



Does submitting work close to a deadline indicate poor quality work?

Visualising student behaviour on NILE

*Simon Thompson, LLS Learning Technologist,
University of Northampton*

Data, data, everywhere

Relatively simple to obtain

- Student Information Systems (formal and informal)
- Learning Management System analytics
- Google Analytics

Widely used for research (and management) though there are issues

- Analytics can lead to a richer understanding and improve teaching (Clow 2012)
- Identification of relevant LMS/VLE interactions and academic performance are difficult to prove (Agudo-Peregrina 2014)



Finding a question to ask

- A commonly held view
- Uses an easily identified interaction in the LMS/VLE
- Has an associated measure of academic performance

Submitting assignments at the last minute is a sure sign of a poor student



The study (1)

The question

Are last minute assignment submissions a negative indicator of performance?

The data sources

- Blackboard Activity recording data (BB60_STATS) – ‘submit.asp’ click activity
- Blackboard Grade Centre



The study (2)

The sample

- Two first year undergraduate modules run at different Schools
- 2012/13 Academic year
- Total of 383 students
- Assignment submissions were all *Turnitin* based with a midnight deadline

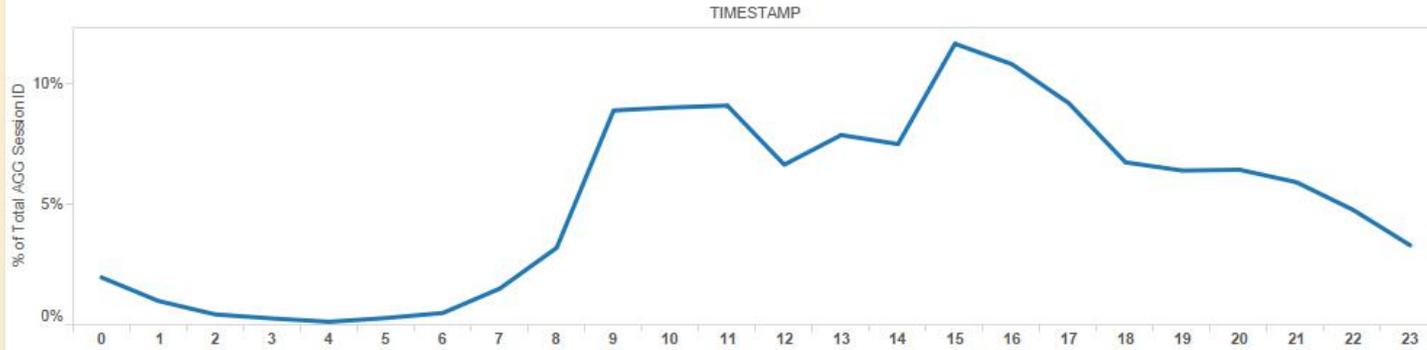
The data visualisation tool

Tableau Desktop 8.1

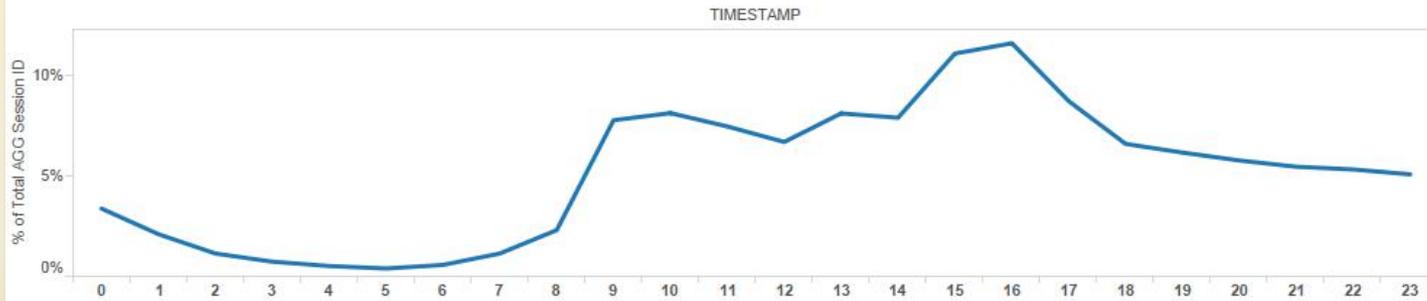


Time of access / grade (Module A)

