Curriculum Vitae

NIA M. M. NIXON (née DOWELL)

School of Education
University of California, Irvine
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PROFESSIONAL EXPERIENCE

2019 – present	Assistant Professor School of Education University of California, Irvine
2017 – 2019	Postdoctoral Research Investigator/ Fellow School of Information University of Michigan Advised by Timothy McKay & Christopher Brooks

EDUCATION

Ph.D. in Cognitive Psychology with Cognitive Science Certificate
The University of Memphis & Institute for Intelligent Systems
Advised by Arthur Graesser
Dissertation: *A Computational Linguistic Analysis of Learners' Discourse in Computer-Mediated Group Learning Environments*

B.A. in Psychology
The University of Memphis
Honors in Psychology

HONORS/AWARDS

2021-2023	Named a 2021 Faculty Innovation Fellow (FIF) courtesy of UCI Beall Applied Innovation
2022	Named Vice President of the Society for Learning Analytics and Knowledge (SoLAR)
2020	DTEI Thank a teacher program recipient

2020	Elected to the executive committee for the Society for Learning Analytics and Knowledge (SoLAR)
2019	Best Paper Award on Conference Theme, "Education for All" at the 20th International Conference on Artificial Intelligence in Education
2016	Experimental Psychology Program Director's Award
2014	Invited Studentship: Oxford University, Center for Educational Assessment
2016	Winner of the Hermann Textual Analysis Award

Grants

2022	**National Institute of Health (NIH)** Konrad Kording, (PI, Upenn), Nia Dowell (PI on subaward, UCI) Amount Awarded: 17,000,000 Period of Grant Award: 2022-2027 Title of Project: Grassroots Rigor: Making Rigorous Research Practices Accessible, Meaningful, and Building a Community Around Them
2020	**Bill & Melinda Gates Foundation** Justin Reich (PI, MIT), Ken Koedinger (co-PI, CMU), & Nia Dowell (co-PI, UCI) Amount Awarded: 999,803 Period of Grant Award: 2020-2023 Title of Project: Learning engineering post-doctoral fellowship
2019	**National Science Foundation** Mark Warschauer (PI, UCI), Padhraic Smyth (co-PI), Sarah Eichhorn (co-PI), Di Xu (co-PI) Teomara Rutherford (co-PI), & Nia Dowell (co-PI) Amount Awarded: $2,500,000 Period of Grant Award: Sept. 2015- 2020 Title of Project: Investigating virtual learning environments (NSF 1535300)
2019	**Andrew Mellon Foundation** Richard Arum (PI, UCI), Michael Dennin (co-PI), & Nia Dowell (co-PI) Amount Awarded: $1,100,000 Period of Grant Award: Sept. 2015- 2020 Title of Project: Investigating virtual learning environments (1806-05902)

PATENTS

2021	Dowell, N. M. & Nixon, M. T. (November 7, 2021). *Computational linguistic analysis of learners' discourse in computer-mediated group learning environments*. US Patent No. US11170177B2

EDITED BOOKS

2021	Scheffel, M., Dowell, N. M., Joksimovic, S. & Siemens, G. (Eds.) *Proceedings of the 11th ACM International Conference for Learning Analytics & Knowledge Conference (LAK'11)*. New York, NY. ACM ISBN: 978-1-4503-8935-8

JOURNAL PUBLICATIONS (h-index 25)

[* denotes student first author]

Han, A., Krieger, F., Kim, S., **Nixon, N.**, Greiff, S. (in press). Revisiting the relationship between team members' personality and their team's performance a meta-analysis. *Journal of Research in Personality*.

Viberg, O., Kizilcec, R. F., Wise, A. F., Jivet, I., & **Nixon, N.** (2024). Advancing equity and inclusion in educational practices with AI-powered educational decision support systems (AI-EDSS). British Journal of Educational Technology. https://doi.org/10.1111/bjet.13507

Lin, Y*. & **Nixon, N.**, (2024). Transitioning to Online Instructions and COVID-19 Response: A View from Mining Emergent College Students Discourse in Online Discussion Forum. *International Journal of Artificial Intelligence in Education*. https://doi.org/10.1007/s40593-024-00411-3

Nixon, N. M., Lin, Y., Snow, L. (2024). Catalyzing Equity in STEM Teams: Harnessing Generative AI for Inclusion and Diversity. *Policy Insights from the Behavioral and Brain Sciences*. https://doi.org/10.1177/23727322231220356

Dowell, N. M., McKay, T., & Perrett, G. (2021). It's not that you said it, it's how you said it: Exploring the linguistic mechanisms underlying values affirmation interventions at scale. AERA Open. doi: 10.1177/23328584211011611

Schneider, B., **Dowell, N. M.**, & Thompson, K. (2021). Collaboration Analytics — Current State and Potential Futures. *Journal of Learning Analytics, 8*(1), 1-12. doi: 10.18608/jla.2021.7447

Dowell, N. M., & Poquet, O. (2021). SCIP: Identifying learner roles through group communication and interpersonal network positioning in scaled digital environments. *Computers in Human Behavi*or. doi: 10.1016/j.chb.2021.106709

Dowell, N. M., Lin, Y., & Godfrey, A., & Brooks, C. (2020). Exploring the relationship between emergent sociocognitive roles, collaborative problem- solving skills and outcomes: A Group Communication Analysis. *Journal of Learning Analytics*, 7 (1), 38-57. doi: 10.18608/jla.2020.71.4

