

Abha Singh Ph.D.
Professor of Science Education
 Department of Curriculum and Instruction
 Horrabin Hall 62 A
 Western Illinois University
 Macomb, Illinois 61455

Education

Ph.D., Science Education/ Environment Science **2008**
 Majors: Science Education & Environment Science
University of Iowa, Iowa City, IA

M.S., Science Education/ Environment Science **2001**
 Majors: Science Education & Environment Science
University of Iowa, Iowa City, IA

M.Ed., Education **1995**
 Major: Education
Punjab University, India

B.S., Chemistry and Biology **1987**
 Majors: Chemistry, Botany and Zoology
Punjab University, India

B.Ed. Education **1988**
 Majors: Teaching of Science
Punjab University, India

Employment/Experience

University Teaching

Western Illinois University – Macomb, IL **2014 – present**
 Associate Professor of Science Education

Western Illinois University – Macomb, IL **2008 – 2014**
 Assistant Professor of Science Education

University of Iowa – Iowa City, IA **2004 - 2008**
 Graduate Teaching/ Research Assistant

University of Iowa – Iowa City, IA **2000- 2001**

Graduate Teaching Assistant

Public School Teaching:

Woodstock American International School (Advanced Placement), India **1990-2000**
Elementary and Middle School Science Teacher

Kodaikanal International School (International Baccalaureate), India **1996- 1997**

Woodstock American International School (Advanced Placement), India **2001-2004**
Middle School Science and Assistant Head of Middle School

Teaching

Graduate Courses:

C&I 574: Assessment and Differentiation of Instruction

SCED 675: Physical Science and Technological Design

SCED 564: Science Inquiry: Biological and Environmental Science

SCED 511: Science through Children's Literature

C&I 600: Capstone Independent Research Study

7E/S 500: Teaching/Supervising Practicum Graduate Students Practicum

Undergraduate Courses:

SCED 464: Integrating Science Through Inquiry

SCED 364: Elementary Science Methods

SCED 352: Science Methods for K-3

ELED 470: Field Experience

ELED 410: Senior Seminar

ELED 445: Honors Seminar in Elementary Education

ELED 371: Field Experience III

ELED 370: Field Work in Elementary Education II

ELED 270: Field Work in Elementary Education I

ELED 110: Seminar in Elementary Education

7E/S 234: Science Methods to Undergraduate Elementary Education Majors

7E/S: 500 Teaching and supervising practicum students for undergraduate teaching practice

7E/S: 121: Science for high ability learners

Grants and Special Awards

Singh, A., Olsen, J., Mann, R., Logan, L., Hartweg, K., (2017). Award from Department of Energy / National Renewable Energy Laboratory for Illinois Institute for Rural Affairs: STEM through a Wind Turbine K-12 Science/Math Curriculum.

- Szyjka, S. & Singh, A., Stinnett, M., (2013). Award from Tracy Foundation. Curriculum Reconfiguration: Integrating Science and Literacy throughout St. Paul School, Macomb, IL (K-6). \$64,000.
- Yager, R. & Singh, A., Yutakom, N., Yager, R., Ali, M., (2009-2010). Constructivist Teaching Practices Used by Five Teacher Leaders for the Iowa Chautauqua Professional Development Program. Iowa Department of Education, \$ 150,000.
- Singh, A., (2007-2008). Impact of an Extracurricular Science Program on Middle School Students through Teacher Professional Development. Center for the Gifted Foundation Iowa. \$5,000.
- Singh, A. (2007-2008). FINE SCHOLAR. Award Recipient of (First in the Nation) award from State of Iowa. \$1000
- Singh, A. (2006). Charles Day Scholarship and Award. Awarded at the University of Iowa. \$2000
- Singh, A. (2005). Erwin and Louise Wasta International Award. Recipient of this award based on promise in the student's chosen field. \$1500.

