

Table 1

Distribution of children/classes across months on the *Letter instruction (month)* variable

	Percentage of children	Number of children	Number of classes
September	1.8%	17	1
October	-	-	-
November	6.1%	58	4
December	44.8%	427	22
January	10.6%	101	6
February	9.6%	91	5
March	14.4%	137	7
April	10.2%	97	5
May	-	-	-
June	2.5%	24	1
<i>Total</i>	100%	952	51

Table 2  
Descriptive statistics for covariates

	N	Min/Max	Mean	(SD)	Skewness/ Kurtosis
Letter sound recognition	944	0-24	16.55	(6.03)	-0.46/-0.88
Phoneme isolation	942	0-10	5.30	(3.72)	-0.05/-1.58
Rapid automatized naming (RAN)	938	21.47-144.43	61.07	(15.94)	1.25/2.80
Vocabulary	941	0-20	12.82	(3.92)	-0.61/0.07
Digit span	940	0-11	5.13	(1.56)	0.41/1.01
Early mathematical skill	941	0-11	5.87	(2.86)	0.04/-1.03
Teachers years of experience	952	1-36	12.50	(8.61)	0.85/0.09
Teacher education	952	2-6	4.30	(1.04)	-0.01/0.07
Child-teacher ratio	952	10-26	20.07	(3.91)	0.02/0.12

Table 3  
 Descriptive statistics for T1 measures (dependent variables)

	N	Min/Max	Mean	(SD)	Skewness/ Kurtosis
Letter knowledge	938	0–24	22.51	(2.73)	-4.66/27.56
Word-reading accuracy	938	0–36	31.08	(7.89)	-2.75/7.48
Sight word efficiency	939	0–55	22.23	(10.83)	0.67/0.74
Spelling	932	0–13	6.86	(2.34)	-0.57/1.23

Table 4

Correlation matrix for all *student* variables and the variable indicating pace of letter instruction '*letter instruction (month)*'

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Letter recognition										
2. Phoneme isolation	.55**									
3. Rapid automatised naming (RAN)	-.31**	-.32**								
4. Vocabulary	.38**	.36**	-.28**							
5. Digit span	.26**	.29**	-.18**	.27**						
6. Early mathematical skill	.51**	.47**	-.38**	.44**	.30**					
7. Letter sound knowledge	.29**	.23**	-.23**	.27**	.15**	.29**				
8. Word-reading accuracy	.39**	.33**	-.33**	.32**	.24**	.41**	.65**			
9. Sight word efficiency	.44**	.37**	-.39**	.25**	.28**	.45**	.37**	.61**		
10. Spelling	.45**	.44**	-.38**	.37**	.25**	.46**	.45**	.69**	.66**	
11. Letter instruction (month)	-.05	-.05	.01	.06	.06	.02	-.10**	-.12**	-.09**	-.06

Notes: \* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; \*\*\* =  $p < 0.001$ .

The Pearson correlation coefficient was used.

Correlations were measured using all available data from all 952 children.

Table 5

Correlation matrix for all *teacher* variables and the variable indicating pace of letter instruction '*letter instruction (month)*'

	1.	2.	3.
1. Teachers years of experience			
2. Teacher education	.19**		
3. Child-teacher ratio	-.12**	.14**	
4. Letter instruction (month)	.15**	-.15**	.15**

Notes: \* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; \*\*\* =  $p < 0.001$ .

For the variables 1, 3 and 4 the Pearson correlation coefficient was used.

For the variable 2 the Spearman correlation coefficient was used.

Correlations were measured using all available data from all 952 children.

