PTR is grateful to Drs. David Keine, Michael McBride and Shantel Farnan of Northwest Missouri University for their talents and time in directing research utilizing PTR.

In the 2016-17 school year a quantitative study was done to find the impact of Pathways to Reading teacher professional development and reading curriculum on Kindergarten, First and Second grade student outcomes on measures of foundational reading skills. The study involved 7 school buildings in 5 Missouri school districts.

Two measures utilized in nearly all professional diagnoses of dyslexia were used.

1) **The Comprehension Test of Phonological Processing (C-TOPP) Elision subtest.**
   a. This test requires students to omit sounds from words: Say ‘driver’. Now say ‘driver’ but don’t say /v/. It is a test of the advanced level of phonemic awareness identified as necessary for orthographic mapping and the acquisition of ‘sight words’. The test requires less than 5 minutes to administer.

2) **The Test of Word Reading Efficiency (TOWRE)**
   - Students read a list of nonsense words for 45 seconds. (Phonemic Decoding- a test of independent decoding ability.)
   - Students read a list of sight words for 45 seconds.

The test not only measures decoding ability, but fluency. Single word reading fluency and accuracy are considered one of the strongest predictors of reading comprehension.

Findings to date show a statistical significance when comparing pre and post test scores on all assessments. To assess effectiveness with most at risk students pre and post test scores were compared for those students who’s pretest results placed them below the 30th percentile. Students below the 30th percentile in a group of:
   - 199 K-2 students on the C-TOPP,
   - 135 K-2 students on the TOWRE phonemic decoding, and
   - 142 K-2 students on the TOWRE sight word reading
made significant gains on post testing with a p value of .000 (very significant results).

Students that started out at the 30th percentile and below show great improvement on the post tests.

See pg. 8 for early reporting.
We ran the data today for students below the 30th percentile on the pre tests for CTOPP and TOWRE. We did a T Test of paired samples and found some very significant results. We did not break this down by grade level – all grade levels were put together.

We ran three separate T Tests.

CTopp – Elisian – assuming that no change is average growth. We had a significant movement in percentile results. *roughly 37% of variance is shared between the pre and post, meaning that 63% of the variance in pre and post should be accounted for whatever happened between pre and post. In short, 63 percent of the change can be attributed to factors outside the test. Such as interventions like Pathways.

Towre – Phonemic decoding – assuming that no change is average growth. We had a significant movement in percentile results. *roughly 23% of variance is shared between the pre and post, meaning that 77% of the variance in pre and post should be accounted for whatever happened between pre and post. In short, 73 percent of the change can be attributed to factors outside the test. Such as interventions like Pathways.

Towre – Sight Words – assuming that no change is average growth. We had a significant movement in percentile results. *roughly 30% of variance is shared between the pre and post, meaning that 70% of the variance in pre and post should be accounted for whatever happened between pre and post. In short, 70 percent of the change can be attributed to factors outside the test. Such as interventions like Pathways.

All three results came back with a p value of .000 – very significant results. Students that started out at the 30th percentile or below showed great improvement on the post tests.