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SOLAR
SOCIETY for LEARNING ANALYTICS RESEARCH

Learning analytics and MOOCs:
What have we learned so far and where to go?

Dragan Gašević
@dgasevic

January 9, 2015

MOOCs innovation

Learning at scale

Feedback loops between students and instructors are weak/missing!

Hattie, J., & Timperley, H. (2007). The power of feedback. Review of educational research, 77(1), 81-112.

LEARNING ANALYTICS

Learners

Educators

MOOC Platform

Learners

Networks

Search

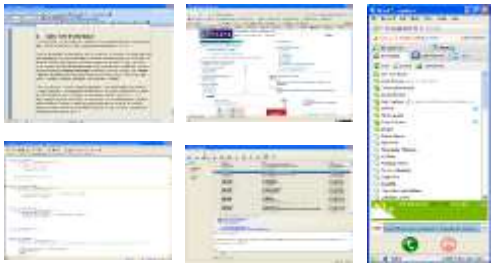
Blogs

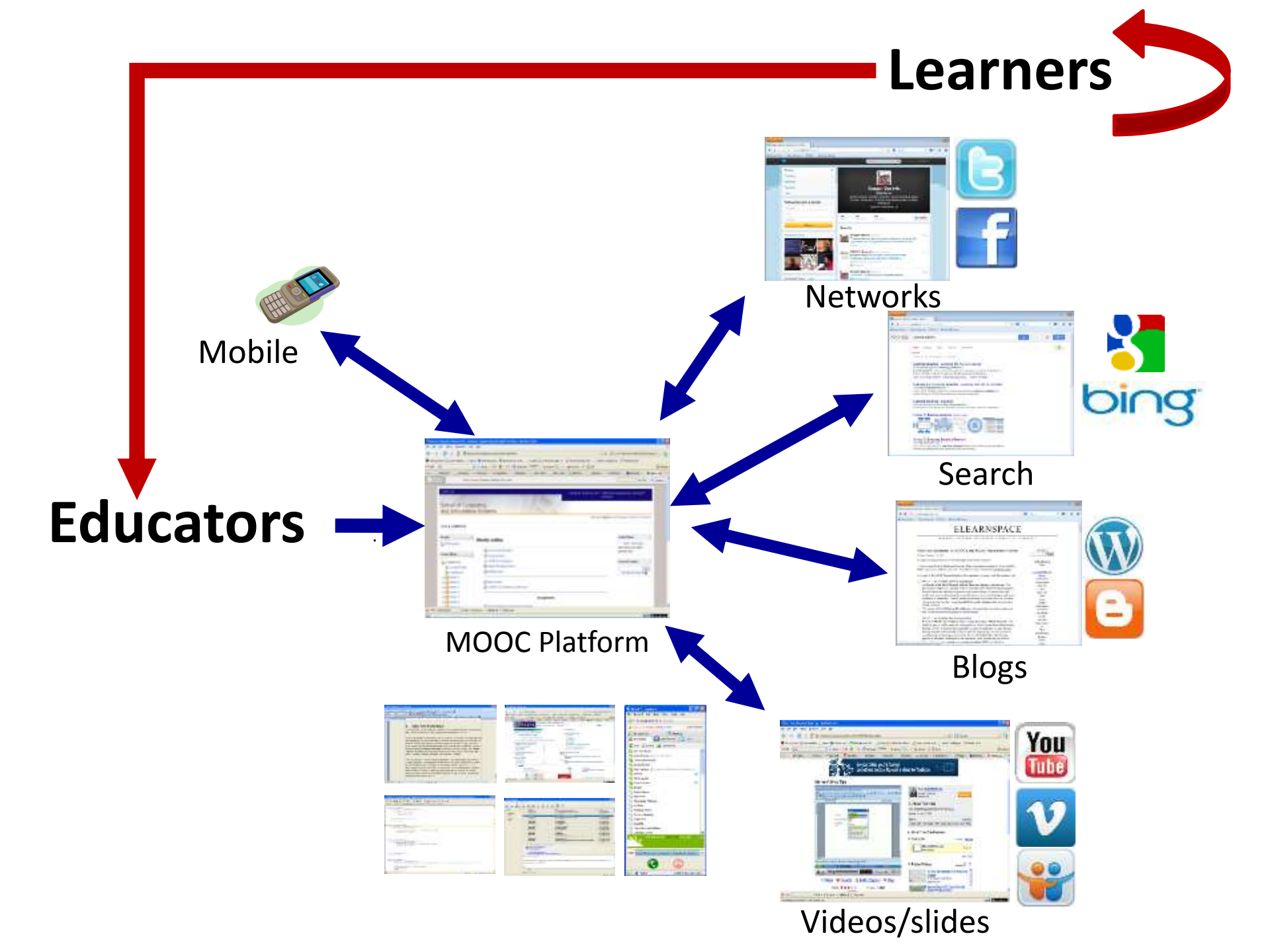
Videos/slides

Mobile

Educators

MOOC Platform

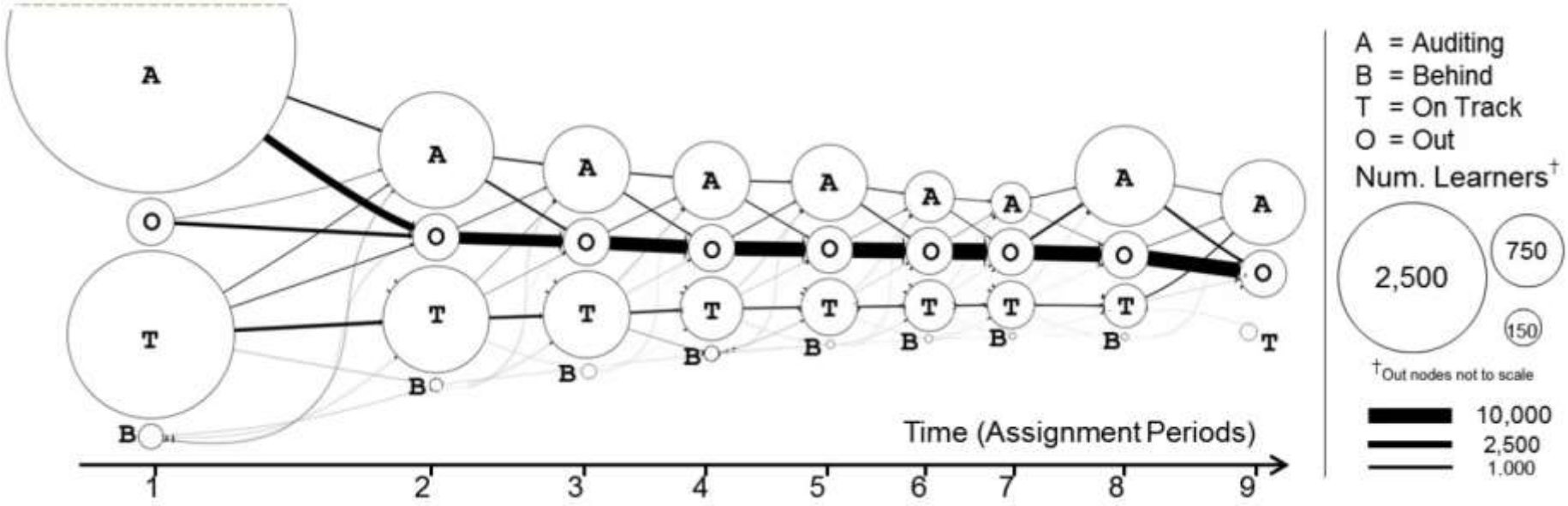



Learners
Networks
Mobile
Search
Educators
MOOC Platform
ELEARNSPACE
Blogs
Videos/slides

