

## Communication Research Methods (Quantitative) – EMI

Semester: **Spring 2026.**

Meeting Time: **Monday 10:10–13:00**

Instructor: **Dr. Vickie Chen**

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Office / Consultation Hours: **By appointment**

This is an EMI class trial. “Trial” means four classes will be taught in English. The purpose is to help you feel comfortable learning in English. We don’t need to speak perfect English—just aim for functional English that helps us communicate and participate.

### Course Purpose

Research methods are tools to explore the world, understand how human communication and media systems work, and build cumulative knowledge. This course introduces **quantitative communication research methods** and basic **computational/big data approaches**. It is designed for graduate students who aim to:

1. **Critically evaluate** the quality of empirical communication research.
2. **Understand basic concepts and procedures** of doing research: from research problems to theory, hypotheses, design, sampling, measurement, data collection, and analysis.
3. **Match research questions with appropriate methods**, including surveys, experiments, content analysis, and big data approaches.
4. **Independently design and execute** a quantitative research project.
5. Work effectively in an **English-medium academic setting**, using English for reading, discussion, and academic writing.

The course emphasizes **research ethics, academic integrity, and responsible use of generative AI** in research and coursework.

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### Class Design

- **Format:**
  - Short lectures to introduce key concepts and methods.
  - Seminar-style discussions of assigned readings.
  - In-class exercises and hands-on practice for questionnaire design, sampling, coding, and basic big data approaches.
  - Student presentations and a **mock conference** for research proposals.
- **Teaching Methods:**
  - Lecture
  - Discussion
  - Individual and group practice

- Formative quizzes (e.g., Kahoot) and in-class Q&A
  - **EMI Support:**
    - Pre-class reading questions and key terms in English.
    - Examples of research questions/hypotheses in English.
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## Requirements & Academic Ethics

- **Attendance & Participation:**

Active participation is required. Absence must be notified in advance with a valid reason.
  - **Assignment Submission:**
    - All assignments submitted via the university eCourse2 before class time (e.g., Monday 10:10).
    - Use academic writing format and citation style (APA).
    - Late submissions are not accepted without prior approval and serious reasons.
  - **Academic Integrity & AI Use:**
    - Plagiarism, ghostwriting, data fabrication/alteration, and “one paper for multiple courses” will result in a **zero** for that component; serious cases may be sent to the university for further action.
    - You may use generative AI **as a support tool** (e.g., brainstorming, language polishing), but:
      - You **must disclose**: tool name, version, scope of use, and how you used it.
      - You **must not** directly copy-paste AI-generated content as your own academic work (e.g., literature review text, analysis, discussion).
      - You must **attach key prompts / interactions** as an appendix when AI is used.
    - All research and writing must follow the university’s “Academic Ethics and Research Integrity” policies.
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## Student Evaluation

Total: **100%**

1. **Class Participation – 15%**
  - Attendance, preparation (readings), active engagement in discussions, and contributions to group work.
  - In some weeks, pre-announced discussion questions will be posted; your in-class responses and participation will be graded.
  - Course assignments are flexible and may be adjusted based on class pace and learning outcomes. Assignments may include in-class activities, brief reflections, or other tasks.
2. **Research Proposal Presentation in English – 15%**

3. **Midterm Exam** – 30%
  - Covers core concepts such as conceptualization, measurement, reliability/validity, sampling, survey, experiment, content analysis, and big data basics.
  - May be one major exam plus smaller quizzes (e.g., Kahoot).
4. **Quantitative Research Proposal** – 40%
  - Includes: research background & motivation, significance, literature review, theory & hypotheses/research questions, research design, variables and operationalization, sampling plan, instruments (questionnaire / coding sheet / experimental design), and basic analysis plan.
  - Written in Chinese, 10–15 pages (excluding references and appendices).

## Textbooks and References

Required \*:

- 蘇蘅（2018）。傳播研究方法新論。台北：雙葉書廊。
- 郭良文等（2023）。傳播研究方法：量化、質化與大數據分析。台北：雙葉書廊。

References:

- Babbie, E. R. (2010). The practice of social research (12th ed.). Wadsworth Cengage.
  - Selected journal articles
  - 黃振家、宗靜萍、林妙容、吳蕙芳譯（2014）。大眾媒體研究導論 10th Edition。台北：學富文化。
  - 曹永強譯（2014）。內容分析方法學入門。台北：五南。
  - 楊國樞等著（1975）。社會及行為科學研究法（上下冊）。台北：東華。
  - 羅文輝（1991）。精確新聞報導。台北：正中。
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## Tentative Course Schedule

### Week 1 2/23 – Course Introduction (In English)

- Course overview, expectations, grading, assignments, AI policy.
- Why research methods matter in communication and media studies.
- Intro to library resources and academic databases (e.g., communication journals).
- **Task:** register for library orientation / methods database session.

