

Summer Slide, Glide, or Gain: Struggling Reader Outcomes in a High-stakes Season

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Summer Reading: Current Status

- Every student experiences summer vacation
- Many communities offer summer reading activities and programs
- Summer slide is often assumed to occur; research on the topic has been generalized to all students
 - Research has explored this among students with specific characteristics

Summer

SETBACK SLUMP SLIDE REGRESSION
2 E L B A C K 2 E O W N S 2 E I D E M E G K E 2 2 I O N

Why do we have summer vacation?

- Common misconception:
 - Summer vacation originally was required so that children could support farming responsibilities in agricultural society.



Why do we have summer vacation?

- Clarification (Gold, 2002):
 - Schooling held during the summer months was relatively common in the early to mid 1800s.
 - Summer vacation was implemented to make rural and urban school schedules consistent

Rural/Farming
communities in school:
5-6 months



Urban
communities in school:
11-12 months

What is summer slump?



- Comparing growth on repeated assessments during two time periods, fall to spring (i.e., the school year) and spring to fall (i.e., the summer)
- Comparing readers by ability level during the summer on reading growth

What is summer slump or slide?

- On average, students lose the equivalent of one month during the summer in **academic performance** (Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996)
- Depends on academic area, SES, reading habits, grade, etc. (Cooper, Nye, et al., 1996; Hill et al., 2007)

Summer Slump: Evidence

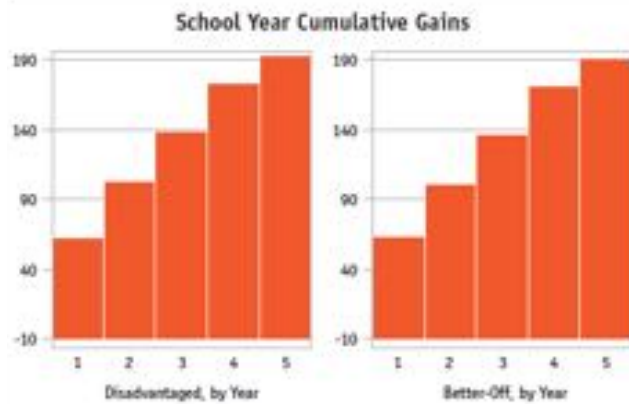
- **General student population**
 - Indirect investigations of the summer lag have shown higher gains from fall to spring (academic year) than during spring to spring (full year) time periods (Borman & D'Agostino, 1996)
- **Children receiving general special education services**
 - Lose ground and their typically developing peers continue to build reading skills, albeit at a slower rate than during the school year (Heyns, 1987; Mraz & Rasinski, 2007)

Summer Slump: Evidence

- **Students from low socioeconomic backgrounds**
 - Low SES students lose ground while middle- and high-SES peers advance during the summer (Alexander, Entwisle, & Olson, 2007a; Alexander, Entwisle, & Olson, 2007b; Burkam et al., 2004; Kim & Quinn, 2013)
- **Outcomes**
 - Achievement Gap: ~80% of the achievement difference between high-income and low-income students may be attributable to summer reading loss (Hayes & Grether, 1983)
 - Dropout rate & attendance of 4-year college differences (Alexander, Entwisle, & Olson, 2007)

Summer Slump: Evidence

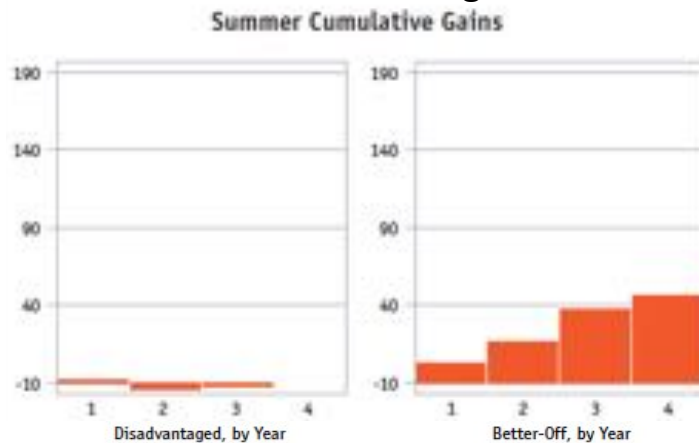
- Comparable gains **during the school year** for students of diverse SES backgrounds



