Rachel Wong Min

1. RESEARCH INTERESTS

- Multimedia instructional design
- STEM teaching and learning strategies
- Methods for advancing evidence-based practices (e.g. meta-analyses, systematic reviews, etc.)
- Cognitive and affective learning

2. EDUCATION

Ph.D. (anticipated spring 2021)	Washington State University, Pullman, WA *Specialization*: Educational Psychology *Title of Dissertation:* Promoting collaboration through resource interdependence to enhance learning with concept mapping Adviser: Dr. Olusola Adesope
M.A. (2017)	Washington State University, Pullman, WA *Specialization*: Educational Psychology *Title of Thesis*: Computer-based learning of mathematics from worked examples: Focused and menu-based self-explanations Adviser: Dr. Olusola Adesope
B.A. (2015) Summa Cum Laude	Southwestern College, Winfield, KS Specialization: Psychology and Mathematics

3. SCHOLARLY AND PROFESSIONAL ACHIEVEMENTS

a) *Journal Articles*

9 Castro-Alonso, J. C., **Wong, R. M.**, Adesope, O. O., & Paas, F. (In Press). Effectiveness of Multimedia Pedagogical Agents Predicted by Diverse Theories: A Meta-Analysis. *Educational Psychology Review*. Advance online publication. https://doi.org/10.1007/s10648-020-09587-1

8 **Wong, R. M.**, & Adesope, O. O. (In Press). Meta-Analysis of Emotional Designs in Multimedia Learning: A Replication and Extension Study. *Educational Psychology Review.* Advance online publication. https://doi.org/10.1007/s10648-020-09545-x

7 Xiao, X., & **Wong, R. M.** (2020). Vaccine Hesitancy and Perceived Behavioral Control: A Meta-Analysis. *Vaccine*, *38*(33), 5131-5138. https://doi.org/10.1016/j.vaccine.2020.04.076

6 **Wong, R. M.,** Sundararajan, N., Adesope, O. O., & Nishida, K. (In Press). Static and interactive concept maps for chemistry learning. *Educational Psychology.* https://doi.org/10.1080/01443410.2020.1761299

5 Alpizar, D., Adesope, O. O., **Wong, R. M.** (In Press). A meta-analysis of signaling principle in multimedia learning environments. *Educational Technology Research and Development*. Advance online publication. https://doi.org/10.1007/s11423-020-09748-7

4 Carbonneau, K. J., **Wong, R. M.**, & Borysenko, N. (2020). Overcoming the Detrimental Effect of Perceptually Rich Manipulatives on Mathematics Problem Solving and Perseverance. *Contemporary Educational Psychology.* Advance online publication. https://doi.org/10.1016/j.cedpsych.2020.101846

3 Hu, Y., **Wong, R. M.**, Adesope, O. O., & Taylor, M. (In Press). Effects of a computer-based learning environment that teaches older adults how to install a smart home system. *Computers & Education.* Advance online publication. https://doi.org/10.1016/j.compedu.2020.103816

2 **Wong, R. M.**, Adesope, O. O., & Carbonneau, K. J. (2019). Process- and product-oriented worked examples and self-explanations to improve learning performance. *Journal of STEM Education: Innovations and Research*, *20*(2), 24-31.

1 Higheagle Strong, Z., McMain, E. M., Frey, K. S., **Wong, R. M.**, Dai, S., & Jin, G., (2019). Ethnically-diverse adolescents describe bystander actions that calm victims' emotions and amplify victims' anger. *Journal of Adolescent Research*. Advance online publication. https://doi.org/10.1177/0743558419864021

b) *Journal Articles Under Review*

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2 **Wong, R. M.,** & Adesope, O. O. (Under Review). Effects of Studying and Translating Concept Maps and Text to Enhance Chemistry Learning.

1 Lee, D. K. L., Xiao, X., **Wong, R. M.,** & Borah, P. (Minor Revisions). The Impact of Theory in HPV Vaccination Promotion Research: A Meta-Analysis and Systematic Review.

c) *Journal Articles in Preparation*

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5 de Lira, C., Ghods, A., Nketah, G., **Wong, R. M.**, Oje, O., & Adesope,O. O. (In Preparation). Summer Programming Camps – Exploring Informal CS Education in a Rural Community.

