

# Daniel J. Davis

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## EDUCATION

**Delft University of Technology**  
Ph.D. in Computer Science, Large-Scale Learning Analytics

**Delft, the Netherlands**  
Expected Early 2019

**Georgetown University**  
M.A. in Communication, Culture & Technology  
Education Technology Concentration

**Washington, D.C.**  
Graduated May 2015

**Assumption College**  
B.A. English, Concentration in Writing & Mass Communications  
Minor in Graphic Design

**Worcester, Massachusetts**  
Graduated May 2013  
with honors: cum laude

## RESEARCH INTERESTS

My research uses and advances learning analytics techniques in open, online education at scale by pushing the boundaries towards personalized & adaptive learning environments. I develop methods to gain a deeper understanding about how the design of online learning environments affects learner success and engagement, often by implementing and testing instructional interventions at scale using randomized controlled experiments.

## PUBLICATIONS

- Davis, D., Chen, G., Hauff, C., Houben, G.J.** (2018) Activating Learning at Scale: A Review of Innovations in Online Learning Strategies. *Computers & Education*. Volume 125, Pages 327-344.
- Davis, D., Hauff, C., Houben, G.J.** (2018) Evaluating Crowdworkers as a Proxy for Online Learners in Video-Based Learning Contexts. In *Proceedings of the 21<sup>st</sup> ACM Conference on Computer-Supported Cooperative Work and Social Computing, CSCW '18*.
- Davis, D., Triglianios, V., Hauff, C., Houben, G.J.** (2018) SRLx: An Personalized Learner Interface for MOOCs. In *Proceedings of the 13th European Conference on Technology-Enhanced Learning, EC-TEL '18*.
- Davis, D., Seaton, D., Hauff, C., Houben, G.J.** (2018) Toward Large-Scale Learning Design: Categorizing Course Designs in Service of Supporting Learning Outcomes. In *Proceedings of the Fifth Annual ACM Conference on Learning at Scale, L@S '18*.
- Davis, D., Kizilcec, R.F., Hauff, C., Houben, G.J.** (2018) The Half-Life of MOOC Knowledge: A Randomized Trial Evaluating the Testing Effect in MOOCs. In *Proceedings of 8th International Conference on Learning Analytics and Knowledge, LAK '18*.
- Van der Zee, T., **Davis, D.**, Saab, N., Giesbers, B., Ginn, J., van der Sluis, F., Paas, F., Admiraal, W. (2018) Evaluating Retrieval Practice in a MOOC: How writing and reading summaries of videos affects student learning. In *Proceedings of 8th International Conference on Learning Analytics and Knowledge, LAK '18*.
- Bodily, R., Kay, J., Aleven, V., **Davis, D.**, Jivet, I., Xhakaj, F., Verbert, K. (2018) Open learner models and learning analytics dashboards: A systematic review. In *Proceedings of 8th International Conference on Learning Analytics and Knowledge, LAK '18*.
- Khalil, M., **Davis, D.**, Wong, J. (2018) Gamification in MOOCs: A General Overview. In *Open Education Global Conference, OE Global '18*.
- Seaton, D., Davis, D. (2018) Toward Large-Scale Learning Design: Categorizing Course Designs in Service of Supporting Learning Outcomes. In *HybridEd Workshop*. 2018
- Zhao, Y., **Davis, D.**, Chen, G., Lofi, C., Hauff, C., Houben, G.J. (2017) Certificate Achievement Unlocked: Exploring MOOC Learners' Behaviour Before & After Passing. In *Proceedings of the 25th Conference on User Modeling, Adaptation and Personalization, UMAP '17*
- Pardos, Z., Tang, S., **Davis, D.**, Le, C.V. (2017) Enabling Real-Time Adaptivity in MOOCs with a Personalized Next-Step Recommendation Framework. In *Proceedings of the Fourth Annual ACM Conference on Learning at Scale, L@S '17*.
- Davis, D.**, Jivet, I., Kizilcec, R.F., Chen, G., Hauff, C., Houben, G.J. (2017) Follow the Successful Crowd: Raising MOOC Completion Rates through Social Comparison at Scale. In *Proceedings of 7th International Conference on Learning Analytics and Knowledge, LAK '17*.

