

# UNM SOLE SOURCE PO: STATISTICAL LITERACY

## Proposed Sole Source Purchase Form

UNM Proposed Sole Source Form – Rev 8/24/18

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Pursuant to New Mexico Procurement law, the UNM Purchasing Department will post your completed form on the UNM Sunshine Portal for 30 days prior to purchase of the goods/services.

### I. GENERAL INFORMATION. PLEASE PROVIDE THE FOLLOWING:

Date of Request

Requisition Number (If Applicable)

Request Submitted by:

Title

Department

Email

Phone

Proposed Vendor

Amount

Buyer Team - See Commodity list at <http://purchase.unm.edu/staff--commodities.html>

### Provide a basic description of goods/services to be provided:

**Prof. Milo Schield** will perform three core roles as a consultant in the 2019-2020 academic year, and continuing through Spring 2022.

**1. Administration.** NM Higher Education Department, General Education Core Competencies: (a) Propose Statistical Literacy Competencies as additions to the current "Area II: Statistics Competencies" to the New Mexico Curriculum and Articulation Committee; (b) Attend a meeting (9/19-20/2019 or 11/21-22/2019) to advocate for the proposal. UNM new Statistical Literacy course in the core curriculum: Propose a new Statistical Literacy course: (a) Follow procedures to add it to the UNM course catalog; (b) Follow procedures to include it in the list of Core Curriculum Courses.

**2. Coordination.** Course development under existing GenEd requirements: (a) Spring 2020 possibly under existing requirements; (b) Fall 2020 and forward expect GenEd requirements to include Full Stat Lit SLOs. Identify a Grad TA who could teach this new course. Coordinating TAs and other instructors to teach the course. Course evaluation and assessment under IRB approval for Stat Ed research publications.

**3. TA Training.** General Math & Stat, Grad TA training Pre-semester and concurrent. Coordinate with OILS and CTE for General TA Training instruction. Coordinate with MATH 1350 Coordinator (Nina Greenberg) and Monika Nitsche.

### Why is this purchase needed?

Dr. Schield will perform three roles to develop a sustainable Statistical Literacy course and curriculum at UNM: Administration, Coordination, and TA Training. Of these, Coordination is why he is the sole source. Following the recommendation of Prof. Erik Erhardt's 2017 Teaching Fellow Project Report, UNM needs a Statistical Literacy course; this is supported by the Deans of A&S and of University College and Honors College. The topics and student learning outcomes (SLOs) contained in a Statistical Literacy course are widely desired and differ substantially from the traditional Introduction to Statistics course (MATH 1350). Dr. Schield, an American Statistical Association Fellow for being a world leader in developing, teaching, and researching Statistical Literacy, has the experience and expertise to develop the best possible Stat Lit course at UNM, provide the necessary teacher training for instructors of the course, and research the learning outcomes to continue to improve the course. Of the 3-5 people in his peer group, he is interested and motivated to do this at UNM.

### II. BASIS FOR SOLE SOURCE PROCUREMENT. CHOOSE APPLICABLE BOX(ES) AND PROVIDE ADDITIONAL INFORMATION, AS REQUESTED:

Proprietary item, technology or service only available from the proposed vendor. (Check box and describe proprietary component)

2. Coordination: Dr. Milo Schield's textbook and related materials will be the first confounder-focused Statistical Literacy book. Of the other top twelve statistical literacy authors, Dr. Schield's text is quite different. Background: Statistical Literacy is closely related to numeracy, quantitative literacy/reasoning, and statistical thinking/reasoning; they all focus on concepts or techniques involving numbers in context -- typically numbers presented in the daily news. In Schield's book, instead of algebra, it uses ordinary English to describe and compare counts, measures and conditional probabilities. It focuses on reading and interpreting statistics presented in tables and graphs. It presents a new graphical technique to show how a factor is "taken into account" or is "controlled for." It requires "hypothetical thinking" for students to imagine how

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things might have been defined, measured, compared or presented differently. It requires hypothetical thinking for students to imagine plausible confounders for observed associations. This is practice for everyday living in the real world.

2. Coordination: With roughly 100 publications in the area of statistical literacy, he will continue his research program to continue to study and improve the education of UNM students.

Compatibility requirement with existing item, technology or service. (Check box and describe compatibility requirement)

Renewal of support/maintenance/subscription of software, technology or other intellectual property. (Check box and describe)

Other Basis for Sole Source: Please describe below:

As Vice-President of the National Numeracy Network, Dr. Schield is interested to bring the national conference to UNM. This will increase the visibility of UNM's role in Statistics Education and Literacy. Proposed years are October 2020 or 2021.

### III. SUPPLEMENTAL DETAILS. PLEASE PROVIDE ADDITIONAL INFORMATION AS REQUESTED BELOW:

Describe in detail the unique capabilities of the proposed vendor's goods/service and/or personnel performing the work and why this constitutes the only source. Focus on what is unique about the goods/service and why no other vendor could meet your needs.

The proposed work is directly related to Dr. Schield's work/textbook. As a world leader in statistical literacy with roughly 100 publications in the area and scores of invited talks, and as American Statistical Association Fellow for his contributions to statistical literacy and education, he has a novel confounder-based perspective on the concepts important for introductory statistics and the experience to make the best decisions for course development and teaching assistant training. There is no better person in the world, and he's available and interested to work at UNM.

Erik Erhardt, statistics hiring committee chair, has attended the US Conference on Teaching Statistics 2015, 17, and 19, has discussed hiring a person in this role with many leaders in statistics education, including Jessica Utts, past president of the American Statistical Association and another world leader in Statistical Literacy. The high respect for Dr. Schield's work and research is universal.

Describe the due diligence made to locate other possible sources including communications with other universities, communications with similar providers, web searches, yellow page searches, review of advertisements and trade publications, etc.

Spring 2019 UNM Statistics Open Rank Lecturer hire attracted 25 candidates, several were qualified, we interviewed 3 (Dr. Schield among them), and Dr. Schield was unattainable at a Lecturer rank and salary and the other two took other positions. The opportunity to find another strategy to attract Dr. Schield created this consulting position.

Advertising for Lecturer included: UNM Math and Statistics website frontpage; HigherEdJobs <http://higherjobs.com/>; ASA, AmStat News for June; ASA Community forums including the Albuquerque Chapter, Section on Statistical Education Mentoring Program, Statistical Education Section, and Teaching Statistics in Practice; Prof. Erhardt attended USCOTS (US Conference on Teaching Statistics) and discussed the position with other Stat Lit leaders and handed out fliers and discussed the position with instructors; U Florida Jobs <https://forms.stat.ufl.edu/statistics-jobs/>; U Washington jobs <https://www.stat.washington.edu/news-resources/jobs/>; Purdue U jobs <http://www.stat.purdue.edu/resources/jobs/listings/jobs/added/>; and Indeed.com.

List the other vendors who were contacted. Please describe the specs/qualifications/criteria that the other vendors were unable to satisfy.

No additional vendors were contacted explicitly beyond those sources listed above. Contact with many other Stat Lit world leaders and instructors were made and those who were interested applied for the position.