sounds, **o**bjects, pets, and **f**amily **m**embers.

So, as you read this first **ch**apter, pay close **a**ttention to the **ch**aracters and the **s**etting of this **st**ory. This is what good **r**eading **d**etectives do to **u**nderstand what they are **r**eading.





Many large **houses** were built **along** the **Atlantic Ocean** by **wealthy** sea **captains** in the 18th **century**. Many of these **homes** had **lookout structures** built on top of their roofs. These **structures** were **often** called **widow's watches**. **Stories** were **often** told of a **captain's** wife **pacing** back and forth **inside** the **widow's watch** as she looked out to **sea** **anxiously** **waiting** for her **husband's** ship to **return** home. **Sadly**, **many** sea **captains** and **sailors** **became** lost at **sea** **never** to **return** to their **families**. Have you **ever** **anxiously** **waited** for **someone** to **return** home? It's an **awful** **feeling**!



Building critical background knowledge for vocabulary and conceptual understanding: Auditory support

-ap as in **lap** in **dilapidated**.

Find the words with the **pattern -ap**.

 perhaps

 spaceship

 overlap

 doormat

 kneecap

 forget

 handicap

 grownup

 unwrap

Active student engagement: Drag and drop words with same sound

Auditory support: All words are spoken when clicked on.

Word Study:

Focusing
attention on
common
letter patterns
to help
decode
complex
words

Visual image to strengthen word association



dilapidated (adjective) – **Fallen into ruin** or **decay**, run-down.

The town **finally** tore down the **dilapidated** old school **building**.

di-lap-i-dat-ed

Building vocabulary knowledge:

- Definition
- Word in context

Auditory support: Syllabication—Breaking apart and blending together

Building understanding of vocabulary: synonyms

- Example is voiced
- Option to hear each word

NF-1-1 Frame: Q1 Score: 0 / 0

Rundown is **similar** to **dilapidated**. Find **other** words **similar** to **dilapidated**.

 falling apart	 healthy	 neat
 repaired	 neglected	 unkempt
 broken down		









- Active Student Response:
Drag and drop with correction

Student is active on most slides:
Drag and drop with immediate corrective feedback

Assessing comprehension:

Multiple-choice quiz after each chapter with a variety of question types:

- Literal
- Inferential
- Vocabulary
- Text structure
- Author's purpose

Audio support:

All questions are read to each student, with an option to hear each answer stem

NF-1-1

Frame: Q12

Score: 8 / 9

Which of the **following characteristics** might make Frank seem **quirky**?

☐ Loves his **family** and his pet; **very** easygoing; three close friends

☐ Lives in a **coastal** town; lives in an old house with a **scarecrow** in the yard

☐ Builds **structures** in the yard; reads **under** his **covers**; makes up make **believe** worlds

☐ **Average** build; has a **sister** and two **parents**; 12 years old



Assessment:

Vocabulary question:

- Passage where word was used is made available in question
- Passage is read to student

NF-1-1

Frame: Q13

Score: 8.5 / 10

Frank lives with his **p**arents and nine-year-old **s**ister, **I**zzy, in a large two-**s**tory **h**ome built in the mid-1800s... The house is **v**ery big and **a**iry and **e**ven has an **o**ld **w**idow's watch perched at the top. **A**lthough the **h**ome is **v**ery **o**ld and was once **v**ery **d**ilapidated, Frank's **p**arents, **E**mily and **N**oah, **l**ovingly **r**estored it, such that it is **v**ery **c**omfortable and **c**ozy.

What does **dilapidated** mean in this passage?

- ☐ Modern, fancy
- ☐ Rundown, in disrepair
- ☐ Textured shapes, color profile
- ☐ Historic, old



Word Study: Blending Syllables

dat di i lap ed

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Active student engagement: Drag and drop with error correction



Connecting the story to student's life: Personal response to literature

NF-1-1

Frame: T10

Score: 14.5 / 16

1. You wrote down **several traditions** that were **important** in your life. What were these **traditions** and why were they **important** to you?

2. For **many people**, when they take time each **morning** to think **positively** about the day ahead, their day tends to go well; and when they think **negatively**, it does not go well. What are some **ideas** for **having** more **positive** thoughts to start our day?

3. Can you give a **specific example** of a **negative attitude** you had about something: What was it? What **happened**? How might **having** a **negative attitude** slow down or even stop our **personal success** towards our goals?

4. Can you give a **specific example** of a **positive attitude** you had about something? What was it? What **happened**? How might **having** a **positive attitude** help us **achieve personal success** towards our goals?



Lesson Extensions:

Social-Emotional Learning

- Students write in response to one or more stems
- Book club discussion
- Counselor/counseling bibliotherapy
- Building executive skills

Themes: Dealing with disappointment, loss, planning, assessing personal strengths, peer pressure, resisting impulses, traditions, attitude, careers, perspective taking.

Written Response

- Connecting to story
- Discussion starter

NF-1-1

Frame: T9

Score: 14.5 / 16



Frank and his **family** have **many special traditions** around **Halloween**. **Traditions** are **often rituals**, like **special holidays** or **birthdays** or **celebrations**. Write down three **traditions** that have been **important** in your life.



DONE



APPENDIX 2: Detailed Data

		NORMAL TEXT				NOAH TEXT				ACADEMIC VOCABULARY	
STUDENT	PASS AGE	COLD	HOT	DIFF	ERRORS	COLD	HOT	DIFF	ERRORS	NORM AL	NOAH
Johnny	5th	88	115.25	27.25	4.5	103.75	120.5	16.75	1.125	14	17
Jessica	3rd	105.25	128.25	23	4.875	116.75	142.5	25.75	2.75	12.75	15.75
Jaqueline	3rd	79	99	20	4.75	96.75	119	22.75	3	10	11.5
Josh	5th	88.75	116	27.25	10.875	118.5	130	11.5	6.375	12.25	14.5
Avery	3rd	59.5	77.5	17.75	5.125	85.5	100	14.5	2.875	8.25	11.25
Morgan	5th	148.25	184.25	36	1.25	163.75	185.25	21.5	1	19.5	18.75
Samantha	5th	86.25	107.75	21.5	5.125	100.75	117.75	17	3.5	17.25	17.75
Zion	7th	158.5	187.5	29	4.125	147.25	173.75	26.5	2.625	19.25	19
MEAN		101.69	126.94	25.22	5.08	116.63	136.09	19.53	2.90	14.15	15.69

3rd Grade Passage

5th Grade Passage

7th Grade Passage

STUDENT	PRE	ERRORS	POST	ERRORS	DIFF	PRE	ERRORS	POST	ERRORS	DIFF	PRE	ERRORS	POST	ERRORS	DIFF
Jessica	101	4	121	2	+20	68	8	92	2	+14	97	6	92	5	-5
Samantha	84	5	87	1	+3	77	6	81	5	+4	99	2	105	7	+6
Morgan	163	0	174	0	+11	124	2	130	1	+6	159	2	160	1	+1
Jacqueline	67	8	95	5	+18	46	9	73	4	+27	70	6	91	7	+11
Josh	91	9	120	8	+29	68	7	99	8	+31	99	8	108	8	+9
Johnny	113	6	121	0	+8	66	6	97	1	+31	103	1	107	4	+4
Avery	60	5	60	5	0	34	5	32	6	-2					
Zion	162	5	185	3	+23	151	5	172	6	+21	175	2	196	2	+21
MEAN	105.15	5.25	120.37 5	3	+14	79.25	6	97	4.125	+16.5	114.57	3.86	122.71	4.86	+8.14

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75% of students improved reading comprehension