Table 6

Results of linear regression analyses predicting performance in letter knowledge, reading and spelling from a pace of letter instruction

	B	$\beta$	SE	Est./SE	<i>p</i>
Letter-sound knowledge					
Constant	23.37		0.65		
Boy	-0.42	-0.09	0.15	-2.77	.006
Letter sound recognition	0.06	0.14	0.01	4.04	.000
Phoneme isolation	0.01	0.01	0.02	0.39	.697
Rapid automatised naming (RAN)	-0.01	-0.09	0.01	-2.48	.013
Vocabulary	0.06	0.10	0.03	1.92	.055
Digit span	-0.01	0.01	0.05	-0.01	.990
Early mathematical skill	0.11	0.14	0.03	4.01	.000
Teachers years of experience	0.01	0.03	0.01	0.89	.402
Teacher education	-0.19	-0.08	0.06	-2.93	.003
Child-teacher ratio	-0.02	-0.03	0.03	-0.73	.465
Letter instruction (month)	-0.12	-0.09	0.05	-2.37	.018
Word-reading accuracy					
Constant	33.06		2.40		
Boy	-1.17	-0.08	0.45	-2.60	.009
Letter sound recognition	0.17	0.13	0.05	3.40	.001
Phoneme isolation	0.09	0.04	0.06	1.39	.166
Rapid automatised naming (RAN)	-0.07	-0.15	0.01	-5.22	.000
Vocabulary	0.19	0.10	0.09	2.16	.031
Digit span	0.33	0.07	0.15	2.24	.025
Early mathematical skill	0.53	0.20	0.10	5.23	.000
Teachers years of experience	0.05	0.04	0.04	1.00	.316
Teacher education	-0.48	-0.07	0.27	-1.80	.072
Child-teacher ratio	-0.09	-0.05	0.08	-1.11	.268
Letter instruction (month)	-0.49	-0.12	0.16	-3.02	.003
Sight word efficiency					
Constant					
Boy	0.01	0.01	0.58	0.02	.988
Letter sound recognition	0.35	0.21	0.05	7.17	.000
Phoneme isolation	0.16	0.06	0.11	1.39	.164
Rapid automatised naming (RAN)	-0.14	-0.22	0.02	-7.54	.000
Vocabulary	-0.10	-0.04	0.09	-1.13	.257
Digit span	0.80	0.12	0.20	4.05	.000
Early mathematical skill	0.75	0.21	0.13	5.82	.000
Teachers years of experience	0.06	0.05	0.05	1.32	.186
Teacher education	-0.67	-0.07	0.42	-1.59	.111
Child-teacher ratio	-0.03	-0.01	0.10	-0.26	.793
Letter instruction (month)	-0.58	-0.10	0.19	-3.11	.002
Spelling					
Constant	6.39		0.59		
Boy	-0.31	-0.07	0.12	-2.63	.008
Letter sound recognition	0.05	0.14	0.01	3.82	.000
Phoneme isolation	0.09	0.15	0.02	4.94	.000
Rapid automatised naming (RAN)	-0.03	-0.17	0.01	-6.46	.000
Vocabulary	0.08	0.14	0.02	3.74	.000
Digit span	0.07	0.05	0.04	1.75	.080
Early mathematical skill	0.14	0.17	0.02	6.31	.000
Teachers years of experience	0.03	0.10	0.01	2.87	.004
Teacher education	-0.14	-0.06	0.08	-1.66	.098
Child-teacher ratio	-0.02	-0.03	0.02	-0.72	.470
Letter instruction (month)	-0.09	-0.08	0.04	-2.32	.021

Notes: The *p* value was calculated from the unstandardised coefficient.

The  $R^2$  values were .15 for letter knowledge, .27 for word-reading accuracy, .32 for sight word efficiency and .36 for spelling.

