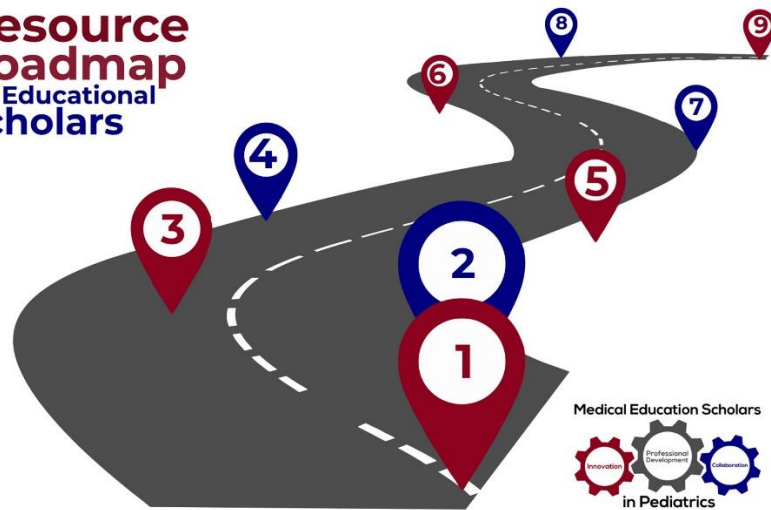**Resource Roadmap for Educational Scholars**

Medical Education Scholars in Pediatrics (MESP) Mission: Develop and support a community of educators seeking to incorporate scholarship into their initiatives for the purposes of dissemination, growth, and promotion.
MESP Vision: Collaborative and thriving community of educational scholars in the UWSMPH Department of Pediatrics.
MESP Pediatrics website l Listserv: mesp@g-groups.wisc.edu

- This Roadmap will **navigate you through independent learning opportunities** that will bring you closer to becoming an educational scholar
- There are **several learning opportunities pertinent to each subject area**, including MESP recorded sessions, online modules, articles, chapters, visiting speakers, and other recorded presentations.
- Topics that MESP leadership consider **core concepts for all educational scholars are highlighted in yellow**.
- The "pin it" column was built for the purpose of implementing a completion tracking system in the future for trainees. *The "pin it" feature is not currently functional.*
- This roadmap is a **work in progress**. Suggestions for improvement & new resources / topics are very welcome! Please send to Nikki St Clair & Sush Srinivasan, nstclair@wisc.edu & srinivasan8@wisc.edu.
- There are **9 main categories of content:**

  1. Educational Scholarship: Definition & Overview
  2. Curriculum Development
  3. Assessment & Evaluation
  4. Research Design
  5. Research Methods
  6. Data Management
  7. Scholarship Dissemination
  8. Leadership & Collaboration
  9. Helpful Educator Resources

*The contents of this roadmap, including the roadmap framework, was created originally by **Drs. Cindy Howard, Stephanie Lauden, Risha Moskalewicz, Mike Pitt, Tina Slusher, and Andrew Wu** for the University of Minnesota Pediatric Residency Global Health Track, and was adapted with their permission for creation of this resource.*
Please refer to Landry et al, "A Passport for a New Era of Learning." Am J Trop Med Hyg. 2021 Oct; 105(4): 872–875 for additional implementation strategies.

Resource Key			
🖥	*Online Module (AAMC, other)*	📄	*Article, chapter, other reading*
⚙	*MESP Recorded Session*	🎬	*Video (e.g. Grand Rounds, other)*
🎙	*Podcast*	📽	*Webinar*
🌐	*Website*	📊	*Training Program*
☁	*Collaboration / networking opportunity*	👥	*Leadership opportunity*

