MAP-R: Morphological Analysis Pathway to Reading

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Introduction

MAR-P aims to improve literacy instructions for MLs with and at risk for disabilities. Furthermore, improves engagement in literacy instructions for MLs with and at risk for disabilities. This study is aimed for elementary school classrooms (3rd-5th grade) which were inclusive of children from diverse abilities and linguistic backgrounds. We will be implementing adaptive practices and online modules to elementary students and recording their engagement, minutes of ELA instruction, number of lessons, modules, and discussions completed, and how much time was spent on each lesson. Overall, we aspire to observe an improvement in reading comprehension and general vocabulary.
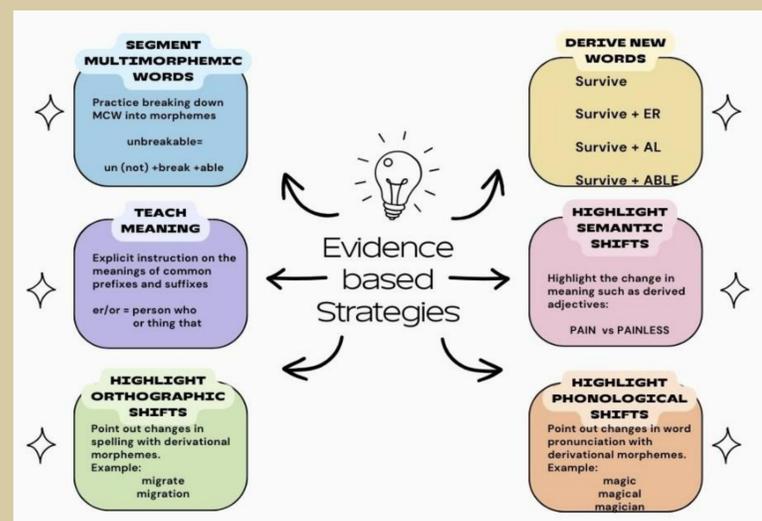
- Utilizes AI technology to support educators in delivering literacy instruction in English and Spanish for students who are multilingual learners with or at risk for language disabilities.
- Integrate multilingual supports to provide accessible educational materials to students promptly to improve language and literacy outcomes.
- Provide a multi-component package of learning resources and interactive practice activities for educators to deliver literacy instructions based on the science of reading and foster uptake intervention.
- Provide a multi-component package of learning resources and materials for parents in Spanish, English, and ASL to facilitate the update of intervention and carryover.
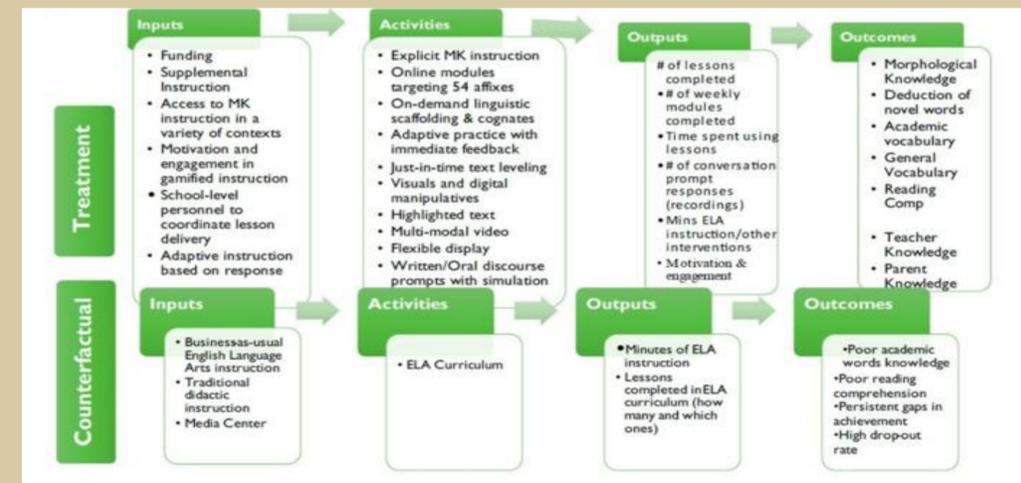
Background