Publications/Scholarly/Creative Activities

- Szyjka, S., Singh, A., Stinnett, M. (2018). Perspective Into How An Integrated Science And Literacy Program Can Influence Teacher and Student Outcomes. *Journal of European Education.* Vol. 8 (2), 14-36.
- Singh, A., Olsen, J., Mann, R., Logan, L., Hartweg, K., (2017). Department of Energy / National Renewable Energy Laboratory for Illinois Institute for Rural Affairs: STEM through a Wind Turbine K-12 Science/Math Curriculum. Germany: Lambert Publishing Company GmbH & Co.KG.
- Singh, A. (2016). Impact on Teaching: Consistent Knowledge Development, Reflection and Practice *International Journal of Teaching, Learning and Educational Research*, Vol. 15 (1), 15-37.
- Singh, A., Lyons, M. (2016). Evidence Based Models in Science Education. Norton. T. (Ed), *Professional Development: Recent Advances and Future Directions* (pp. 59-80). New York: Nova Science Publishers, Inc.
- Singh, A., Lyons, M. (2015). Learning as you Teach. *International Journal of Teaching*,

- Learning and Educational Research*, Vol. 13 (1), 42-54.
- Stinnett, M., Singh, A. (2014). Literacy Methods for Teaching ELL's through Children's Literature and Ways to Provide Culturally Relevant Instruction. *Wisconsin State Reading Association Journal*, Vol. 52 (1), 13-20.
- Singh, A. (2014). Impact of an Informal Science Program: Middle School Gifted Science Students. *International Journal of Research in Education Methodology*, Vol.5 (2), 641-650.
- Singh, A. (2014). Integration of Science and Literacy. *Illinois Reading Council Journal*, Vol. 42(2), 70-75.
- Singh, A. (2013). Constructivism and the Effects of Teaching Gifted Middle School Science Students. *European International Journal of Science and Technology*, Vol.2 (1), 98-125.
- Singh, A. (2012). Walking Through Millions of Years to Teach Integrated Science. *The Journal of Illinois Science Teachers Association*, Vol. 37 (3),40-45.
- Singh, A., Yager,S., Yutakom, N.,Yager, R.,Ali, M.,(2012). Constructivist Teaching Practices Used by Five Teacher Leaders for the Iowa Chautauqua Professional Development Program. *International Journal of Environmental and Science Education*, Vol. 7(2), 40-78.
- Singh, A. (2011). Addressing Gifted Student Needs through Instructor Professional Development and Extracurricular Science. R. E. Yager & A.Binadja (Ed.), *Improving Science Learning* (pp. 110-145). Indonesia: Publisher: UNNES Press
- Singh, A. (2010). Conservation of Energy: Teaching Environmental Science Using Green Roofs. *The Journal of the Illinois Science Teachers Association*, Vol. 35(3), 33-38.
- Singh, A. (2009). Student Needs and Instructor Professional Development in Teaching Gifted Middle School Science Students. *Journal of Science Teacher Education*, Vol 24 (6), 15- 22.
- Singh, A. (2013). *Constructivist Teaching Practices and Students Learning Science*: Lambert Publishing Company GmbH & Co.KG.
- Sandall, B., & Singh, A. (2011). *Using Science Technology Engineering and*

Mathematics (STEM) to investigate issues in Waste Management. USA:
Mark Twain Publishing LLC

Sandall, B., & Singh, A. (2011). Using Science Technology Engineering and Mathematics (STEM) to investigate issues in Food Production. USA:
Mark Twain Publishing LLC

Singh, A. (2010). An Extracurricular Science Program. Germany: Lambert Publishing Company GmbH & Co.KG.

Singh, A. (2006). Iowa Science Teachers local Chapter: Science teaching in developing Countries: What and how are they doing? Vol. 2 (3), 25-28.

Singh, A. (2004). Why I teach? A reflective write up on why I continue to teach: *Near East South Asian Teacher Education Journal*, Vol 20. (2), 18- 22.

Conference Presentations

International and National Refereed

Singh, A., Meenen, A., Schaeffer, A., Autrey, A., (2018). Kappa Delta Pi International Conference in Education: Teaching Science to English Language Learners.

Singh, A., Singh, P., (2018). Kappa Delta Pi International Conference in Education: The Science of Playing Soccer.

Singh, A. (2017). National Science Teachers Association Conference. Milwaukee, WI: How to Construct 3-D Learning Lessons for Early Childhood Learners.

Singh, A. (2017). Kappa Delta Pi International Conference. Pittsburgh, PA: STEM Curriculum: Application and Synthesis Targeting Relevance.

Singh, A., Lyons, M., Ortmann, L. (2016). National Science Teachers Association Conference Nashville, TN: NGSS for Early Childhood Learners

Singh, A. (2015). National Science Teachers Association Area Conference Kansas City: Using NGSS with Early Childhood Learners.

Singh, A., Lyons, M. (2015). National Science Teachers Association Area Conference Kansas City: Integrating Science and Literacy through STEM for Early Childhood Learners.

Singh, A., Stinnett, M., Szyjka, S., Shaw, F., (2015). Kappa Delta Pi International Conference: Student Engagement in Science and Literacy.