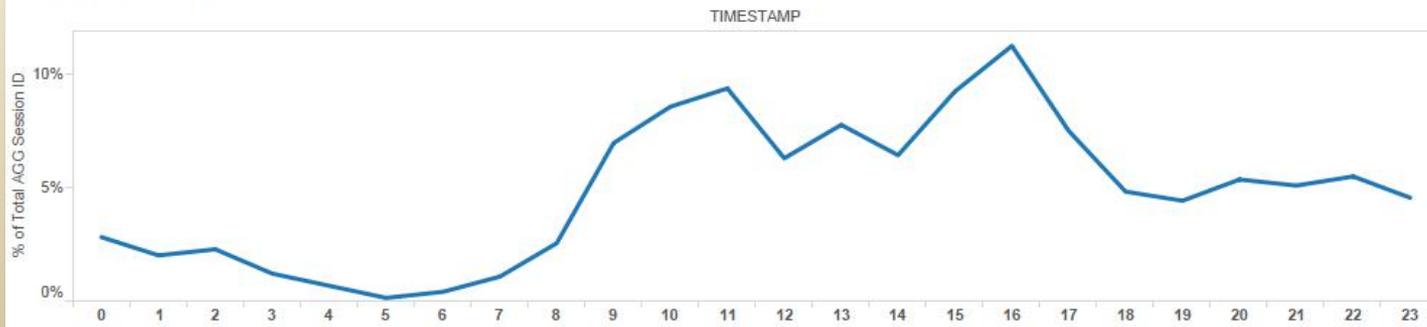
Time of Access A/B



Time of Access C/D

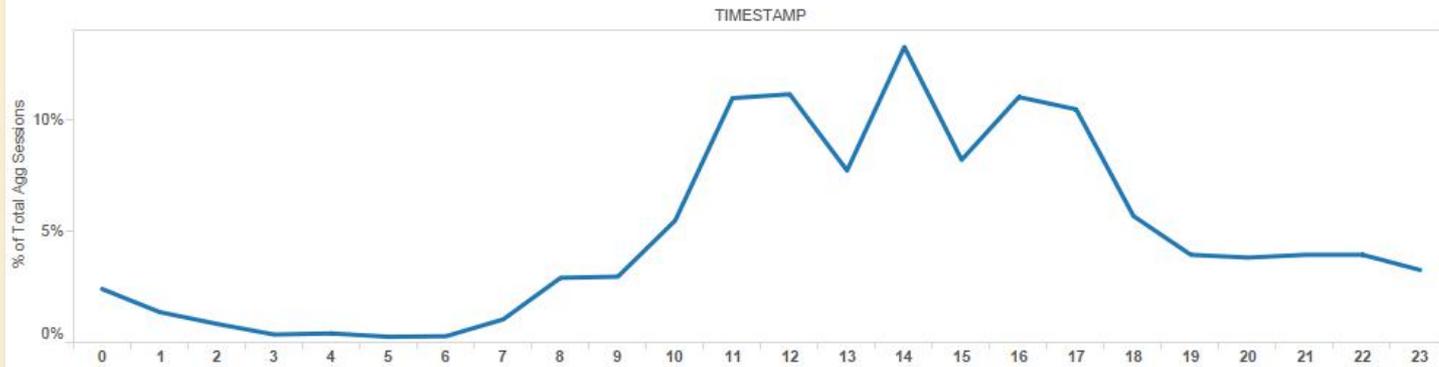


Time of Access F/G

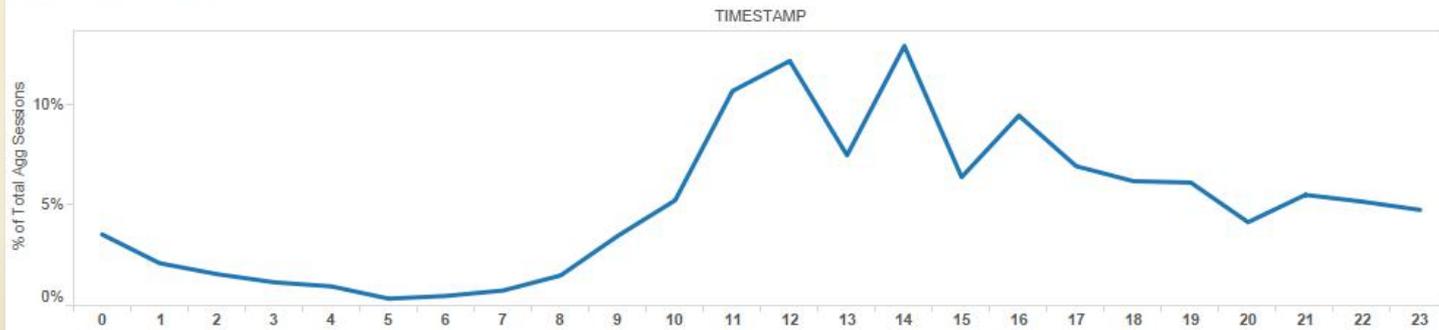


Time of access / grade (Module B)

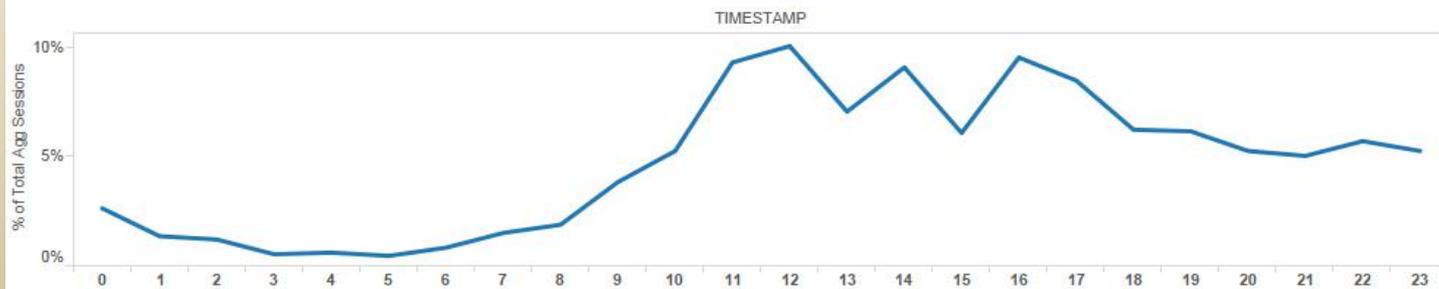
Time of Access A/B