- An innovative educational curriculum called the Morphological Awareness Pathway to Reading (MAP-R) focuses on morphological awareness to improve students' reading abilities.
- Based on a wealth of research that emphasizes the vital role that morphological awareness plays in the development of reading comprehension. Students work on morpheme recognition, analysis, and manipulation through engaging, hands-on exercises. Through the development of a profound comprehension of word formation and structure, MAP-R seeks to provide unique students with the abilities required for effective reading.
- To meet the requirements of each student, MAP-R considers the diversity of learners and uses individualized instruction.
- To facilitate successful implementation in a variety of school settings, including those that include English, Spanish, and ASL, it offers educators a range of tools, such as lesson plans and activities. The method integrates morphological training into current reading programs in a seamless manner, emphasizing the proper delivery of literacy instructions to students who are multilingual learners with or at risk for language disabilities.
- According to research findings, kids who take part in the MAP-R program show notable gains in their vocabulary growth, reading comprehension, and general literacy abilities.
- Apart from its academic advantages, MAP-R supports a good and stimulating learning environment between students, families, and faculty.
- Curriculum provides kids with the necessary tools to become competent readers by integrating morphological awareness, laying the groundwork for both academic achievement and a lifetime love of learning.

Methods

- **Video Lesson Development in Synthesia:**
  - Objective: Develop engaging video language lessons to enhance comprehension and academic language skills.
  - Multilingual integration: Create lessons with integrated multilingual support in English and Spanish, utilizing Affix-Specific Units (ASU).
  - Focus on Morphological Analysis: Tool to learn and decipher the meaning of multimorphemic words.
- **Curriculum Structure for each Week:**
  - Day 1: Create introductory lessons providing background knowledge and outlining the weekly Affix.
  - Day 2: Design a lesson emphasizing one root word with the weekly Affix, incorporating additional Affixes.
  - Day 3: Reading passages that highlight the words with the weekly Affix.
- **In-Person Piloting at Elementary Schools:**
  - Objective: Evaluate the effectiveness of video language lessons through direct interaction with students.
  - Engagement Assessment: Collect data on student engagement and learning outcomes during interactive video lessons.
  - Application of Knowledge: Assess students' ability to apply knowledge gained from root words and Affixes through interactive activities.
- **Data Collection:**
  - Methods: Combination of qualitative and quantitative data collection.
  - Observations: Document students' engagement, participation, and comprehension during in-person piloting.
- **Analysis:**
  - Data Analysis: Analyze and collect data to measure the effectiveness of video language lessons.
  - Feedback Integration: Incorporate feedback from students and teachers to refine and improve video content and delivery

Results/Limitations

As this research is still in the beginning stages, it aims to further develop its testing as well as participation turnout. While participants engage with AI learning platform, we hope this demonstrates the increase in learning comprehension and morphological knowledge, ensuring its reliability and effectiveness.

Conclusion

The current research is in progress, and certain limitations stem from this ongoing nature.
1. Small sample size, which may restrict the generalizability of the findings.
2. The amount of words/ word parts that were being used in the study. The selection of words/ word parts being used to test reading comprehension in learners had to be concise to test students promptly. Therefore, we could not determine the effect of certain words/word parts.

Implementing MAP-R knowledge research in elementary schools is crucial for fostering effective literacy development in young learners. Teachers may customize lessons to meet the requirements of each student by using the complete framework that MAP-R offers for evaluating and improving each student's reading skills. Schools may detect early reading issues, offer timely treatments, and foster a good reading culture by using evidence-based strategies from MAP-R. According to this study, morphological awareness training is beneficial for other skills, especially higher-level abilities. Developing this talent in later elementary school and beyond is particularly advantageous. With our sample size, we demonstrated that the promotion of morphological knowledge within elementary students leads to an increase in reading comprehension and vocabulary understanding for children with average reading vocabulary scores

Reference

Brown, S. H., Lignugaris/Kraft, B., & Forbush, D. E. (2016). The effects of morphemic vocabulary instruction on prefix vocabulary and sentence comprehension for middle school students with learning disabilities. *Education and Treatment of Children*, *39*(3), 301–337. https://doi.org/10.1353/etc.2016.0014

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