Dowell, N. M., Nixon, T., & Graesser, A. C. (2019). Group communication analysis: A computational linguistics approach for detecting socio cognitive roles in multi-party interactions. *Behavior Research Methods*, *51*(3),1007– 1041. doi:10.3758/s13428-018-1102-z

Joksimović, S., **Dowell, N. M.,** Gašević, D., Mirriahi, N., Dawson, S., & Graesser, A. C. (2019). Linguistic characteristics of reflective states in video annotations under different instructional conditions*. Computers in Human Behavior, 96*, 211– 222. doi: 10.1016/j.chb.2018.03.003

Joksimović, S., **Dowell, N. M.**, Poquet, O., Kovanović, V., Gašević, D., Dawson, S., & Graesser, A. C. (2018). Exploring development of social capital in a CMOOC through

language and discourse. *The Internet and Higher Education*, 36, 54 – 64. doi: 10.1016/j.iheduc.2017.09.004

Joksimović, S., Poquet, O., Kovanović, V., **Dowell, N. M.**, Mills, C., Gašević, D., Dawson, S., Graesser, A., & Brooks, C. (2018). How do we model learning at scale? A systematic review of research on MOOCs. *Review of Educational Research*, *88*(1), 43 – 86. doi: 10.3102/0034654317740335

Windsor, L. C., **Dowell, N. M.**, Windsor, A., Kaltner, J., & Graesser, A. C. (2017). Leader language and survival strategies in the Arab Spring. *International Interactions*, *44*(2), 321 – 336. doi: 10.1080/03050629.2017.1345737

Dowell, N. M., Graesser, A. C., & Cai, Z. (2016). Language and discourse analysis with Coh-Metrix: Applications from educational material to learning environments at scale. *Journal of Learning Analytics, 3*(3), 72 – 95. doi: 10.18608/ jla.2016.33.5

Rubin, D. C., Deffler, S. A., Ogle, C. M., **Dowell, N. M.**, & Graesser, A. C. (2016). Participant, rater, and computer measures of coherence in posttraumatic stress disorder. *Journal of Abnormal Psychology, 125*(1), 11-25.

Dowell, N. M., & Graesser, A. C. (2015). Modeling learners' cognitive, affective, and social processes through language and discourse. *Journal of Learning Analytics, 1*(3), 183-186.

Dowell, N. M., Windsor, L., & Graesser, A. (2015). Computational linguistics analysis of leaders during crises in authoritarian regimes. *Dynamics of Asymmetrical Conflict*, *8*(3), 1-12. doi: 10.1080/17467586.2015.1038286

Windsor, L., **Dowell, N. M.**, & Graesser, A. (2014) The language of autocrats: Leaders' language in natural crises. *Risk, Hazards & Crisis in Public Policy, 5*(4), 446-467. doi: 10.1002/rhc3.12068

D'Mello, S. K., **Dowell, N. M.**, & Graesser, A. C. (2013). Unimodal and multimodal human perception of naturalistic non-basic affective states during human-computer interactions. *IEEE Transactions on Affective Computing*, *4*(4), 452-465. doi:10.1109/T-AFFC.2013.19

Dowell, N. M., & Berman, J. (2013). Therapist nonverbal behavior and perceptions of empathy, therapeutic alliance, and treatment credibility. *Journal of Psychotherapy Integration 23*(2), 158-165. doi: 10.1037/a0031421

D'Mello, S. K., **Dowell, N. M.**, & Graesser, A. C. (2011). Does it really matter whether students' contributions are spoken versus typed in an intelligent tutoring system with natural language? *Journal of Experimental Psychology: Applied, 17*(1), 1-17. doi:10.1037/a0022674

Graesser, A. C., **Dowell, N.**, & Moldovan, C. (2011). A computer's understanding of literature. *Scientific Studies of Literature, 1*(1)*,* 24-33. doi:10.1075/ssol.1.1.03gra

BOOK CHAPTERS

Dowell, N. M., & Kovanović, V. (2022). Modeling educational discourse with natural language processing. In G. Siemens, A. F. Wise, D. Gasevic, A. Merceron, & C. Lang (Eds.), Handbook of Learning Analytics (2nd ed.). SoLAR. Doi: 10.18608/hla22.011

Roscoe, R. D., Salehi, S., **Dowell, N. M**, Worsley, M., Piech, C., & Luckin, R. (2022). Inclusion and equity as a paradigm shift for artificial intelligence in education. In F. Ouyang, P. Jiao., B. M. McLaren, & A. H. Alavi (Eds.), Artificial intelligence in STEM education: The paradigmatic shifts in research, education, and technology. (pp. 359–373). Boca Raton, FL: CRC Press.

Hu, X., **Dowell, N. M.**, Zhiqiang, C., Graesser, A. C., Shi, G., Cockroft, J., & Shorter, P. (2018). Constructing Individual Conversation Characteristics Curves (ICCC) for Interactive Intelligent Tutoring Environments (IITE). In R. Sottilare, A. Graesser, X. Hu, & A. Sinatra (Eds.), *Design recommendations for intelligent tutoring systems* (Team Learning and Task work, Vol. 6, pp. 133–144). Orlando, FL: Army Research Laboratory.