- Singh, A., Steward, F. (2015). Kappa Delta Pi International Conference: Science Technology Engineering and Math (STEM) Education and Critical Thinking.
- Singh, A., Lyons, M., Steward. (2015). Kappa Delta Pi International Conference: Data, Tenets, and online Dialogue
- Szyjka, S., Stinnett, M., Singh, A., Shaw, F., (2014). Literacy Research Association on Curriculum Reconfiguration: Integrating Science & Literacy throughout St. Paul School
- Szyjka, S., Singh, A., (2014). The 12th Annual Hawaii International Conference on Education Integrating Technologies to Promote better implementation of the common core standards Mathematics.
- Szyjka, S., Singh, A., (2014). The 12th Annual Hawaii International Conference on Education The Science Teaching Enhancement Pilot Project (STEPP).
- Szyjka, S., Olsen, J., Singh, A., (2014). MSP Conference Western Illinois Mathematics Teacher Transformation Institute (WI-MTTI). Washington DC
- Singh, A., Szyjka, S., (2014). Digital Natives: Simulations for Active Learning. Workshop Presented at the International KDP Conference in Dallas, TX for Teachers Conference in October 24-26, 2013.
- Singh, A. (2013). Best Practices in Science Teaching. Workshop Presented at the International KDP Conference in Dallas, TX for Teachers Conference in October 24-26, 2013
- Singh, A. (2013). Tools for Early Childhood Science: Useful Apps in the Spotlight. Workshop for teachers at the Illinois Education & Technology Conference (IETC) in Springfield, IL on November 14-15, 2013
- Singh, A. (2012). Technological Design for Elementary Students. Presented workshop to in-service science teachers at the National Science Teachers Conference at Louisville, KY on October 18, 2012.
- Singh, A. (2012). Literature to Engage Early Childhood Learners for Science. Presented workshop to in-service science teachers at the National Science Teachers Conference at Louisville, KY on October 18, 2012.
- Singh, A. (2012). Scientist Biographies Show Assets of Stem. Presented workshop to in-

service science teachers at the National Science Teachers Conference at Indianapolis, IN on March 28, 2012

- Singh, A. (2011). Teaching Early Childhood students using the process approach. Presented at the International conference Kappa Delta PI's 48th Biennial Convo on November 3, at Indianapolis, IN.
- Singh, A. (2011). Using stories to differentiate instruction: Cultivating an engaging learning experience for children. Co-Presented at peer reviewed International Conference- Kappa Delta PI's 48th Biennial Convo on November 3 held at Indianapolis, IN.
- Singh, A. (2010). Developing Awareness of Individual Impact on the Environment Through Activities. Presented a workshop meant for elementary and middle school science teachers at the National Science Teachers Association (NSTA) conference on October 30 at Kansas City, Missouri.
- Singh, A. (2009). Walking through Millions of Years to Teach Integrated Science. Presented a paper and workshop for elementary and middle school science tea at the National Science Teachers Association (NSTA) conference on October 30 at Minneapolis, MN.
- Singh, A. (2009). Constructivism and Meeting the Needs to Middle School Science Teachers. Presented Research and a Paper at the National Association of Gifted Children (NAGC) held at St Louis, MO on November 5.
- Singh, A. (2009). Developing effective inquiry investigations for gifted science students. Presented a workshop for in-service elementary and middle school science teachers National Association of Gifted Children (NAGC) at St Louis, MO on November 5.

State

- Singh, A. (2018). Science Technology Engineering Arts and Math (STEAM) for Early Childhood Learners. Presented Workshop for Pre-K and Kg Teachers at The Prek- 8 Science Update Conference at Western Illinois University Friday, April 20, 2018.
- Singh, A. (2017). Presented at the Illinois Science Teachers Conference (ISTA&ICTM) on October 27, 20167 Dekalb, IL: Assessments for Performance Expectations.
- Singh, A. (2017). Presented at the Blue Print For Success Quincy Conference on Education October 5, 2017 Quincy, IL: How to use Assessment data for student learning?
- Singh, A. (2017). What Happens to Color in a Mixture? Presented Workshop for Pre-K and Kg Teachers at the Prek- 8 Science Update Conference at Western Illinois University Friday,

April 21, 2017.

