

IMPACT OF TIER 2 READING INTERVENTION ON MULTILINGUAL LEARNERS

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Background

Data from the National Assessment of Educational Progress demonstrates that about one-fourth of 8th graders consistently perform below the basic level of reading (NAEP, 2015, 2017, 2019, 2022). Of these students, multilingual learners experience reading failure at a higher rate, as 68 percent of MLL students performed below the basic level of reading in 2022, as compared with 30 percent of all students (NAEP, 2022). This persistent reading failure among MLL secondary students indicates a need for greater emphasis on foundational reading skills beyond the elementary grades paired with language acquisition supports. In this study, we examine the impacts of word study adaptations to the University of Utah Reading Clinic's Higher StepsSM Tier 2 multicomponent reading intervention to support language acquisition and reading achievement in secondary MLLs who are reading below a proficient level.

Research Questions

What is the impact of a multicomponent small-group, Tier 2 reading intervention on adolescent multilingual learners' reading achievement?

What effect does morphological word reading instruction, as part of a multicomponent small-group, Tier 2 reading intervention, have on adolescent multilingual learners' reading-related outcomes?

Methods

Participants

33 general education 7th grade students reading below grade level at the beginning of the school year.

Treatment group:

- •19 7th grade students (6 MLL students)
- •Average TOSCRF-2 Pretest Standard Score (SS): 81.6
- •Average Instructional Reading Level (IRL) at Baseline: 3.8
- Comparison group:
- •14 7th grade students (3 MLL students)
- •Average TOSCRF-2 Pretest Standard Score (SS): 83.2
- •Average Instructional Reading Level (IRL) at Baseline: 4.7

All treatment and comparison group students were located in one school.

Assessment

At the beginning of the 2024-2025 school year, UURC staff administered the Test of Silent Contextual Reading Fluency-Second Edition (TOSCRF-2; Hammill et al., 2014) and the Reading Level Assessment (RLA; Craig et al., 2009), an informal reading inventory to 7th grade students at an urban junior high school. A recent meta-analysis by Wissinger et al., 2023, found that performance on the TOSCRF-2 mirrors the results from other norm-referenced tests of reading, regardless of which component reading skill they measure. The students also took Star Reading (Renaissance Learning, 2024), a computer-adaptive, comprehensive reading assessment.

At the end of the first semester, UURC staff administered the TOSCRF-2 and RLA again and students took the midyear Star Reading assessment.

Instruction

•Treatment group students received comprehensive Tier 2 intervention (UURC's Higher StepsSM with a morphological word study element) 2 days a week during the first semester of the 2024-25 school year. On the remaining weekdays, they received business-as-usual instruction in a Tier 1 setting (general English/Language Arts curriculum).

Tier 2 intervention was delivered in a small group format (3-5 students) by a trained tutor, providing the following instruction:

- o assisted oral reading of complex texts (2 grade levels above students' instructional reading level)
- o explicit academic vocabulary instruction
- o morphological word reading instruction (REWARDS; Archer et al., 2019)
- o timed repeated fluency reads