Prediction of attrition and performance

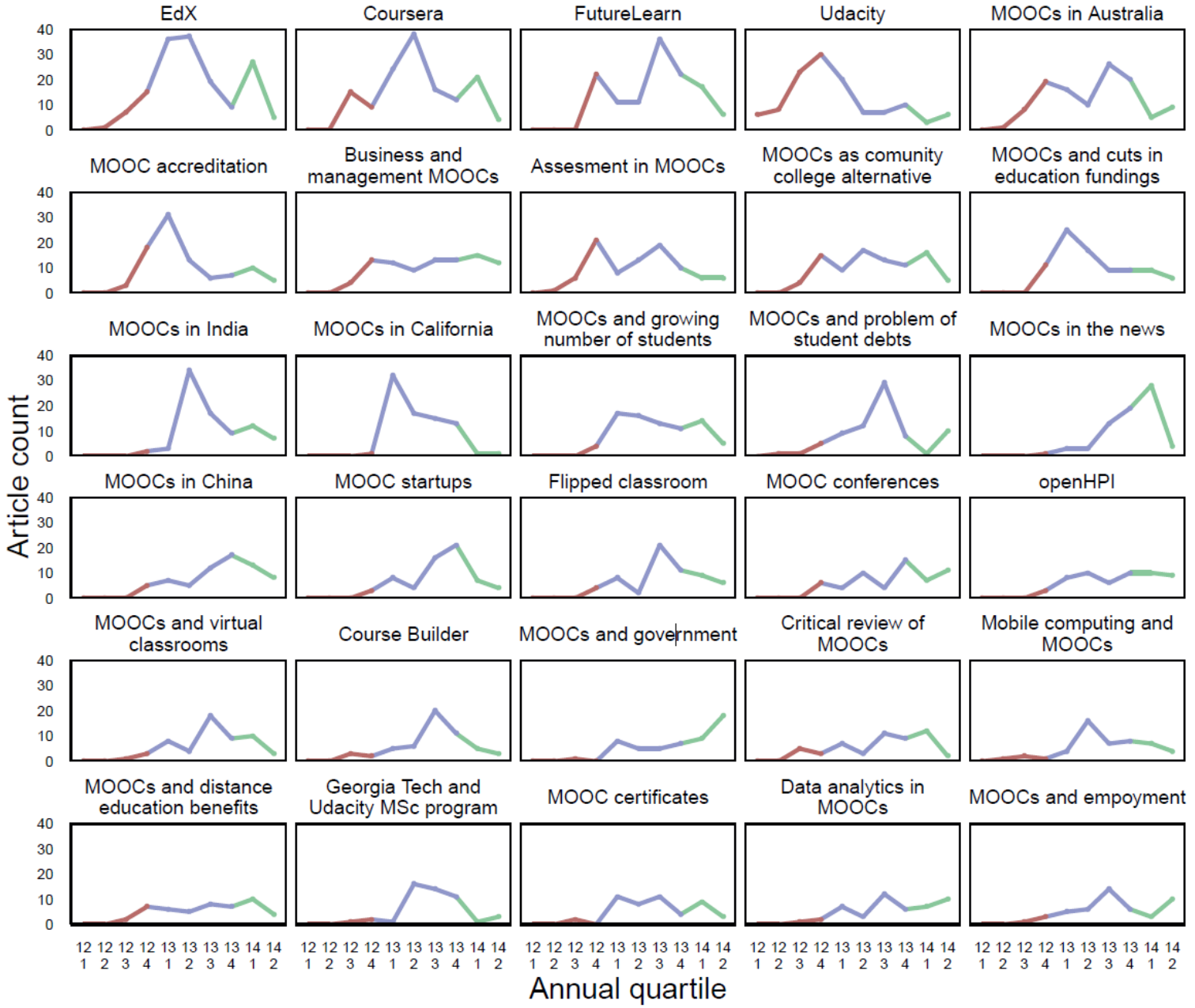
Arnold, K. E., & Pistilli, M. D. (2012, April). Course Signals at Purdue: Using learning analytics to increase student success. In *Proceedings of the 2nd International Conference on Learning Analytics and Knowledge* (pp. 267-270).

Learner subpopulations in MOOCs



Kizilcec, R. F., Piech, C., & Schneider, E. (2013). Deconstructing disengagement: analyzing learner subpopulations in massive open online courses. In *Proceedings of the Third International Conference on Learning Analytics and Knowledge* (pp. 170-179). ACM.

Dow Jones & Company's Factiva: 3,958 articles (Jan 2012 – Jun 2014)



Kovanović, V., Joksimović, S., Gašević, D., Siemens, G., & Hatala, M. (2014). What public media reveals about MOOCs? *Submitted for Publication to British Journal of Educational Technology*.