4 **Wong, R. M.**, Alpizar, D., Adesope, O. O., & Nishida, K. R. A. (In Preparation). The Effect of Concept Map Format on Electrochemistry Learning: Fill-in-the-blank vs. Map Correction.

3 van Orman, D. S. J., **Wong, R. M**., Carbonneau, K. J., & Adesope, O. O. (In Preparation). Influences of Concept Maps and Worked Examples in Learning Procedural and Conceptual Skills in Mathematics.

2 Higheagle Strong, Z., Watson, F. T., Charlo, L. J. **Wong, R. M.** (In Preparation). Indigenous Knowledge in STEM: A Systematic Review.

1 **Wong, R. M.**, Alpizar, D., & Adesope, O. O. (In Preparation). Motivation Assessment of Undergraduate Students in Chemistry.

d) *Conference Presentations*

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20 Oni, O. S., **Wong, R. M.,** Sunday, O. J., Adesope, O. O., & Nishida, K. (Accepted). *Effect of Different Concept Map Formats and Students' Concept Mapping Perception on Learning Performance*. Submitted to American Educational Research Association (AERA). Orlando, FL.

19 Sunday, O. J., Adesope, O. O., **Wong, R. M.,** Oni. O. S., & Nishida, K. (Accepted). T*he Effects of Concept Maps with Feedback on Chemistry Learning Performance.* Submitted to American Educational Research Association (AERA). Orlando, FL.

18 Liu, Q., **Wong, R. M.,** Adesope, O. O., & Nishida, K. (Accepted). *Comparative Effects of Individual and Collaborative Construction of Concept Maps.* Submitted to American Educational Research Association (AERA). Orlando, FL.

17 **Wong, R. M.**, Alpizar, D., Adesope, O. O., & Nishida, K. R. A. (Accepted). *The Effect of Concept Map Format on Electrochemistry Learning: Fill-in-the-blank vs. Map Correction*. Submitted to American Educational Research Association (AERA). Orlando, FL.

16 **Wong, R. M.** & Dai, S. (Accepted). *Does Answer Order Influence Undergraduate Students' Performance on In-Class Chemistry Exams?* Submitted to American Educational Research Association (AERA). Orlando, FL.

15 Xiao, X. & **Wong, R. M.** (2020). *Which is Better? Theory of Reasoned Action or Theory of Planned Behavior: A Meta-Analysis of Vaccination Research*. Poster presented at the Association for Education in Journalism and Mass Communication 2020 Conference. San Francisco, CA.

14 **Wong, R. M.,** Collins, B. L., Cooper, C. M., & Adesope, O. O. (2020). *To Highlight or Summarize? The Benefits of Constructive Learning in Geology.* Poster presented at Earth Educators' Rendezvous 2020 Conference. Palo Alto, CA.

13 Adesope, O. O., **Wong, R. M.,** & Nishida, K. (2020). *Scaffolded Concept Map vs. Self-Constructed Concept Maps in an Ecologically Valid Environment.* Poster presented at 2020 American Psychological Association (APA) Convention. Washington D.C.

12 **Wong, R. M.**, Adesope, O. O., & Nishida, K. (2020). *Concept and Fill-in-the-Blank Maps as Retrieval Practice Strategies to Enhance Chemistry Performance.* Poster presented at 2020 Annual Meeting of the American Educational Research Association (AERA). San Francisco, CA. (Conference Canceled)

11 **Wong, R. M.**, Collins, L. B., Adesope, O. O., & Cooper, C. M. (2020). *To Highlight or Summarize? The Benefits of Constructive Learning in Geology.* Poster presented at Washington State University's 2020 GPSA Research Exposition. Pullman, WA.

10 **Wong, R. M.**, & Adesope, O. O. (2019). *Emotional designs in multimedia learning: A meta-analysis.* Poster presented at Washington State University's 2019 GPSA Research Exposition. Pullman, WA.

9 **Wong, R. M.**, & Adesope, O. O. (2019). *Emotional designs in multimedia learning: A meta-analysis*. Poster presented at the 2019 Annual Meeting of the American Educational Research Association (AERA). Toronto, CAN.