Time of Access C/D



Time of Access F/G



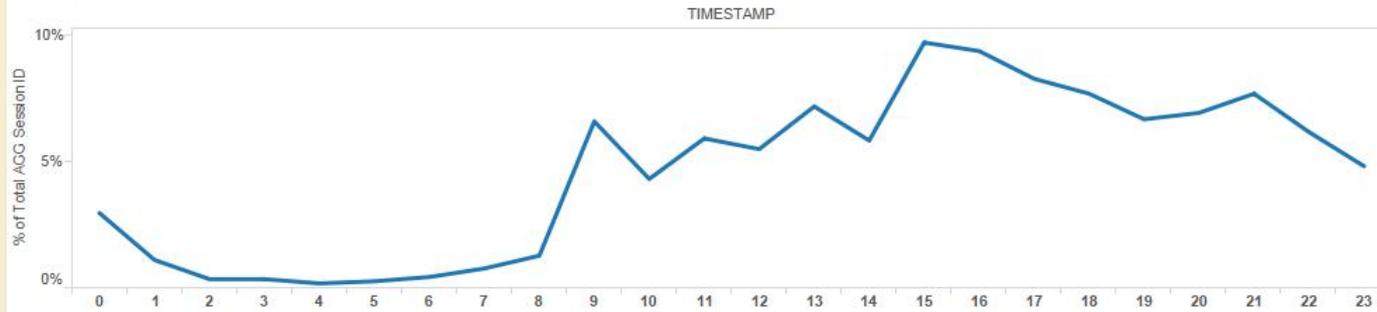
Observations – Time of access

- Broadly similar across academic performance during ‘working’ hours
- Lower academic performers seem to use the VLE/LMS more in the early hours of the morning