- Chen, G., **Davis**, D., Krause, M., Aivaloglou, E., Hauff, C., Houben, G.J. (2017) Buying Time: Enabling Learners to become Earners with a Real-World Paid Task Recommender System. In *Proceedings of 7th International Conference on Learning Analytics and Knowledge*, LAK '17.
- Chen, G., **Davis**, D., Krause, M., Aivaloglou, E., Hauff, C., Houben, G.J. (2016) Can Learners be Earners? Investigating a Design to Enable MOOC learners to Apply their Skills and Earn Money in an Online Market Place. In *IEEE Transactions on Learning Technologies* (TLT).
- Davis**, D., Chen, G., van der Zee, T., Hauff, C., Houben, G.J. (2016) Retrieval Practice and Study Planning in MOOCs: Exploring Classroom-Based Self-Regulated Learning Strategies at Scale. In *Proceedings of the 11th European Conference on Technology-Enhanced Learning*, EC-TEL '16. **\*Best Student Paper Award**
- Davis**, D., Chen, G., Hauff, C., Houben, G.J. (2016) Gauging MOOC Learners' Adherence to the Designed Learning Path. In *Proceedings of the Ninth International Conference on Educational Data Mining*, EDM '16.
- Chen, G., **Davis**, D., Hauff, C., Houben, G.J. (2016) On the Impact of Personality in Massive Open Online Learning. In *Proceedings of the 24<sup>th</sup> Conference on User Modeling, Adaptation, and Personalization*, UMAP '16.
- Chen, G., **Davis**, D., Hauff, C., Houben, G.J. (2016) MOOC Learners in Social Web Platforms. In *Proceedings of the Eighth International ACM Web Science Conference*, WebSci '16.
- Davis**, D., Chen, G., Jivet, I., Hauff, C., Houben, G.J. (2016) Encouraging Metacognition & Self-Regulation in MOOCs through Increased Learner Feedback. In *the Sixth International Learning Analytics & Knowledge Conference*, LAK '16, Learning Analytics for Learners Workshop.
- Chen, G., **Davis**, D., Hauff, C., Houben, G.J. (2016) Learning Transfer: Does it take place in MOOCs?. In *Proceedings of the Third Annual ACM Conference on Learning at Scale*, L@S '16. **\*Best Paper Honorable Mention**
- van Staaldin, J.P., **Davis**, D., Topolovec, S. (2016) Opening University Education to the World and Improving Education: Using MOOC-based Research as a Tool for Innovation. In *Proceedings of the 9th annual International Conference of Education, Research and Innovation*, ICERI 2016.
- Davis**, D., Chen, G., Hauff, C., Houben, G.J. (2015) Identifying Trigger Events in MOOCs. In *the Second GESIS Computational Social Science Winter Symposium*.
- Davis**, D., Hanacek, J., Myers, A., Mulrone, S., Vovides, Y. (2015) Capturing, Tracing, and Visualizing the Spread of Technology-Enhanced Instructional Strategies. In *Proceedings of the Seventh International Conference on Education and New Learning Technologies*, EDULEARN '15.
- Davis**, D. (2015) Mapping Student Activity Data to the Visual Display of Online Learning Environments. Georgetown University Master's Thesis. Defended May 2015.
- Davis**, D. (2015) The First Comprehensive MOOC Manifesto. In *Proceedings of the 15<sup>th</sup> STGlobal Conference on Science & Technology in Society*, STGlobal '15.
- Vovides, Y., Youmans, T., Arthur, P., **Davis**, D., Ayo, E., Pongsajapan, R., McWilliams, M., Kruse, A., (2015) Examining Learners Cognitive Presence in MOOCs. In *the Fifth International Learning Analytics & Knowledge Conference*, LAK '15, Learning Analytics Review Workshop.
- Vovides, Y., **Davis**, D., Kruse, A., Pongsajapan, R., Youmans, T., Maloney, E. J. (2014) GeorgetownX: Applying an Integrative Learning Analytics Design Approach. In *EDUCAUSE Annual Conference*, EDUCAUSE '14.

