

Looking at the numbers

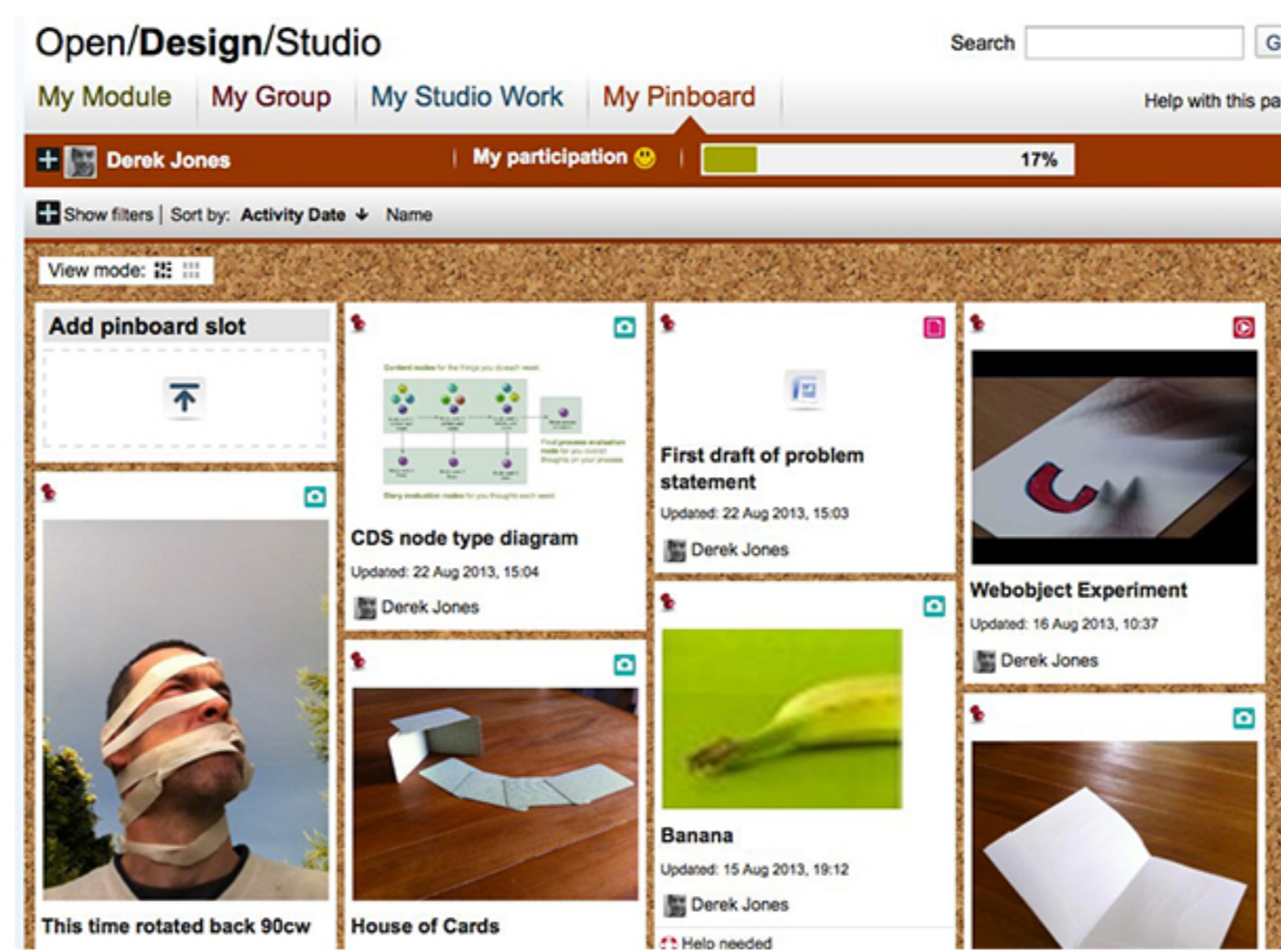
OpenStudio collects a range of data from student actions through its interface. These data were used to quantitatively analyse the research questions and hypotheses generated. Three modules were studied across a range of presentations (right), giving a sample selection across levels 1-3.