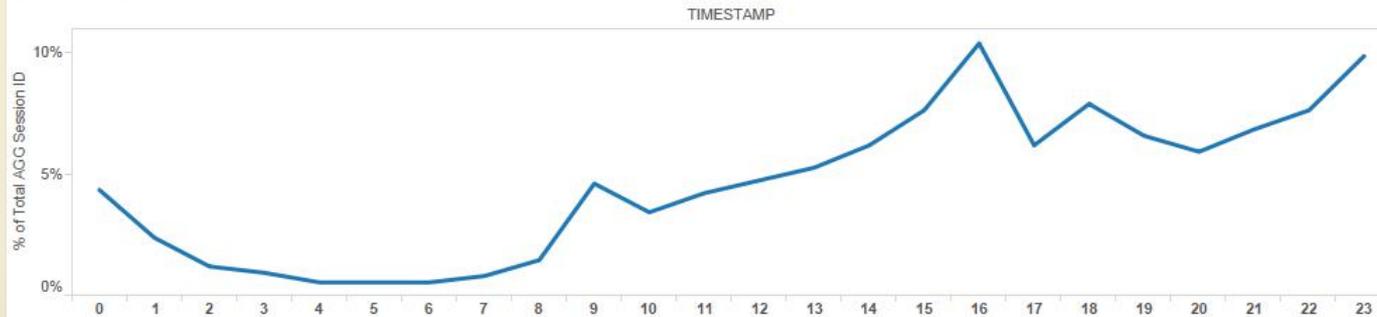


Time of submission/ grade (Module A)

