Tag to track?

Analytics to measure the impact of educational policies?

HEIR2014 presentation

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Available at: goo.gl/eU0Jf9

IR, analytics and the VLE

Institutional Research

"an essential ingredient of sound college or university governance. It should occur throughout the institution wherever any sort of planning occurs, any type of policy issue is considered and any decision about some aspect of the institution is proposed" (Saupe, 1990: 3)

Analytics

"Analytics is an overarching concept described as data-driven decision making" (van Barneveld, Arnold & Campbell, 2012: 6)

Academic analytics

"Analytics marries large data sets, statistical techniques, and predictive modeling. It could be thought of as the practice of mining institutional data to produce 'actionable intelligence'" (Campbell, DeBlois and Oblinger, 2007: 42)

Google analytics

"Google Analytics is a service offered by Google that generates detailed statistics about a website's traffic and traffic sources and measures conversions and sales" (wikipedia.org/wiki/Google_Analytics)

Virtual Learning Environment

"Mix of hardware and software that is used to create online learning opportunities outwith the classroom situation" (Mason & Rennie, 2006: 124)

Educational policies: RAF and e-SMF

Revised Academic Framework (RAF)

To enhance "student satisfaction, achievement and graduate outcome" (KUL RAF, 2012b: npn)

The aim of the RAF is to (KUL RAF, 2012b: npn):
- "greater course coherence and cohort identity",
- develop "academic and employability skills",
- "more individual support and monitoring",
- reduce the number of summative and formative assessment and instead focus on "progressive learning",
- "less module administration and quality assurance",
- "simplified course structure" (30 credits instead of 15 credit modules).

e-Submission, Feedback and Marking (e-SMF)

"prioritise work to roll out online submission and online feedback across the institution for all appropriate forms of coursework" (KUL UEC47, 2013a: npn)

VLE functionality

VLE functionality

- **Content distribution**, dissemination of mainly course related content, including files and texts items, and multimedia, such as audio, images and video,
- **Content creation**, creation of content by students, e.g. blogs, journals, wiki's and video conferencing (Blackboard collaborate),
- **Communication** and dissemination of information, such as e-mail, announcement and discussion board,
- **Assessment and Assignment**, including Turnitin, for objective test and the dissemination, e-submission and online marking of text based assignment.

Data collection & Analysis methods

	Server-sided	Client-sided
Data collection	Logfile	Page Tagging
Storage	Local	Remote, 3rd party
Data	Contains ID, module code Different for each technology	Anonymous (e.g. no student/staff, module code) Same for each technology
Examples	AWstats Oracle SQL	Google Analytics Eesysoft Analytics
dis-**Advantages**	- data ownership - requires knowhow/skill - can be queried anytime/differently - - no reporting	- limited data ownership - less skill/knowhow - missing data - requires maintenance - instant reporting - webmaster, social metrics

Data periods

Academic year and semesters

| Academic Year	Semester 1	Semester 2
2012 - 2013	24/09/2012 - 27/01/2013	28/01/2013 - 05/06/2013
2013 - 2014	23/09/2013 - 05/01/2014	06/01/2014 - 25/05/2014

User base & usage

Potential user base

Year	Students	Staff	Grand Total
2012-13	23105	3155	26260
2013-14	21614	3209	24823

Distinct logins/day per semester (server-sided)

(login/day)	Sem1 12-13	Sem2 12-13	Sem1 13-14	Sem2 13-14
average	7923	7185	7083	7289
average % from user base	30%	27%	29%	29%

Login pattern (sem1) (server-sided)