Graesser, A. C., **Dowell, N. M**., Hampton, A., Lippert, A., Li, H., & Shaffer, D. W. (2018). Building intelligent conversational tutors and mentors for team collaborative problem solving: Guidance from the 2015 program for international student assessment. In J. Johnston, R. Sottilare, A. Sinatra, & S. Burke (Eds.), *Building intelligent tutoring systems for teams: What matters (Research on Managing Groups and Teams)* (pp. 173–211). England, U.K.: Emerald. doi: 10.1108/S1534-085620180000019012

Graesser, A. C., **Dowell, N. M.**, & Clewley, D. (2017). Assessing collaborative problem solving through conversational agents. In A. Von Davier, M. Zhu, & P. C. Kyllonen (Eds.), *Innovative assessment of collaboration* (pp. 65–80). Springer. Princeton, NJ. doi: 10.1007/978-3-319-33261-1_5

PUBLISHED CONFERENCE PROCEEDINGS (REVIEWED)
[* denotes student first author]

*Samadi, M., & **Nixon, N.** (2024). Cultural Diversity in Team Conversations: A Deep Dive into its Effects on Cohesion and Team Performance. In B. Paaßen and C. D. Epp, editors, *Proceedings of the 17th International Conference on Educational Data Mining*, pages 821–827, Atlanta, Georgia, USA. International Educational Data Mining Society. https://doi.org/10.5281/zenodo.12729962

*Lin, Y., Nixon, N., (2024). STEM pathways in a global online course: Are male and female learners motivated the same? *Proceedings of the 2024 ACM conference on learning@ scale*. ACM. doi.acm.org?doi=3657604.3662045

*Cai, Z., *Park, S., **Nixon, N.**, & Doroudi, S. (2024). Advancing knowledge together: Integrating large language model-based conversational AI in small group collaborative learning. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*. ACM. https://doi.org/10.1145/3613905.3650868

*Samadi, M. A., JaQuay, S., Lin, Y., Tajik, E., Park, S., & **Nixon, N.** (2024). Minds and Machines Unite: Deciphering Social and Cognitive Dynamics in Collaborative Problem Solving with AI. In *Proceedings of the 14th Learning Analytics and Knowledge Conference* (LAK '24). ACM. Kyoto, Japan.

* Chopra, H., Lin, Y., Samadi, M. A., Cavazos, J. G., Yu, R., Jaquay, S., & **Nixon, N.** (2023). Semantic Topic Chains for Modeling Temporality of Themes in Online Student Discussion Forums. In *Proceedings of the* International Educational Data Mining Society.

*Chopra, H., Lin, Y., Samadi, M., Cavazos, J., Yu, R., & Jaquay, S., **Nixon, N**. (2022). Detecting Topics and Trends of Student Discourse across the Pandemic in Online Discussion Forum. In *Proceedings of the 23rd International Conference on Artificial Intelligence in Education*. ACM. https://doi.org/10.1007/978-3-031-11647-6_91

Tsai, Y., Peffer, M., Shibani, A., Hilliger, I., Bodong, C, Fan, Y., Kaliisa, R., Dowell, N. M., & Knight, S. (2022) Writing for Publication: Engaging Your Audience. In *Proceedings of the 12th International Conference for Learning Analytics & Knowledge Conference.* ACM.

*Samadi, M., Cavazos, J., Lin, Y., & **Nixon, N.** (2022). Exploring Cultural Diversity and Collaborative Team Communication through a Dynamical Systems Lens. In A.

Mitrovic and N. Bosch, (Eds.) *Proceedings of the 15th International Conference on Educational Data Mining,* pages 263–275. International Educational Data Mining Society. https://doi.org/10.5281/zenodo.6853083

* Lin, Y., **Dowell, N. M.,** & Godfrey, A. (2021). Skills matter: Modeling the relationship between decision-making processes and collaborative problem-solving skills during Hidden Profile tasks. In Dowell, N; Scheffel, M., Joksimovic, S. & Siemens, G. (Eds.) *Proceedings of the 11th International Conference for Learning Analytics & Knowledge Conference.* (p. 428-437). ACM.

*Lin, Y., Yu, R. & **Dowell, N. M.** (2020). LIWCs the Same, Not the Same: Gendered Linguistic Signals of Performance and Experience in Online STEM Courses. In Bittencourt I., Cukurova M., Muldner K., Luckin R., Millán E. (Eds.) *Proceedings of the 21st International Conference on Artificial Intelligence in Education*. Lecture Notes in Computer Science, vol 12163, (p. 333-345). Ifrane Morocco: Springer, Cham. doi: 10.1007/978-3-030-52237-7_27 [26% acceptance rate]

Kizilcec, R., Brooks, C., & **Dowell, N. M.** (2020). Designing inclusive learning environments at scale. *Proceedings of the Seventh (2020) ACM Conference on Learning @ Scale.* (pp. 225–228). Cambridge, M.A.: ACM doi: 10.1145/3386527.3405935

Brooks, C., Davis, D., **Dowell, N. M.**, Gardner, J., Necamp, T., Poquet, O., Kizilcec, R., & Williams, J. (2019). Diving in to educational experiments: Process, evaluation, and reasoning in support of learning (DEEPER Support of Learning). In D. Azcona & R. Chung (Eds.), *Proceedings of the 9th International Conference for Learning Analytics & Knowledge* (pp. 728–731). Temple, AZ: SoLAR.