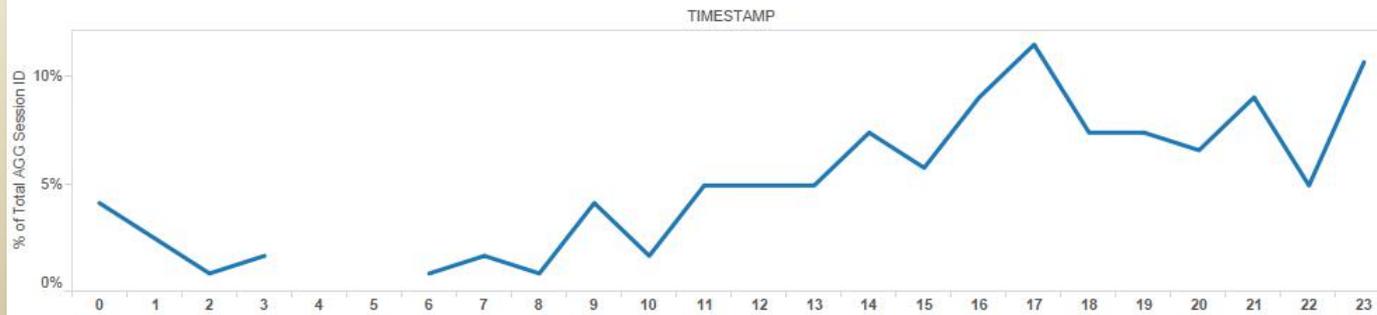
Submit your work time A/B



Submit your work time C/D

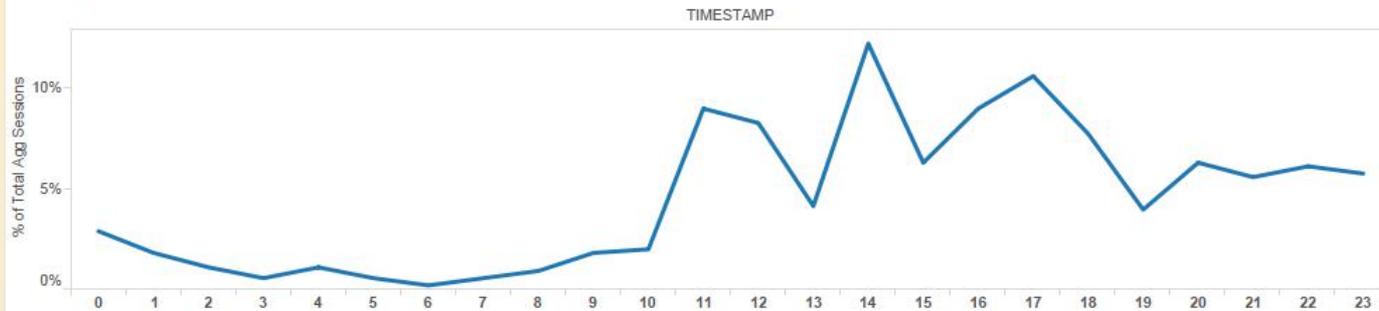


Submit your work time F

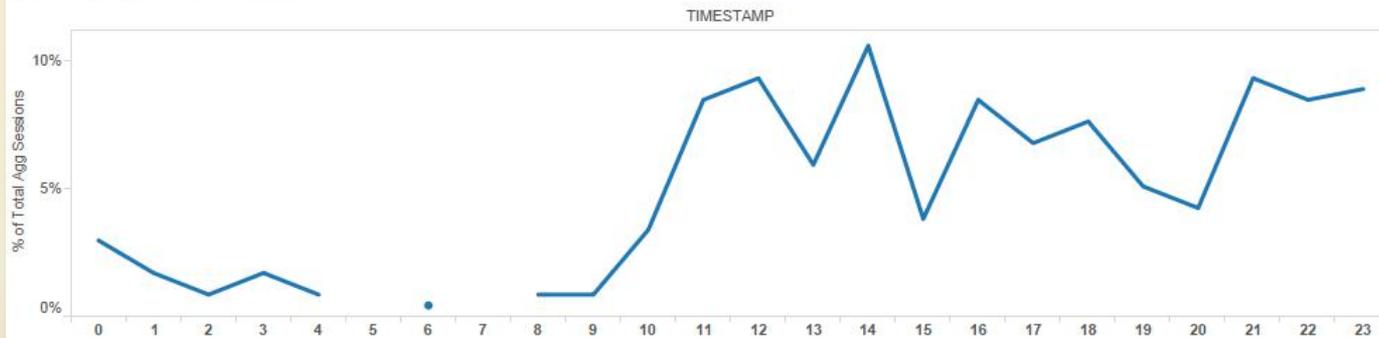


Time of submission/ grade (Module B)

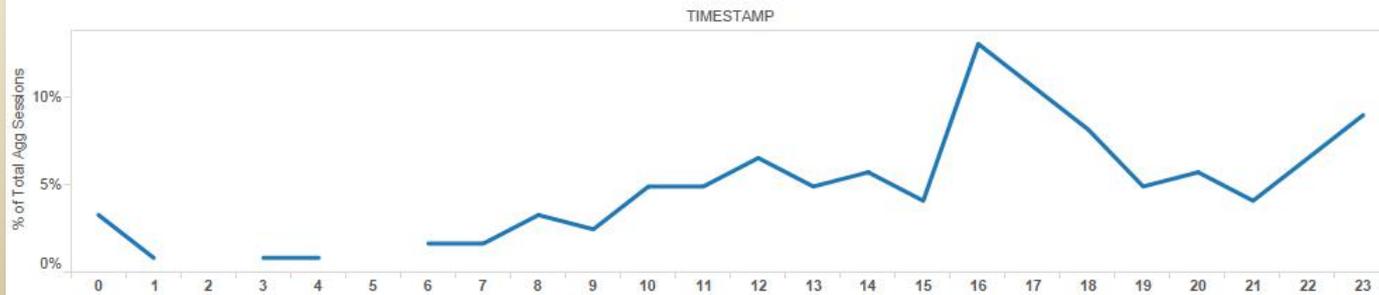
Submit your work time A/B



Submit your work time C/D



Submit your work time F



Observations – Time of submission

- A marked difference in submission times on Module A – A/B students showed a preference to submit earlier
- A general increase in later submission from lower performers in both modules
- Peak submission time from all levels of performance was between 15:00 and 17:00



Conclusions

- There is some support for the hypothesis that a significant proportion of poorer academic performers submit closer to an assignment deadline. Hardly conclusive, but worthy of further research.
- Peak submissions are not at midnight – though we can't distinguish *which* assignment is being submitted. It may be worthwhile to re-visualise the data within individual assessment periods



What I learned from the exercise...

Data visualisation can be tremendously effective method of identifying potentially interesting things, but

MASSIVE

mistakes are easy to make
when looking at pretty
pictures from huge datasets

This case study used a very specific interaction where the intent was clear. This is a rare thing!



References

- Agudo-Peregrina, Á *et al.* (2014). *Can we predict success from log data in VLEs? Classification of interactions for learning analytics and their relation with performance in VLE-supported F2F and online learning.* *Computer in Human Behaviour* **31**(2014). 542-550.
- Clow, D. (2013). *An overview of learning analytics.* *Teaching in Higher Education.* **18**(6). 683-695.