#	Subject Area		Resource	☑
	1. EDUCATIONAL SCHOLARSHIP: DEFINITION & OVERVIEW			
1.1	**Defining educational scholarship**		Read the article, "Advancing educators and education by defining the components and evidence associated with educational scholarship." (Simpson et al, 2007)	(Pin it, 1.1)
			Read the article, "Boyer's expanded definition of scholarship, the standards for assessing scholarship, and the elusiveness of the scholarship of teaching."	(Pin it, 1.1)
1.2	**Getting started as a Med Ed Scholar**		Watch the AAMC webinar, "Disrupting the Definition of Scholarship: Advancing Your Career with Nontraditional Scholarship AAMC" (Becker et al, Feb 2024)	(Pin it, 1.2)
			Read the infographic, "Hit the Ground Running: Engaging Early-Career Medical Educators in Scholarly Activity." (Flint et al, 2019)	(Pin it, 1.2)
			Watch the MESP session, "Becoming a Med Ed Scholar: Opportunities and Training Paths." (Ruedinger, Sklansky, St Clair, 2023)	(Pin it, 1.2)
			Peruse the UWSMPH website, "Teaching as Scholarship."	(Pin it, 1.2)
			Peruse the University of Vermont Teaching Academy website, "Resources for medical education research & scholarship."	(Pin it, 1.2)
			Review the curated resources in the "Pediatric Hospital Medicine and Complex Care Research and Scholarship Guide." (Coller et al, 2024)	(Pin it, 1.2)
			Read this book, "Education scholarship in healthcare: the health scholar's toolbox." (Fitzgerald & Bosch, 2023)	(Pin it, 1.2)
			Read this ebook, "Conducting research in education: from idea to publication." (AAMC, 2016)	(Pin it, 1.2)
			Listen to the podcast, "How to Flex your MedEd Scholarship Muscles." (Kryzhanovskaya, 2022)	(Pin it, 1.2)
1.3	**Developing your educational philosophy**		*Please send suggestions for resources!*	(Pin it, 1.3)
1.4	***In the works***: **examples of educational scholarly projects**		Watch the MESP session, "Combining advocacy and ambulatory pediatrics: an adventure in curriculum development." (Sleeth & Yanny, 2024)	(Pin it, 1.4)
			Watch the MESP session, "Medical humanities & med ed scholarship." (Mahoney, 2022)	(Pin it, 1.4)
			Watch the MESP session, "Pediatric Procedural Sedation Cross-Specialty Fellowship Curriculum." (Tiedt, 2022)	(Pin it, 1.4)
			Watch the MESP session, "The science of storyslams" and "Longitudinal well-being curriculum for pediatric residents." (Babal & Kloster, 2022)	(Pin it, 1.4)
			Watch the MESP session, "Scholarly project brainstorming." (Lee-Miller & Ruedinger, 2021)	(Pin it, 1.4)

2. CURRICULUM DEVELOPMENT

#	Subject Area		Resource	☑
2.1	Curriculum development frameworks		Watch MESP Session, "Kern's 6 step approach to curriculum development." (Ruedinger, 2022)	(Pin it, 2.1)
			Read the book, "Curriculum Development for Medical Education: A Six-Step Approach." (Kern et al, 2009)	(Pin it, 2.1)
2.2	Writing learning objectives		Review ICEP's "Guidelines for writing learning objectives."	(Pin it, 2.2)

3. ASSESSMENT & EVALUATION

#	Subject Area		Resource	☑
3.1	Assessment of learners		Watch MESP session, "Clinical skills assessment." (Bergstrom, 2022)	(Pin it, 3.1)
			Read the book, "Assessment in health professions education." (Yudkowsky et al, 2019)	(Pin it, 3.1)
			Watch UWSMPH Peds Grand Rounds, "Competency Based Medical Education in Pediatrics: An Update on Entrustable Professional Activities and Milestones." (Burke, 2023)	(Pin it, 3.1)
3.2	Evaluation of programs		Review the "Evaluating educational programs" resources listed at the University of Vermont resources for medical education research and scholarship website.	(Pin it, 3.2)
			Read this resource, "The Kirkpatrick Model: a tool for evaluating educational research."	(Pin it, 3.2)