- Singh, A. (2016). Whatever It Takes Conference – June 15-17, 2016, Galesburg, IL 1st Annual Teachers & Administrators Conference: Assessment Data for Student Learning
- Singh, A. (2016). Three Dimensional Learning for Early Childhood Learners Presented at Illinois Math & Science Teachers Conference (ISTA&ICTM) October 7, 2016 Peoria, IL.
- Singh, A., Olsen, J., Mann, R., Hartweg, K., Logan, L. (2016). STEM through A Wind Turbine Presented at the Illinois Math & Science Teachers Conference (ISTA&ICTM) on October 7, 2016 Peoria, IL
- Singh, A. (2016). Creating Unusual Foam. Presented Workshop for Pre-K and Kg Teachers at the Prek- 8 Science Update Conference at Western Illinois University Friday, April 22, 2016.
- Szyjka, S., Stinnett, M., Singh, A., Shaw, F., (2014). Illinois Reading Council on Curriculum Reconfiguration: Integrating Science & Literacy throughout St. Paul School
- Steward, F., Singh, A. (2014). Cross-Curricular Inquiry: Science (Engagement with Simple Machines) and Literacy (Techniques with Children's Books). Co-Presented at the Illinois Reading Council Conference in Springfield, IL on March 13-14, 2014.
- Singh, A. (2013). Tools for Early Childhood Science: Useful Apps in the Spotlight. Workshop for teachers at the Illinois Education & Technology Conference (IETC) in Springfield, IL on November 14-15, 2013
- Singh, A. (2012). Simulations for Science Inquiry. Presented workshop for in-service science teachers At the Illinois Science Teachers Association Conference (ISTA) on November 2 at Springfield, IL
- Singh, A. (2011). Science Technology Engineering & Mathematics (STEM): Design-Construct-Simulation. Presented workshop for in-service science teachers tilted at the Illinois Science Teachers Association Conference (ISTA) on October 29 at Tinley Park, IL.
- Singh, A. (2011). Science Technology Engineering & Mathematics (STEM): Measuring Material Strength. Presented workshop for in-service science teachers at Springfield, IL for the Illinois Science Teachers Association Conference (ISTA) on October 29. Tinley Park, IL

- Singh, A. (2010). Integration of Science and Math in the PreK Classroom. Workshop presented for Elementary in-service teachers at the Illinois Science Teachers Association (ISTA) on Nov 13 at Springfield, IL
- Singh, A. (2009). Movement of Engage Learners for Science. Presented a workshop for Elementary in-service teachers at the Illinois Science Teachers Association (ISTA) on Nov 13 Peoria, IL
- Singh, A. (2008). Catch Some Rays. Presented a workshop for elementary in-service teachers at the Illinois Science Teachers Association (ISTA) on Nov 14 at Peoria, IL
- Singh, A. (2008). Got Milk. Presented a workshop for Elementary in-service teachers at the Illinois Science Teachers Association (ISTA) on Nov 14 at Peoria, IL
- Singh, A. (2013). Science Technology Engineering and Math. Presented a 4 day workshop on Integration of Science and Math at the WIU- MTTI ISBE grant for WIU's Mathematics Institute for in-service junior high and high school teachers from July 15-22.
- Singh, A. (2014). Sid's Shoes. Presented Workshop for Pre-K and Kg Teachers at the Prek-8 Science Update Conference at Western Illinois University Friday, April 23, 2014.
- Singh, A. (2013). Dancing Milk. Presented Workshop for Pre-K and Kg Teachers at the Prek-8 Science Update Conference at Western Illinois University Friday, April 19
- Singh, A. (2013). Project Wild/Aquatics. Facilitated workshop for pre-service teachers on May 3 for IDNR.
- Singh, A. (2012). Project Wild/Aquatics. Presented workshop for pre-service teachers on October 7, 2012
- Singh, A. (2012). Oreo Discourse. Presented Workshop for Pre-K and Kg Teachers at the Prek-8 Science Update Conference at Western Illinois University Friday, April 20
- Singh, A. (2012). Project Wild/Aquatics. Presented workshop for pre-service teachers on March 15,
- Singh, A. (2012). Science Technology Engineering and Math. Presented a 3 day workshop on Integration of Science and Math at the WIU- MTTI ISBE grant for WIU's Mathematics Institute for in-service junior high and high school teachers from July 11-22.
- Singh, A. (2011). Physical Science and Technological Design. Presented workshops for in-service science and math and science teachers at the Northern Illinois Mathematics

and Science (NIMS) at Rockford Community School district, IL from June 11-15 and July 16-20.