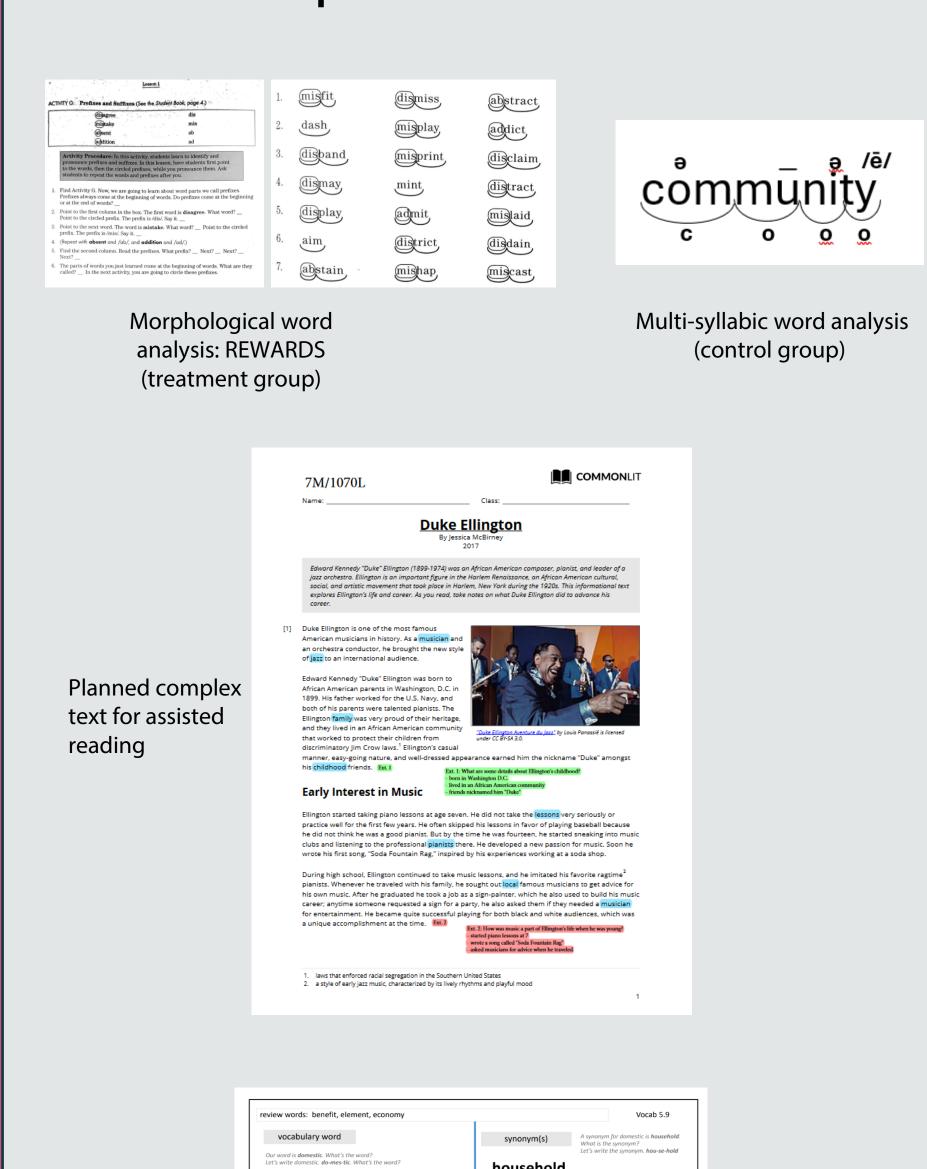
Intervention duration: approximately 10 sessions of 75-minute instruction.

•Comparison group students received the same comprehensive Tier 2 intervention (UURC's Higher StepsSM) as the treatment group 2 days a week during the first semester of the 2024-25 school year in a small group format, however, the intervention included a <u>syllabication</u> word study element instead of a morphological word study element. On the remaining weekdays, they received business-as-usual instruction in a Tier 1 setting (general English/Language Arts curriculum).

<u>Design</u>

- •Initial comparison TOSCRF-2 pretest scores and RLA pretest scores were compared with t-tests to identify initial differences. Insignificant results suggested the confound of treatment condition with each group was minimized.
- •Regression Analyses were used to determine if treatment and MLL status have a statistically significant effect on TOSCRF-2 standard score gains, RLA instructional reading level gains, and Star Reading grade-equivalency gains.

Sample Lesson Materials



Regression Analysis results for posttest TOSCRF-2 standard score

	b	Standard error	t-value	р	
TxGroup	1.125	2.174	0.517	0.610 0.491	
MLL Status	-1.628	2.327	-0.700		
Regre	ssion Analy	ysis results fo	or posttest F	RLA IRL	
	b	Standard error	t-value	p	
TxGroup	TxGroup 0.217		0.532	0.600	
MLL Status	0.042	0.452	0.094	0.926	
Regression	n Analysis r	esults for po	sttest Star F	Reading GE	
	b	Standard error	t-value	p	
TxGroup	-0.364	0.398	-0.913	0.370	