*Choi, H., **Dowell, N. M.**, Brooks, C., & Teasley, S. D. (2019). Social comparison in MOOCs: Perceived SES, opinion, and message formality. In D. Azcona & R. Chung (Eds.), *Proceedings of the 9th International Conference for Learning Analytics & Knowledge* (pp. 160–169). Temple, AZ: ACM. [29% acceptance rate]

Dowell, N. (2019). Preparing for the future: Group communication analysis as a tool to facilitate adaptive support during digitally-mediated team interactions. *In Proceedings of the 3rd International Conference on AI + Adaptive Education*, xx–xx. Beijing, China.

Dowell, N. M., Lin, Y., Godfrey, A., & Brooks, C. (2019). Promoting inclusivity through time-dynamic discourse analysis in digitally-mediated collaborative learning. In B. McLaren & R. Luckin (Eds.), *Proceedings of the 20th International Conference on Artificial Intelligence in Education* (pp. 207–219). Chicago, IL: ACM. [Best Paper Award] [25% acceptance rate]

*Lin, Y., **Dowell, N. M.**, Godfrey, A., Cho, H., & Brooks, C. (2019). Modeling gender differences in intra- and interpersonal dynamics during collaborative interactions. In D. Azcona & R. Chung (Eds.), *Proceedings of the 9th International Conference for Learning Analytics & Knowledge* (pp. 431–435). Temple, AZ. doi: 10.1145/3303772.3303837 [29% acceptance rate]

*Yan, W., **Dowell, N. M.**, Holman, C., Welsh, S., Cho, H., & Brooks, C. (2018). Exploring Learner Engagement Patterns in Teach-Outs: Using Topic, Sentiment and On-topicness to Reflect on Pedagogy. In D. Azcona & R. Chung (Eds.), *Proceedings of the 9th International Conference for Learning Analytics & Knowledge* (pp. 180–184). Temple, AZ: ACM.

*Choi, H., **Dowell, N. M.**, & Brooks, C. (2018). Social comparison theory as applied to MOOC student writing: Constructs for opinion and ability. In J. Kay & R. Luckin (Eds.), *Proceedings of the 13th International Conference for the Learning Sciences* (pp. 1421–1423). London, England: ACM.

Dowell, N. M., Poquet, O., & Brooks, C. (2018). Applying group communication analysis to educational discourse interactions at scale. In J. Kay & R. Luckin (Eds.), *Proceedings*

of the of the 13th International Conference on the Learning Sciences (pp. 1815–1822). London, England. [Crossover Paper]

*Hu, J., **Dowell, N. M.**, & Brooks, C., & Yan, W. (2018). Temporal changes in affiliation and emotion in MOOC discussion forum discourse. In C. P. Rose, R. Martínez-Maldonado, & H. U. Hoppe (Eds.), *Proceedings of 19th International Conference on Artificial Intelligence in Education* (pp. 145–149). London, England: Springer-Verlag.

*Long, Z., Gao, H., **Dowell, N. M.**, Yanf, L. & Hu, X., (2018). Impact of rejection sensitivity on socio-cognitive conflict learning in intelligent tutoring system environments. In A. Sinatra, & J. DeFalco (Eds.), *Proceedings of the Assessment and Intervention during Team Tutoring Workshop* (pp. 17–27). London, England: Springer-Verlag.

Poquet, O., **Dowell, N. M.**, Brooks, C., & Dawson, S. (2018). Are MOOC forums changing? In A. Pardo, K. Bartimote-Aufflick, B. Fuz, & G. Lynch (Eds.), *Proceedings of the 8th International Conference on Learning Analytics and Knowledge* (pp. 340–349). New York, NY, USA: ACM.

Cai, Z., Eagen, B., **Dowell, N. M.**, Pennebaker, J. W., & Graesser, A. C. (2017). Epistemic network analysis and topic modeling for chat data from collaborative learning environment. In X. Hu, T. Barnes, A. Hershkovitz, & L. Paquette (Ed.), *Proceeding of the 10th International Conference on Educational Data Mining* (pp. 104–111). Wuhan, China: International Educational Data Mining Society.

Dowell, N. M., Brooks, C., Kovanović, V., Joksimović, S., & Gašević, D. (2017). The changing patterns of MOOC discourse. In C. Urrea, J. Reich, & C. Thille (Eds.), *Proceedings of the Fourth (2017) ACM Conference on Learning @ Scale*. Cambridge, M.A.: ACM

Poquet, O., Dawson, S., & **Dowell, N. M.** (2017). How effective is your facilitation? Group level analytics of MOOC forums. In A. Wise, P. Winnie, & Lynch (Ed.), *Proceedings of the 7th International Conference on Learning Analytics and Knowledge* (pp. 238–248). New York, NY, USA: ACM.

Nixon, T., & **Dowell, N. M.** (2016). Coh-Metrix in the cloud: lessons from implementing a web-scale text analytics platform. In R. Ferguson, M. Sharkey, & N. Mirriahi (Eds.), Practitioner Track *Proceedings of the 6th International Learning Analytics & Knowledge Conference* (LAK16) (pp. 45–46). New York, NY, USA:ACM.

