



WESTERN REGIONAL NOYCE NETWORK

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The Impact of Regional Conferences on STEM Teachers' Social Networks

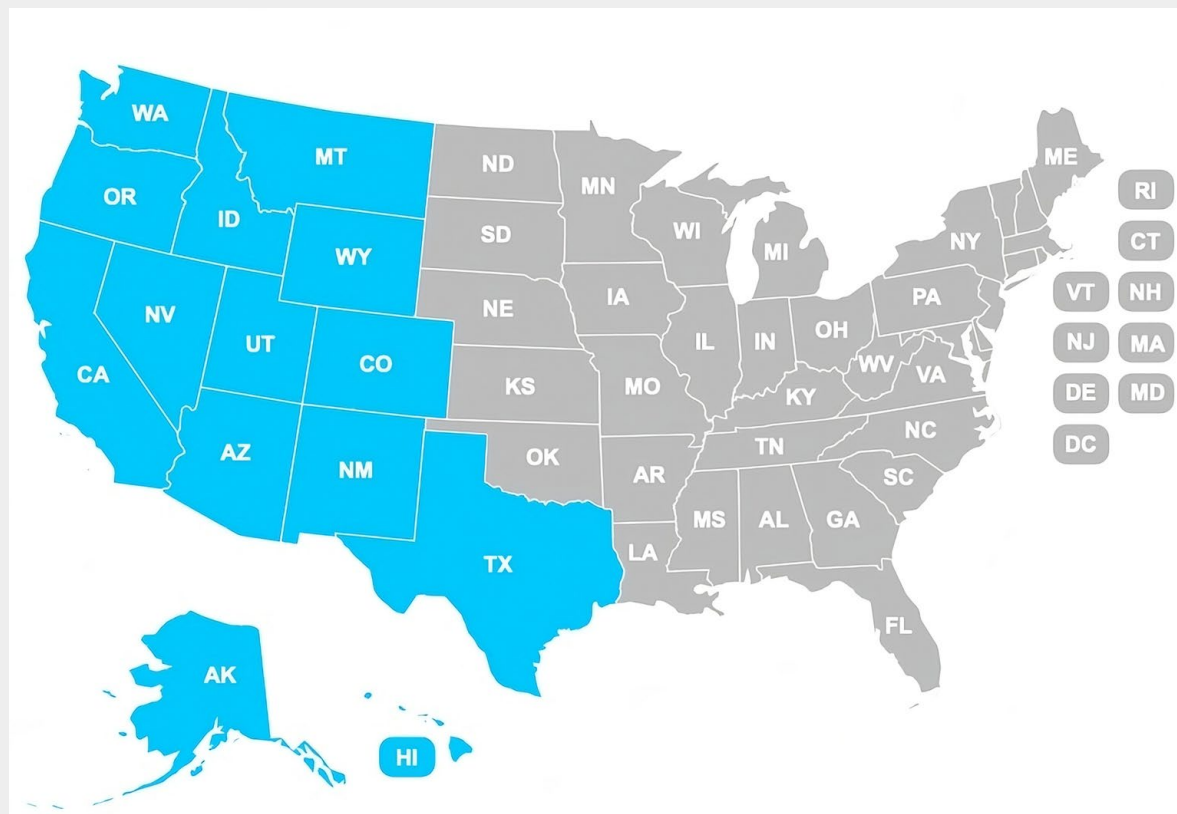


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Project

Western Regional Noyce Network (WRNN) integrates the efforts of 13 institutions across a 14-state region of the Western U.S. to

- Foster community and support for Noyce recipients
- Increase the quality preparation of Noyce recipients
- Reinforce recipients' commitment to teaching profession



WRNN Activities

- Annual conferences
- Professional development offerings
- Regional networking events
- Development of an online learning community
- Robust formative and impact evaluation

Research Questions

- To what extent do WRNN annual conferences expand Noyce teachers' professional social networks in K-12 education? How sustainable are these networks several months after a conference?
- What topics do Noyce scholars discuss in these networks? To what extent racial and social justice issues are discussed in these networks?
- In what ways and to what extent do these networks support Noyce scholars' development as a teacher?

Social Network Analysis (SNA) Survey (Polizzi et al., 2019, 2021)

Pre-conference : One month before
Post-conference : Right after
Follow-up : Ten months after



WRNN 2023

Out of 155 Noyce recipients

- 61 completed both pre- and post-surveys (40%)
- 33 completed all three surveys (20%)

	Mean (diff.)	S.E. (diff.)	t value	df	95% C.I.		Cohen's d
					Lower	Upper	
Pre to Post	2.85***	0.32	8.95	53	2.21	3.50	1.22
Post to Follow-up	-2.30***	0.43	-5.33	32	-3.18	-1.42	-0.93
Pre to Follow-up	0.58	0.47	1.22	32	1.54	1.53	0.21

WRNN 2024

Out of 223 Noyce recipients, 99 completed both pre- and post-surveys (44%)

	Mean (diff.)	S.E. (diff.)	t value	df	95% C.I.		Cohen's d
					Lower	Upper	
Pre to Post	3.24***	0.27	12.52	98	2.88	3.97	1.26

Challenges for Staying Connected

- Time and opportunity
- Lack of reason
- Physical distance and virtual space
- Different subjects/grade bands among teachers
- Losing/failing to exchange contact info (using the conference app!)
- Difference in social media usage

Topics (emerged from the conference) Discussed within the Network

- **WRNN 2023**
 - Lesson planning
 - Classroom management
 - Culturally responsive teaching
 - Inclusive curriculum and pedagogy
 - Project- and phenomenon-based learning
- **WRNN 2024**
 - Instructional practices and classroom engagement (PBL, math modeling, CRT)
 - Working for social justice, centering DEIJ
 - Connecting within the Noyce community, and connecting the Noyce community to external partners
 - Use of technology, especially AI

Network Support for Development as a Teacher

- Sharing resources, lesson plans, curriculum, and teaching strategies
- Collaborating to present in future conferences
- Collaborating to develop and examine teaching materials
- Providing and receiving advice and guidance
- Growing professionally and personally
- Encouraging, empowering, and broadening interactions
- Supporting and developing networks

References

Polizzi, S. J., Ofem, B., Coyle, W., Lundquist, K., & Rushton, G. T. (2019). The use of visual network scales in teacher leader development. *Teaching and Teacher Education*, 83, 42–53.

Polizzi, S. J., Zhu, Y., Reid, J. W., Ofem, B., Salisbury, S., Beeth, M., Roehrig, G., Mohr-Schroeder, M., Sheppard, K., & Rushton, G. T. (2021). Science and mathematics teacher communities of practice: social influences on discipline-based identity and self-efficacy beliefs. *International Journal of STEM Education*, 8(1), 1–18.