Combining College and Career Readiness and Reading in a Blended Learning Context for Adolescents with and without Disabilities

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IDEAs that Work
U.S. Office of Special Education Programs

Project Team

envisionIT
Transition to Tomorrow. Today.

- Ohio State: Margo Izzo, Principal Investigator,
- Project team: Alexa Murray, Andrew Buck, Kristin Page, Victor Johnson
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- Nick Gelbar, UConn UCEDD; Patricia Anderson, CT State Dept of Education; Missy Wrigley, CT SERC

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Scaling-Up Effort

IDEAs that Work
U.S. Office of Special Education Programs

- OSEP funded project to Ohio State as a "Stepping-Up Technology" Award
- CT named partner state in 2014
- Tasked to scale-up and sustain EnvisionIT curriculum
- Online curriculum intended for blended classrooms in grades 9-12

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What are transition services?

- Secondary special education (16+)
- IEP-driven
  - Annual and postsecondary goal statements in employment and education
  - M… a… a… input
- Delivered in a variety of settings
  - General education classroom
  - Self-contained classroom
  - Structured curriculum
  - Resource room

What is the connection to broader college and career readiness initiatives?

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Transition Portfolio

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1. Title Page
2. Bookmarks of Career Search Websites
3. Self-Assessment Results
4. Career Comparison Table
5. Postsecondary Goals for 2 Career Plans
6. Postsecondary School Comparison Table
7. Transition Preparation Checklist
8. Career Essay
9. High School Course Schedule
10. Resume
11. Cover Letter
12. Job and College Application
13. Interview with a Professional
14. PowerPoint or Digital Presentation

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ESSA Definition of Digital Learning

Every Student Succeeds Act (ESSA) 21 U.S.C. 812(c) (3) Digital learning means any instructional practice that effectively uses technology to strengthen a student's learning experience and encompasses a wide spectrum of tools and practices, including the following:

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ESSA Definition of Digital Learning

a) Interactive learning resources
b) Access to online databases
c) Use of data and information to personalize learning
d) Online and computer-based assessments
e) Hybrid or blended learning

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ESSA and EnvisionIT Alignment

EnvisionIT maps onto digital learning definition in ESSA :

a) Schoology LMS allows for interactive learning
b) Students interact with databases such as College Navigator
c) Students take online age-appropriate assessments such as the VARK and O*NET Interest Profiler to help shape their career goals
d) EIT well-suited for blended learning where the teacher instructs and leads students through the digital content
e) EIT can be accessed from Schoology and Google Documents and is compatible with computers, tablets, and smart phones

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Alignment to National Standards

- EnvisionIT is aligned to national standards for:
  - English Language Arts (*Common Core State Standards*)
  - Information and Communication Technology (*Technology and Engineering Literacy*)
  - Financial Literacy (*National Standards in K-12 Personal Finance Education/Jump$tart*)
  - Transition (National Standards and Quality Indicators for Secondary Education and Transition - NASET)

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Research Findings

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- Findings from OH and CT sites in 2014-15 and 2015-16
  - Implemented in Special Education and General Education courses
  - SPED courses: dedicated course, resource room
  - Quasi-experimental design
- Effectiveness of EIT curriculum
  - IT literacy skills
  - Reading comprehension skills

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Does the curriculum impact reading?

- *RQ1: What is the effect of EnvisionIT on reading?*
- *RQ2: Does this effect differ by grade and length of class (semester or year)?*
- Measure: AIMSweb 8th grade Reading Maze
- Analytic sample
  - 18 teachers from 10 secondary schools in OH and CT who participated in Year 3 (2014-15) and the first semester of Year 4 (2015-16).
  - 11 teachers implemented the curriculum (intervention group, *n* = 235) and 7 teachers did not implement (comparison group, *n* = 120).
  - Intervention group: 49% of students were on IEPs, 3% were on 504 plans, and 35% did not have a documented disability (with 13% missing data).
  - Comparison group: 51% of students were on IEPs, 3% on 504 plans, and 45% did not have a documented disability (with 5% missing data).

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Method

- Students (level-1) were nested within teachers (level-2)
- Dependent variable= difference score on AIMSweb representing change in reading achievement from pre to post.
- Multilevel Linear Modeling (MLM; Snijders & Bosker, 1999) was utilized
- To test this assumption a *random effects analysis of variance* model was estimated so that the ICC – representing the proportion of variance between teachers – could be calculated. ICC = 0.129
- Effect size was calculated with partial correlation (Rosenthal & Rubin, 2003), where Large Effect=0.52; Medium Effect=0.36; Small Effect=0.14

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Results

Descriptive Statistics of Study Outcome By Intervention Status						
	Intervention Group			Comparison Group		
Variable	*n*	*M*	*SD*	*n*	*M*	*SD*
Pre-Intervention						
aimsweb8	223	23.68	10.42	115	30.13	11.12
Post-Intervention						
aimsweb8	210	26.03	11.11	97	31.18	12.61

Key findings: There is a trend level increase in the scores for both groups, although greater for the intervention group

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Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Final Model of the Effectiveness of EnvisionIT on AimsWeb 8th scores		
Parameter	Final Model	$r_{equivalent}$
	Fixed Effects	pr
Intercept	-3.40 (1.43)	0.55
Level 1 - Student		
Length of Class	-0.99 (1.96)	0.03
Lunch	0.88 (0.83)	0.06
10th Grade	1.45 (1.76)	0.05
11th Grade	3.88* (1.64)	0.14
12th Grade	3.11 (2.19)	0.08
Level 2 - Teacher		
EnvisionIT	3.11* (1.31)	0.55
	Random Parameters	
Level 2		
Intercept ($\tau 00$)	2.86 (1.86)	0.39
Level 1		
Intercept (σ^2)	39.13 (3.36)	0.57
-2*log likelihood	1852.2	

Key findings:
There was a significant and large effect of EIT on reading scores (*r* = .55)

The effect was significant when controlling for free and reduced price lunch and length of the curriculum (Semester or Year)

Intervention group students showed greater change in AIMSweb 8th scores regardless of grade level.