Dowell, N. M., Skrypnyk, O., Joksimović, S., Graesser, A. C., Dawson, S., Gašević, S., Hennis, T., de Vries, P., & Kovanović, V. (2015). Modeling learners' social centrality and performance through language and discourse. In C. Romero & M. Pechenizkiy (Eds.), *Proceedings of the 8th International Conference on Educational Data Mining* (pp. 250-257). International Educational Data Mining Society. [Best paper nominee]

Joksimović, S., **Dowell, N. M.**, Oleksandra, S., Kovanović, V., Gašević, D., Dawson, S., & Graesser, A. C. (2015). How do you connect? Analysis of social capital accumulation in connectivist MOOCs. In J. Baron, & G. Lynch (Eds.), *Proceedings of the 5th International Conference on Learning Analytics and Knowledge* (pp. 64-68). New York: ACM.

Cade, W. L., **Dowell, N. M.**, Tausczik, Y. R., Pennebaker, J. W., & Graesser, A. C. (2014). Modeling students socioaffective responses to group interactions in a collaborative online chat environment. In J. Stamper, Z. Pardos, M. Mavrikis, B. M. McLaren (Eds.), *Proceedings of the 7th International Conference on Educational Data Mining* (pp. 399-400). Worcester, MA: International Educational Data Mining Society.

Dowell, N. M., Cade, W. L., Tausczik, Y. R., Pennebaker, J. W., & Graesser, A. C. (2014). What works: Creating adaptive and intelligent systems for collaborative learning support. In S. Trausan-Matu, K. E., Boyer, M. Crosby, & K. Panourgia (Eds.), *Proceedings of the 12th International Conference on Intelligent Tutoring Systems* (pp. 124 - 133). Berlin: Springer.

Duan, Y., **Dowell, N. M.**, Graesser, A. C., & Li, H. (2014). Linguistic style and social historical context: An automated linguistic analysis of Mao Zedong's speeches. In W. Eberle & C. Boonthum-Denecke (Eds.) *Proceedings of 27th Florida Artificial Intelligence Research Society Conference* (pp. 43-46). Menlo Park, CA: AAAI Press.

Dowell, N. M., D'Mello, S. K., Mills, C., & Graesser, A. C. (2011). Does topic matter? Topic influences on linguistic and rubric-based evaluation of writing. In G. Biswas, S. Bull, J. Kay, & A. Mitrovic (Eds.), *Proceedings of 15th International Conference on Artificial Intelligence in Education* (pp. 450–452). Berlin, Germany: Springer-Verlag.

D'Mello, S. K., **Dowell, N. M.**, & Graesser, A. C. (2009). Cohesion relationships in tutorial dialogue as predictors of affective states. In V. Dimitrova, R. Mizoguchi, B. Du Boulay, & A. C. Graesser (Eds.), *Artificial Intelligence in Education: Building Learning Systems that Care: From Knowledge Representation to Affective Modeling* (pp. 9-16). Amsterdam, Netherlands: IOS Press.

INVITED PRESENTATIONS

Nixon, N. M. (2023, October). *Elusive inclusion: Towards AI based interventions to promote inclusivity in digitally mediated team environments*. Invited talk presented to the National Academy of Sciences. Washington, D.C. https://sites.google.com/view/fallfellowsretreat/home?authuser=0

Nixon, N. M. (2023, October). *Elusive inclusion: Towards AI based interventions to promote inclusivity in digitally mediated team environments*. Invited **keynote** presentation for the University of Tübingen LEAD retreat. Tübingen, Germany.

Nixon, N. M. (2023, October). *Advancing the Science of Collaboration with AI*. Invited **keynote** presented GRAILE Sense Making Lectures. https://graile.ai/sensemaking-lectures/

Nixon, N. M. (2022, December). *AI based interventions to promote inclusivity in digitally mediated team environments*. Invited presentation for the Southern Methodist University AI in Education Panel. Florida, USA.

Nixon, N. M. (2022, Nov). Using AI to create scalable models of socio-cognitive collaborative interaction dynamics and outcomes. Invited talk presented to Worcester Polytechnic Institute. Worcester, MA.

Nixon, N. M. (2022, July). *Using AI to create scalable models of socio-cognitive collaborative interaction dynamics and outcomes*. Invited talk presented to the Cognitive Science Society. Toronto, Canada. https://cognitivesciencesociety.org/future-conferences/

Nixon, N. M. (2022, June). *AI approaches for scalable models of socio-cognitive collaborative interaction dynamics and outcomes*. Invited discussion for Intel panel on AI in Education.

Nixon, N. M. (2022, May). *Preparing for the future of AIED.* Invited discussion for the Institute for Advanced Learning Technologies, University of Florida.

Nixon, N. M. (2022, March). *Power couple: AI and learning analytics to improve the human experience*. **Keynote** given for learning analytics and knowledge conference workshop on natural language processing and artificial intelligence in education.

Dowell, N. M. (2021, October). *Preparing for the future: Group communication analysis as a tool to facilitate adaptive support during digitally mediated team interactions.* Invited talk presented to the Department of Psychology. University of Virginia.

Dowell, N. M. (2021, June). Inclusion and Equity in AIED. Invited panel for the international Conference on Artificial Intelligence in Education.