Login 1st Sem 12-3 & 13-4

■ DistAll Sem1 12-13   ■ DistAll Sem1 13-14
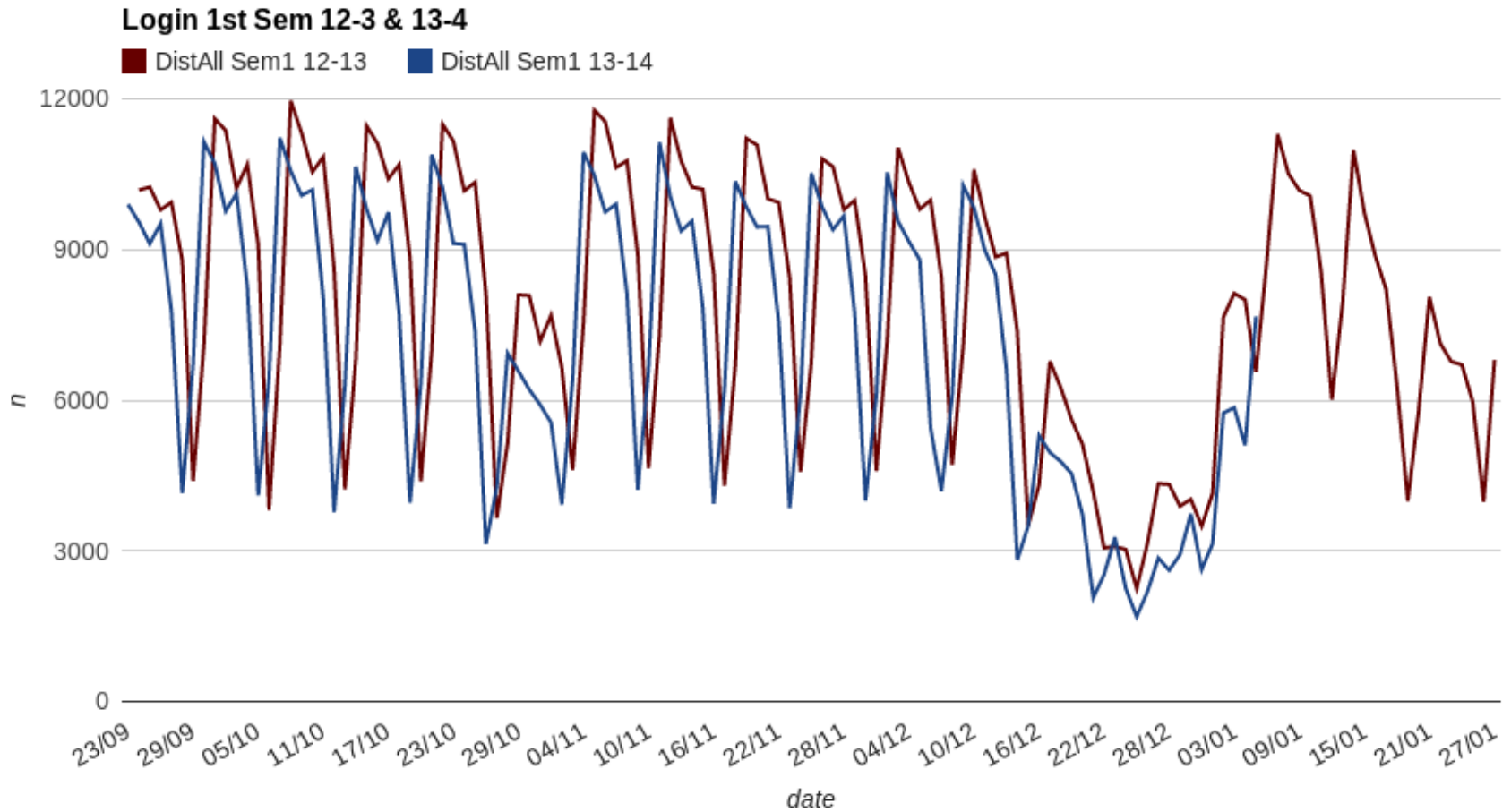
Login pattern (sem2) (server-sided)