## Week 2 3/2 – Finding Communication Research Problems (In English)

### Academic & Research Ethics; Literature Tools

- What is academic ethics? What is research ethics? Why do they matter to you?
- IRB (Institutional Review Board): purpose, process, and impact on communication studies.
- Impact factor, peer review, and quality of journals.
- How to avoid plagiarism; proper citation and paraphrasing.
- Introduction to reference management software (e.g., Zotero, EndNote, Mendeley).
- Discussion of generative AI ethics in academic work.
- Discussion:

1 什麼是學術倫理？什麼是研究倫理？跟我有什麼關係？生成式 AI 在學術倫理上的重要議題有哪些？

2 如何避免抄襲？

3 名詞解釋：何謂 IRB？為什麼要有 IRB？何謂影響係數？同儕審查？掠奪性期刊？開放取用（open access）SSCI、Scopus、Citation、Reference

4 ChatGPT 可以如何用在研究與論文寫作上？在研究與論文寫作上，使用 ChatGPT 的強項是什麼？弱項是什麼？如何查證？（好用小工具分享）

5 \*如何找出高品質的論文？

Class activity: Find high impact papers

- Pre-class reading:
- \* <https://conncoll.libguides.com/c.php?g=1375535&p=10228262> 撰寫報告的 AI 工具組合技 <https://lib.video.nccu.edu.tw/media/393>
- \* ChatGPT 與圖書館：<https://lib.video.nccu.edu.tw/media/338>
- \* ChatGPT 與圖書館、ChatGPT 可信嗎？演講 TAAEE。
- \* 蘇蘅（2018）。傳播研究方法新論。台北：雙葉書廊。Ch4
- OECD Digital Education Outlook 2026 Exploring Effective Uses of Generative AI in Education [https://www.oecd.org/en/publications/oecd-digital-education-outlook-2026\\_062a7394-en.html](https://www.oecd.org/en/publications/oecd-digital-education-outlook-2026_062a7394-en.html)

### Finding Communication Research Problems

- What is “research”? Why do we do research? What is “communication research”? What makes good research
- Types of communication research questions (descriptive, relational, causal).

- From everyday problems to researchable questions.
- **Class Activity:** identify communication problems in your own life / environment and translate them into researchable questions.

## **Weeks 3 3/9 – Invited Talk: How to harness AI tools for research**      **Vista Cheng**

### **Week 4 3/16 : Library Orientation & Research Ethics**

What is “research”? Why do we do research? What is “communication research”? What makes good research

- Types of communication research questions (descriptive, relational, causal).
- From everyday problems to researchable questions.
- **Class Activity:** identify communication problems in your own life / environment and translate them into researchable questions.

### **Literature Review & Hypothesis Development**

- How to read empirical articles: introduction, literature review, methods, results, discussion.
- How to organize a literature review: themes, theories, findings, gaps.
- From theory and prior studies to research questions and hypotheses.
- Structure and format of a quantitative research paper / proposal.
- **Readings:** core textbook chapters + selected journal articles.
- **Class activity: How to write introduction.**

Identify the structure of introduction from journal articles. What are the common structure of journal articles.

➤ Pre-class reading:

\*蘇蘅（2018）。傳播研究方法新論：Ch1, Ch2, Ch3

黃振家等譯（2014）。大眾傳播研究導論。台北：學富文化。Ch1

### **Week 5 3/23 : Conceptualization, Operationalization, Measurement Basics**

- Concepts vs. indicators; conceptual definitions vs. operational definitions.
- Levels of measurement (nominal, ordinal, interval, ratio).
- Reliability and validity (classical definitions and practical issues).
- Examples from communication variables (e.g., media use, trust, political efficacy, parasocial interaction).

**Class activity:** Choose three concepts and write **three** sets of definitions—each set should include a **conceptual definition** and an **operational definition** (as practice).

You may **cite and support** your definitions with relevant journal articles. Examples include:

- **XX motivation:** e.g., online shopping motivation, motivation for using Instagram (students define the specific type)
- **XX satisfaction:** e.g., viewing satisfaction, shopping satisfaction
- **XX usage behavior:** e.g., LINE usage behavior

\*蘇蘅 (2018)。傳播研究方法新論：Ch5

黃振家等譯 (2014)。大眾傳播研究導論。台北：學富文化。Ch2

## Week 6 3/30 Sampling & Fundamentals of Survey Design

- Sampling: probability vs. non-probability; common sampling strategies.
- Sampling error, coverage error, nonresponse, measurement error.
- Different survey modes: landline phone, mobile phone, face-to-face, online and mixedmode surveys; brief comparison of advantages and limitations.
- What is a survey? When to use it in communication research.
- Cross-sectional vs. longitudinal surveys.
- Questionnaire design principles: wording, order, response scales, avoiding bias.
- **Mobile, Landline, and Online Opinion Polling and How to Interpret Poll Results**  
Discussing mobile phone surveys, dual-frame sampling, and interpreting mixed-mode polling results.

