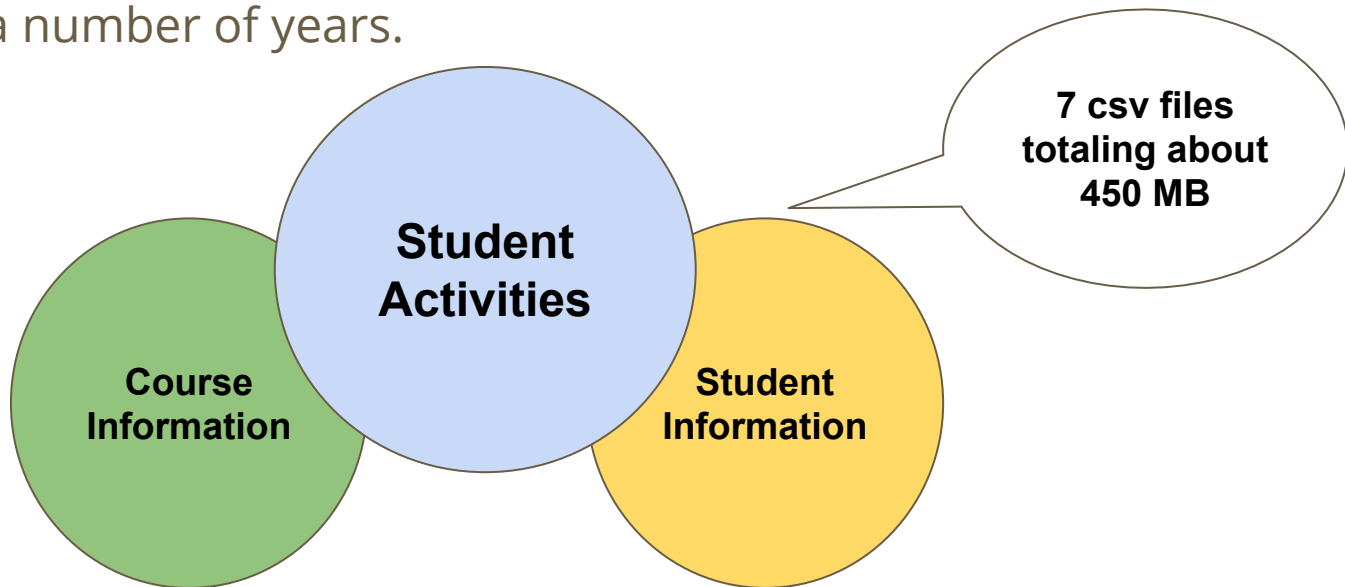

Virtual Learning Environment Usage

— What Can Student Interactions —
Tell Us About Final Outcomes

The Data

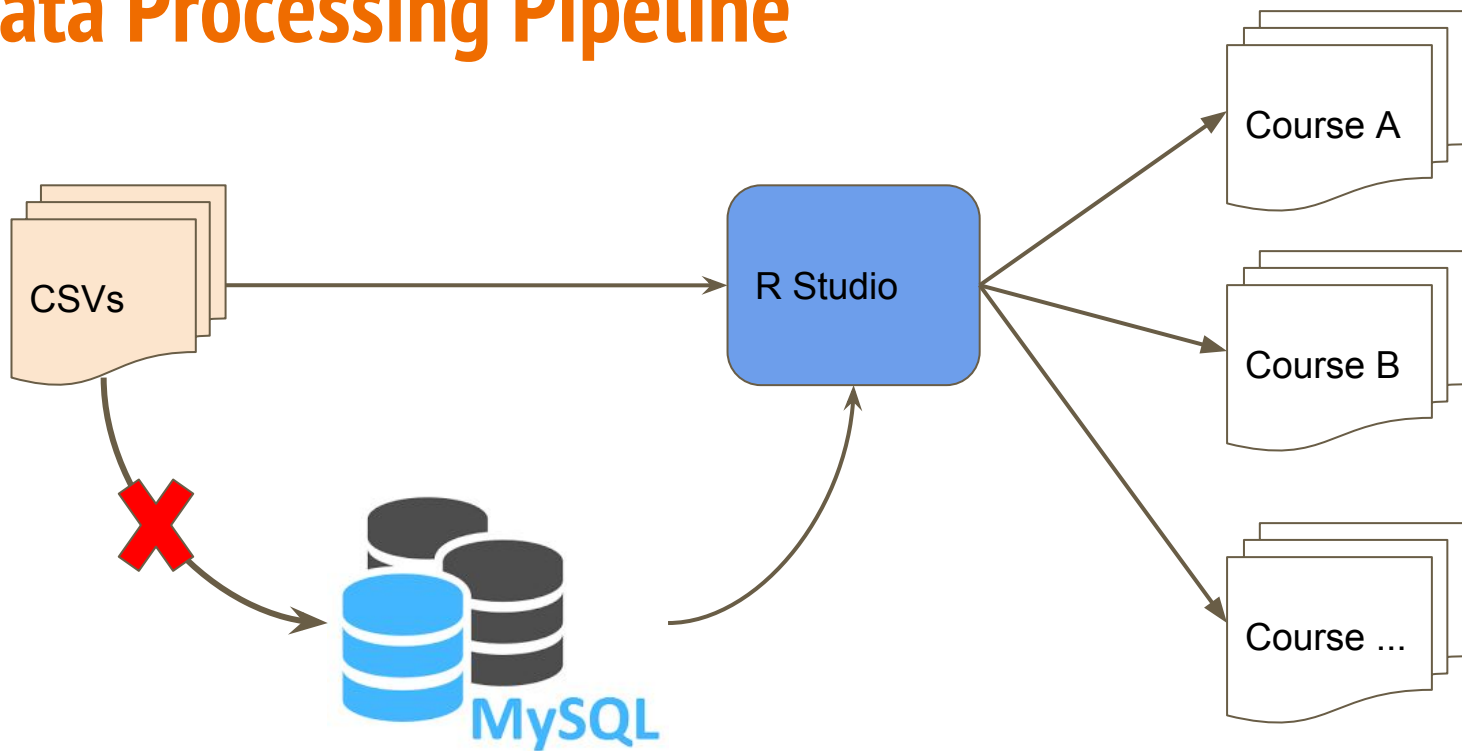
Open University Learning Analytics Dataset ([OULAD](#)) from the United Kingdom. Contains data about several online courses, students, and their use of the system over a number of years.



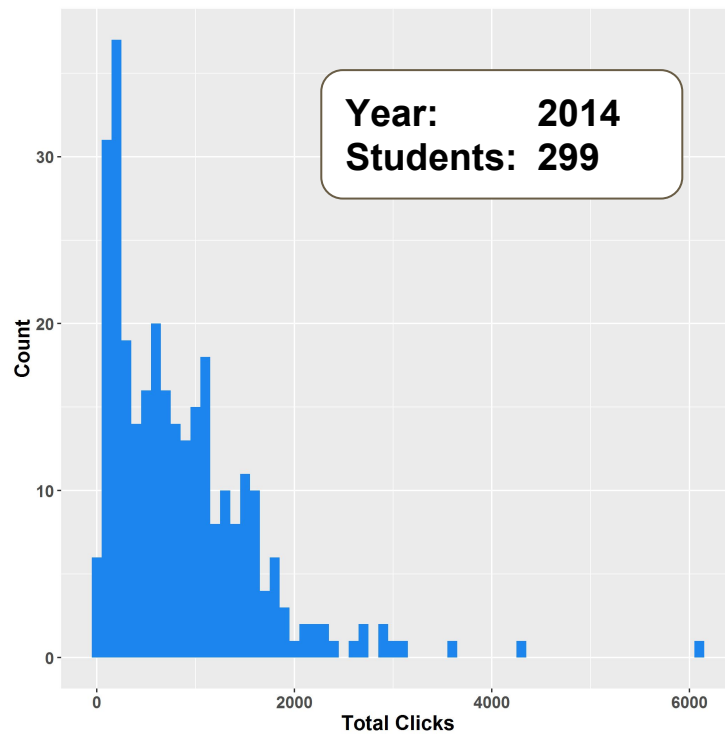
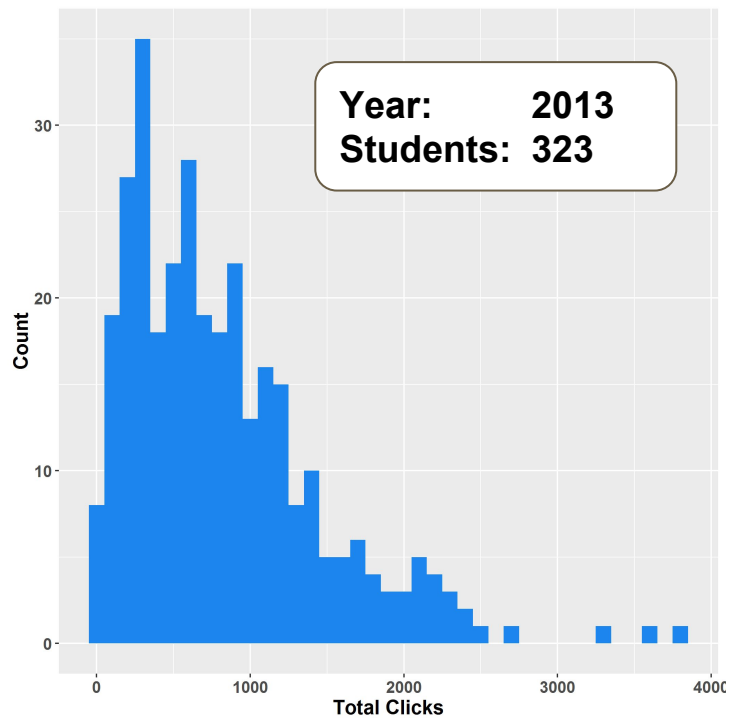
Questions