Login 2nd Sem 12-3 & 13-4

■ DistAll Sem2 12-13   ■ DistAll Sem2 13-14
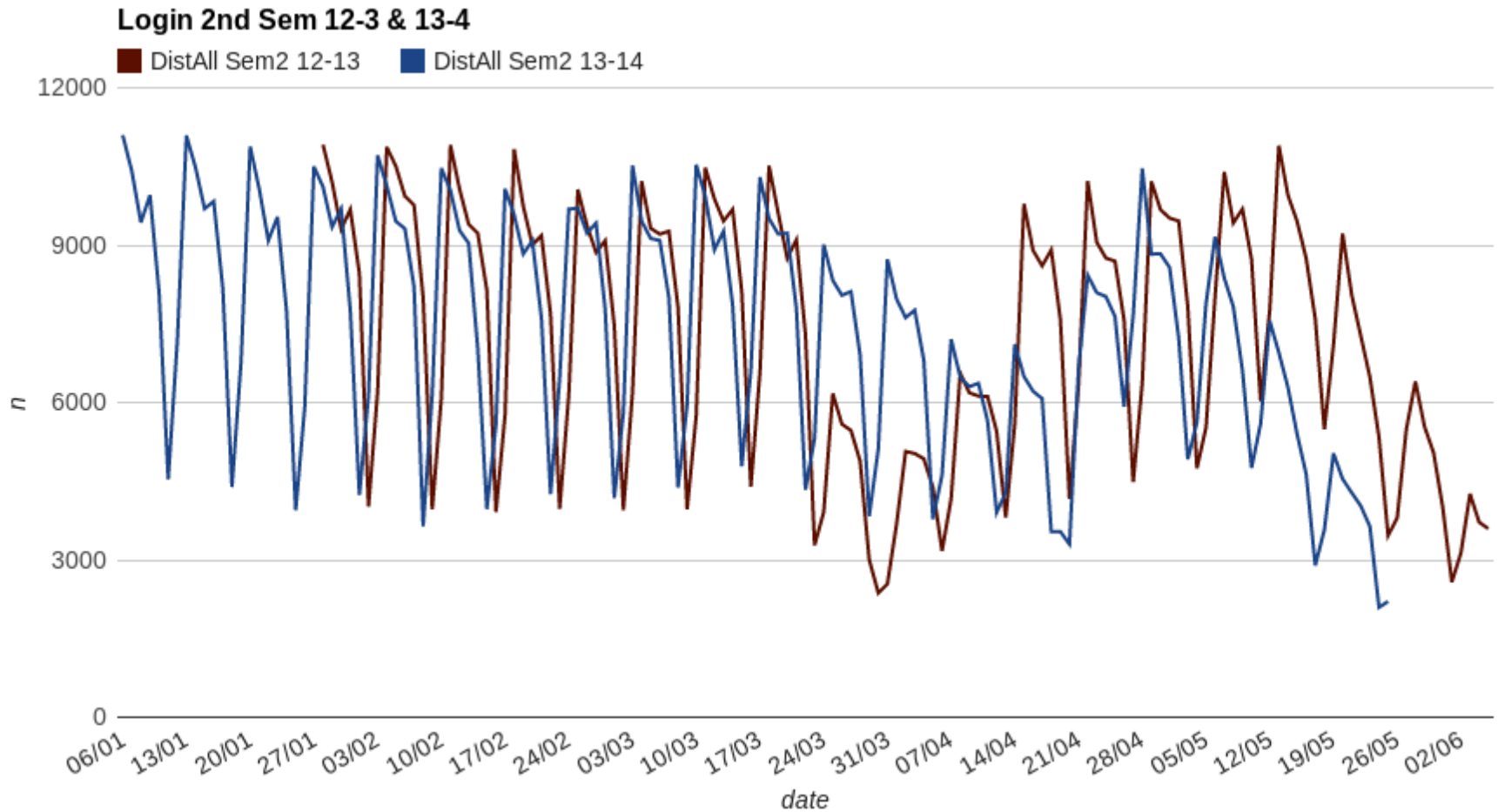
Visit duration & session time

Session duration & pages per session

	Sem1 12-13	Sem2 12-13	Sem1 13-14	Sem2 13-14
Average session duration (min)	32.05	30.23	31.10	34.46
Average pages/session	14.21	13.03	20.34	19.20

Content distribution

Documents (files, items, url) (client-sided)