Dowell, N. M. (2021, May). *Using AI to create scalable models of collaborative interaction dynamics and outcomes*. Invited talk presented to the Cognitive Science Department. Northwestern University, Chicago, Illinois.

Dowell, N. M. (2020, November). Computation for social good. Invited talk presented to the Presidential Symposium for the Society for Computation in Psychology (SCiP).

Dowell, N. M. (2020, July). COVID19-*TBD.* Invited talk presented at University of Luxembourg, Luxembourg City, Luxembourg.

Dowell, N. M. (2020, July). Educational Data Mining Conference Panel for Improving diversity, equity, and inclusivity. Educational Data Mining Conference.

Dowell, N. M. (2020, September). C*reating scalable models of collaborative interaction dynamics and outcomes*. Invited talk presented at Educational Data Science Conference. Stanford University, Stanford, California.

Dowell, N. M. (2019, January). *Group Communication Analysis: Applications for Online Learning Environments*. Invited talk presented at University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Dowell, N. M. (2019, January). *Group Communication Analysis: A Method for Modeling Socio-Cognitive Identity in a Digital Age*. Invited talk presented at Dartmouth College, Hanover, New Hampshire.

Dowell, N. M. (2018, December). Group Communication Analysis: Applications for Online Learning Environments. Invited talk presented at the University of Minnesota-Twin Cities, Minneapolis, Minnesota.

Dowell, N. M. (2018, October). *Group Communication Analysis: Applications for online learning environments.* Invited talk presented at Monash University, Melbourne, Australia.

Dowell, N. M. (2018, October). *Many faces of social identity: Detecting emergent roles in online interactions with group communication analysis.* Invited talk presented at University of Southern Australia, Adelaide, Australia.

Dowell, N. M. (2018, August). *Detecting emergent roles in online interactions with group communication analysis*. Invited talk presented at Educational Testing Service, Princeton, New Jersey.

Dowell, N. M. (2018, May). *Detecting emergent roles in online interactions with group communication analysis*. Invited talk presented at the International Conference on Mathematics and Statistics. FedEx Institute of Technology, University of Memphis.

Dowell, N. M. (2018, January). *Group communication analysis: A computational linguistics approach for detecting sociocognitive roles in multi-party interactions.* Invited talk presented at the Learning Innovation and Networked Knowledge Research Lab, Arlington, Texas.

Dowell, N. M. (2017, October). *Group communication analysis: A computational linguistics approach for detecting sociocognitive roles in multi-party interactions.* Invited talk presented at the Cognitive Science Seminar, University of Memphis, Memphis, TN.

Poquet, O., & **Dowell, N. M**. (2017, June). *Statistical analysis of interdependent observations in learning environments: Exponential random graph modelling (ERGM)*. Invited Tutorial presented at Learning Analytics Summer Institutes (LASI 2014), Ann Arbor, MI.

Dowell, N. M. (2016, October). *Group communication analysis: A computational-linguistic framework for exploring conversational roles in online multi-party communication.* Invited talk presented at the University of Michigan, Ann Arbor, MI.

Dowell, N. M., (2016, March). *Modeling discourse and social dynamics of successful collaborative interactions*. Invited talk presented at the University of Southern Australia, Adelaide, Australia.

Dowell, N. M. (2016, April). *Computational discourse science: Applications for emerging learning environments.* Invited talk presented at the University of Michigan, Ann Arbor, MI.

Dowell, N. M. (2015, July). *Computational discourse science with Coh-Metrix*. Invited workshop presented at the Learning Innovation and Networked Knowledge Research Lab, Arlington, Texas.

Dowell, N. M., Cai, Z., & Graesser, A. C. (2014, July). *Analyzing language and discourse with Coh-Metrix.* Invited Workshop presented at 2nd Learning Analytics Summer Institutes (LASI 2014), Cambridge, MA.

Dowell, N. M. (2014, October). *What language reveals about you: Modeling learners' cognitive and social dynamics using Coh-Metrix*. Invited talk presented at the University of Oxford, Oxford, England.

Dowell, N. M. (2014, October). *Modeling discourse and social dynamics in authoritarian regimes*. Invited talk presented for University of Lancaster, Lancaster, England.

Dowell, N. M. (2011, May). *Language and political crisis*. Invited talk presented for Federal Bureau of Investigation, Memphis, TN.

Dowell, N. M. (2010, June). *Language and discourse in education*. Invited talk presented for Pearson Education, Memphis, TN.

CONFERENCE PRESENTATIONS
[* denotes student first author]

Nixon, N. M., & Poquet, O. (2023). *SCIP: Identifying learner roles through group communication and interpersonal network positioning in scaled digital environments*. Paper presented at the annual meeting for Society for Computation in Psychology. *San Francisco, CA.*

Nixon, N. M., & Poquet, O. (2023). *SCIP: Identifying learner roles through group communication and interpersonal network positioning in scaled digital environments*. Paper presented at the Society for Text and Discourse, Oslo, Norway.

Nixon, N. M. (2023). *Advancing the Science of Collaboration with AI*. Panel moderator for Empowering Learnings for the Age of AI.

*Lin,Y., & **Dowell, N. M.** (2020, April). *Does size matter? modeling student interactions in online collaborative discussions.* Paper presented at the Annual meeting of American Education Research Association, San Francisco, CA.