Module and presentation	No of Students
U101 12J	454
U101 13B	297
U101 13J	457
U101 14B	255
U101 14J	459
T217 13J	318
T217 14J	338
T317 14J	305

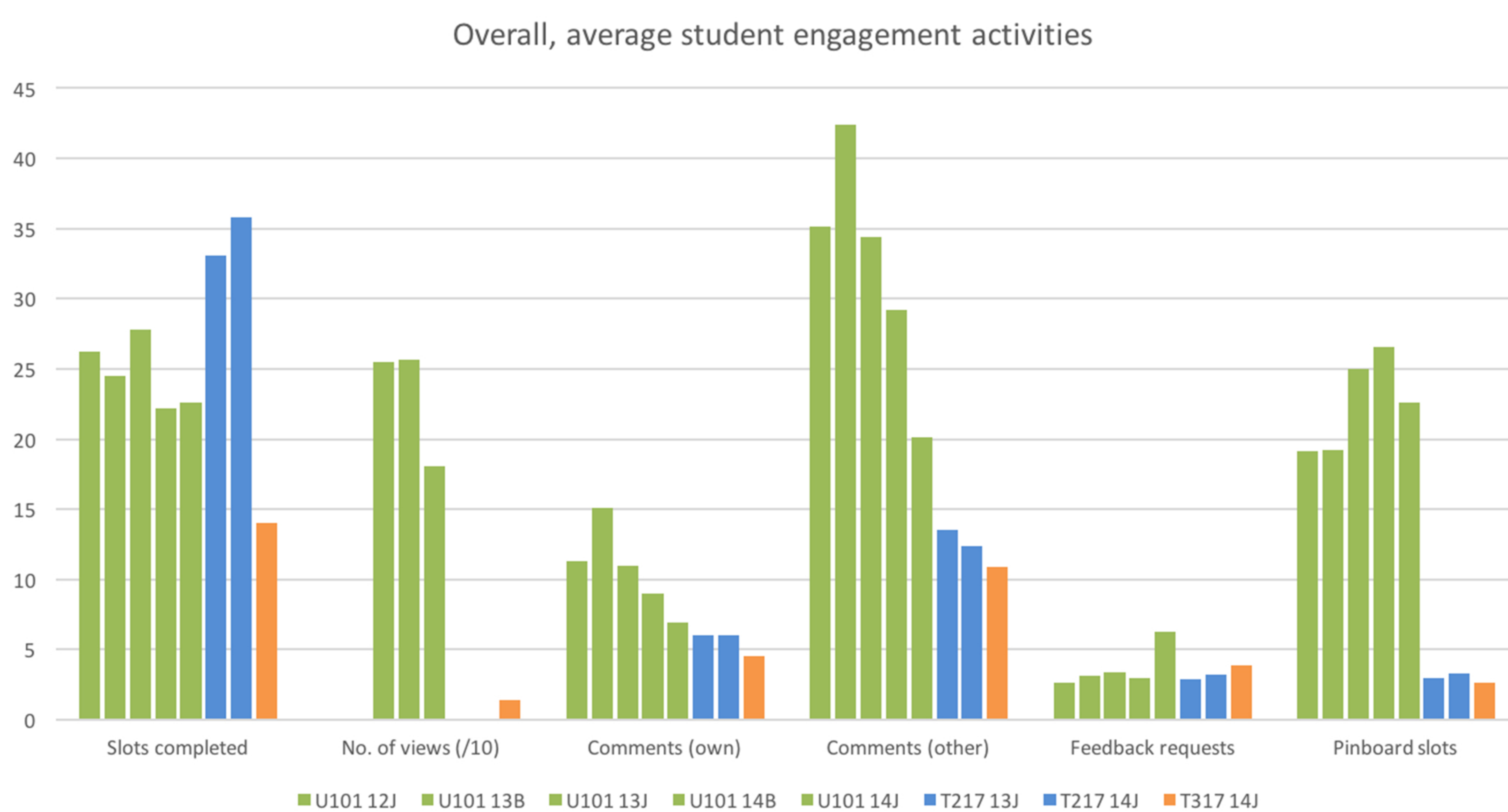
Table 1 Data sources by presentation

The following interface activities were used and analysed :

