Tracking reading development in an English language university-level bridging program: Supplementary materials

S1: Model summaries.

The following tables provide the mixed-effects linear regression models for all outcome measures.

S1.1. Fixed effects of the generalized linear mixed-effects model fitted to passage comprehension accuracy. Conditional R^2 = 0.21. SD of the residual = 0.97. SD for the random effect of Passage ID = 0.58. SD for the random effect of Participant with random slopes for Timepoint = .34. Correlation between random slopes and intercepts = -0.16. N = 4,640. N after trimming = 4,599.

Fixed effect	Estimate	Std. Error	*z*-value	*p*
Intercept	0.068	0.17	0.399	< 0.001
Timepoint: t_2 vs. t_1	0.177	0.032	5.469	< 0.001
Baseline reading ability	0.147	0.024	6.112	< 0.001
Passage complexity	-0.545	0.169	-3.232	< 0.01
Passage complexity x Baseline reading ability	0.086	0.015	5.913	< 0.001

S1.2. Fixed effects of the linear mixed-effects model fitted to log silent reading rate. Conditional R^2 = 0.80. SD of the residual = 0.16. SD for the random effect of Passage ID = 0.14. SD for the random effect of Participant with random slopes for Timepoint = 0.21. Correlation between random slopes and intercepts = -0.06. N = 2,540. N after trimming = 2,493.

Fixed effect	Estimate	Std. Error	*t*-value	*p*
Intercept	4.653	0.042	110.781	< 0.001
Timepoint: t_2 vs. t_1	0.049	0.013	3.666	< 0.001
Baseline reading ability	0.065	0.013	5.115	< 0.001
Passage complexity	-0.212	0.04	-5.31	< 0.001
Passage complexity x Baseline reading ability	0.016	0.004	3.955	< 0.001

S1.3. Fixed effects of the linear mixed-effects model fitted to number of fixations per word. Conditional R^2 = 0.78. SD of the residual = 0.4. SD for the random effect of Passage ID = 0.32. SD for the random effect of Participant with random slopes for Timepoint = .5. Correlation between random slopes and intercepts = -0.22. N = 2,540. N after trimming = 2,475.

Fixed effect	Estimate	Std. Error	*t*-value	*p*
Intercept	3.11	0.099	31.538	< 0.001
Timepoint: t_2 vs. t_1	-0.159	0.032	-4.92	< 0.001
Baseline reading ability	-0.122	0.03	-4.109	< 0.001
Passage complexity	0.505	0.094	5.386	< 0.001
Passage complexity x Baseline reading ability	-0.063	0.01	-6.01	< 0.001

S1.4. Fixed effects of the linear mixed-effects model fitted to number of regressions per word. Conditional R^2 = 0.30. SD of the residual = 0.05. SD for the random effect of Passage ID = 0.007. SD for the random effect of Participant with random slopes for Timepoint = 0.02. Correlation between random slopes and intercepts = 0.07. N = 2,540. N after trimming = 2,508.

Fixed effect	Estimate	Std. Error	*t*-value	*p*
Intercept	0.188	0.003	64.701	< 0.001
Timepoint: t_2 vs. t_1	-0.001	0.002	-0.379	0.705
Baseline reading ability	-0.005	0.002	-2.698	0.007
Passage complexity	0.006	0.002	2.424	0.038
Passage complexity x Baseline reading ability	-0.001	0.001	-1.03	0.303

S1.5. Fixed effects of the linear mixed-effects model fitted to number of skips per word. Conditional R^2 = 0.62. SD of the residual = 0.04. SD for the random effect of Passage ID = 0.03. SD for the random effect of Participant with random slopes for Timepoint = 0.04. Correlation between random slopes and intercepts = -0.07. N = 2,540. N after trimming = 2,494.