1. How is the final outcome (Distinction, Pass, Fail) correlated with the level of use by students?
2. Does the data show clear differences in top students vs those who fail?
3. What about the effect of age and gender on usage?

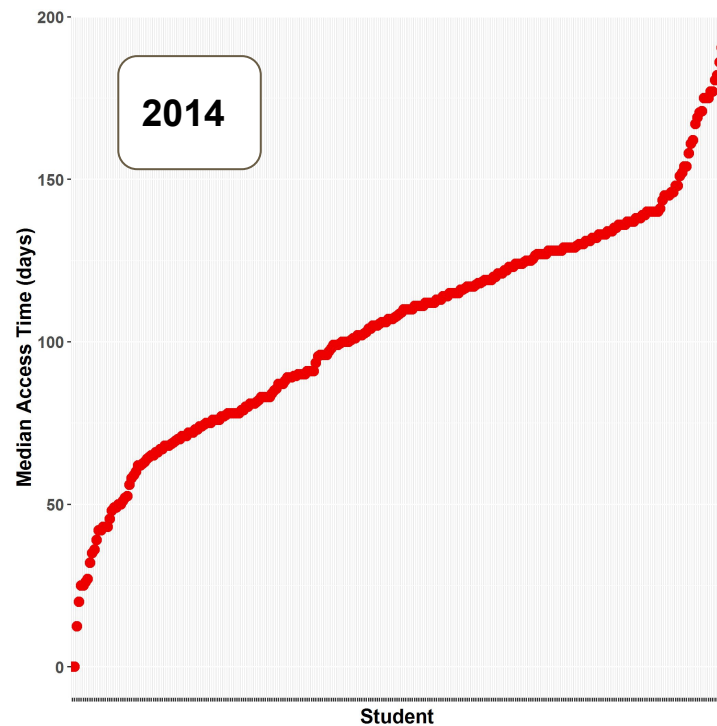
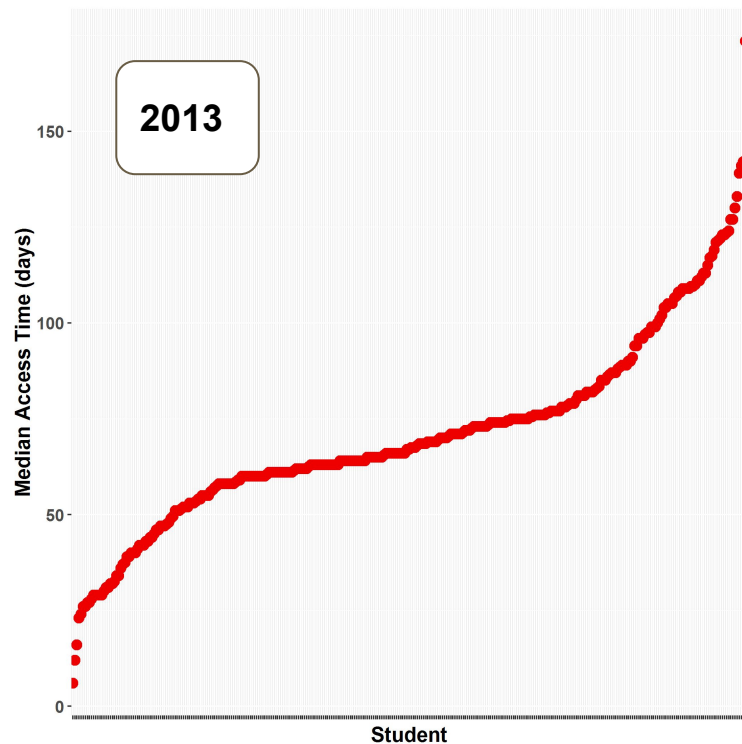
Data Processing Pipeline



