

7th African Research Scholar Academy
Presenter Session Plan Form

Thank you for contributing to the Academy! Please complete the form below to help us ensure a dynamic, engaging, and well-structured learning experience for participants.

1. Presenter Name(s):

Dr Wilfred Lunga

2. Session Title:

Research Components and Processes

3. Date and Time of Session:

27 July 2026. 12:30-13:30

4. Content Overview

4.1. Learning Objectives (3 bullet points)

Learning Objective	Assessment Indicator
Understand key components of the research process	Ability to identify and describe research components in participant polls
Select appropriate research designs	Capacity to match research questions with suitable methodological approaches
Align research questions, methods, and outputs	Understanding of coherence between all research elements
Apply basic AI tools in research	Practical knowledge of AI applications in literature review, analysis, and ethical considerations

4.2. Tentative Structure / Flow of the Session:

(e.g., 10 mins intro, 20 mins activity, 15 mins discussion, etc.)

Activity	Duration	Content Focus	Interactive Elements
Welcome & Session Overview	3 min	Objectives and relevance	Brief introduction

Short exercise 1: Baseline Assessment	7 min	Current understanding of research components	Live polling on key concepts
Mini Lecture: Part A – Research Fundamentals	15 min	Research process components, research design types	Slides with examples
Short exercise 2: Comprehension Check	5 min	Understanding of research design concepts	Scenario-based polling
Mini Lecture : Part B – Methodological Alignment	10 min	Aligning research questions, methods, and outputs	Case studies and diagrams
Mini Lecture: Part C – AI in Research	10 min	Practical AI applications; ethical considerations	Use of cases
Short exercise 3: Application and Reflection	5 min	Ability to apply concepts; interest in AI tools	Interactive scenario analysis
Q&A and Reflections	5 min	Clarification, participant questions, key takeaways	Open discussion

5. Incorporation of AI

AI Application	Research Phase	Practical Use	Ethical Consideration
Literature Review Support	Initial research	Automated literature aggregation, citation mapping, knowledge synthesis	Verification of sources, human oversight required
Idea Generation	Problem formulation	AI-assisted brainstorming for research questions and hypotheses	Originality and novelty assessment
Data Analysis & Pattern Identification	Analysis	Machine learning for pattern recognition, clustering, predictive modeling	Algorithmic bias, interpretability, validation
Research Writing & Synthesis	Dissemination	AI-assisted academic writing, summarization, figure generation	Plagiarism concerns, attribution
Bibliometric Analysis	Scope setting	AI tools for identifying research trends and gaps	Comprehensiveness of search strategy

6. Engagement and Interaction

6.1 Planned Interactive Element(s)

Tick one or more or describe your own, please reach out if you would like more information on interactive tools

- ☒ Poll or quiz
- ☐ Group discussion in breakout rooms
- ☐ Hands-on demo (e.g., live coding, annotation)
- ☐ Jamboard, Padlet, or whiteboard exercise
- ☐ Other: _____

6.2. How will you check if learning is taking place during the session?

(e.g., mini quiz, short reflection, live Q&A, feedback tool, etc.)

Q&A

Additional Materials

6.1 Pre-reading or Additional Resources:

Please list any articles, slides, videos, or tools participants should review before the session. Please send these to us by 20 July 2026

none

6.2. Software or Special Requirements:

Please list any software that participants will require e.g., STATA, Atlas.ti, Mendeley – and whether a free version is available

none

7. Reading material

Creswell, J.W. and Creswell, J.D. (2023) *Research design: qualitative, quantitative, and mixed methods approaches*. 6th edn. Thousand Oaks, CA: SAGE Publications. Available at: <https://ils.iba.edu.pk/cgi-bin/koha/opac-detail.pl?biblionumber=117994>

Punch, K.F. and Oancea, A. (2014) *Introduction to research methods in education*. 2nd edn. London: SAGE Publications. Available at: <https://koha.yccece.edu.hk/cgi-bin/koha/opac-detail.pl?biblionumber=5149>

Tashakkori, A. and Teddlie, C. (2010) 'Putting the human back in "human research methodology": the researcher in mixed methods research', *Journal of Mixed Methods Research*, 4(4), pp. 271-277. doi:10.1177/1558689810382532
[https://www.researchgate.net/publication/230557818 Putting the Human Back in "Human Research Methodology" The Researcher in Mixed Methods Research](https://www.researchgate.net/publication/230557818_Putting_the_Human_Back_in_\)

Yin, R.K. (2018) *Case study research and applications: design and methods*. 6th edn. Thousand Oaks, CA: SAGE Publications. Available at:
<https://discover.libraryhub.jisc.ac.uk/search?q=9781506336169>

Nosek, B. A., Alter, G., Banks, G. C., Borsboom, D., Bowman, S. D., Breckler, S. J., Buck, S., Chambers, C. D., Chin, G., Christensen, G., Contestabile, M., Dafoe, A., Eich, E., Freese, J., Glennerster, R., Goroff, D., Green, D. P., Hesse, B., Humphreys, M., . . . Yarkoni, T. (2015). Promoting an open research culture: Author guidelines for journals could help to promote transparency, openness, and reproducibility. *Science*, 348(6242), 1422–1425. <https://doi.org/10.1126/science.aab2374>

Mittelstadt, B. Principles alone cannot guarantee ethical AI. *Nat Mach Intell* 1, 501–507 (2019). <https://doi.org/10.1038/s42256-019-0114-4>
<https://www.nature.com/articles/s42256-019-0114-4#citeas>

Lincoln, Y.S. and Guba, E.G. (1985) *Naturalistic inquiry*. Beverly Hills, CA: SAGE Publications. [ISBN: 0803924313]

Smith, L. T. (2012). *Decolonizing Methodologies: Research and Indigenous Peoples* (2nd ed.). Zed Books.

Tijssen, R.J.W. Africa's contribution to the worldwide research literature: New analytical perspectives, trends, and performance indicators. *Scientometrics* 71, 303–327 (2007).
<https://doi.org/10.1007/s11192-007-1658-3>