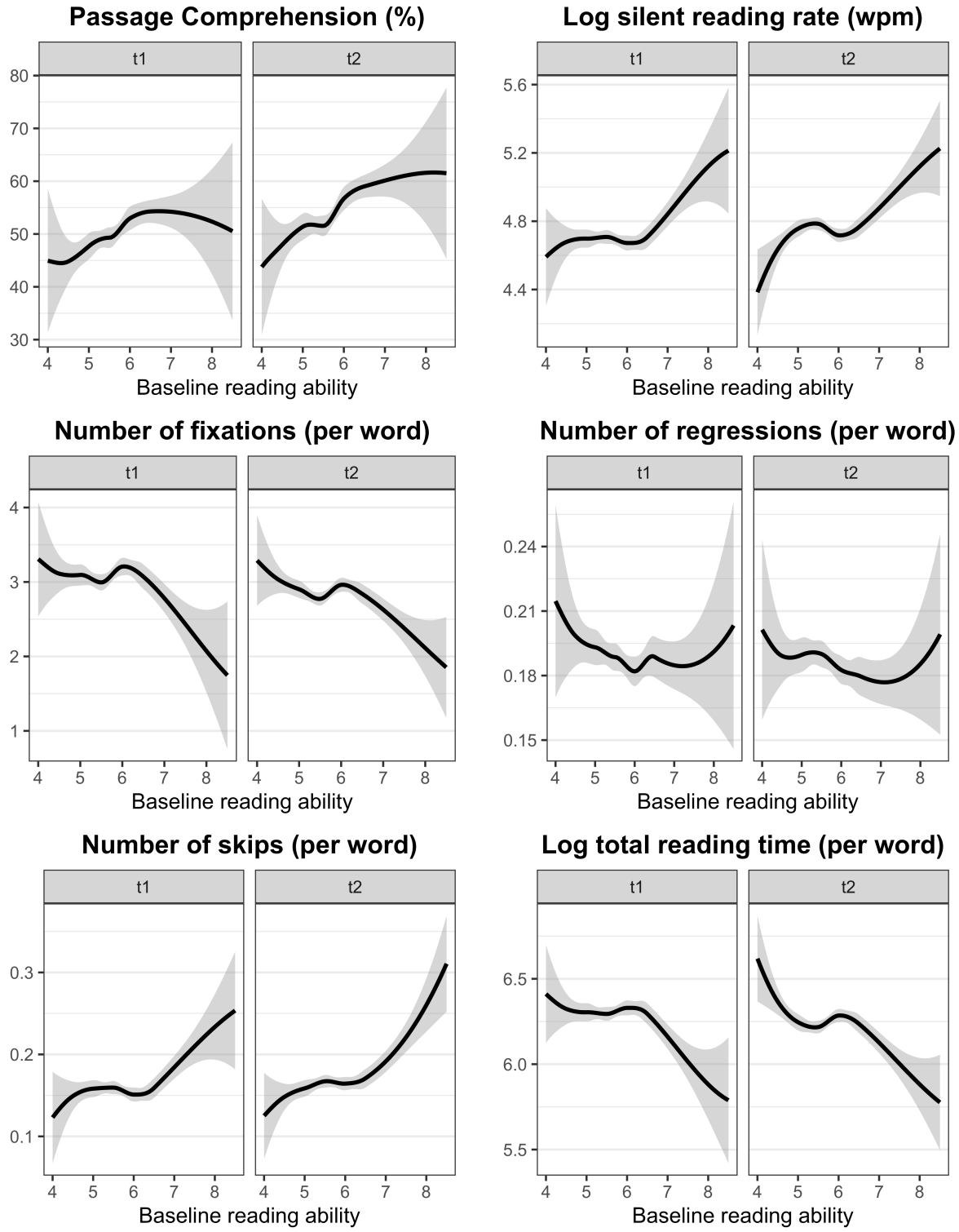
Fixed effect	Estimate	Std. Error	*t*-value	*p*
Intercept	0.155	0.008	19.556	0.009
Timepoint: t_2 vs. t_1	0.006	0.003	2.271	0.024
Baseline reading ability	0.011	0.003	4.285	< 0.001
Passage complexity	-0.02	0.008	-2.595	0.026
Passage complexity x Baseline reading ability	0.0001	0.001	-0.041	0.968

S1.6. Fixed effects of the linear mixed-effects model fitted to log total fixation duration per word. Conditional R^2 = 0.80. SD of the residual = 0.16. SD for the random effect of Passage ID = 0.14. SD for the random effect of Participant with random slopes for Timepoint = 0.21. Correlation between random slopes and intercepts = -0.06. N = 2,540. N after trimming = 2,493.

Fixed effect	Estimate	Std. Error	*t*-value	*p*
Intercept	6.349	0.042	151.138	< 0.001
Timepoint: t_2 vs. t_1	-0.049	0.013	-3.666	< 0.001
Baseline reading ability	-0.065	0.013	-5.115	< 0.001
Passage complexity	0.212	0.04	5.31	< 0.001
Passage complexity x Baseline reading ability	-0.016	0.004	-3.955	< 0.001

S2: Plots of raw trends.

Figure S2.1. Plots of trends for baseline reading ability for each eye-movement measure broken down by timepoint. Trends in the data are estimated using locally weighted smoothing curves.



Baseline reading ability refers to IELTS Reading score

S3: Relationships between growth trajectories of eye-movement measures: by-participant random slope correlations.

Figure S3.1. A correlation matrix of the by-participant random slopes for timepoint for each model. Lower diagonal shows the Pearson correlation coefficients. Deeper shades of blue indicate stronger positive correlations and deeper shades of red indicate stronger negative correlations. * indicates a statistically significant effect at $p < 0.05$. ** indicates a statistically significant effect at $p < 0.01$. *** indicates a statistically significant effect at $p < 0.001$.