Descriptive statistics

TOSCRF-2

Control

	Pretest SS		Postt	est SS	Gains SS		
	M	SD	M	SD	M	SD	
Treatment (n=15)	81.4	8.81	84.5	7.61	3.1	6.19	
Control (n=11)	83.5	3.30	85.8	4-45	2.4	3.61	
RLA							
	Pretest IRL		Postte	est IRL	Gains IRL		
	M	SD	M	SD	M	SD	
Treatment (n=19)	3.8	0.54	4.9	1.28	1.1	1.12	
Control (n=14)	4.7	0.66	5.6	1.24	0.9	1.14	
Star Readir	ng						
	Pretest GE		Posttest GE		Gains GE		
	М	SD	M	SD	M	SD	
Treatment (n=15)	4.0	1.09	4.6	1.68	0.7	0.80	

Assessments

Form A		Line Word Count	Total Word Court	For	Form A		Total Word Count
1.	YOUCAN	2	2	13.	THE YOUNG MANWAS DELIGHTED TO BTAIN HIS DEPUTY	9	232
					SHERIFFSBADGEASHISFIRSTASSIGNMENTHEHADBEEN	9	241
2.	LOOKDOWN	2	4		APPOINTED TO ESCORTAPRISONER TO THE AUTHORITIES AT	9	250
					THECOUNTYSEATANDTHESITEOFTHEIMPENDINGTRIAL	10	260
3.	JUMPUPRUNFAST	4	8		THERE ARE SUNDRY DEFINITIONS OF LAZZAL UOF THE MVAGUE		
	and a second second			14.		10	270
4.	SEEFATHERWEISING		12		THEIRVAGUENES SEEMS IMPERATIVE HOWEVER IF THEY ARETO ACCOMMODATE THE CUSTOMO PLAZZTO APPROPRIATE	1.0	286
					EVERYTHINGINSIGHT	,	
5.	AYELLOWBIRDWITHBLUEWINGSSATIONMOTHERSPRETTY HATITWASTHEMISSINGBIRD	6	22 28			,	289
				15.		9	298
6.	THEFOXGAVETHESTORNABITOFTHESOUP NASHALLOW	В	41		OFTHEKINGDOMHEKEPT NOTEBOOK FILLED WITH	9	307
	DISHBUTTHESTORKCOULDNOTEATFROMTHEDISH	10	51		FASCINATINGACCOUNTSOFHISEXPERIENCES ASWELLAS	å	315
					ECONOMICANDPOLITICALREPORTSFORTHEEMPERORSUSE	8	323
7.	THEBOYSWENTINTOASTOREANDLOOKEDATBOOKSABOUT	1	62				
	ANIMALSONEBOYSAWABOOKABOUTHORSES		70	16.	THEADROITMANWASAFFABLEINDEBATEANDOFTHAT	10	333
					SEEMINGHUMILITYANDSUBMISSIONOFHUDGMENTASIFHE		342
8.	THESTORKSERVEDTHESOUPINTWOTALLBOTTLESWITH	10	80		BROUGHT NO PINIONS WITH HIMBUTHATHER AFIDELITY TO	10	352
	THIMNARROWNECKSSHESTUCKHERLONGBILLINTOTHE BOTTLEANDATEEVERYDROP	10	90 95		AWAYOFINTERROGATINGTHEOTHERMINISTERSANDUNDER	,	359
	BOTTLERNDINTERAENAIDHON	,	95		THE GUISE OF SKEPTICISMINSINUATING HIS OBJECTIONS	1.5	368
9.	SOMEDAYSIAFTERWARDITHEISTORKINVITEDITHEIFOXITO		-		TOAPROPOSEDEDICTTHATHEINSTILLEDHISPERSPECTIVE	1	384
В.	DINNERSHEHADMADESOMEDELICIOUSSOUPANDITHEFOX	10	104		INTHOSEFROMWHOMHEPRETENDEDTOLEARN	1	392
	WASVERYHUNGRY	1	117		INTHOSEFROMWHOMHEPRETENDEDTOCEKHN		392
	Indian Indian Indiana.			17.	CERTAINLYSHEHADLATELYBEENCOGNIZANTOFTHESUAVE	9	401
10.	ASTHECLOCKTICKEDOFFONEMINUTEAFTERANOTHER	9	126		YOUNGMANSUNNECESSARYCHIVALRYBUTSHEHAD		408
E. T.	EACHOFTHEGIRLSTRIEDTOPINARIBBONONTHELIONS	12	138		CONSTRUEDITASIANABERRATIONOFLUDGMENTORTASTE	9	417
	TAILTHEYPUTRIBBONSONTHELIONSPAWSHEADAND	10	148		ASIONEIPROOFAMONGIOTHERSITHATHEHADNOTALWAYS	10	427
	BODYWHICHGAVEHIMAFRIENDLYLOOK	7	155		MOVEDINTHEBESTCIRCLESTHATWITHALLHISASSIDUOUS		437
					CONCERNIFORHERTHELACCOUTREMENTSOFTRUE	7	444
	THISMANWASONEOFTHEFIRSTEUROPEANTRAVELERSTO	10	165		GENTILITYWEREWANTINGBUTUNTILNOWSHEHADNEVER		453
	VISITTHEDISTANTREGIONOFCHINAHELEARNEDSEVERAL	9	374		SURMISEDITTOMEANANYTHINGHISMANNERMUSTHAVE	9	462
	LANGUAGESSPOKENTHERBANDSERVEDITSGREATRULERS FORMANYYEARS	3	182 185		BEENEQUIVOCALORISHECOULDINOTHAVEBEENSOBEGUILED	10	472
12.	ASAYOUTHHEITRAVELEDIFROMONEFARMITOANOTHER	10	195				
	PICKINGCROPSASTHEYRIPENEDSINCEHISFAMILYHAD	9	204				
	NOPERMANENTHOMEHEHADATTENDEDAMULTITUDE	8	212				
	OFDIFFERENTSCHOOLSBYTHETIMEHEREACHED	8	220				
	THESEVENTHGRADE	3	223				