(Entwisle, Alexander, & Olson, 1997)

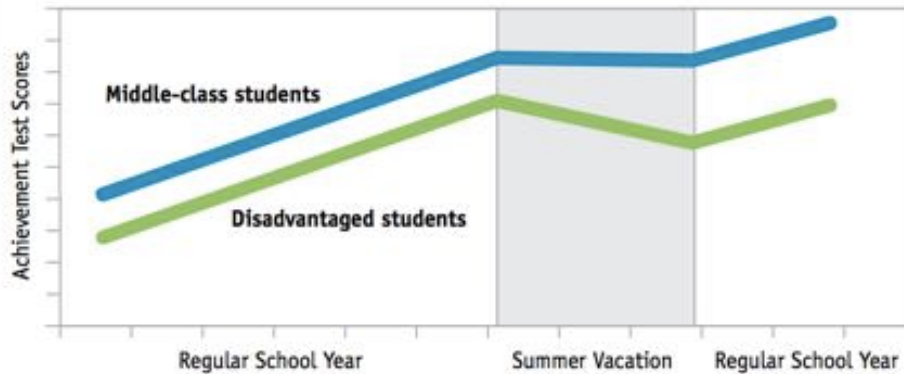
Summer Slump: Evidence

- Significant differences **during the summer** for students of diverse SES backgrounds



(Entwisle, Alexander, & Olson, 1997)

General Pattern of Reading Achievement for Students From Different Income Groups



Cooper et al, conducted a meta-analysis, which is a review and synthesis of multiple research studies. They reviewed 93 evaluations of summer school programs serving grades K through 12, and also reviewed qualitative data from the program evaluations, including interviews with teachers, parents, and administrators.

Note: The above is a generalized representation from all studies reviewed.

(Cooper, 2004)

Summer Slump: Evidence for Reading

Students who are struggling readers

?

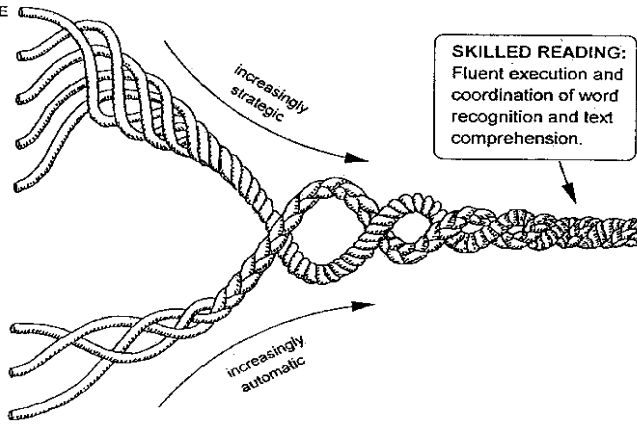
The Many Strands that are Woven into Skilled Reading (Scarborough, 2001)

LANGUAGE COMPREHENSION

BACKGROUND KNOWLEDGE
(facts, concepts, etc.)
VOCABULARY
(breadth, precision, links, etc.)
LANGUAGE STRUCTURES
(syntax, semantics, etc.)
VERBAL REASONING
(inference, metaphor, etc.)
LITERACY KNOWLEDGE
(print concepts, genres, etc.)

WORD RECOGNITION

PHONOLOGICAL AWARENESS
(syllables, phonemes, etc.)
DECODING (alphabetic principle,
spelling-sound correspondences)
SIGHT RECOGNITION
(of familiar words)

