Beyond Traditional Literature Reviews
Mapping Your Research Landscape with Digital Tools

A 3-Day Hands-On Workshop

Bibliometric Analysis & AI-Assisted Research Synthesis

Dates:	November 24-26, 2025
Time:	2 hours daily
Location:	Faculty of Education, Western University
Instructor:	Dr. Diego Sornoza-Parrales, Associate Professor
	Universidad Estatal del Sur de Manabí (UNESUM)
Maximum Enrollment:	25 participants

Workshop Overview

Are you overwhelmed by the volume of literature in your field? Ready to move beyond traditional literature reviews? This intensive workshop introduces PhD students to modern digital tools that transform how we understand, analyze, and synthesize research literature.

Through hands-on practice with bibliometric analysis and AI-assisted writing tools, you'll learn to map entire research landscapes, identify key trends and gaps, and build a solid foundation for your dissertation. By the end of this workshop, you'll have **a complete draft of a research paper** using your own topic.

What You'll Learn

Day 1: Foundation & Data Collection

- Developing and refining research questions with AI assistance
- Systematic database searching (Scopus, Web of Science)
- Building effective search queries
- Data export and preparation for analysis
- Introduction to R, Bibliometrix and Biblioshiny

Day 2: Analysis & Visualization

- Bibliometric analysis fundamentals
- Creating publication trends and citation networks
- Co-authorship and collaboration mapping

- Keyword co-occurrence analysis
- Thematic evolution visualization

Day 3: Interpretation & Academic Writing

- Reading and interpreting bibliometric outputs
- Identifying research gaps and opportunities
- AI-assisted synthesis and writing
- Structuring your bibliometric paper
- Finalizing your draft manuscript

Learning Outcomes

By the end of this workshop, you will be able to:

Design and execute systematic database searches

Perform comprehensive bibliometric analyses using R/Biblioshiny

Create professional visualizations of research landscapes

Integrate AI tools effectively into your research workflow

Write and structure a complete bibliometric research paper

Apply these methods to your own dissertation research

Who Should Attend?

This workshop is designed for **PhD students** at the Faculty of Education, who want to:

- Gain confidence with digital research tools
- Understand the "big picture" of their research area
- Learn systematic approaches to literature review
- Integrate quantitative analysis into their qualitative work
- Produce publication-ready research outputs

No prior experience with R, bibliometrics, or statistical analysis is required. All methods will be taught from the ground up in a supportive, hands-on environment.

Workshop Format

This is a **fully hands-on workshop** following a "see it, do it" approach:

No lectures without practice - every concept is immediately applied

Work on YOUR topic - bring your research interests and develop them throughout

Collaborative learning - learn alongside peers facing similar challenges

Take-home skills - leave with tools you can use independently

Minimum Requirements

Before the Workshop

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1. Research Preparation

- Have a general topic or research area in mind (we'll help you refine it on Day 1)
- Familiarity with your research field's key concepts and terminology

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2. Technical Requirements
Computer Specifications:

- Laptop (Windows or Mac)
- At least 5GB free storage space
- Stable internet connection

Software Installation (MUST be completed before Day 1):

- **R (version 4.3 or higher)** - Statistical programming language
- **RStudio Desktop (free version)** - User interface for R

Step-by-Step Installation Guide:

1. **Install R:**

   - Go to: https://cran.r-project.org/
   - Click on "Download R for [your operating system]"
   - **Windows:** Click "base" → Download "R-4.4.x for Windows" → Run installer
   - **Mac:** Download the appropriate .pkg file for your Mac (Intel or Apple Silicon) → Run installer
   - Accept all default settings during installation

2. **Install RStudio:**

   - Go to: https://posit.co/download/rstudio-desktop/
   - Scroll down to "2: Install RStudio"
   - Download the free RStudio Desktop version for your system
   - Run the installer and accept default settings

3. **Test Your Installation:**

   - Open RStudio (not R directly)

- You should see 4 panels/windows
- In the bottom-left panel (Console), type: `2 + 2` and press Enter
- If you see `[1] 4`, your installation is successful!

Database Access:

- Active Western University library credentials
- Confirmed access to **Scopus** and **Web of Science** databases
- Test your access before the workshop at: https://lib.uwo.ca/

AI Language Model Account:
You must have an active account with at least ONE of the following (free versions acceptable):

- ChatGPT (https://chat.openai.com/)
- Claude (https://claude.ai/)
- Gemini (https://gemini.google.com/)
- Other comparable AI language models

What to Bring

Laptop with all required software installed and tested

Library credentials for database access

Power adapter and mouse (recommended for comfort)

Notebook for personal notes and reflections

Your research idea - even if it's still rough!

Openness to learning new digital tools and methods

Expected Output

By the end of Day 3, each participant will have:

A complete draft research paper including:

- Title and abstract
- Introduction with AI-refined research questions
- Methodology section describing your bibliometric approach
- Results section with professional visualizations
- Discussion identifying research gaps and trends
- Reference list and data sources

This draft will be suitable for:

- Further development into a dissertation chapter
- Submission to academic journals
- Presentation at conferences
- Inclusion in comprehensive exams

About the Instructor

Dr. Diego Sornoza-Parrales is Associate Professor and Director of Cooperation and Internationalization at Universidad Estatal del Sur de Manabí (UNESUM), Ecuador. He holds a PhD in Education Studies from The University of Western Ontario, specializing in Critical Policy, Equity and Leadership Studies. Dr. Sornoza-Parrales is a SENESCYT Accredited Investigator with over 20 publications in indexed journals. He has developed innovative methodologies that integrate bibliometric analysis with AI-assisted research synthesis, and has extensive experience training researchers in digital tools and systematic review methods.

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Institution: Universidad Estatal del Sur de Manabí (UNESUM), Ecuador

This workshop is offered by the Faculty of Education, Western University,
in collaboration with Universidad Estatal del Sur de Manabí.

#DigitalResearch #Bibliometrics #PhDLife #LiteratureReview #ResearchMethods