4. RESEARCH DESIGN

#	Subject Area		Resource	☑
4.1	Searching the literature		Watch MESP Session, "Searching the literature for health education research." (Hooper-Lane, 2023)	(Pin it, 4.1)
			Watch the AAMC webinar, "Ready to help! Partnering with your medical librarian to maximize scholarly success." (Atwood et al, 2023)	(Pin it, 4.1)
			Read the article, "A typology of reviews: an analysis of 14 review types and associated methodologies." (Grant et al, 2009)	(Pin it, 4.1)
			Check out Ebling Library's website, "Literature searching for health educational research: overview" and "Searching the literature."	(Pin it, 4.1)
4.2	Getting started with research		Watch MESP session, "Getting started for researchers." (Singh-Verdeflor, 2023)	(Pin it, 4.2)
			Review the "Human subjects and IRB applications" resources listed at the University of Vermont resources for medical education research and scholarship website.	(Pin it, 4.2)
			Review the "Logic models" resources listed at the University of Vermont resources for medical education research and scholarship website.	(Pin it, 4.2)

#	Subject Area		Resource	
		🗎	Read the book, "How to design and evaluate research in education, 11th edition." (Fraenkel et, 2023)	(Pin it, 4.2)
		🗎	Review the curated resources in the "Pediatric Hospital Medicine and Complex Care Research and Scholarship Guide." (Coller et al, 2024)	(Pin it, 4.2)
4.3	Formulating a research question	🗎	Read the article, "Research questions, hypotheses and objectives." (Farrugia et al, 2010)	(Pin it, 4.3)
		🎬	Watch the UWSMPH Peds Empowering Pediatricians Learning Qualitative Research EXPLQR core curriculum video, "Refining research questions and selecting data collection methods." (Kerr, 2023)	(Pin it, 4.3)
4.4	Conceptual frameworks	🗎	Read the article, "Conceptual frameworks to illuminate and magnify." (Bordage, 2009)	(Pin it, 4.4)
		⚙	Watch MESP Session, "Conceptual Frameworks." (Srinivasan, 2021, starts at 24:30)	(Pin it, 4.4)
4.5	Funding sources & grant writing		*Please send suggestions for resources!*	(Pin it, 4.5)

5. RESEARCH METHODS

#	Subject Area		Resource	☑
5.1	Choosing the right method for your question	🌐	Review the "Designing a research study" resources listed at the University of Vermont resources for medical education research and scholarship website.	(Pin it, 5.1)
5.2	Measuring educational outcomes with reliability and validity	🗎	Read the article, "Current concepts in validity and reliability for psychometric instruments: theory and application." (Cook & Beckman, 2005)	(Pin it, 5.2)
		🗎	Review the infographic, "Reliability and validity in educational measurement."	(Pin it, 5.2)
5.3	Qualitative methods	🎙	Listen to this Academic Medicine podcast, "Academic medicine podcast: practical guidance for designing & reporting qualitative research." (O'Brien et al, 2023)	(Pin it, 5.3)
		🌐	Review the "Qualitative research" resources listed at the University of Vermont resources for medical education research and scholarship website.	(Pin it, 5.3)
		🎬	Watch the UWSMPH Peds Empowering Pediatricians Learning Qualitative Research EXPLQR core curriculum videos. (Multiple presenters, 2023; intranet login required)	(Pin it, 5.3)
5.4	Quantitative methods	🎙	Listen to this Academic medicine podcast, "Striving for clarity in designing and reporting quantitative research." (West et al, 2023)	(Pin it, 5.4)
5.5	Survey design	⚙	Watch the MESP session, "Overview of the UW Survey Center." (Dykema, 2023)	(Pin it, 5.5)
		🎬	Watch the video, "Surveys." Nackers et al, 2024, Dept of Pediatrics Tech Tools.	(Pin it, 5.5)
		🌐	Review the "Survey design" resources listed at the University of Vermont resources for medical education research and scholarship website.	(Pin it, 5.5)
5.6	Concept mapping	⚙	Watch the MESP session, "Introduction to concept mapping." (Babal, 2023)	(Pin it, 5.6)

5.7	**Quality improvement methods in educational research**	🎬	Watch the UWSMPH Peds Flourish Hour [presentation](#), "You can improve! Tackling logistics of tracking and analyzing your QI data." (Shadman, 2022)	📍 (Pin it, 5.7)