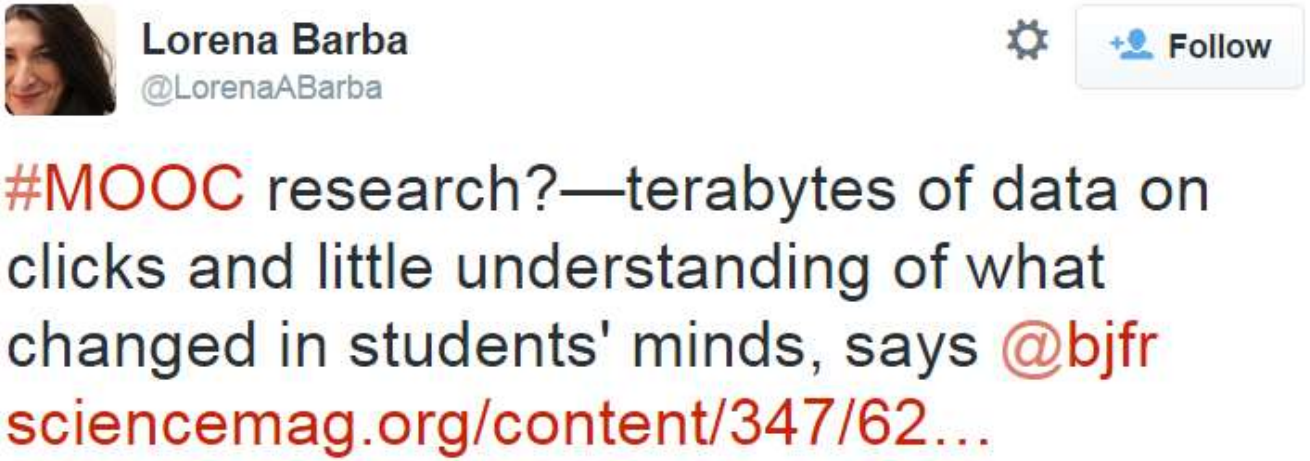
What do researchers plan?

Theme	Size	Accepted funding	Authors avg. (SD)	Citations avg. (SD)	Major Fields	Qualitative	Mixed	Quantitative
Cluster 1 Engagement and Learning Success	14	6 (42.9 %)	2.2 (1.3)	15.0 (9.8)	Education (14) Computer Science (4) Engineering(3)	1	3	10
Cluster 2 MOOC Design and Curriculum	14	2 (14.3 %)	2.9 (2.1)	20.2 (13.7)	Education (19) Computer Science (7) Engineering(4)	3	5	6
Cluster 3 Self-Regulated Learning and Social Learning	15	6 (40.0 %)	2.3 (0.9)	21.7 (9.2)	Education(25) Computer Science (3)	8	6	1
Cluster 4 SNA and Networked Learning	19	9 (47.4 %)	2.1 (0.8)	20.7 (15.6)	Education (23) Computer Science (5)	2	12	5
Cluster 5 Motivation, Attitude and Success Criteria	16	5 (31.2 %)	2.8 (1.1)	23.1 (9.2)	Education (25) Engineering (5) Social Sciences(4)	5	7	4
Total	78	28 (35.8 %)						

Gašević, D., Joksimović, S., Kovanović, V., G. Siemens (2014). Where is research on massive open online courses headed? A data analysis of the MOOC Research Initiative. *The International Review of Research in Open and Distance Learning*, 15(5), 134-176.

Is this is all
learning analytics can offer?

DIRECTIONS



Reich, J. (2015). Rebooting MOOC research - Improve assessment, data sharing, and experimental design. *Science. 347(6217),* 30-31, http://bit.ly/1s3b5kS

Counts don’t count much if decontextualized

Wilson, T.D. (1999). Models in information behaviour research. *Journal of Documentation*, 55(3), 249 – 270.

Better data collection is needed

Gašević, D., Dawson, S., Siemens, G. (2015). Let's not forget: Learning analytics are about learning. *TechTrends*, 59(1), 64-71, https://bit.ly/techtrends15

Analytics to account for conditions, operations, products, evaluation, and standards (COPES)

Gašević, D., Dawson, S., Siemens, G. (2015). Let's not forget: Learning analytics are about learning. *TechTrends*, 59(1), 64-71, https://bit.ly/techtrends15

Scaling up qualitative analysis

Text analysis and mining

Yang, D., Wen, M., Kumar, A., Xing, E. P., & Rose, C. P. (2014). Towards an integration of text and graph clustering methods as a lens for studying social interaction in MOOCs. *The International Review of Research in Open and Distributed Learning*, *15*(5), 214-234.