*Lin, Y. & **Dowell, N. M.** (2020, April). *Gendered patterns in online collaborative discourse overtime*. Presented at AERA Satellite Conference on Educational Data Science, Stanford, CA.

Dowell, N. M., Lin, Y., & Godfrey, A. (2019, July). *Modeling gender composition and interpersonal dynamics in digitally-mediated interactions.* Paper presented at the Society for Personality and Social Psychology, , New Orleans, US.

*Lin, Y., & **Dowell, N. M.** (2019, July). *Does gender really matter?: Exploring differences in emerging discourse styles during digitally- mediated collaborative interactions.* Paper presented at the Society for Text and Discourse, New York, NY.

Dowell, N. M. (2018, November). *Modeling sociocognitive identity in online interactions: A group communication analysis approach.* Paper presented at the 59th annual meeting for Psychonomic Society, New Orleans, US.

Dowell, N. M., Brooks, C., & Poquet, O. (2018, November). *Digital traces of identity in online discourse: Detecting socio-cognitive roles with Group Communication*

Analysis. Paper presented at the 48th annual meeting of the Society for Computers in Psychology, New Orleans, US.

Mills, C., Smith, G. K., **Dowell, N. M.,** Ghattan, S., & Christoff, K. (2018, November). *How do the contents of a wandering mind unfold over time? An automated computational linguistic approach.* Paper presented at the 59th Annual Meeting for Psychonomic Society, New Orleans, US.

Dowell, N. M. & Brooks, C. (2018, July). *Many faces of social identity: Detecting emergent roles in online interactions with group communication analysis.* Paper presented at the Society for Text and Discourse, Brighton, UK.

Mills, C. & **Dowell, N. M.** (2018, July). U*sing automated measures of cohesion to assess the wandering mind: a think-aloud study*. Paper presented at the Society for Text and Discourse, Brighton, UK.

Poquet, O., **Dowell, N. M.**, Brooks, C., Dawson, S. (2017, November*). Changing patterns of MOOC in-course communication*. Presented at the Second Australian Social Network Analysis Conference (ASNAC 2017).

Dowell, N. M., Nixon, T., Cai, Z., & Graesser, A. C. (2016, November). *Group communication analysis: A computational-linguistic framework for exploring conversational roles in online multi-party communication.* Paper presented at the 46th annual meeting of the Society for Computers in Psychology, Boston, MA.

Dowell, N. M., & Graesser, A. C. (2015, April). *50 years of text complexity: A Coh-Metrix assessment of changes in first-grade texts over time.* Paper presented at the American Educational Research Association Conference. Chicago, Illinois.

Dowell, N. M., Windsor, L., Germany, M., Iacobelli, F., & Graesser, A. C. (2015, July). *The partisan divide: A computational linguistic analysis of bias in the senate.* Paper presented at the Society for Text and Discourse, Minneapolis, MN.

Cai, Z., **Dowell, N. M.**, Li, H., & Graesser, A. C. (2015, November). *Age of acquisition: How do you remember what words you learned at age one?* Paper presented at the 45th annual meeting of the Society for Computers in Psychology, Chicago, IL.

Windsor, L., **Dowell, N. M.**, & Graesser, A. C. (2015, April) *Leaders' language in the Arab Spring: Using text analysis to explain variation in political outcomes.* Arab Spring in Global Context, Iowa City, Iowa.

Windsor, L., **Dowell, N. M.**, & Graesser, A. C. (2014, November) *Socio-Political and linguistic cohesion.* Midwest International Studies Association, St. Louis, MO.
[Winner of the Hermann Textual Analysis Award]

Dowell, N. M., Windsor, L., Wang, J., Mintz, L., Myers, J. Beaver, D., Hu, X., & Graesser, A. C. (2013, May). *The evolution of revolution: Temporal dynamics of social cohesion and casualties during the Syrian Revolution.* Poster presented at Institute for Intelligent Systems Student Research Fair, Memphis, TN.

Duan, Y., **Dowell, N. M.,** Myers, J., Li, H., & Graesser, A. C. (2013, May). *Leadership is influenced by social context: Relationships between the cohesion of Mao Zedong's speeches and the social-historical context of China.* Poster presented at Institute for Intelligent Systems Student Research Fair, Memphis, TN.

Myers, J., **Dowell, N. M.**, Mintz, L., & Graesser, A. C. (2013, May). *Analysis of linguistic features of U.S. political discourse: Presidential corpus.* Poster presented at Institute for Intelligent Systems Student Research Fair, Memphis, TN

Windsor, L., **Dowell, N. M.**, Li, H., Myers, J., & Graesser, A. C. (2013, April). *The language of autocrats: Leadership through natural disasters*. Paper presented at the 71st Annual Midwest Political Science Association Conference, Chicago, IL.

Dowell, N. M., Germany, M., Myers, J., & Graesser, A. C. (2012, June). *Enduring leaders and their persuasive strategies*. Paper presented at the Society for Text and Discourse, Old Montréal, Canada.

Deffler, S. A., Ogle, C. M., **Dowell, N. M.**, Graesser, A. C., & Rubin, D. C. (2012, July). *Life narratives of adults with and without PTSD: Preliminary findings*. Paper presented at the Emory Cognition Project Symposium on Mental Time Travel, Atlanta, GA.