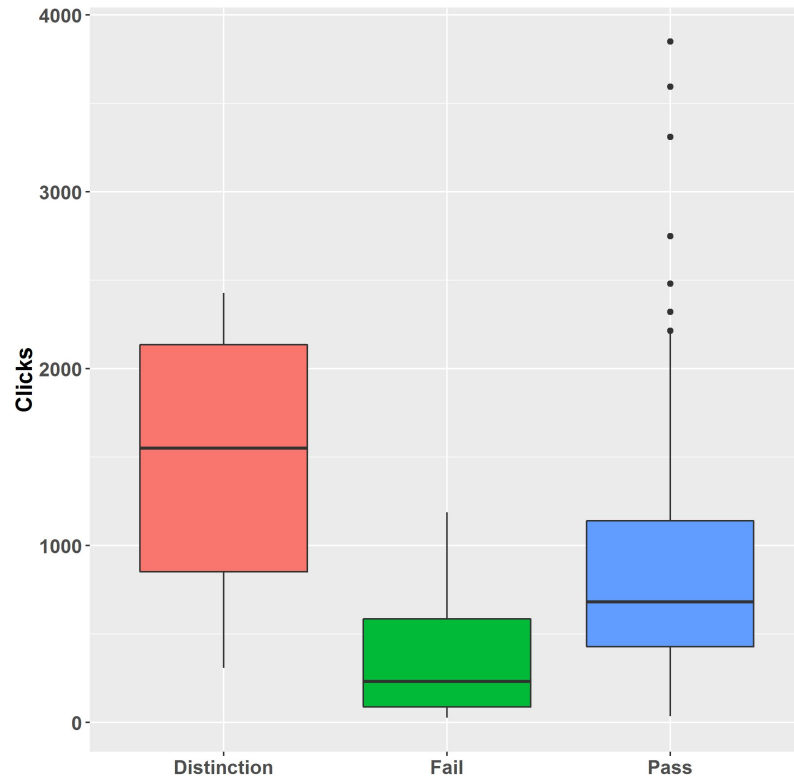
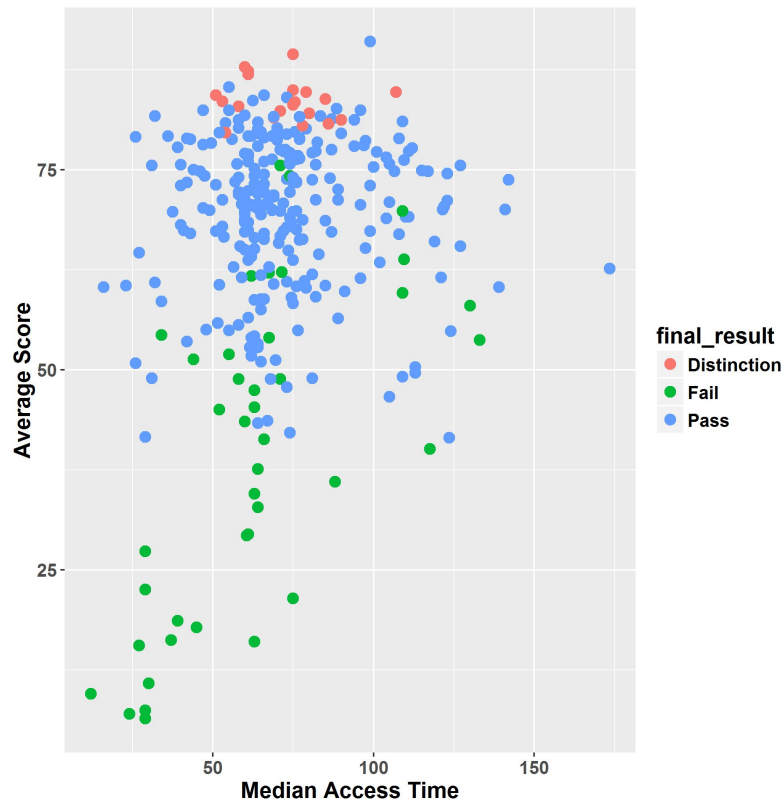
Clicks