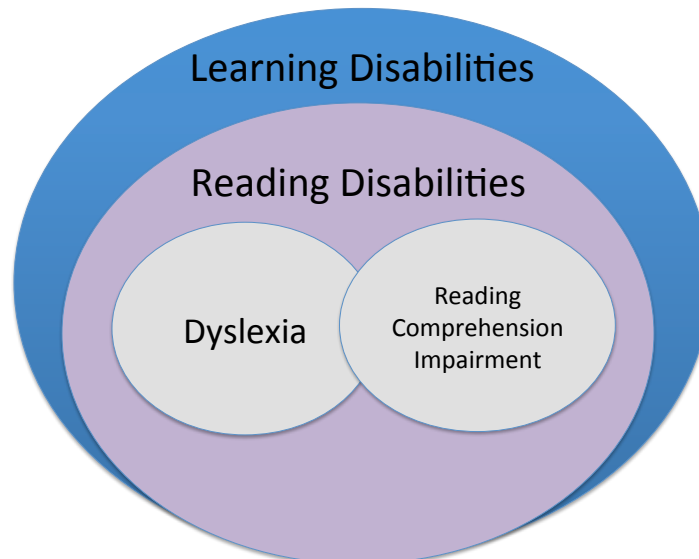


Defining Dyslexia

- **What is the basis?** Neurobiological in origin
- **What are the main features?** Difficulties in accurate and/or fluent word recognition and by poor spelling and decoding abilities
- **Why?** Difficulty with the sounds of language (phonology)
- **What else?** Average or higher cognitive skills
- **What else?** Reading comprehension challenges, reduced reading experience
- **What else can contribute to reading issues?** Exclusion of cultural, educational, environmental, or other disabilities
- **Can you tell from a brain scan?** No

(Lyon et al., 2003)

Contextualizing Reading Difficulties



Summer Reading & Struggling Readers

- What is the impact of intervention for young struggling readers during the summer?



Collaborators: John Gabrieli; Jack Murtagh; Kelly Halverson;
Abigail Cyr; Pamela Hook; Patricia Chang

Summer Time Adventures in Reading & Teaching (START Study)

- Participants:
 - Ages 6-9
 - Completing grade 1 or 2
- Recruited from community
- Randomized Control Trial (RCT)
- Reader Groups
 - Struggling Readers
 - Treatment Group
 - No-Treatment Group



(Christodoulou et al., 2017)

Summer Time Adventures in Reading & Teaching (START Study)

- Treatment Group
- Instruction: 4 hours x 5 days x 6 weeks
 - Provided at no cost
 - Minimum of 100 hours
 - Academic summer months
 - Groups of 3-5 children
 - Lindamood-Bell teaching staff
- Program: Lindamood-Bell Seeing Stars



(Christodoulou et al., 2017)

Seeing Stars: Symbol Imagery for Fluency, Orthography, Sight Words, and Spelling

- Orthographic and visual processing training, and consequently phonological training

- Visualize:

Letters

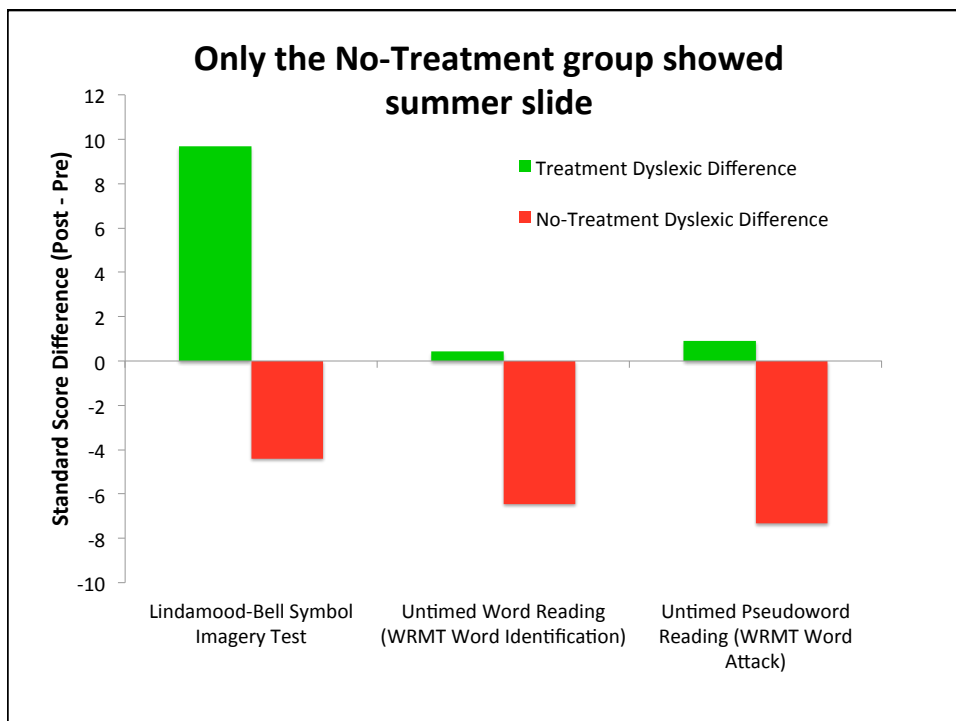
Syllables

Words

Connected text

(Semantic information)