Test of Silent Contextual Reading Fluency- Second Edition (TOSCRF-2) is a reliable and valid measure of reading comprehension and general reading ability that can be group administered in 3 minutes.

Academic

vocabulary

template

The Reading Level Assessment (RLA) is an informal reading inventory that is administered by a trained reading interventionist on an individual basis to establish students' instructional reading level using rate and accuracy.

Suddenly, the flame went out. He tried

Results

MLL students reading below grade level at the beginning of their 7th grade year made comparable achievement to their monolingual peers on readingrelated measures in both the treatment and the comparison group. Preliminary data suggests that treatment condition works as well as the control condition after approximately 10 sessions.

Descriptive Statistics

Intervention Group:

- •Average RLA gain, instructional reading level (IRL): 1.1
- •Average TOSCRF-2 gain, standard score (SS): 3.1
- •Average Star Reading gain, grade equivalent (GE): 0.7

Comparison Group:

- •Average RLA gain, instructional reading level (IRL): 0.9
- •Average TOSCRF-2 gain, standard score (SS): 2.4
- •Average Star Reading gain, grade equivalent (GE): 1.1

Statistical Analysis

- •No significant group and pre-test effects on post-test were identified.
- •A regression analysis found no statistically significant effect of the treatment condition on RLA (b=0.217, p=0.60), TOSCRF-2 (b=1.125, p=0.61), and Star Reading (b=-0.364, p=0.37) outcomes.
- •A regression analysis found no statistically significant effect of student MLL status on RLA (b=0.042, p=0.93), TOSCRF-2 (b=-1.628, p=0.49), and Star Reading (b=0.017, p=0.97) outcomes.

Conclusions

There was not a statistical treatment effect for the use of the morphological word study component in the comprehensive Tier 2 intervention compared to the syllabication word study component on readingrelated outcomes. As the students had only received approximately 10 intervention sessions at the time of data collection, preliminary data analyses suggest that the substitution of morphological word study for syllabication instruction works at least as well for all learners, including MLLs. Furthermore, there was not a statistical effect of MLL status, suggesting that both word study approaches work as well for MLLs as monolingual learners after 10 intervention sessions.

Further data collection and analysis after more intervention sessions will increase the power to detect such effects and determine if either intervention is more effective for multilingual learners' readingrelated outcomes.

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