Table 7

Results of logistic regression analyses predicting performance in *letter-sound knowledge*

		B	SE	OR	CI
Lowest 8.4%					
	Boy	0.359	0.269	1.432	[0.845-2.426]
	Letter sound recognition	-0.076	0.030	0.927*	[0.875-0.983]
	Phoneme isolation	-0.067	0.050	0.935	[0.848-1.031]
	Rapid automatized naming (RAN)	0.013	0.008	1.013	[0.998-1.029]
	Vocabulary	-0.038	0.040	0.963	[0.891-1.040]
	Digit span	0.081	0.097	1.085	[0.897-1.312]
	Early mathematical skill	-0.221	0.069	0.802***	[0.700-0.918]
	Teachers years of experience	0.001	0.014	1.001	[0.974-1.028]
	Teacher education	0.373	0.131	1.453**	[1.123-1.880]
	Child-teacher ratio	0.057	0.043	1.059	[0.973-1.152]
	Letter instruction (month)	0.236	0.079	1.266**	[1.085-1.477]
Lowest 24.2%					
	Boy	0.346	0.160	1.414*	[1.033-1.934]
	Letter sound recognition	-0.049	0.014	0.952***	[0.926-0.978]
	Phoneme isolation	0.024	0.024	1.024	[0.976-1.074]
	Rapid automatized naming (RAN)	0.016	0.005	1.016***	[1.007-1.026]
	Vocabulary	-0.016	0.028	0.984	[0.931-1.040]
	Digit span	0.032	0.063	1.033	[0.913-1.168]
	Early mathematical skill	-0.183	0.043	0.833***	[0.765-0.906]
	Teachers years of experience	-0.007	0.010	0.993	[0.974-1.012]
	Teacher education	0.157	0.075	1.169*	[1.009-1.355]
	Child-teacher ratio	0.035	0.027	1.035	[0.983-1.091]
	Letter instruction (month)	0.116	0.049	1.122*	[1.019-1.236]
Highest 31.5%					
	Boy	-0.431	0.151	0.650**	[0.483-0.874]
	Letter sound recognition	0.030	0.016	1.031	[1.000-1.063]
	Phoneme isolation	-0.009	0.029	0.991	[0.936-1.049]
	Rapid automatized naming (RAN)	-0.018	0.006	0.983**	[0.971-0.995]
	Vocabulary	0.018	0.021	1.018	[0.977-1.060]
	Digit span	-0.010	0.044	0.990	[0.909-1.079]
	Early mathematical skill	0.040	0.039	1.040	[0.964-1.123]
	Teachers years of experience	0.011	0.013	1.011	[0.985-1.037]
	Teacher education	-0.157	0.090	0.855	[0.716-1.020]
	Child-teacher ratio	0.006	0.026	1.006	[0.956-1.059]
	Letter instruction (month)	-0.061	0.058	0.941	[0.840-1.054]

Notes: SE = standard error; OR = odds ratio; CI = 95% confidence interval.

\* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; \*\*\* =  $p < 0.001$ .

Table 8

Results of logistic regression analyses predicting performance in *word-reading accuracy*