- E1 (inverse of) Number of empty* slots
- E2 Number of views of other slots
- E3 Number of comments made on own slot
- E4 Number of comments made on other slot
- E5 Number of feedback requests
- E6 Number of pinboard slots created



Overall, average engagement numbers



- 1) There is a significant difference in engagement measures between modules:
- 2) The lower the study level, the greater the engagement seems to be [1]
- 3) U101 students complete two thirds of slots compared to under half on T217 and less than a fifth on T317;
- 4) U101 students are 2-3 times more likely to comment on their own slots compared to T317 students, and are 3-4 times more likely to comment on other slots;
- 5) Requests for help appear reasonably - no one wants to ask for help.
- 6) The average number of Pinboard slots created is similar between T217 and T317 and these are significantly lower than the numbers on U101 [1, 2]

- 7) Both Pearson and Spearman correlations support the hypothesised linear relationship between student success and engagement activities, although this varies significantly between levels (stronger at level 1 compared to level 3).
- 8) Students do not like to 'ask for help', supporting similar findings in other data and studies.
- 9) The strongest single correlative engagement factor is **Viewing other slots**, often considered a 'passive' form of engagement, suggesting there may be other

Overall, we **cannot** say that we are making progress, at least in terms of OpenStudio supporting students closely at all levels in the ways we would expect. But we can say that there are some positive things we have learned.

Work now needs to :

- Verify these findings using more data
- Develop hypotheses around why we have these results
- Identify evidence that may support current theories around good learning design

Correlations and findings

Pearson Moment Correlations

Module /pres	Slots completed	No. of views	Comments (own)	Comments (other)	Feedback requests	Pinboard slots
U101 12J	0.318		0.288	0.386	0.111	0.273
U101 13B	0.365		0.298	0.349	0.103	0.404
U101 13J	-0.132	0.291	0.266	0.252	0.328	0.311
U101 14B	0.433	0.354	0.298	0.321	0.214	0.398
U101 14J	0.495	0.495	0.393	0.473	0.129	0.427
T217 13J	0.205		0.221	0.095	0.175	0.136
T217 14J	0.101		0.040	0.213	-0.119	0.102
T317 14J	0.126	0.126	0.174	0.078	0.019	0.090

Spearman Rank Correlations

Module /pres	Slots completed	No. of views	Comments (own)	Comments (other)	Feedback requests	Pinboard slots
U101 12J	0.270		0.289	0.448	0.222	0.286
U101 13B	0.404		0.316	0.404	0.172	0.443
U101 13J	0.079	0.468	0.370	0.428	0.390	0.441
U101 14B	0.422	0.512	0.467	0.511	0.400	0.457
U101 14J	0.463	0.610	0.469	0.591	0.198	0.498
T217 13J	0.233		0.237	0.228	0.197	0.154
T217 14J	0.159		-0.014	0.193	-0.053	0.081
T317 14J	0.080	0.080	0.260	0.199	-0.171	0.216

Module /pres	E2 Viewing / E4 commenting (other)
U101 13J	$r = 0.703, n = 397, p < 0.00001$ Strong and significant correlation
U101 14B	$R = 0.616, n = 209, p =$ Strong and significant correlation
U101 14J	$r = 0.650, n =$ Strong and significant correlation
T317 14J	$r = 0.522, n = 178, p =$ Strong and significant correlation