- *Just as the stars are parts of the sky, letters are parts of words*



Converging Evidence for Program Efficacy

Previous research:

School Year



Current study:

Summer



Treatment group showed relative word level benefits in:

Untimed real word reading
Untimed pseudoword reading

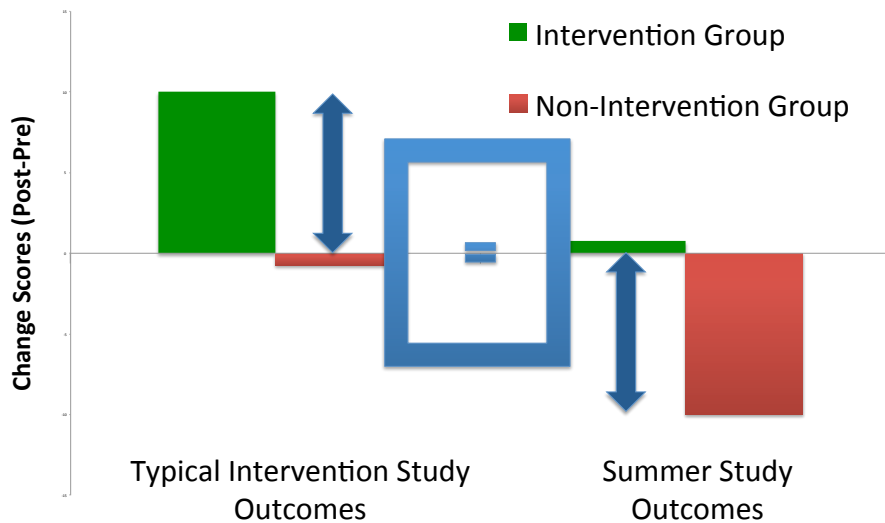


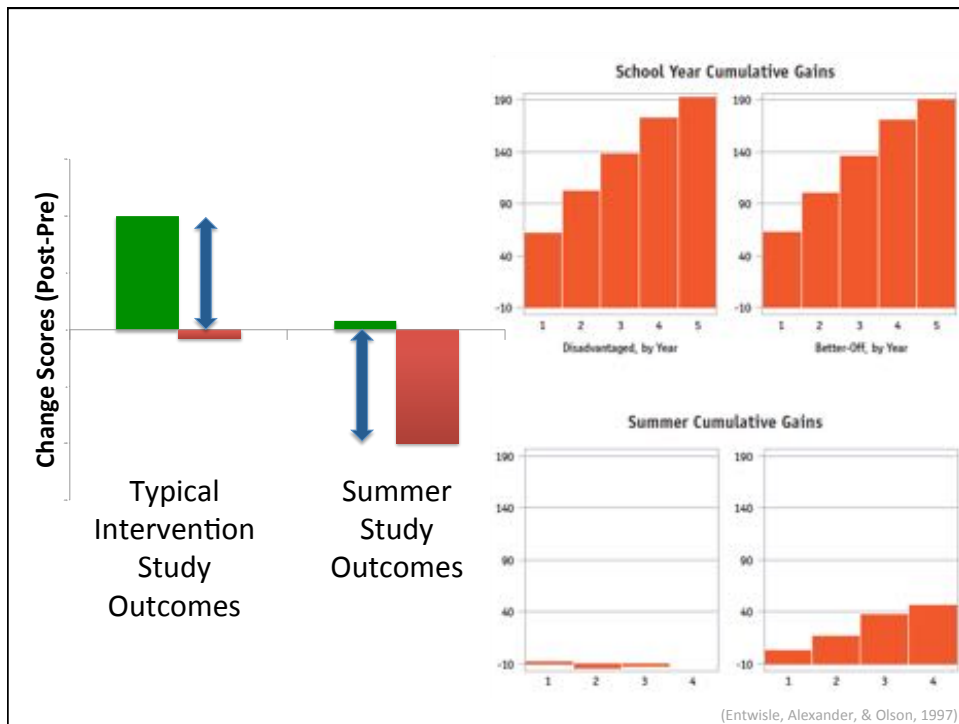
Tx group: **Increased** scores
No-Tx group: No Change