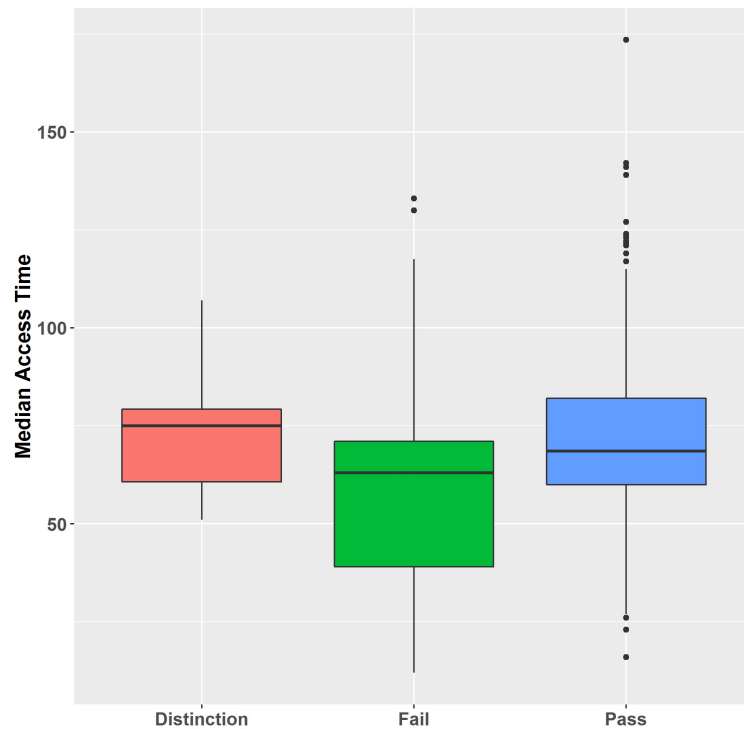
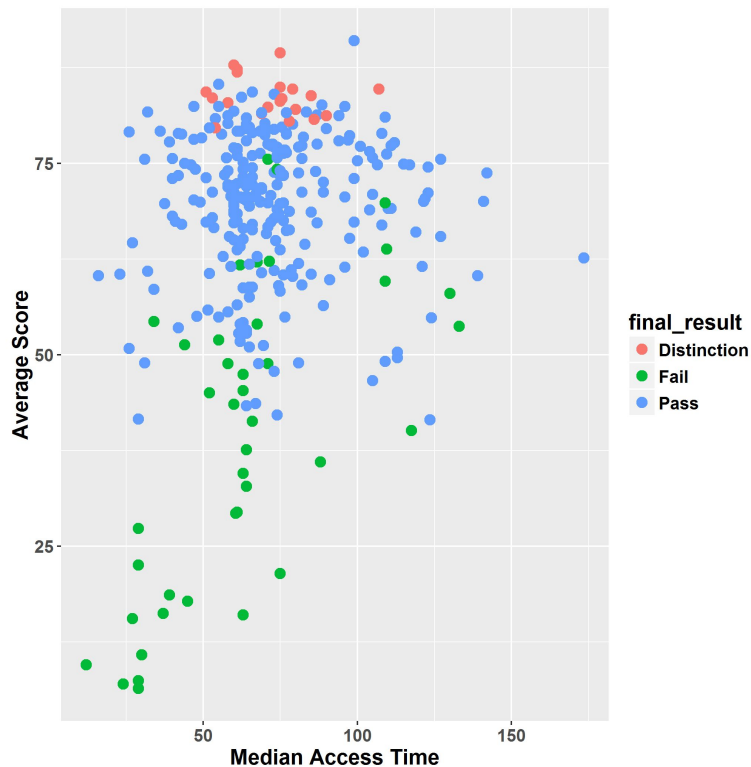
Content Access Times



