

Analysis of online workbook

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Introduction

The dataset comes from a Pearson e-learning platform, an online workbook that is used alongside a paper textbook. The dataset contains a following information:

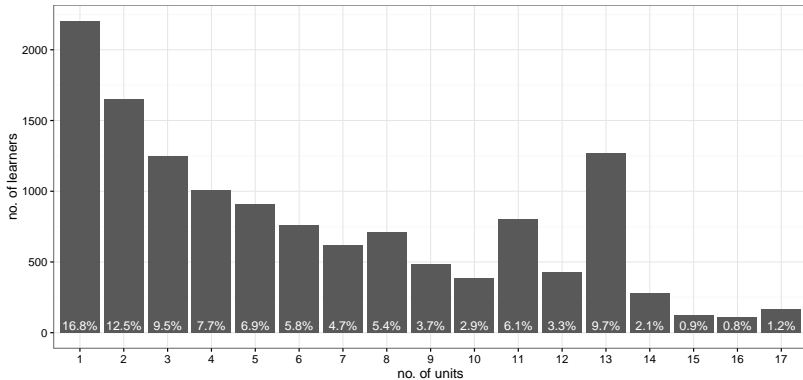
- ▶ learner_id
- ▶ country
- ▶ unit
- ▶ in_course – “t” if the student belongs to course taught by a teacher; “f” if study alone
- ▶ avg_score – average percentage score on all activities within a given unit
- ▶ completion – the percentage of activities completed in a given unit, out of all activities available in that unit
- ▶ inv_rate – this is the extent to which a student deviates from the suggested order of activities by the pedagogy experts within a given unit. A value of zero indicates no departure from the suggested order, a value of one indicates a complete reversal of the order.

Introduction

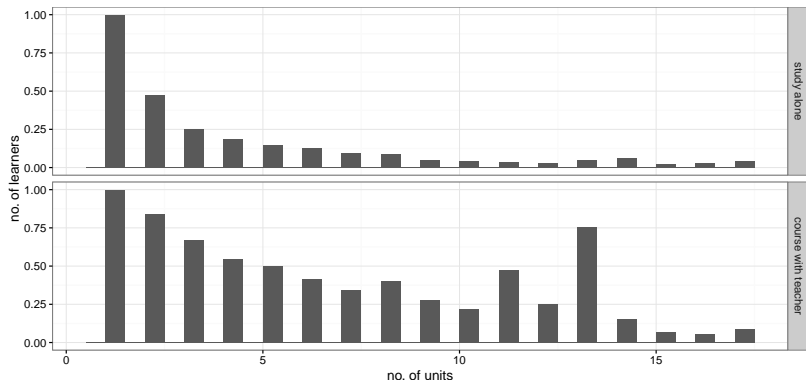
The dataset contains information about 13 155 students from 86 counties.

course	no_of_students	percentage
course with teacher	11 642	88.5%
study alone	1 513	11.5%

Number of units taken by students



Number of units taken by students



in_course	1-3	4-6	7-9	10-12	13-17
f	62.99	16.92	8.39	4.16	7.53
t	35.62	20.79	14.46	13.37	15.75

Number of units taken by students

It can be seen that only small percentage of self-study students took more than first three units (63% to 37%), when in other group most of the students took more than three units (36% to 65%).

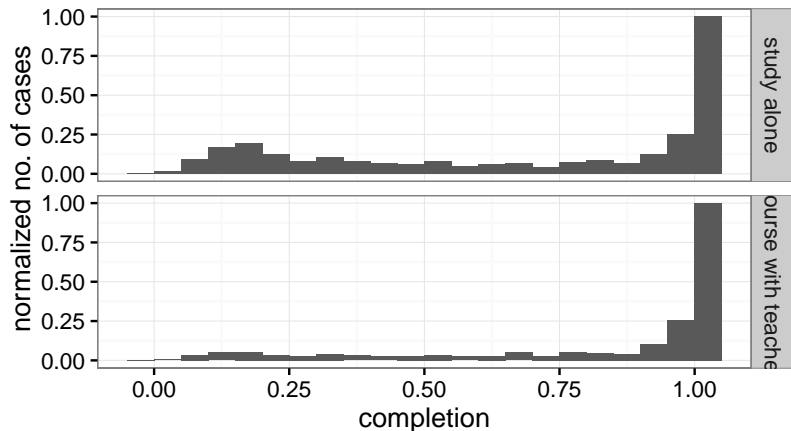
Completion, average score and inv_rate

There is small (but significant) difference in mean values of Completion, average score and inv_rate within two groups: *study alone* and *course with teacher*.

Between two groups, there is small but significant difference between mean values of Completion, average score and inv_rate. The 'study alone' group has lower *avg_score* and *completion* but higher *inv_rate* than a 'course with teacher' group.