	B	SE	OR	CI
Lowest 9.5%				
Boy	0.590	0.285	1.804*	[1.032-3.154]
Letter sound recognition	-0.049	0.039	0.953	[0.882-1.029]
Phoneme isolation	-0.092	0.055	0.912	[0.820-1.016]
Rapid automatized naming (RAN)	0.022	0.006	1.022***	[1.010-1.034]
Vocabulary	-0.006	0.042	0.994	[0.916-1.079]
Digit span	-0.239	0.121	0.788	[0.622-0.998]
Early mathematical skill	-0.293	0.053	0.746***	[0.673-0.828]
Teachers years of experience	-0.013	0.017	0.987	[0.954-1.021]
Teacher education	0.094	0.156	1.098	[0.810-1.490]
Child-teacher ratio	0.097	0.053	1.102	[0.993-1.223]
Letter instruction (month)	0.297	0.092	1.345**	[1.124-1.611]
Lowest 21.5%				
Boy	0.354	0.211	1.424	[0.942-2.155]
Letter sound recognition	-0.094	0.020	0.910***	[0.876-0.946]
Phoneme isolation	0.016	0.031	1.017	[0.956-1.080]
Rapid automatized naming (RAN)	0.034	0.007	1.035***	[1.021-1.049]
Vocabulary	-0.022	0.030	0.978	[0.922-1.038]
Digit span	-0.117	0.070	0.889	[0.776-1.019]
Early mathematical skill	-0.208	0.046	0.812***	[0.742-0.888]
Teachers years of experience	-0.003	0.016	0.997	[0.967-1.028]
Teacher education	0.056	0.119	1.058	[0.838-1.335]
Child-teacher ratio	0.040	0.041	1.041	[0.960-1.129]
Letter instruction (month)	0.155	0.080	1.167	[0.997-1.366]
Highest 27.4%				
Boy	0.052	0.172	1.053	[0.751-1.477]
Letter sound recognition	0.097	0.023	1.102***	[1.055-1.152]
Phoneme isolation	-0.029	0.031	0.972	[0.913-1.033]
Rapid automatized naming (RAN)	-0.014	0.006	0.987*	[0.975-0.998]
Vocabulary	0.038	0.030	1.039	[0.979-1.102]
Digit span	0.165	0.054	1.180**	[1.062-1.311]
Early mathematical skill	0.098	0.029	1.103**	[1.043-1.167]
Teachers years of experience	0.009	0.016	1.010	[0.979-1.041]
Teacher education	-0.215	0.124	0.806	[0.632-1.029]
Child-teacher ratio	0.008	0.030	1.008	[0.951-1.068]
Letter instruction (month)	-0.109	0.055	0.897*	[0.805-0.998]

Notes: SE = standard error; OR = odds ratio; CI = 95% confidence interval.

\* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; \*\*\* =  $p < 0.001$ .



Table 9  
Results of logistic regression analyses predicting performance in *sight word efficiency*

		B	SE	OR	CI
Lowest 10.2%					
	Boy	0.739	0.279	2.093	[1.212-3.614]
	Letter sound recognition	-0.112	0.022	0.894**	[0.856-0.934]
	Phoneme isolation	-0.027	0.043	0.973**	[0.895-1.058]
	Rapid automatised naming (RAN)	0.039	0.007	1.040***	[1.027-1.054]
	Vocabulary	-0.014	0.042	0.986	[0.908-1.070]
	Digit span	-0.171	0.097	0.843	[0.696-1.020]
	Early mathematical skill	-0.157	0.047	0.854***	[0.780-0.936]
	Teachers years of experience	-0.022	0.017	0.978	[0.945-1.011]
	Teacher education	0.175	0.139	1.192*	[0.907-1.566]
	Child-teacher ratio	0.040	0.041	1.041	[0.961-1.128]
	Letter instruction (month)	0.180	0.071	1.197***	[1.042-1.376]
Lowest 19.7%					
	Boy	0.366	0.197	1.442	[0.979-2.124]
	Letter sound recognition	-0.061	0.023	0.941**	[0.900-0.985]
	Phoneme isolation	-0.087	0.030	0.917**	[0.864-0.973]
	Rapid automatised naming (RAN)	0.041	0.005	1.042***	[1.031-1.052]
	Vocabulary	0.013	0.027	1.013	[0.961-1.068]
	Digit span	-0.133	0.073	0.875	[0.759-1.010]
	Early mathematical skill	-0.163	0.041	0.849***	[0.783-0.921]
	Teachers years of experience	-0.018	0.017	0.982	[0.950-1.017]
	Teacher education	0.249	0.125	1.283*	[1.004-1.640]
	Child-teacher ratio	0.018	0.029	1.019	[0.963-1.077]
	Letter instruction (month)	0.251	0.060	1.285***	[1.142-1.446]
Highest 19.8%					
	Boy	0.244	0.164	1.277	[0.927-1.760]
	Letter sound recognition	0.087	0.021	1.091***	[1.047-1.137]
	Phoneme isolation	0.005	0.039	1.005	[0.931-1.085]
	Rapid automatised naming (RAN)	-0.035	0.007	0.965***	[0.951-0.979]
	Vocabulary	-0.037	0.026	0.963	[0.915-1.014]
	Digit span	0.200	0.062	1.222***	[1.081-1.381]
	Early mathematical skill	0.108	0.047	1.114*	[1.016-1.220]
	Teachers years of experience	-0.002	0.012	0.998	[0.975-1.022]
	Teacher education	-0.117	0.097	0.890	[0.736-1.076]
	Child-teacher ratio	-0.026	0.022	0.974	[0.934-1.016]
	Letter instruction (month)	-0.092	0.050	0.912	[0.828-1.006]