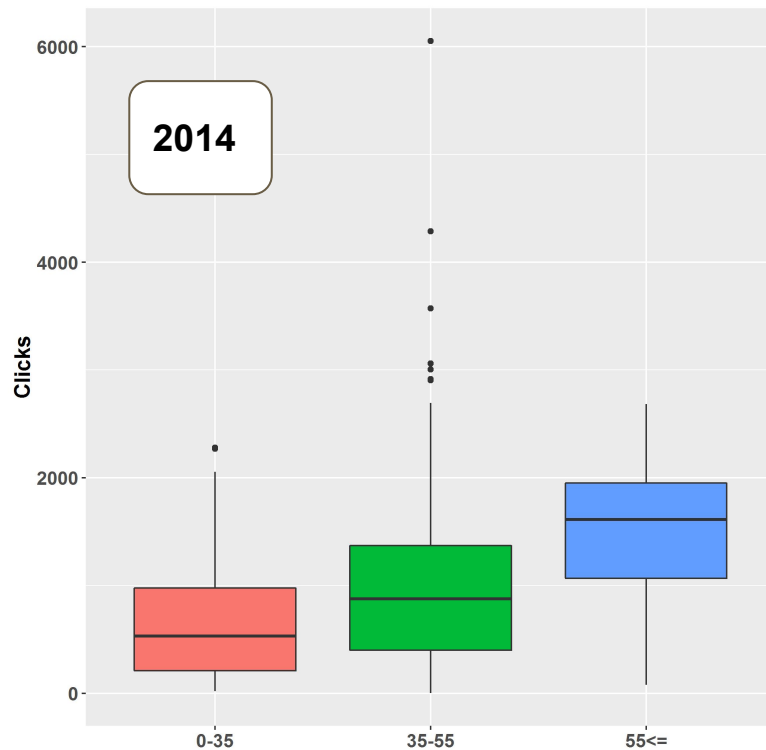
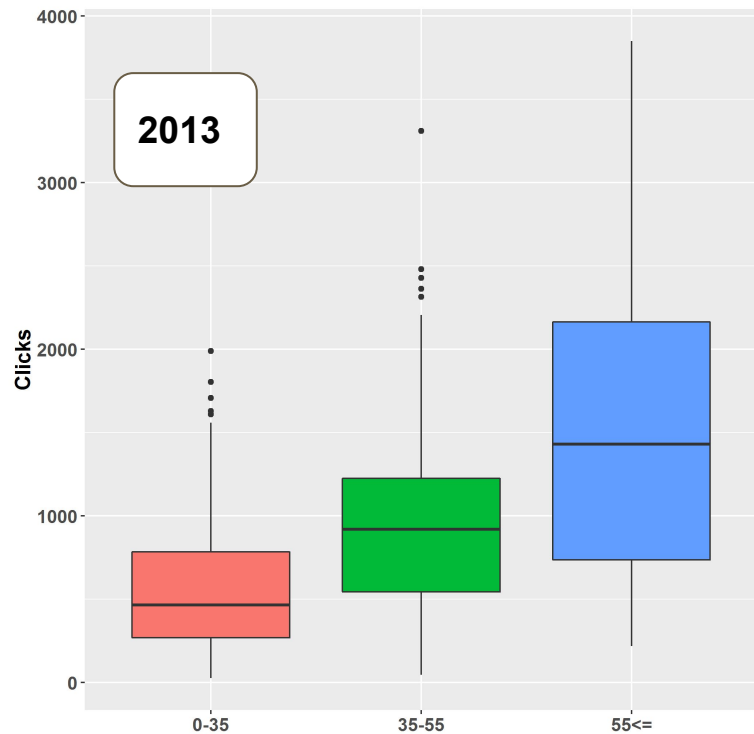
Clicks and Scores