8 **Wong, R. M.**, Sundararajan, N., Adesope, O. O., & Nishida, K. (2019). *Static and interactive concept maps to enhance learning performance in chemistry*. Poster presented at the 2019 Annual Meeting of the American Educational Research Association (AERA). Toronto, CAN.

7 McMain, E. M., Strong, Z. H., **Wong, R. M.**, Frey, K. S., Jin, G., & Dai, S. (2019). *Ethnically-Diverse Adolescents Describe Bystander Actions that Calm Victims' Emotions and Amplify Victims' Anger*. Paper presented at the 2019 Annual Meeting of the American Educational Research Association (AERA). Toronto, CAN.

.6 **Wong, R. M.**, Adesope, O. O., & Carbonneau, K. J. (2018). *Computer-based learning of mathematics from worked examples: Focused and menu-based self-explanations.* Poster presented at the 2018 Annual Meeting of the American Educational Research Association (AERA). New York City, NY.

5 **Wong, R. M.**, Adesope, O. O., & Carbonneau, K. J. (2018). *Computer-based learning of mathematics from worked examples: Focused and menu-based self-explanations.* Poster presented at Washington State University's 2018 GPSA Research Exposition. Pullman, WA.

4 **Wong, R. M.**, & Maarhuis, P. (2018). *Multicultural student intervention: Health, academic, & personal goal attainment*. Poster presented at Washington State University's 2018 Academic Showcase. Pullman, WA.

3 Adesope, O. O. O., & Dizon, E., & **Wong, R. M.** (2018). *Exploring the role of text length and degree of redundancy in multimedia learning environments.* Poster presented at the 2018 Annual Meeting of the American Educational Research Association (AERA), New York City, NY.

2 **Wong, R. M.**, Alpizar, D., & Carbonneau, K. J. (2018). *An Exploratory Factor Analysis of Students' Perseverance in Mathematics*. Poster presented at 2018 American Psychological Association (APA) Convention, San Francisco, CA.

1 **Wong, R. M.** (2015, April). *Impact of Social Influence Techniques on Reading Quizzes.* Poster presented at the 2015 annual meeting of the Rocky Mountain Psychological Association Convention. Boise, ID.

e) *Technical Reports*

Culturally Responsive Indigenous Science: Connecting Land, Language, and Culture. Year 2 (2018-2019) Evaluation Report. (2019). Learning and Performance Research Center. Washington State University, Pullman, WA. Unpublished.

Health Promotion/Multicultural Student Services Program Evaluability Assessment. (2018). Health Promotion, Washington State University, Pullman, WA. Unpublished.

Safety Education: First Aid/CPR Program Evaluability Assessment. (2016). University Recreation, Washington State University, Pullman, WA. Unpublished.

4. RESEARCH & SCHOLARLY ACTIVITY

Research

2018-present ***Research Assistant***. Project: Undergraduate Chemistry Concept Mapping Research. Department of Kinesiology and Educational Psychology, Washington State University, Pullman, WA.

Responsibilities include (1) designing learning interventions for classroom-based research with over 600 undergraduate students enrolled in

introductory chemistry; (2) developing learning outcome measures; (3) analyzing results from studies conducted; (4) disseminating findings through journal publications and at conferences; and (5) mentoring junior graduate Master's and Ph.D. students.

Research Assistant. Project: Spatial Strategies with Undergraduate Geology Students. Department of Kinesiology and Educational Psychology, Washington State University, Pullman, WA.

Responsibilities include (1) designing learning intervention for classroom-based research with over 100 undergraduate students enrolled in introductory geology; (2) analyzing results from studies conducted; and (3) reporting findings at conferences.

Research Assistant. Project: Worked Examples and Concept Mapping in Mathematics. Department of Kinesiology and Educational Psychology, Washington State University, Pullman, WA

Responsibilities include (1) data collection; (2) analyzing results; and (3) disseminating findings through journal publications and at conferences.

Research Assistant/Founder. Project: Summer Programming Camp for Middle School Students. College of Education, Washington State University, Pullman, WA.

Responsibilities include (1) recruiting undergraduate and graduate computer science instructors for the programming camp; (2) collaborating with computer science instructors to design curriculum for the programming camp; (3) recruiting middle school participants; (4) designing learning outcome and motivation measures; (5) analyzing results; and (6) disseminating findings at conferences.