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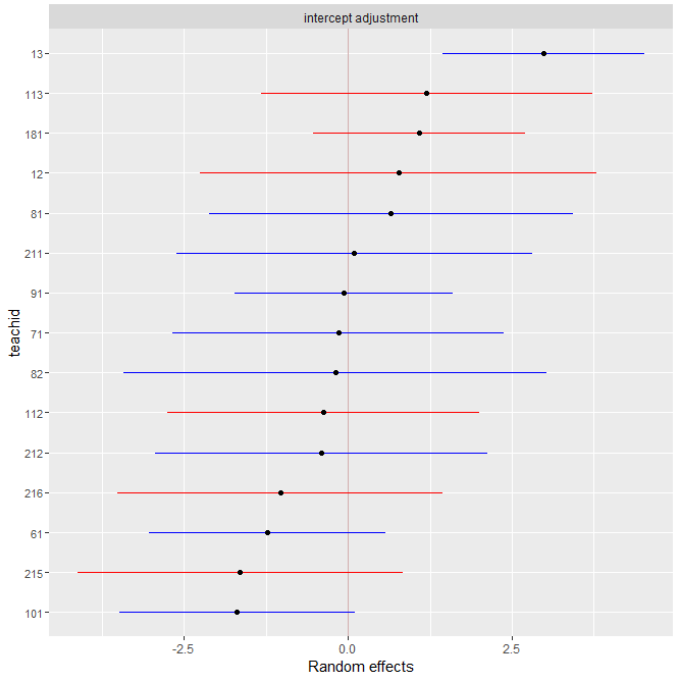
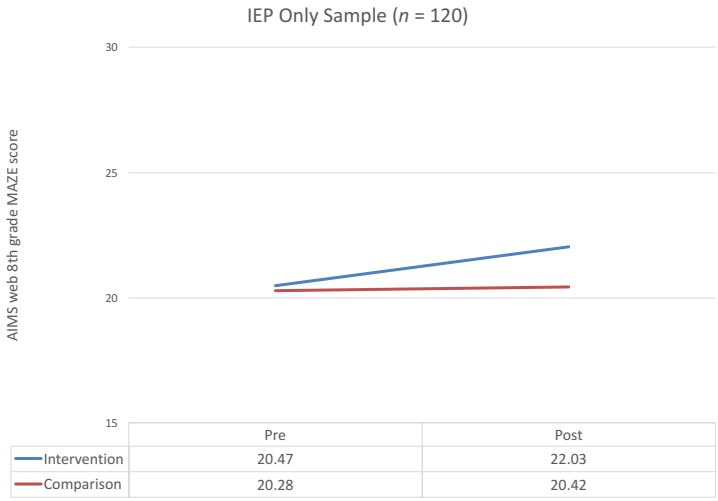


Teacher Variability
13% of the total variance was between teachers

EnvisionIT
Intervention status alone explained 33% of the teacher variance

Final Model
Explained 49% of the original teacher variance

Intervention teachers
Comparison teachers



Students on IEPs who received EIT showed significant gains in reading scores as compared students on IEPs who did not receive EIT

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Summary of findings

- There was a significant and large effect of EnvisionIT on reading scores.
- Intervention group students made more meaningful gains in reading (AIMSweb8 scores increased)
  - 9th graders +3.11
  - 10th graders +4.56
  - 11th graders +6.99
  - 12th graders +6.22
- The effect differs by grade
- Length of class was not statistically significant

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Limitations and Next Steps

- Quasi-experimental design
- Curriculum dosage wasn't calculated (e.g., number of units taught, numbers of units completed in Schoology)
- Setting needs further examination (differential effects for resource room, self-contained, general education?)
- Teacher fidelity of implementation

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References

*Lombardi, A. R., Izzo, M. V., Rifenbark, G. G., Murray, A., Buck, A., Monahan, J., & Gelbar, N. (in press). The impact of an online transition curriculum on secondary student reading: A multilevel examination. *Career Development and Transition for Exceptional Individuals*

Rosenthal, R. & Rubin, D. B (2003). R-equivalent: A simple effect size indicator. *Psychological Methods, 8 (4),* 492 – 96

Snijders, T. & Bosker, R. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modeling.* New York, NY: Sage.

*manuscript available upon request from A. Lombardi allison.lombardi@uconn.edu

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Additional Resources

EIT Student Videos:
http://go.osu.edu/eitvideos

EIT Teacher Training Videos:
http://go.osu.edu/eitpd

OSU Nisonger Center EIT Website:
http://go.osu.edu/eit

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