Process nature of learning

- beyond coding and counting -

Life-long and ubiquitous learner profiles

Visualizations can be harmful

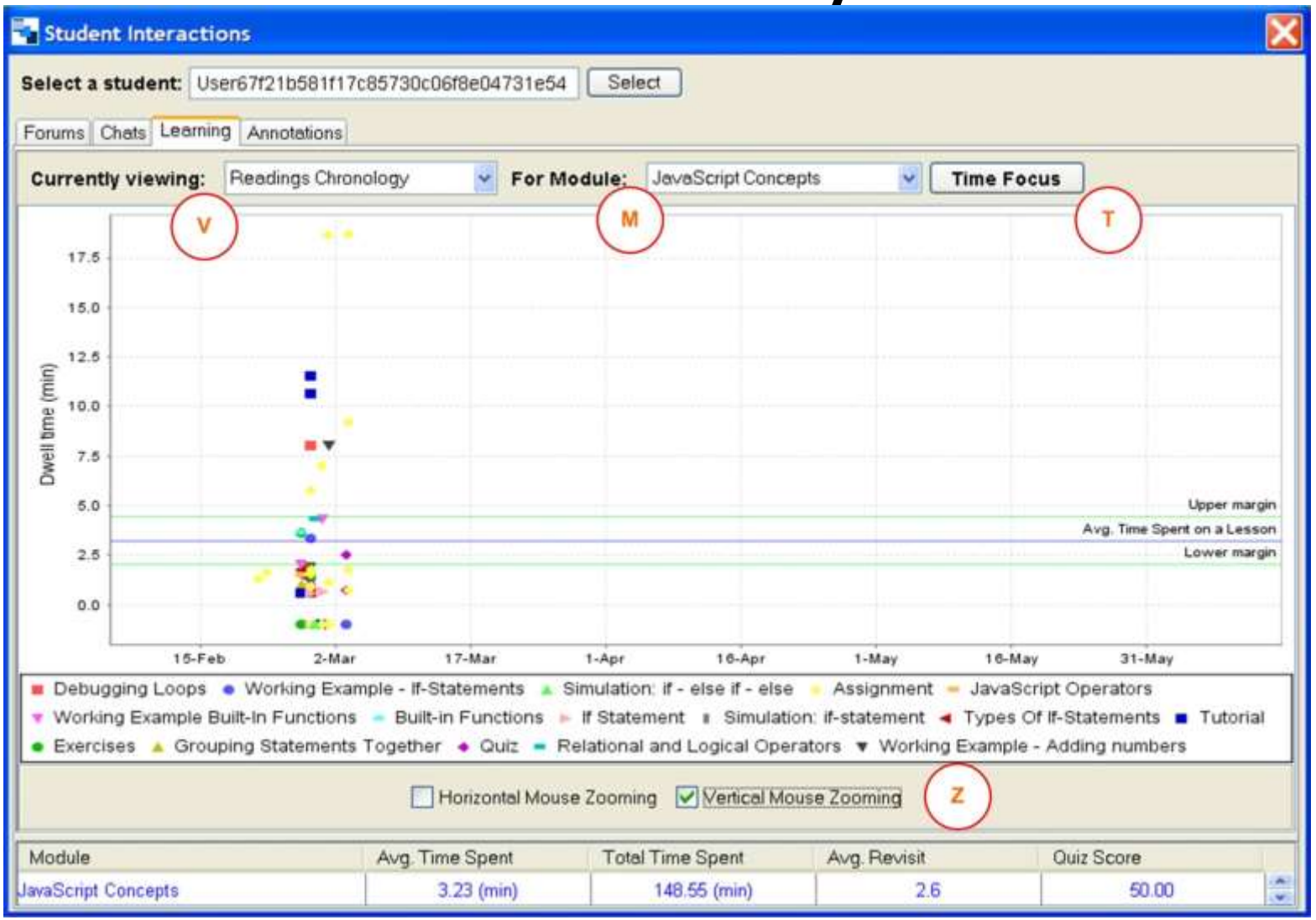
Corrin, L., & de Barba, P. (2014). Exploring students' interpretation of feedback delivered through learning analytics dashboards. *In Proceedings of the ascilite 2014 conference* (pp. 629-633). *ascilite*.

Visualizations can be useful

if embedded into and fit learning tasks

if based on and support COPES

LOCO-Analyst



Learning activities don’t happen in a single platform

Ethical and privacy consideration

More robust methods and data sharing approaches

Reich, J. (2015). Rebooting MOOC research - Improve assessment, data sharing, and experimental design. *Science. 347(6217),* 30-31, http://bit.ly/1s3b5kS

Thank you!