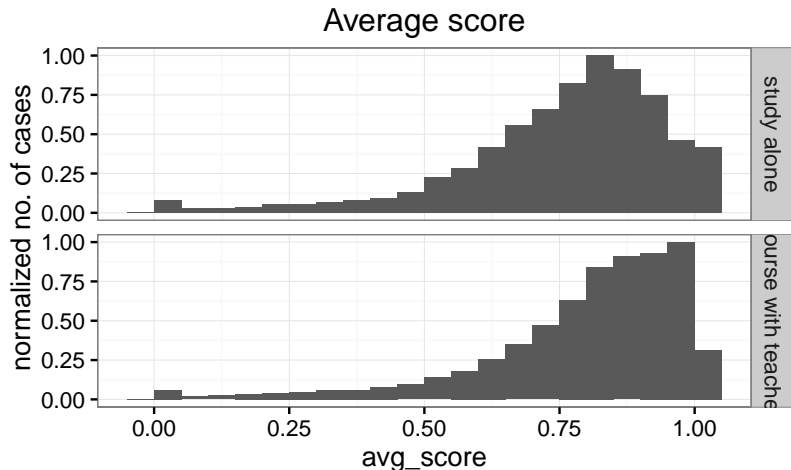
Completion

Completion



	Min.	1st.Qu.	Median	Mean	3rd.Qu.	Max.
study alone	0.02	0.30	0.85	0.67	1	1
course with teacher	0.02	0.75	1.00	0.82	1	1

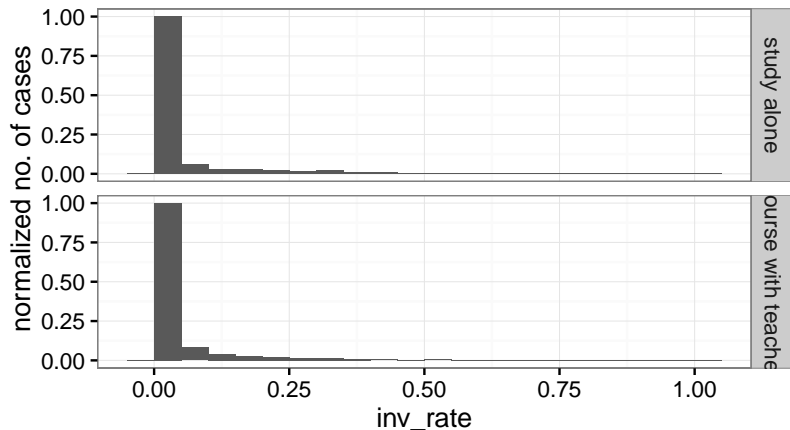
Average score



	Min.	1st.Qu.	Median	Mean	3rd.Qu.	Max.
study alone	0	0.67	0.8	0.76	0.89	1
course with teacher	0	0.72	0.84	0.8	0.93	1

Inv_rate

Deviation from suggested order

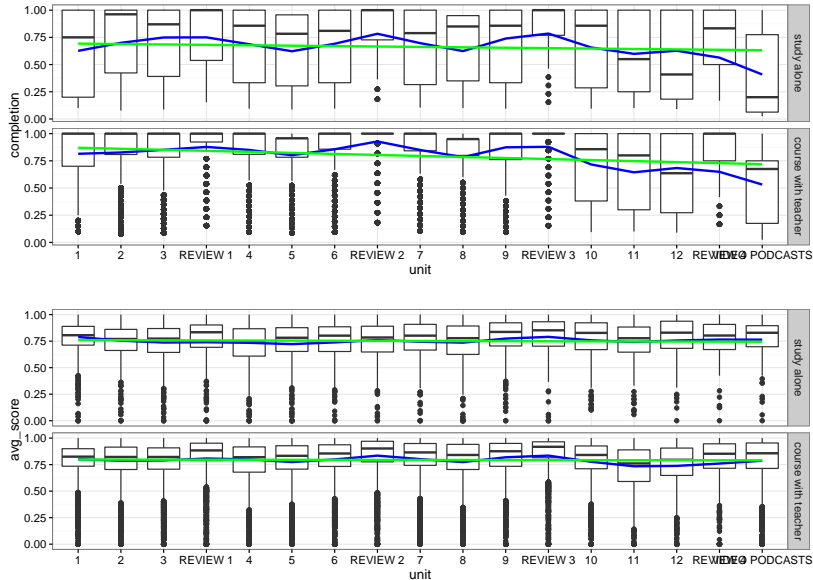


	Min.	1st.Qu.	Median	Mean	3rd.Qu.	Max.
study alone	0	0	0	0.05	0.02	1
course with teacher	0	0	0	0.04	0.02	1

Analysis per unit

Between units there is no big difference in *avg_score* and *inv_rate*, but the *completion* varies: between units and reviews and it decreases with further units.

Analysis per unit



Analysis per unit

