ServeMinnesota: Minnesota Assessment of Vocabulary for Reading Improvement and Comprehension (MAVRIC)

What is the community challenge?

Seminal research shows that students enter school with differences in their vocabulary skills (Hart & Risley, 1995). Vocabulary is a direct proxy for students' understanding of concepts and ideas in their environments (Stahl & Nagy, 2006), and as such, is a significant predictor of reading comprehension throughout school (Cunningham & Stanovich, 1997).

What is the promising solution?

The Minnesota Assessment of Vocabulary for Reading Improvement and Comprehension (MAVRIC) program is a project of ServeMinnesota that is delivered through existing Reading Corps infrastructure and focuses on improving student vocabulary outcomes. MAVRIC's theory of change is premised on two functional elements: (1) data-driven decision-making, which means establishing procedures for using defensible data to identity struggling students and monitor their progress (Hamilton et al., 2009); and (2) optimizing vocabulary interventions by creating intervention protocols for grade levels that previously lacked them (e.g., first grade), enhancing materials for standardization and quality content (e.g., improving vocabulary cards and definitions), and ensuring all materials meet expectations for cultural inclusion and relevance, in a way that is consistent with evidence-based interventions for vocabulary (Beck & McKeown, 2010).

Program At-a-Glance

CNCS Program: Social Innovation Fund

Intervention: Minnesota Assessment of Vocabulary for Reading Improvement and Comprehension (MAVRIC)

Subgrantee: ServeMinnesota

Intermediary: Greater Twin Cities United Way

Focus Area: Youth Development

Focus Population: Young students from prekindergarten through first grade who are at risk of poor reading outcomes

Communities Served: 58 Minneapolis and St. Paul city schools and prekindergarten centers

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What was the purpose of evaluation?

The evaluation of ServeMinnesota's MAVRIC program by David Parker and Patrick Kaiser began in 2016 and finished reporting in 2017. The evaluators conducted an RCT in 58 Minneapolis and St. Paul city schools and prekindergarten centers to identify the impact on vocabulary improvement for at-risk prekindergarten, kindergarten, and first grade students who participated in MAVRIC compared to similar students who did not receive MAVRIC interventions. An implementation evaluation also assessed program fidelity and exposure/dosage.

What did the evaluation find?

An impact and implementation evaluation was conducted during the 2016-2017 school year to assess program effectiveness, fidelity, and exposure/dosage.

- The impact evaluation results did not show that MAVRIC improves student vocabulary outcomes. However, researchers note these results should only be interpreted as generalizing to urban settings

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with high proportions of students facing multiple risk factors. This aspect of the study leaves open a possibility that MAVRIC interventions could be efficacious in other settings (e.g., suburban schools).

- Despite results that do not support a moderate level of evidence as per the Social Innovation Fund evidence guidelines, the implementation evaluation suggests the MAVRIC program appears successful in training tutors to administer assessments and deliver interventions.

Notes on the evaluation

ServeMinnesota conducted a methodologically sound RCT; however, the results suggest the MAVRIC program does not have a significant effect on student vocabulary skills. It is possible, however, that study limitations may have affected the ability of the evaluation to identify positive program effects. These limitations include (1) the fact that the outcome measures may have had limited sensitivity to detect differences in vocabulary growth between the treatment (MAVRIC) and control conditions; (2) the dosage received by students in MAVRIC may have been below the threshold needed to maximize program effects; (3) in many schools, the control group was exposed to additional intervention programs, and some members of the control group in the current study were exposed to MAVRIC in previous years, potentially decreasing the study's ability to identify positive program effects; and (4) the evaluation may not have had large enough groups to detect program effects. Likewise, implementation factors (i.e., group size, the need for tutors to focus on behavior management) may potentially have decreased the program's ability to produce positive effects.

How is ServeMinnesota using the evaluation findings to improve?

Study limitations with respect to measurement, time, and implementation factors suggest actionable changes that could result in positive effects for future evaluations. The most notable of these include (a) identifying defensible, proximal vocabulary assessments that could measure differential growth between MAVRIC participants and non-participants; (b) a need to potentially provide additional time in intervention; and (c) making changes to group size and other intervention delivery components (e.g., tutor training; material refinements). Addressing these changes will be the focus of work in Year 5 of the MAVRIC project. ServeMinnesota plans to pilot test these changes in an attempt to identify a preliminary level of evidence for a positive impact on student outcomes.

> **Evaluation At-a-Glance**
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> Evaluation Design: RCT
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> Study Population: Young students from prekindergarten through first grade who are at risk of poor reading outcomes
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> Evaluator: David Parker and Patrick Kaiser in collaboration with Center for Applied Research and Educational Improvement (CARE), University of Minnesota
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> This Evaluation's Level of Evidence*: Preliminary
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> *SIF and AmeriCorps currently use different definitions of levels of evidence.

The content of this brief was drawn from the full evaluation report submitted to CNCS by the grantee/subgrantee. The section of the brief that discusses evaluation use includes contribution of the grantee/subgrantee. All original content from the report is attributable to its authors.
To access the full evaluation report and learn more about CNCS, please visit http://www.nationalservice.gov/research.