(average/day)	Sem1 12-13	Sem2 12-13	Sem1 13-14	Sem2 13-14	Wilcoxon test (Sem 1)	Wilcoxon test (Sem 2)
Add File	24	18	32	21	p <.05	p >.05
View File	964	988	1087	1061	p >.05	p >.05
Add/Edit Item	118	93	129	91	p >.05	p >.05
Add/edit URL	8	7	9	6	p >.05	p >.05
% View Files/Avarage login	10%	11%	13%	11%		

Documents (average/day)
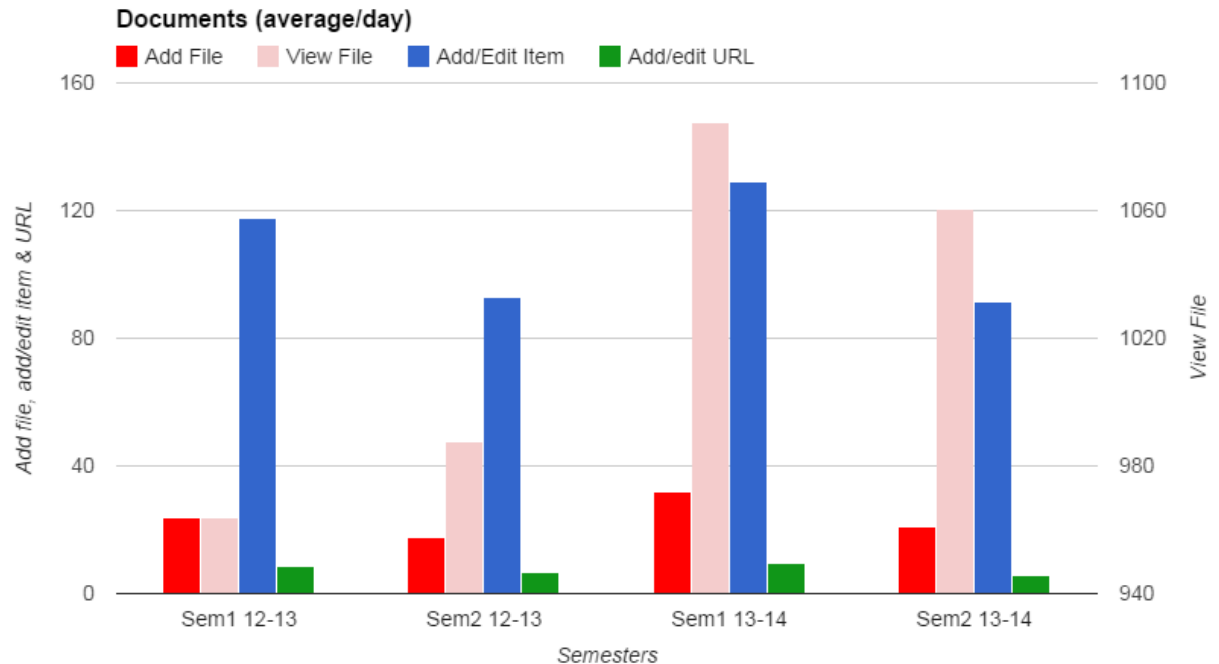
Content distribution

Multimedia files (image, audio, video) (client-sided)