## PROFESSIONAL SERVICES

**Reviewer**, Computers & Education

**Reviewer**, Journal of Learning Analytics

**Reviewer**, ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW) 2018

**Reviewer**, IEEE Journal of Transactions on Learning Technologies

**Program Committee Member**, International Learning Analytics & Knowledge Conference (LAK) 2018,19

**Program Committee Member**, European Conference on Technology-Enhanced Learning (EC-TEL) 2018

**Program Committee Member**, Open Education Global Conference (OE Global) 2018

**Sub-Reviewer**, 18th International Conference on Artificial Intelligence in Education (AIED) 2017

**Program Committee Member**, European MOOC Stakeholders Summit (eMOOCs) Conference (2017)

**Program Committee Member**, LAK '17 Conference Workshop on FutureLearn data: what we currently have, what we are learning and how it is demonstrating learning in MOOCs (2017)

## INVITED TALKS

**Arizona State University**, Action Lab at EdPlus, talk & facilitated discussion on connecting the course structure of MOOCs to learning outcomes (August 2018)

**Arizona State University**, EdPlus, presentation on the effectiveness of a series of large-scale instructional interventions (July 2018)

**Harvard University**, CharlesRiverX Talk Series, talk on connecting the course structure of MOOCs to learning outcomes (July 2018)

**Early Career Cross-Community Event**, London Festival of Learning, presenting poster of Large-Scale Learning Design work (June 2018)

**Technologies for Digital Learning Lab (T4D)**, Pontificia Universidad Católica de Chile, talk on open science and knowledge retention in MOOCs (December 2017)

**Learning & Student Analytics Conference (LSAC)**, Vrije Universiteit Amsterdam / Amsterdam Center for Learning Analytics; talk on goal setting in MOOCs (October 2017)

**Kennedy Institute of Ethics**, Georgetown University, talk on fostering positive collaboration in large-scale online learning environments (September 2017)

**Centre for Education & Learning: Innovation Room**, Erasmus University Rotterdam, the Netherlands; talk on Adaptive MOOC Learner Support Systems (June 2017)

**LAK '17 Workshop** on Integrated Learning Analytics of MOOC Post-Course Development, on looking beyond the MOOC platform in the social web for insights about MOOC learners (March 2017)

**edX**, Adaptive & Personalized Learner Support Systems in the edX Platform (January 2017)

**Columbia University Teachers College**, Baker EDM Lab Learning Analytics Seminar: Exploring the Role of Learners' Cultural Background in MOOCs (January 2017)

**Massachusetts Institute of Technology (MIT)**, Office of Digital Learning, talk on raising MOOC completion rates through social comparison at scale (January 2017)

**TU Delft**, Christiaan Huygens Career College Panel, informing Bachelors and Masters students on the decision to pursue PhD research (December 2016)

**Harvard University**, HarvardX & VPAL, talk on analyzing learning pathways through MOOCs (August 2016)

**Worcester Polytechnic Institute (WPI)**, ASSISTments Lab, talk on experimentation with scalable, adaptive feedback in MOOCs (August 2016)

**Centre for Education & Learning: Innovation Room**, Erasmus University Rotterdam, the Netherlands; talk on Gauging MOOC Learners' Adherence to the Designed Learning Path (January 2016)

## WORKSHOPS ORGANIZED

Wang, Y., **Davis**, D., Chen, G., Paquette, L. (March 2017) Integrated Learning Analytics of MOOC Post-Course Development Workshop. In *Proceedings of 7th International Conference on Learning Analytics and Knowledge*, LAK '17.