Tx group: No Change
No-Tx group: **Decreased** Scores

(Krafnick et al., 2010; Olulade et al., 2013)

Intervention Effects Example: School year vs. Summer





Differences Between Children Who Responded More or Less to Intervention

- ~50% of intervention participants showed treatment benefit
- Responders had significantly *lower* SES AND *lower* reading scores
- Both more severe RD and also lower SES, two risk factors, were independently associated with greater response to intervention

Summary of Results

- Direct evidence for widening differences between students with reading difficulties who do and do not receive intensive summer reading instruction
- Convergence with studies of other vulnerable student populations for summer reading outcomes

(Christodoulou et al., 2017)

Effects of Reading Intervention

- Inform our definition of a successful intervention
- Prevention of academic summer regression
- Improvement of outcomes



Summer Reading Attitudes & Activities

- Are there differences between typical and struggling readers in:
 - Reading attitudes during the summer?
 - Summer literacy activities?



Collaborators: Kelly Halverson; Joseph McIntyre; Emily Holding; Theresa Cheng; Sydney Kagan; Maria Varella; Dalya Umans; Megan Pattee; Nicole Ashby

Activity Type Varies Most

- Across reader ability levels:
 - We did **not find** conclusive evidence for a **quantitative difference** in the amount of time spent on literacy activities over the summer
 - Evidence for a **qualitative difference**, which can have implications for the preservation and development of reading skills over the summer



Outcomes

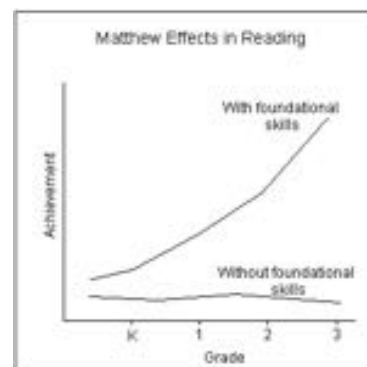
- **Attitude/Motivation:**
 - Children with RD were less motivated and enjoyed reading less than typical readers ($p < .05$).
- **Activities:**
 - This difference, however, did not impact the total time spent on literacy activities.
 - The RD group was more likely to engage in obligatory formal literacy activities while typical readers were more likely to engage in voluntary leisure reading.

Revisiting the Matthew Effect

From Matthew gospel:

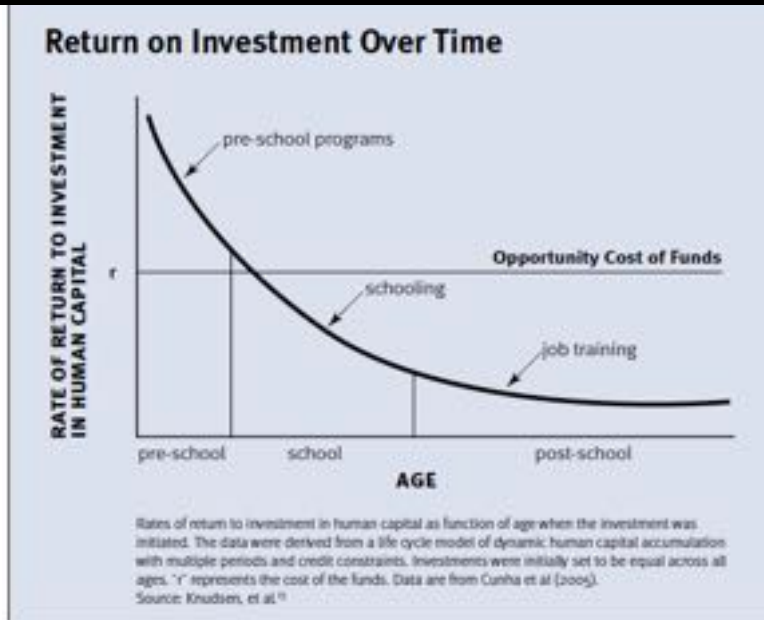
For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath" (XXV:29)

“The rich get richer, and the poor get poorer.”