- Singh, A. (2011). Project Wet. Facilitated workshop for pre-service teachers on September 30. for IDNR.
- Singh, A. (2011). Project Wild/Aquatics. Facilitated workshop for pre-service teachers on March 4 for IDNR.
- Singh, A. (2011). Project Wild/Aquatics. Facilitated workshop for pre-service teachers on April 10 for IDNR.
- Singh, A. (2011). Using Fun to Teach Science. Presented Workshop for Pre-K and Kg Teachers at the Prek- 8 Science Update Conference at Western Illinois University Friday, April 15.
- Singh, A. (2010). Project Wet. Facilitated workshop for pre-service teachers on September 10. for IDNR.
- Singh, A. (2010). Science Technology Engineering and Math (STEM). Presented Workshop for Pre-K and Kg Teacher at the Prek- 8 Science Update Conference at Western Illinois University Friday, April 16.
- Singh, A. (2010). Environmental and Biological Science. Presented workshops for in-service science and math and science teachers at the Northern Illinois Mathematics and Science (NIMS) at Rockford Community School district, IL from June 14-18 and July 16-20.
- Singh, A. (2010). Differentiation and Assessment of Instruction. Presented workshops for in-service elementary, middle and high school teachers at Keewanee, IL community school district on August 14-28.
- Singh, A. (2010). Differentiation to meet the needs of ELL's Presented workshops at the Kappa Delta PI, annual conference for in- service and pre-service elementary, middle and high school teachers of Macomb, IL held on October 16.
- Singh, A. (2009). Pondering Popcorn Presented Workshop for Pre-K and Kg Teacher at the Prek- 8 Science Update Conference at Western Illinois University Friday, April 24.
- Singh, A. (2009). Project Wild/Aquatics. Facilitated workshop for pre-service teachers on February 10 for IDNR.
- Singh, A. (2009). Project Wet. Facilitated workshop for pre-service teachers on March 12 for

IDNR.

Singh, A. (2009). Project Wild/Aquatics. Facilitated workshop for pre-service teachers on September 11 for IDNR.

Professional and Academic Service

Professional

1. Editorial Review Board of the Journal of Science Teacher Education (JSTE) since 2008.
2. Reviewers for Journal of Science Teacher Education since 2009
3. Reviewer for Journal of Elementary Science Education (JESE) since 2009

Professional Workshops:

Science Workshop for all School Teachers on: Science Curriculum Mapping

January 12-13, 2017

Spring Valley, IL

Spring Valley Elementary School District #99

800 N. Richards Street

Spring Valley, IL 61362

Through Office for Study Abroad and Outreach

ILBC Schools in Myanmar

1. Myanmar Teachers and Educators (April 30- May 4, 2018): Science Education/Education Workshops
2. Myanmar Teachers and Educators (April 30- May 4, 2017): Science Education/Education Workshops
3. Myanmar Teachers and Educators (April 10- May 7, 2016): Science Education/Education Workshops
4. Myanmar Teachers and Educators (May 14- June 5, 2015): Science Education/Education Workshops
5. Myanmar Teachers and Educators (May 14- May 22, 2014): Science Education/Education Workshops

Regional

2008 to present: Coordinate and Facilitate Regional Science Olympiad run by the Science Education Center, WIU.

Facilitate Project Wet and Wild & Aquatics workshops for pre-service and in-service teachers for Illinois DNR.

2008 to present: Event Captain for various Science Olympiad Events.

University

2012 – to present: Member of the University Teacher Education Committee (UCEP).

2011-2014: Member of the Center for Innovation in Teaching and Research Advisory Committee at WIU.

2011 – 2013: Member of the Professional Research & Creative Activities Committee at WIU.

College/ Department

2012 – to present: Kappa Delta Pi Counselor (Department)

2012- 2016: Nominations and Elections Committee (Department)

2011- 2014: Undergraduate Academic Affairs Committee (UAAC) (College)

2009-2011: C&I Scholarship Committee (Department)

2008 -2012: Kappa Delta Pi President (Department)

2012 – to present: Kappa Delta Pi Counselor

Community

2011- to present: Wesley Methodist Church Trustee

2012- to present: Member of the Wesley Methodist Church Witness Team

Professional Memberships/Affiliations

2004 to present: National Science Teachers Association (NSTA)

2006 to present: National Association of Gifted Children (NAGC)

2008 to present: Illinois Science Teachers Association (ISTA)

2009 to 2012: Kappa Delta Pi International Honors Society of Education (KDP)

2009 to present: Association of Supervision and Curriculum Development (ASCD)