6. DATA MANAGEMENT

#	Subject Area		Resource	☑
6.1	**Data collection methods**	🎬	Watch the UWSMPH Peds Empowering Pediatricians Learning Qualitative Research [EXPLQR core curriculum video](#), "Refining research questions and selecting data collection methods." (Kerr, 2023)	📍 (Pin it, 6.1)
6.2	**Use of technology and artificial intelligence in educational research**	🖥️	Watch the [AAMC Webinar](#), "Chat GPT: transforming scholarly pursuits with conversational AI." (Kenneally et al, 2023)	📍 (Pin it, 6.2)
6.3	**Preparing data for statistical consultation**		*Please send suggestions for resources!*	📍 (Pin it, 6.3)

7. SCHOLARSHIP DISSEMINATION

| #	Subject Area		Resource	☑
7.1	**Branding in educational scholarship**	MESP logo	Watch [MESP session](#), "Don't bury the brand in the sand: the importance of branding in med ed scholarship." (St Clair, 2022)	📍 (Pin it, 7.1)
7.2	**Publication venues**	🖥️	Watch the [AAMC webinar](#), "Effective Publication Strategies: 12 Tips for Selecting the Right Journal for Your Research and Scholarship." (Berry, 2024)	📍 (Pin it, 7.2)
		📄	Peruse the [curated resource](#), "AAMC Annotated bibliography of journals for educational scholarship." (Berry et al, 2022)	📍 (Pin it, 7.2)
		🌐	Try out the [website](#), "JANE (Journal/Author Name Estimator)" to find potential target journals	📍 (Pin it, 7.2)
7.3	**Getting started with dissemination of your scholarly work**	MESP logo	Watch the [MESP virtual workshop](#), "Disseminate scholarship of teaching: how to publish a teaching tool or curriculum workshop." (Wolfe, 2023)	📍 (Pin it, 7.3)
		🎬	Watch the UWSMPH Peds Grand Rounds, "Making your work in med ed scholarly & successful." (Weisgerber & Rogers, 2024)	📍 (Pin it, 7.3)
		🖥️	Subscribe to the [AAMC Scholarly Publishing Webinar Series](#) (upcoming and recorded sessions available)	📍 (Pin it, 7.3)
		🖥️	Watch the [AAMC webinar](#), "Disseminating Your Educational Innovations Through Scholarship." (Huang, 2023)	📍 (Pin it, 7.3)
		🖥️	Watch the AAMC webinar, "Converting Your Teaching and Assessment into Scholarship Through MedEdPORTAL." (Akinola & Kreutzer, 2023)	📍 (Pin it, 7.3)
7.4	**Abstracts**	MESP logo	Watch the [MESP session](#), "Key elements of writing an abstract for a clinical conference: The MadLibs abstract writing approach." (Moreno, 2022)	📍 (Pin it, 7.4)
		🎬	Watch the UWSMPH Peds Empowering Pediatricians Learning Qualitative Research [EXPLQR core curriculum video](#), "Abstract writing: tips & tricks." (Coller, 2023)	📍 (Pin it, 7.4)
		🖥️	Watch the [AAMC webinar](#), "Writing effective titles and abstracts." (Campi, 2023)	📍