Notes: SE = standard error; OR = odds ratio; CI = 95% confidence interval.

\* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; \*\*\* =  $p < 0.001$ .

Table 10  
Results of logistic regression analyses predicting performance in *spelling*

		B	SE	OR	CI
Lowest 11%					
	Boy	0.940	0.306	2.560**	[1.405-4.667]
	Letter sound recognition	-0.071	0.026	0.932**	[0.885-0.981]
	Phoneme isolation	-0.147	0.048	0.863**	[0.786-0.947]
	Rapid automatised naming (RAN)	0.025	0.006	1.025***	[1.013-1.037]
	Vocabulary	-0.050	0.029	0.952	[0.899-1.007]
	Digit span	-0.108	0.104	0.898	[0.733-1.100]
	Early mathematical skill	-0.191	0.055	0.826***	[0.742-0.919]
	Teachers years of experience	-0.036	0.013	0.964**	[0.940-0.989]
	Teacher education	0.075	0.105	1.078	[0.878-1.324]
	Child-teacher ratio	0.043	0.031	1.044	[0.982-1.110]
	Letter instruction (month)	0.167	0.055	1.182**	[1.062-1.316]
Lowest 19.2%					
	Boy	0.372	0.230	1.451	[0.925-2.277]
	Letter sound recognition	-0.057	0.026	0.945*	[0.897-0.995]
	Phoneme isolation	-0.130	0.039	0.878***	[0.814-0.947]
	Rapid automatised naming (RAN)	0.034	0.006	1.035***	[1.023-1.047]
	Vocabulary	-0.069	0.026	0.934**	[0.888-0.982]
	Digit span	-0.003	0.064	0.997	[0.880-1.129]
	Early mathematical skill	-0.133	0.038	0.875***	[0.812-0.943]
	Teachers years of experience	-0.047	0.011	0.954***	[0.933-0.975]
	Teacher education	0.171	0.099	1.186	[0.977-1.441]
	Child-teacher ratio	0.007	0.025	1.007	[0.958-1.059]
	Letter instruction (month)	0.137	0.041	1.147***	[1.059-1.242]
Highest 21.2%					
	Boy	0.052	0.178	1.054	[0.744-1.492]
	Letter sound recognition	0.062	0.024	1.064**	[1.015-1.116]
	Phoneme isolation	0.084	0.035	1.088*	[1.017-1.164]
	Rapid automatised naming (RAN)	-0.018	0.007	0.982*	[0.968-0.997]
	Vocabulary	0.123	0.031	1.131***	[1.064-1.203]
	Digit span	0.123	0.073	1.130	[0.980-1.304]
	Early mathematical skill	0.069	0.036	1.071	[0.998-1.149]
	Teachers years of experience	0.017	0.011	1.018	[0.997-1.039]
	Teacher education	-0.169	0.112	0.844	[0.678-1.052]
	Child-teacher ratio	-0.010	0.032	0.990	[0.929-1.055]
	Letter instruction (month)	-0.093	0.067	0.911	[0.799-1.038]

Notes: SE = standard error; OR = odds ratio; CI = 95% confidence interval.

\* =  $p < 0.05$ ; \*\* =  $p < 0.01$ ; \*\*\* =  $p < 0.001$ .