Research Assistant. Project: Summer Programming Camp for Middle School Students. College of Education, Washington State University, Pullman, WA.

Responsibilities include (1) recruiting undergraduate and graduate computer science instructors for the programming camp; (2) collaborating with computer science instructors to design curriculum for the programming camp; (3) recruiting middle school participants; (4) designing learning outcome and motivation measures; (5) analyzing results; and (6) disseminating findings at conferences.

2018 ***Research Assistant***. Project: Peer influence response to threat: Cultural norms, reciprocity & self-identity.

Funded by: FY 15 Comprehensive School Safety Initiative. Office of Justice Programs. Department of National Institute of Justice.
Awarded: $638,040.
Co-PIs: Frey, K., Higheagle Strong, Z., & Pearson, C.

Responsibilities included (1) transcribing audio files; (2) coding transcripts in Dedoose; and (3) disseminating results through journal publication and at conferences.

2017 ***Primary Researcher***. Computer-based learning of mathematics from worked examples: Focused and menu-based self-explanations. Department of Educational Leadership, Sport Studies, Educational/Counseling Psychology, Washington State University, Pullman, WA.

Responsibilities included (1) designing learning intervention; (2) developing learning outcome measures; (3) analyzing results from study; and (4) disseminating results through journal publication and at conferences.

2013-2015 ***Primary Researcher.*** Project: Impact of Social Influence on Reading Quizzes. Department of Social Science, Southwestern College, Winfield, KS.
Responsibilities included (1) designing learning intervention; (2) developing learning outcome measures; (3) analyzing results from study; and (4) disseminating results at conferences.

2014 ***Research Intern.*** Project: Verbal Cues to Detecting of Deception. Home Team Behavioral Sciences Unit, Ministry of Home Affairs, Singapore.

Responsibilities included (1) transcribing interviews; (2) coding interview transcripts; (3) evaluating findings; (4) disseminating results through internal report.

5. TEACHING EXPERIENCE

Summer 2020 ***Co-Instructor***. Department of Kinesiology & Educational Psychology, College of Education, Washington State University.
ED_PSYCH 505: Introduction to Research Methods I

Responsibilities included (1) redesigning the course; (2) conducting lectures; (3) grading of assignments; (4) and meeting with students.

2017-2018 ***Multicultural Health Promotion Graduate Assistant***. Health & Wellness, Washington State University, Pullman, WA.

Responsibilities included (1) working closely with WSU multicultural student services to provide health promotion workshops; (2) designing PowerPoint presentations on health-related topics; (3) educating students on risky health behaviors etc.; (4) evaluating pre- and post-workshop survey responses; and (5) redesigning evaluation tools to be more inclusive.

2015-2017 ***Graduate Teaching Assistant***. Department of Human Development, Washington State University, Pullman, WA.
Fall 2015: Dr. Robby Cooper, HD 101; Stephanie Roeter, M.A, HD 202
Spring 2016: Dr. Amy Cole, HD 202; Amy Shepherd, M.A, HD 204
Fall 2016: Dr. Kimberly Rhoades, HD 300; Stephanie Roeter, M.A, HD 307, HD 101
Spring 2017: Dr. Robby Cooper, HD 101; Stephanie Roeter, M.A, HD 307

Responsibilities included (1) grading assignments; and (2) holding office hours.

2014 ***Undergraduate Psychology Teaching Assistant***. Department of Social Sciences, Southwestern College, Winfield, KS.

Responsibilities included (1) designing lab activities for over 30 undergraduate students enrolled in general psychology; (2) developing learning assignments; and (3) meeting with students.

2014 ***Mathematics Tutor***. 1st Class Student Mentor, Southwestern College, Winfield, KS.

Responsibilities included meeting one-on-one with students requiring math tutoring.

6. CERTIFICATIONS

2018 Applied Educational Research Methods Certificate, Washington State University, Pullman, WA

2015 *Collaborative Institutional Training Initiative*, Washington State University, Pullman, WA

2015 *Responsible Conduct of Research Education for Graduate and Undergraduate Students*, Washington State University, Pullman, WA

7. HONORS & AWARDS

2020-2021 Graduate and Professional Student Association (GPSA) Dissertation Grant. Washington State University.