“Matthew Effects” (Stanovich, 1986)

Earliest remediation yields greatest impact



Cunha et al., 2005; James Heckman

Promoting Healthy Summer Reading Growth

- 33% of families enroll children in a summer learning program (Afterschool Alliance, 2014)
- Summer reading programs have the potential to prevent or reduce summer slump in students with a variety of risk factors:
 - Reading or learning disabilities (Christodoulou et al., 2015; Cornelius & Semmel, 1982)
 - Low SES (Johnston, Riley, Ryan, & Kelly-Vance, 2014; Kim & Quinn, 2013)
 - Low performance relative to a variety of literacy benchmarks (Zvoch & Stevens, 2011, 2013)
- Positive gains for many summer programs
 - Mandatory (for students who would otherwise be retained in the same grade)
 - Voluntary programs that are home-based or school-based (McCombs, 2011)

Types of Summer Literacy Programs

- **Specific reading intervention programs:** (Cornelius & Semmel, 1982; Graham et al., 2011; Jackoway, 1971; Johnston et al., 2015; Strahler, 2013; Zvoch & Stevens, 2015)
- **Books** (Kim, 2007)
- **Parent tutoring (parents provide intervention):** (Gortmaker et al., 2007; Pagan & Senechal, 2014)
- **Teacher/parent scaffolding (pre-summer lessons, parents talk about reading strategies with kids):** (Kim & Guryan, 2010; Kim & White, 2008; White et al., 2013)
- **Library “Summer Reading Club”** (Justice et al., 2013)
- **General summer camp, with integrated reading component** (Garst & Ozier, 2015)

Characteristics of Strong Summer Literacy Programs

- Small class sizes (maximum size of 20 students)
- Individualized instruction
- High-quality instruction
- Curricula consistent with academic goals
- Engaging and rigorous programming
- Maximized participation and attendance
- Sufficient duration
- Involved parents
- Evaluations of effectiveness

RAND Corporation report (McCombs et al., 2011)

Home Literacy Interventions

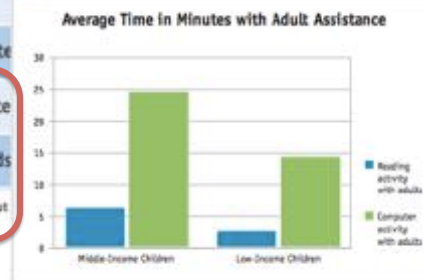
- What drives positive outcomes?
 - Child-initiated book reading
- Is there a critical threshold to aim for?
 - Across SES, reading six or more books yielded more than students who did not (Heyns, 1987, p. 169)
- What can drive home literacy outcomes?
 - Access to books and home reading activities (Chin & Phillips, 2004; Teale, 1986; Whitehurst et al., 1994)
 - However, families living in poverty least likely to own 10 or more books (Bradley, Corwyn, McAdoo, & Coll, 2001) (Kim & Quinn, 2013)

Is visiting the library sufficient?

CHILDREN'S READING ACTIVITY IN THE LIBRARY

	Middle-income neighborhoods	Low-income neighborhoods
Total number of children observed	91	118
Total library resource use	2376 minutes	2529 minutes
Total number of children reading	34	38
Total reading time	393 minutes	779 minutes
Total time with each material	12 minutes	6.6 minutes
Total number of words per visit	1069 words	618 words

Note that children in low-income neighborhoods spent more time using library resources, but read less challenging material with fewer words.



Neuman, NSLA Research Brief

Future Directions

- Individual differences approach to matching treatment to student
- Examine dosage effects
- Provide opportunities sensitive to timing (e.g., summer programming)
- Ensuring access to library and digital resources
 - International Dyslexia Association (eida.org)
 - Learning Ally, learningally.org
 - Library of Congress, US
 - Understood.org
 - Universal Design for Learning, CAST.org
- Guided by evidence-based practices

Final Considerations

- Summers are an opportunity for intervention critical for struggling readers
- Summer intervention efficacy may present as absence of decline rather than presence of growth in reading skills
- Effective and early treatment may relieve reliance on compensatory mechanisms for reading
- Attitude/motivation of children with reading difficulties may be lower than in peers; more likely to engage in obligatory formal literacy activities while typical readers were more likely to engage in voluntary leisure reading.

Where can you learn more?

- BEAM website: www.mghihp.edu/BEAM
- <http://scholar.harvard.edu/joanna/pages/resources>
- International Dyslexia Association:
www.eida.org
- MA IDA Branch: www.ma.dyslexiaida.org
- www.Understood.org

Join our research at the BEAM Lab

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