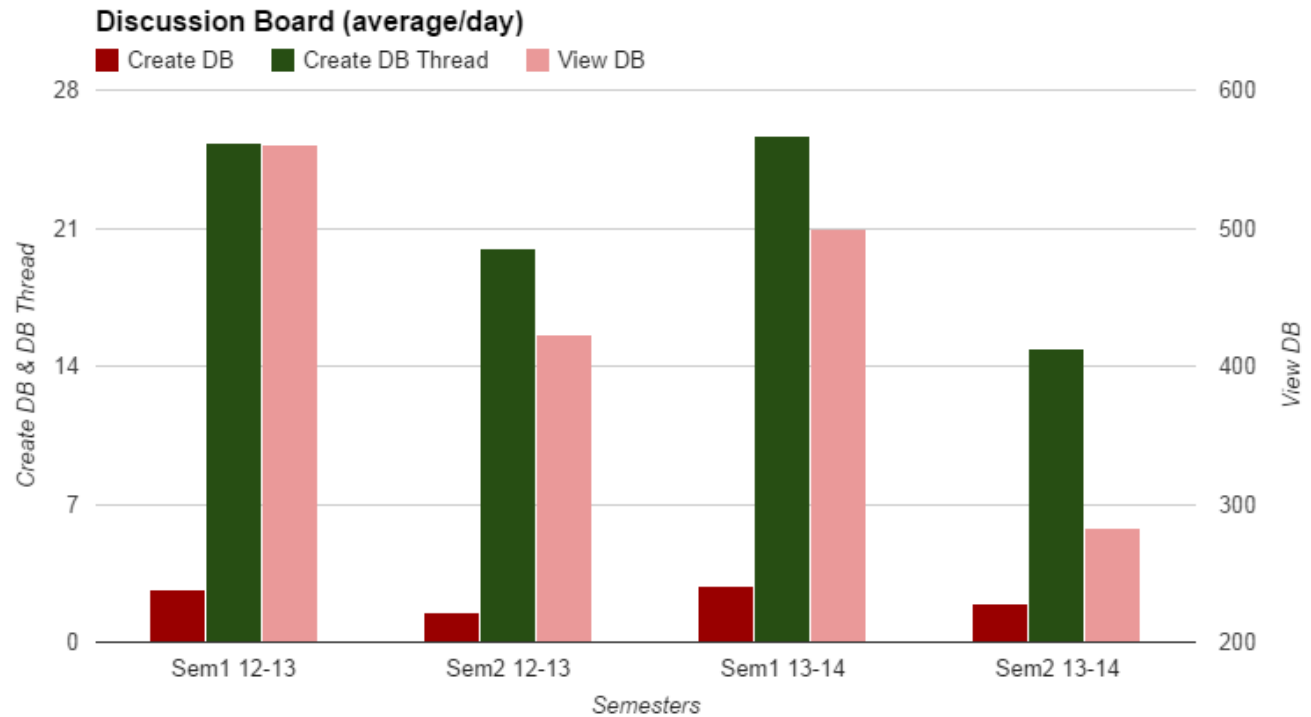| (average/day)	Sem1 12-13	Sem2 12-13	Sem1 13-14	Sem2 13-14	Wilcoxon test (Sem 1)	Wilcoxon test (Sem 2)
Add/edit Image File	0.7	0.3	0.5	0.6	p >.05	p <.05
Add/edit Audio File	0.4	0.3	0.5	0.3	p >.05	p >.05
Add/edit Video File	1.1	0.5	1.2	0.8	p <.05	p >.05

Mashups links (Flickr, Slideshare, YouTube) (client-sided)

(average/day)	Sem1 12-13	Sem2 12-13	Sem1 13-14	Sem2 13-14	Wilcoxon test (Sem 1)	Wilcoxon test (Sem 2)
Add Flickr Image	0.1	0.1	0.0	0.1	p <.05	p >.05
Add Slideshare presentation	0.2	0.0	0.1	0.1	p <.05	p <.05
Add YouTube Video	1.3	0.7	1.6	1.5	p <.05	p <.05

Content creation

Discussion Board (client-sided)

(average/day)	Sem1 12-13	Sem2 12-13	Sem1 13-14	Sem2 13-14	Wilcoxon test (Sem 1)	Wilcoxon test (Sem 2)
Create Discussion Board	3	2	3	2	p >.05	p >.05
Create Discussion Board Thread	25	20	26	15	p >.05	p <.05
View Discussion Board	561	423	500	283	p <.05	p <.05
% View DB/average login/day	5.8%	4.8%	5.8%	3.0%		

Discussion Board (average/day)

Content creation

Blogs & Wikis (client-sided)

