

# Morphological Analysis Pathway for Reading

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## Introduction

Language fluency is a key aspect for learning and is vital to hone at a young age. This skill builds throughout one's entire life and affects future learning of other skills. During language development, some children are at higher risk to develop speech disorders due to being hard of hearing or having English as their second language. To combat this, it is important to research tools that could prevent or inhibit that result. In our case, we examined a program named MAP-R, or the morphological analysis pathway for reading, to see how it affected literacy in at-risk children. Specifically, the program focuses on morphological aspects to reading and writing. Having a good morphological foundation of language directs students to success.

## References

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- Wood, C., Schatschneider, C., & Wanzek, J. (2020). Matthew effects in writing productivity during second grade. *Reading and Writing*, 1-22. 61(8), 1945-1969
- Zhang, J., Lin, T., Lui, Y., & Nagy, W. E. (2020). Morphological awareness and reading comprehension: Differential mediation mechanisms in naïve English speakers, fluent English learners, and limited English learners. *Journal of Experimental Child Psychology*, 199, 1-20. <https://doi.org/10.1016/j.jep.2020.104915>

## Results

Our research is still ongoing; data is continuing to be collected. This data included: Number of words, number of basewords, percentage of basewords, number of inflections, percentage of inflections, number of derivations, percentage of derivations, and the number of level 3-6 words used. This data was collected to track how/if the students made progress using the MAP-R program.

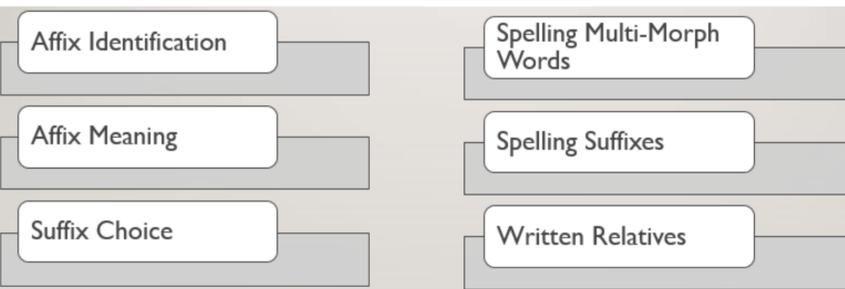


Fig 1: Technical Report: Apet, Petscher, & Henbest, 2021

Session 2:  
Activity - FUL



Fig 2: Examples of morphemes in words

Characteristic	Comparison (n=124)		MAP-R Intervention (n=115)		
	n	Percent	n	Percent	
Gender	Male	63	51	63	55
	Female	61	49	52	45
Race/Ethnicity	Hispanic	5	4	13	11
	Black	22	18	24	21
	White	80	65	68	59
	Multiracial	11	9	3	3
	Asian	5	4	7	6
Exceptionality	No Identified Exceptionalities	112	91	106	92
	Developmental Language Disorder	9	7	8	7
	Articulation Disorder	3	2	1	1
Multilingual Learner Status	English Proficient	120	97	108	94
	Multilingual Learner in ESOL	4	3	7	6

Note: ESOL refers to English for Speakers of Other Languages

Fig 3: Demographics of the sample collected

Correlations between MK Skills and Written Morphology Measures

	1	2	3	4	5	6	7	8	9	10
1. Affix Identification	1	.593**	.376**	.493**	.425**	.470**	<b>.288**</b>	<b>.200**</b>	<b>.185*</b>	<b>.184*</b>
2. Affix Meaning		1	.469**	.620**	.551**	.679**	<b>.364**</b>	<b>.392**</b>	<b>.258**</b>	<b>.129</b>
3. Suffix Choice			1	.482**	.454**	.504**	<b>.219**</b>	<b>.284**</b>	<b>.169*</b>	<b>.086</b>
4. Spelling MMW				1	.659**	.716**	<b>.318**</b>	<b>.411**</b>	<b>.229**</b>	<b>.152*</b>
5. Suffix Spelling					1	.578**	<b>.337**</b>	<b>.385**</b>	<b>.116</b>	<b>.093</b>
6. Written Relatives						1	<b>.357**</b>	<b>.441**</b>	<b>.206**</b>	<b>.128</b>
7. WMM Words							1	<b>.549**</b>	<b>.327**</b>	<b>.113</b>
8. WMM Inflectional								1	<b>.245**</b>	<b>.152*</b>
9. WMM Derivational									1	<b>.471**</b>
10. WMM Later Dev.										1

Note: MMW refers to multimorphemic words. WMM refers to written morphology measures taken from students' written responses.

\*p<.05 \*\*p<.01 Significant correlations between variables that do not include overlapping measures are bolded in blue.

Fig 4: Correlations between MK Skills and Written Morphology Measures

## Methods

- Writing samples were taken of students and scanned.
- Those scanned images were transferred via email where they were then transcribed them into a word document.
- These documents were named after the number ID on the paper.
- The document would then be transferred to a Google drive.
- The samples were put through Morpholex, a program that analyzes writing samples.
- That information was inputted to an Excel spreadsheet.

## Discussion

An idea to add to future research could be to expand the sample size so it includes a greater variety of populations. Parents could be more well-informed to encourage morphological emphasis when it comes to learning. Overall, the importance of morphology in language learning is extremely apparent. Students show an increase in literacy with an increase in morphological knowledge. We just need to find out what exercises and activities are most effective in improving literacy along with tailoring it to the students' needs.