2020-2021	Russ and Anne Fuller Fellowship for Interdisciplinary Research/Scholarship. Washington State University.
2019-2020	Graduate and Professional Student Association (GPSA) Dissertation Grant. Washington State University.
2020	Educational Psychology Professional Development Grant. Washington State University.
2019	Washington State University's 2019 GPSA Research Exposition, First Place. Category: Arts and Education Sciences.
2019	Graduate and Professional Student Association (GPSA) Travel and Registration Grant. Washington State University.
2019	AERA Division C – Learning & Instruction: Nominee for Outstanding Graduate Student Poster
2019	3 Minute Thesis – College of Education, Second Place. Washington State University.
2019	Educational Psychology Professional Development Grant. Washington State University.
2018	Graduate and Professional Student Association (GPSA) Senator Seed Grant. Washington State University.
2018	Educational Psychology Professional Development Grant. Washington State University.
2018	Graduate and Professional Student Association (GPSA) Travel and Registration Grant. Washington State University.
2016-2017	Arnold & Julia Greenwell Memorial Scholarship for Social Sciences and Humanities. Washington State University.
2015-2016	Pi Gamma Mu Scholarship – Alternate Recipient
2015	Acceptance into Southwestern College the Order of the Mound Honor Society
2011-2015	Southwestern College Dean's List
2014	Newman Civic Fellowship

2013	Acceptance into Pi Gamma Mu International Honor Society in Social Sciences

8. PROFESSIONAL AFFLIATION

2020-present	American Psychology Association (APA) *Division 15*
2016-present	American Educational Research Association (AERA) *Division C*
2013-present	Pi Gamma Mu International Honor Society

9. ACADEMIC SERVICE & OUTREACH

2020-present	*Board Member*. CUB Advisory Board. Washington State University. Washington State University, Pullman, WA.
Present	*WSU Graduate and Professional Student Association Chair of Programming.* Washington State University, Pullman, WA.
Present	*WSU Graduate and Professional Student Association College Representative.* College of Education. Washington State University, Pullman, WA.
Present	*Board Member.* University Recreation Board. Washington State University, Pullman, WA.
2018-present	*Graduate Students of Education Representative.* College of Education. Washington State University, Pullman, WA.
2017-present	*Board Member.* Board of Student Media. Washington State University, Pullman, WA.
2016-present	*Founder*. Boeing Summer Programming Camp for Middle Schoolers. Washington State University, Pullman, WA.
2018-2019	*WSU Graduate and Professional Student Association Senator.* Department of Educational Leadership, Sport Studies, Educational/Counseling Psychology. Washington State University, Pullman, WA.
2017-2018	*Volunteer.* STEM/Literacy Family Nights. Sunnyside Elementary School, Pullman, WA.

2018	*Volunteer.* Kids' Science and Engineering Day. Washington State University, Pullman, WA.
2017-2018	*Program Coordinator.* Pullman Elementary School Morning Tutoring Program. Pullman School District, Pullman, WA
2016	*Middle School Math Volunteer.* Lincoln Middle School, Pullman, WA.
2016	*Future City STEM Competition Judge.* Washington State University, Pullman, WA.
2014-2015	*Pi Gamma Mu, Kansas Alpha Chapter, Vice-President.* Southwestern College, Winfield, KS.
2013-2014	*Student Government Association Senator.* Southwestern College, Winfield, KS.

10. REVIEW WORK (last 5 years)

Journal/Conference	2017	2018	2019	2020
British Journal of Educational Technology		1		
Journal of Engineering Education	1		1	1
IEEE				1
American Educational Research Association			14	
WSU GPSA Research Exposition				12

11. EVALUATION WORK

2019	2018-2019 Project Evaluation Culturally Responsive Indigenous Science: Connecting Land, Language, and Culture. Funded by the National Science Foundation, Grant #1720931.
2019	2018-2019 Project Evaluation CAREER: Developing Multi-Scale Models for the Effective Design of Hydrothermally Stable Single-Site Catalysts for Low-Temperature CO Emissions Removal. Funded by the National Science Foundation.
2019	2018-2019 Project Evaluation ATLAS: Aspiring Teacher Leadership and Success (ATLAS)