(average/day)	Sem1 12-13	Sem2 12-13	Sem1 13-14	Sem2 13-14	Wilcoxon test (Sem 1)	Wilcoxon test (Sem 2)
Create Blog	0.2	0.2	0.3	0.1	p >.05	p >.05
Add/edit Blog Entry	8	6	13	16	p <.05	p <.05
Create Wiki	0.2	0.3	0.5	0.2	p <.05	p >.05
View Wiki	15	12	23	40	p <.05	p <.05
Modify Wiki Page	3.6	3.3	5.2	10.9	p >.05	p <.05

Blogs & Wiki's (average/day)
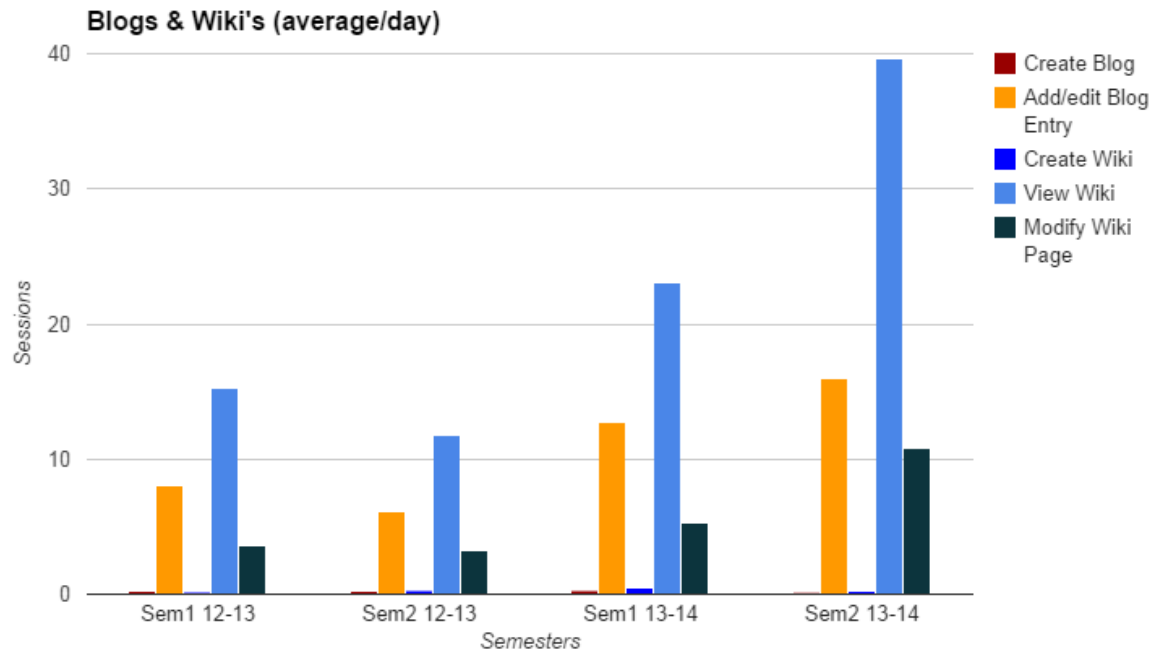
Assignment and assessment

e-Assignments & Tests (client-sided)

(average/day)	Sem1 12-13	Sem2 12-13	Sem1 13-14	Sem2 13-14	Wilcoxon test (Sem 1)	Wilcoxon test (Sem 2)
Add Bb Assignment	2.3	2.1	4	3.3	$p < .05$	$p < .05$
Review Bb Assignment	55	41	-	-	-	-
(re)View/upload Bb Assignment	-	-	146	150	-	-
Add Turnitin	8	9	11	13	$p < .05$	$p < .05$
View/Submit Turnitin	637	674	565	1403	$p > .05$	$p < .05$
% View Submit Turnitin/average login	7%	8%	7%	15%		
Add Bb Test	3	1	4	2	$p < .05$	$p < .05$
Start Bb Test	278	163	184	148	$p < .05$	$p > .05$

Assignment (Turnitin)

Submissions & grading Turnitin (third party stats)