Deffler, S. A., Ogle, C. M., **Dowell, N. M.**, Graesser, A. C., & Rubin, D. C. (2011, July). *Measures of coherence in life narratives of adults with and without PTSD*. Paper presented at the Emory Cognition Project Symposium on Mental Time Travel, Atlanta, GA.

Dowell, N. M., Duan, Y., Cai, Z., Hu, X., Louwerse, M., & Graesser, A. C. (2011, July). *A linguistic analysis of Fidel Castro's speeches before and after crisis*. Paper presented at the Society for Text and Discourse, Poitiers, France.

Dowell, N. M., D'Mello, S. K., Mills, C. S., & Graesser, A. C. (2011, July). *Topic effects on linguistic and rubric-based writing evaluation*. Paper presented at the Society for Text and Discourse, Poitiers, France.

Hancock, J., Beaver, D., Pennebaker, J., Graesser, A. C., **Dowell, N. M.**, Keshtar, F., & Liu, X. (2011, September). *Discourse and social dynamics in the Arab Spring*. Paper presented at the Second Annual Minerva Conference, Washington, DC.

Dowell, N. M., Liu, H., Cai, Z., Hu, X., Louwerse, M., & Graesser, A. C. (2010, July). *Linguistic and discourse variation in Chairman Mao Zedong's speeches*. Paper presented at the Society for Text and Discourse, Chicago, IL.

Graesser, A. C., Cai, Z., & **Dowell, N. M.** (2010, January). *The computational foundations of language arts*. Paper presented at the 23rd International Society for the Empirical Study of Literature, Utrecht, Netherlands.

Dowell, N. M., & Berman, J. (2009, July). *The effect of therapist nonverbal behaviors on client perceptions.* Poster presented at the National Conference for Undergraduate Research, Lacrosse, WI.

Media Appearances & Interviews

Cruz, Carla, G. (Host). 2024, April 22. UCI podcast [Audio podcast episode]. The past, present and future of AI in education. https://news.uci.edu/2024/04/22/the-past-present-and-future-of-ai-in-education/

Nixon, N. (2023, June 8). AI in Education. *Advancing*.

Weiss, G. (Host). 2022, March 15. Rising Tide: Change Makers [Audio podcast episode]. Nia Dowell is curious about conversations. https://innovation.uci.edu/podcast/nia-dowell/

Levin, N. (Host). 2021, July 15. We should all be lurkers w/ Nia Dowell [Audio podcast episode]. In Learning Machine: The Uncertain Future of Education. https://www.learningmachinepodcast.com/s1_episodes.html

UCI School of Education. (2021, June 8). *Assistant Professor Nia Dowell named a Faculty Innovation Fellow* [press release]. https://education.uci.edu/ucisoe_news/dowell_beall_jan21

UCI Beall Applied Innovation. (2021, January 20) *18 Faculty Members Selected as Fellows to Serve as Ambassadors of Innovation* [press release]. http://education.uci.edu/uploads/7/2/7/6/72769947/faculty_innovation_fellow_2nd_cohort_final.pdf

UCI School of Education. (2020, June 29). Professor receives Bill and Melinda Gates Foundation grant to grow new generation of learning engineers. [press release] https://education.uci.edu/ucisoe_news/dowell_grant_june20
Dowell, N. (2020, June 8). Role Model. *Advancing*. http://education.uci.edu/uploads/7/2/7/6/72769947/advancing_2020.pdf

PROFESSIONAL ORGANIZATIONS

2021 – present	Cognitive Science Society
2014 – present	American Educational Research Association
2014 – present	Society for Learning Analytics Research
2013 – present	Association for Psychological Science (APS)
2012 – present	International Artificial Intelligence in Education Society (AIED)
2012 – present	International Educational Data Mining Society (EDM)
2012 – present	The American Psychological Association (APA)
2012 – present	Federation of Associations in Behavioral & Brain Sciences (FABBS)
2012 – present	Society for Text and Discourse

PROFESSIONAL SERVICE

2024	Co-Editor on special issue in *British Journal of Educational Technology* on Advancing Equity and Inclusion in Educational Practices with AI-Powered Educational Decision Support Systems (AI-EDSS)
2022 & 2023	Program committee for Empowering Learnings for the Age of AI.
2023	Co-Editor on special issue in *Journal of Computing in Higher Education* on Equity of Artificial Intelligence in Higher Education
2023	Co-Editor on special issue on the Use of Large Language Models in Education in *International Journal Artificial Intelligence in Education*
2022-2024	Vice President of the Society for Learning Analytics and Knowledge (SoLAR)
2022	Editorial Board Member with Learning and Individual Differences
2020-2023	Board of Reviewers Topics in Cognitive Science
2022	Organizing committee for the International Learning Analytics and Knowledge Conference
2021	Program committee Chair for the International Learning Analytics and Knowledge Conference
2020	Editor of Special Issue on Collaborative Analytics for the *Journal of Learning Analytics*

2020	Elected to the SoLAR executive committee
2019 – 2022	Advisory Board Member for The Learning Agency's Feedback Annotation Project
2018 – present	Advisory Board Member Centre for Change and Complexity in Learning
2015 – present	Reviewer: *Computers in Human Behavior, Computers & Education, Journal of Learning Analytics, Journal of Educational Data Mining, Discourse Processes*
2016	Poster and Demonstrations Co-Chair, International Conference on Learning Analytics and Knowledge