#	Subject Area		Resource	☑
				(Pin it, 7.4)
7.5	**Posters**		Watch the MESP session, "Pointers & pitfalls for poster sessions, podium presentations, & elevator pitches." (Pitt, 2022)	(Pin it, 7.5)
			Read the article, "Creating effective poster presentations: AMEE Guide No. 40." (Hess, 2009)	(Pin it, 7.5)
			Watch the video, "Creating posters in PPT: A video tutorial." (Sleight, 2010)	(Pin it, 7.5)
7.6	**Workshops**		*Please send suggestions for resources!*	(Pin it, 7.6)
7.7	**Scholarly writing**		Watch the AAMC webinar, "Publishing in Academic Medicine: Editors' Insights and Tips for Success AAMC webinar." (O'Brien et al, 2023)	(Pin it, 7.7)
			Read the reference handbook, "Handbook for Academic Medicine Writing Workshop." (Farmakidis et al)	(Pin it, 7.7)
			Peruse the AAMC website, "Fostering scholarship in medical education: resources for authors & reviewers."	(Pin it, 7.7)
			Review the "Writing a paper for publication" resources listed at the University of Vermont resources for medical education research and scholarship website.	(Pin it, 7.7)
			Watch the AAMC webinar, "Using inclusive language in scholarly writing: a roundtable discussion." (Lypson et al, 2023)	(Pin it, 7.7)
			Read the article, "Writing education studies for publication." (Sullivan, 2012)	(Pin it, 7.7)
			Read the AMEE Guide No 74, "Writing for academia: getting your research into print." (Coverdale, 2013)	(Pin it, 7.7)
			Peruse the *Perspectives on Medical Education* Writer's Craft Collection series of publications, "Resources to enhance your academic writing."	(Pin it, 7.7)
7.8	**Responding to peer reviews**		Watch the AAMC webinar, "Responding to peer review: insights for successfully revising your manuscript." (Tucker et al, 2023)	(Pin it, 7.8)

8. LEADERSHIP & COLLABORATION

#	Subject Area		Resource	☑
8.1	**Mentoring, advising & coaching**		Watch UWSMPH Peds Grand Rounds, "Coaching for change: Using a coach framework to foster growth in your learners." (Orlov, 2023)	(Pin it, 8.1)
			Peruse the resources UWSMPH Office of Faculty Affairs & Development website, "Mentoring, coaching & advising."	(Pin it, 8.1)
8.2	**Promotion: Educator portfolios & candidate statements**		Watch the MESP session, "Making an Educator's Portfolio work for you: strategies & tips." (St Clair et al, 2024)	(Pin it, 8.2)
			Peruse the resources at the UWSMPH Dept of Peds CHS Track promotions website	(Pin it, 8.2)
			Peruse the resources at the UWSMPH Office of Faculty Affairs & Development website, "Preparing for promotion."	(Pin it, 8.2)

#	Subject Area		Resource	☑
8.3	**Reviewing manuscripts**		Watch the AAMC webinar, "What editors want: an overview for reviewers." (Academic Medicine Editors & Staff, 2016)	(Pin it, 8.3)
			Watch the AAMC webinar, "A behind-the-scenes look at peer review: Insights from editors and reviewers."	(Pin it, 8.3)
			Peruse the AAMC website, "Fostering scholarship in medical education: resources for authors & reviewers."	(Pin it, 8.3)
			Read the AAMC "Review criteria for research manuscripts." (2015)	(Pin it, 8.3)
8.4	**Educator networks**		Attend an annual educator meeting and/or join a workgroup within an organization • Association of Pediatric Program Directors (APPD) • Association of American Medical Colleges (AAMC) • Accreditation Council for Graduate Medical Education (ACGME) • Council on Pediatric Subspecialties (COPS) • Council on Medical Student Education in Pediatrics (COMSEP)	(Pin it, 8.4)
			Tune in to the Academic Medicine Podcast	(Pin it, 8.4)
			Tune in to the PAPERs Podcast	(Pin it, 8.4)
8.5	**Training programs for Med Ed Scholars**		Enroll in the 3-year Academic Pediatric Association Educational Scholars Program	(Pin it, 8.5)
			Enroll in the Society for Academic Continuing Medical Education (SACME) CPD Scholarship Program: Advancing Research and Evaluation in Health Professional Education	(Pin it, 8.5)
			If you are a fellow, enroll in the Association of Pediatric Program Directors 2-year SMERFS Program (Supporting Medical Education Research Fellow Scholars)	(Pin it, 8.5)
			Enroll in the AAMC Medical Education Research Certificate (MERC) Program.	(Pin it, 8.5)
			Enroll in the UWSMPH Office of Faculty Affairs & Development "Educational Scholarship Collaborative." (1 hr monthly sessions; Early summer application deadline; email ofad@med.wisc.edu)	(Pin it, 8.5)
			Read the article, "Guiding Academic Clinician Educators at Research-Intensive Institutions: a Framework for Chairs, Chiefs, and Mentors." (Chang et al, 2021)	(Pin it, 8.5)
8.6	**Leadership opportunities for Med Ed Scholars**		Serve as a mentor for the Academic Pediatric Association Educational Scholars Program	(Pin it, 8.6)