(total papers)	Sem1 12-13	Sem2 12-13	Sem1 13-14	Sem2 13-14
Turnitin Submissions	39398	42369	36363	48831
Turnitin Grade paper	754	1343	11085	37279

Turnitin submitted papers & Grade papers
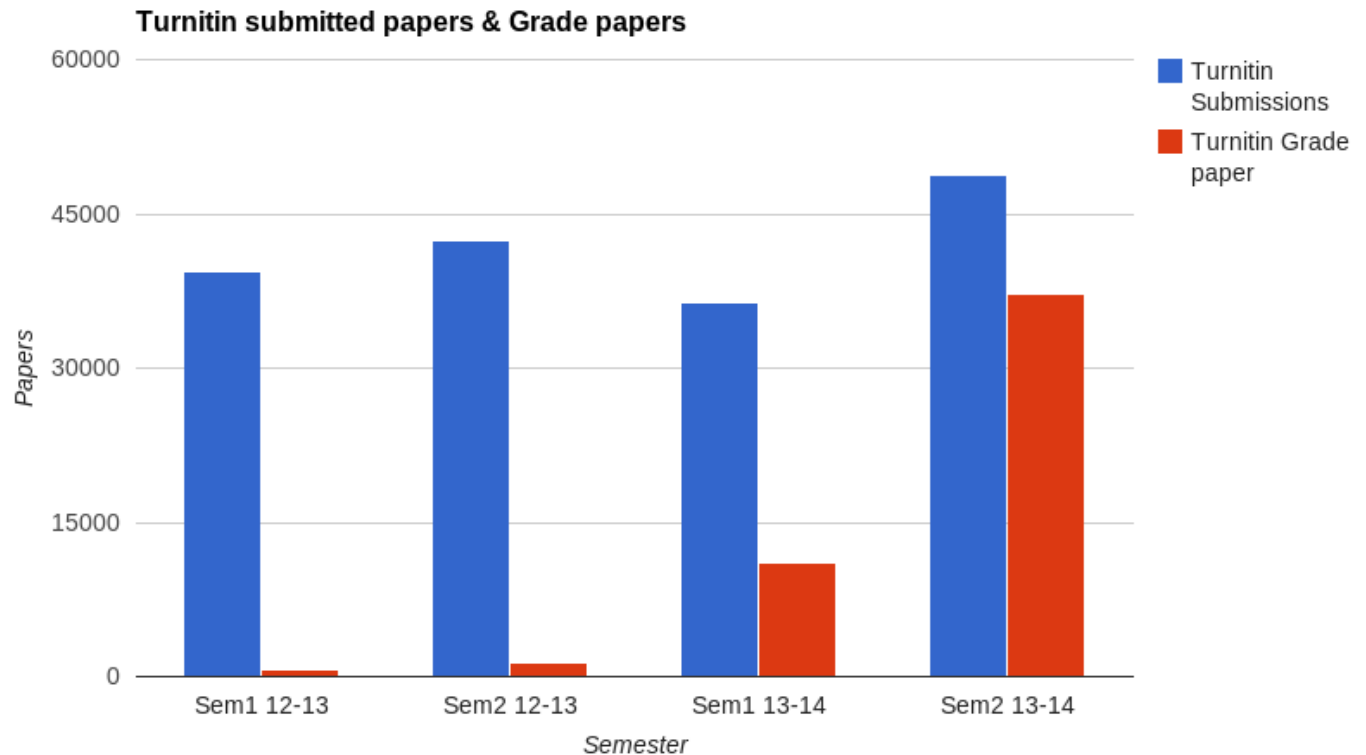
Conclusion & Discussion

RAF

Increase content distribution first semester

Increase content creation?

Degrees objective test assignment

Increase assignments

e-SMF

Degrees objective test assignment

Increase assignments

Strong increase online marking

Discussion

Educational policies

Interference of two policies

(In)Direct policy intervention on academic practice

Sustainability, data collection changes slightly with each change/upgrade

Data consistency, comparison client-sided with server-sided data

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