Hauff, C., **Davis**, D., Chen, G., Aly, A. (November 2016) 15<sup>th</sup> International Dutch-Belgian Information Retrieval Workshop. TU Delft, the Netherlands

van der Zee, T., **Davis**, D., Pouw, W. (January 2016) High quality PhD Research: Reproducibility, Credibility and Validity. Erasmus University Rotterdam, the Netherlands

## GRANTS & PROJECTS

**Successful transition for secondary to higher education using learning analytics (STELA)**. Co-Funded by the Erasmus+ Programme of the European Union

## TEACHING EXPERIENCE

**Georgetown University LDES 504 Intro to Learning Analytics**  
♦ *Co-Instructor*

**Delft University of Technology Master's Course on Web Science and Engineering**

- ♦ *Teaching Assistant*

**Delft University of Technology Master's Seminar on Web Information Systems**

- ♦ *Teaching Assistant (2015, 2017)*

**Georgetown University CCTP 505: Intro to Interdisciplinary Studies**

- ♦ *Lead Teaching Assistant, Technology & Discussion*

**Georgetown University [INFX 523](#): Globalization's Winners and Losers**

- ♦ *Teaching Assistant*

**Georgetown University [CCTP 798](#): Key Concepts in Technology & How to Use Them**

- ♦ *Teaching Assistant*

**Georgetown University CCTP 850: Digital Presence & Strategic Persuasion**

- ♦ *Teaching Assistant, Instructional Design*

**RESEARCH  
MENTORING**

Ioana Jivet: MSc student in Software Technology;  
Master's Thesis advisor; "Encouraging Metacognition & Self-Regulation in MOOCs with Learner Feedback"

**EMPLOYMENT**

**Center for New Designs in Learning and Scholarship (CNDLS)**

*Visiting Researcher*

**Washington, D.C.**

Summer 2017

**Center for New Designs in Learning and Scholarship (CNDLS)**

*Graduate Researcher, Learning Analytics & Design*

**Washington, D.C.**

August 2014-May 2015

**Prof. Martin Irvine's "Key Concepts of Technology" Course**

*Course Environment Designer & Teaching Assistant*

**Washington, D.C.**

January 2014-January 2015

**Kennedy Institute of Ethics (KIE) [PHLX101](#)**

*Core MOOC Production Team*

*Instructional & Graphic Designer*

**Washington, D.C.**

November 2013-May 2015

**Georgetown University Information Services (UIS)**

*Graphic Designer, New Media Consultant*

**Washington, D.C.**

October 2013-September 2014

**National Education Association (NEA)**

*Campaigns & Elections*

**Washington, D.C.**

September 2013-December 2013

**ADDITIONAL  
ACTIVITIES**

**Society for Learning Analytics Research (SoLAR)**

- ♦ Member: Education Committee

March 2018 –

**Pontificia Universidad Católica de Chile, T4D Lab**

- ♦ Visiting Researcher

Winter 2017

**Carnegie Mellon LearnLab Summer School**

- ♦ Computer-Supported Collaborative Learning (CSCL) track

Summer 2016

**Georgetown University Graduate Student Organization**

- ♦ Director of Technology & Web Development

August 2014 – May 2015

**GeorgetownX Design Innovation Group**

- ♦ Leader (2014-2015 Academic Year)

January 2014 – May 2015

**Designing the Future(s) of the University**

- ♦ Research & Innovation

December 2013 – May 2015

**FILM  
CREDITS**

**Terrorist #4 (2018) *Art Director***

**Festival Selections:**

Arab American National Museum Film Festival (2018)

Lebanese Independent Film Festival (2018)

Southern Comedy Showcase (2018)

Houston Comedy Film Festival (2018)

Austin Comedy Short Film Festival (2018)  
Migranti Film Festival (2018)  
Unknown Film Festival (2018)  
Cefalu Film Festival (2018)  
Fort Worth Indie Film Showcase (2018)  
San Antonio Film Festival (2018)

**Oustaz** (2016) *Producer*

**Festival Selections:**

Berlin International Film Festival (2016) - **Nominated for Golden Bear**  
Festival du Film Pan-Africain de Cannes (2016)  
IndieLisboa (2016)  
Brooklyn Film Festival (2016) - **Winner, Spirit of the Festival**  
Future Shorts Summer Programme (2016)  
Kinemastik Malta (2016)  
Festival Cinémas d'Afrique (2016)  
Milan Film Festival (2016)  
Sudan Independent Film Festival (2017)

**Shukran My Totem** (2016) *Photographer*

**Festival Selections:**

Sudan Independent Film Festival (2017)

**Blink If You Can Hear Me** (2015) *Art Director*

**Festival Selections:**

DC Shorts Film Festival (2015)