9. ADDITIONAL EDUCATOR RESOURCES

#	Subject Area		Resource	☑
9.1	**Comprehensive resources designed for educators**		Peruse the resources and training materials at this UW website, "Center for Teaching, Learning & Mentoring"	(Pin it, 9.1)
			Peruse the resources UWSMPH Office of Faculty Affairs & Development website, "Developing Educators"	(Pin it, 9.1)
9.2	**Teaching tips & strategies**		Watch UWSMPH Peds Grand Rounds, "Teaching for learning: selecting the right tool for the job." (Wolfe, 2023)	(Pin it, 9.2)

		🎬	Watch UWSMPH Peds Grand Rounds, "The science of teaching the art of medicine: empathy & improv in medical education." (Zelenski, 2024)	(Pin it, 9.2)
		🎬	Watch UWSMPH Peds Professional Development session, "A combination of 'Is this thing on?' and 'Point and click.'" (Pitt, 2020)	(Pin it, 9.2)
		📋	Review the resource, "One minute preceptor." PAEA's Committee on Clinical Education.	(Pin it, 9.2)
		📋	Read the article, "Developing an effective inpatient learning climate." (Harper et al, 2019)	(Pin it, 9.2)
		💻	Peruse the modules in the "Clinical Reasoning Toolkit." (Society to Improve Diagnosis in Medicine)	(Pin it, 9.2)
		🎬	Watch the video, "Engaging your audience on zoom." How We Work Dept of Pediatrics Initiative.	(Pin it, 9.2)
		🎬	Watch the video, "Dynamic Public Speaking." Brichta, 2021.	(Pin it, 9.2)
		🎬	Watch the video, "AI: Clinical and Educational Uses." (Johnston et al, 2024)	(Pin it, 9.2)
		🌐	Peruse the resources UWSMPH Office of Faculty Affairs & Development website, "Presentation & facilitation skills"	(Pin it, 9.2)
		🌐	Peruse the resources UWSMPH Office of Faculty Affairs & Development website, "Teaching & learning strategies"	(Pin it, 9.2)
9.3	**Online learning platforms**	🌐	Peruse the resources UWSMPH Office of Faculty Affairs & Development website, "Online learning tools"	(Pin it, 9.3)
9.4	**Interprofessional education**	🌐	Peruse the resources UWSMPH Office of Faculty Affairs & Development website, "Interprofessional education"	(Pin it, 9.4)
9.5	**Insights & advice from expert educators**	Medical Education Scholars in Pediatrics	Watch the MESP session, "Top ten recommendations for med ed scholars: wisdom from our departing scholar." (Frohna, 2021)	(Pin it, 9.5)
		Medical Education Scholars in Pediatrics	Watch the MESP session, "Learn from the Legends: Tips & Insights from Top UW Pediatric Educators." (Ruedinger et al, 2023)	(Pin it, 9.5)
9.6	**Approach to challenging learners**	📋	Review this 3-step approach to the challenging learner (Stiles et al, 2015)	(Pin it, 9.6)
		📋	Read this e-resource, "Educational diagnosis and management of challenging learning situations in medical education." (Lacasse, 2009)	(Pin it, 9.6)
		📋	Read the article, "Challenging learning situations in medical education." (Lacasse et al, 2012)	(Pin it, 9.6)
		🌐	Peruse the resources UWSMPH Office of Faculty Affairs & Development website, "Challenging learner"	(Pin it, 9.6)
9.7	**Feedback 101**	🌐	Peruse the resources at the UWSMPH Office of Faculty Affairs & Development website, "Feeback and evaluation."	(Pin it, 9.7)
9.8	**Diversity, Equity & Inclusion**	🌐	Peruse the resources at the UWSMPH Office of Faculty Affairs & Development website, "Diversity, equity & inclusion."	(Pin it, 9.8)
9.9	**Learning theories**	📋	Navigate through this "Learning Theories Map." (HoTEL, 2013)	(Pin it, 9.9)