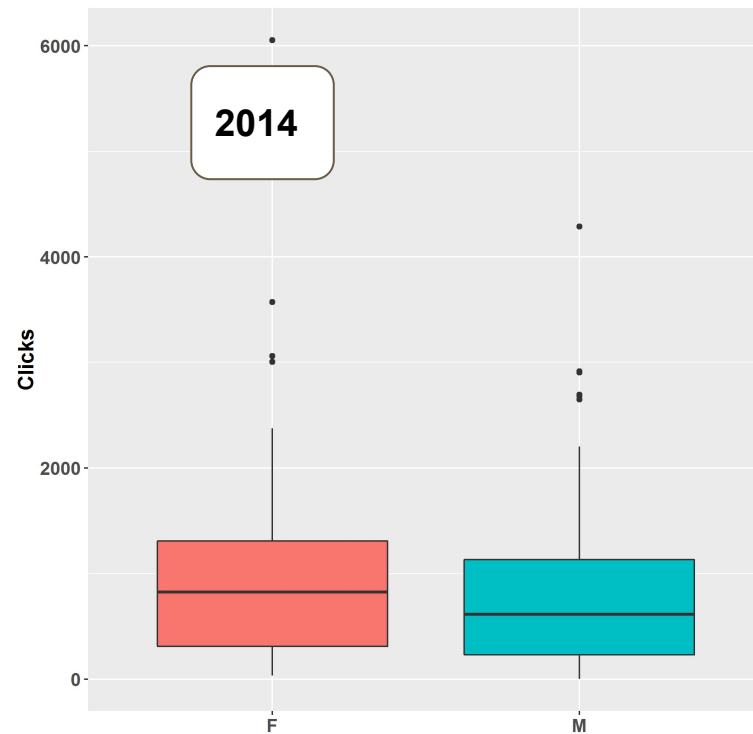
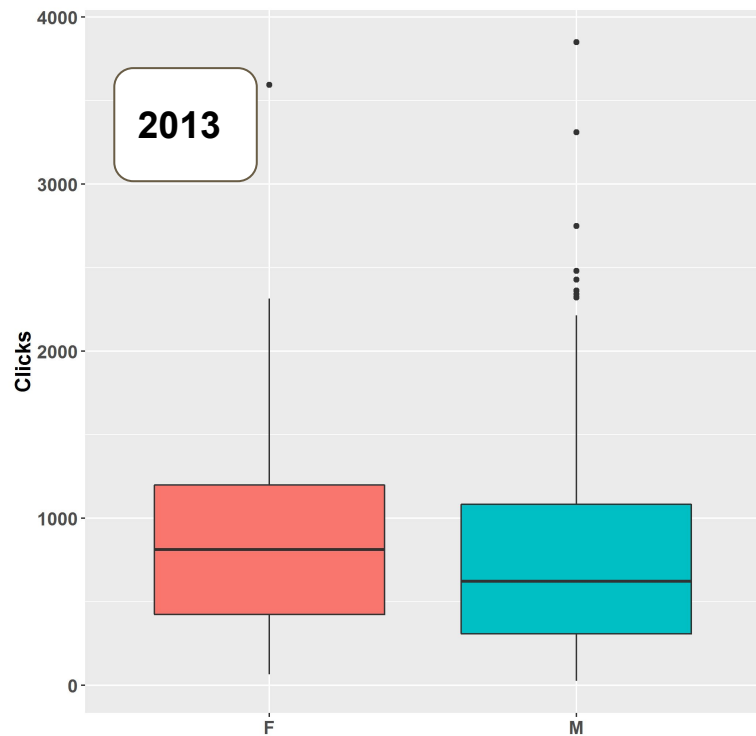
Access Times Scores



Age and Clicks



Gender and Clicks



Conclusion and Recommendations

- There seems to be a correlation between how well students perform and their interaction level with the online system.
- No or a negative correlation between how early student access content vs their overall grade.
- Interaction level seems to be age related, but gender doesn't seem to play much of a role

Would recommend adding a widget to the online system which encourages students to interact with content in meaningful ways.