### Research Workshop:

- Develop **three** communication research problems suitable for quantitative methods (300–500 words each):
  - Clearly explain: what you want to study, the target population, unit of analysis, needed data, how to obtain it, and why the topic matters (academic, practical, societal contribution).
  - Suggest which method might be appropriate and why.
- Peer Feedback

\*蘇蘅 (2018)。傳播研究方法新論：Ch5、Ch6

\*廖培珊 (2021)。問卷設計的關鍵課題。

黃振家等譯 (2014)。大眾傳播研究導論。台北：學富文化。Ch4

## Week 7 4/6 : Spring break

## Week 8 4/13 : Visiting Public Opinion and Market Survey Center (Proposing Group Research Topic)

Write 1–2 pages describing the study background and motivation (Introduction).

What communication issue is worth examining, and why? What is your research object/topic? What is the unit of analysis? What empirical data do you need, and how will you obtain it? Which research method is most appropriate for this study? What research questions do you expect to ask?

### **Week 9 4/20 : Invited Talk: Content Analysis in Communication (Anita Kuei Chun Liu)**

- What is “big data” in communication research?
- Data sources: social media, digital traces, logs, large-scale surveys.
- Basic concepts: data cleaning, descriptive analytics, visualization.
- Potentials and limitations of big data approaches in communication research.
- How to **write the Methods section** (for survey, experiment, content analysis, and big data studies).
- Integrating study design, sampling, measurement, procedure, and analysis plan into a coherent proposal.
- **Proposal Draft Deadline:** submit the first full draft of your quantitative research proposal (for written feedback).

### **Week 10 4/27: Experimental Logic & Basic Designs+ Writing Methods (In English + Class observation)**

- Causal inference and the logic of experimentation.
- Classic designs (pretest–posttest, posttest-only, factorial designs).
- Random assignment vs. random sampling.
- Applications in media effects, political communication, and persuasion research.
- In-class game / quiz (e.g., Kahoot) to review previous weeks.

### **Advanced Experimental Issues & Critique**

- Threats to internal and external validity.
- Manipulation checks and control variables.
- Online experiments vs. lab experiments.
- Ethical issues in experiments (deception, debriefing, vulnerable populations).
- Critical reading of experimental articles in communication.
- **Class Activity:**
  - Design a simple experimental study for your topic: describe manipulation, conditions, procedure, measures, and validity concerns.

\*蘇蘅 (2018)。傳播研究方法新論：Ch13

\*郭良文等 (2023)。傳播研究方法：量化、質化與大數據分析。雙葉書廊：CH16、Ch17、Ch18

## **Week 11 5/4 : Introduction to Big Data in Communication (Invited Talk: Anita Kuei Chun Liu )**

- When and why to use content analysis.
- Defining content universe, unit of analysis, coding categories.
- Developing a codebook: clear definitions, mutually exclusive and exhaustive categories.
  
- Applications to news, social media, entertainment, advertising. Intercoder reliability: concepts and indices (Cohen's kappa, Krippendorff's alpha).
- Training coders, pilot studies, refining categories.
- **Class activity:**
  - Design a codebook and a sample coding sheet for your topic.
  - Conduct a small pilot coding (e.g., 10–20 items) and reflect on problems encountered.

\*蘇蘅 (2018)。傳播研究方法新論：Ch7

黃振家等譯 (2014)。大眾傳播研究導論。台北：學富文化。Ch6

曹永強譯 (2014)。內容分析方法學入門。台北：五南

## **Week 12 5/11:-Invited Talk: Why and How Research Methods Still Matter in the AI Age**

Dr. Erika Wenhong Chen Professor of Communication and Technology at the Wee Kim Wee School of Communication and Information, Nanyang Technological University.

## **Week 13 5/18 : Invited Talk: Roger Cheng**

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## **Week 14 5/25 – Mock Conference: Research Proposal Presentations (Present in English)**

- Each student presents their research proposal in a **conference-style** session (10–12 minutes + Q&A).
  - Focus on clarity of research question, theoretical framework, method choice, and feasibility.
  - Peer and instructor feedback on content and English presentation skills.
  - Discussion: how to choose methods for your thesis and future research.
  - Reflection on research ethics, integrity, and AI use after one semester.
  - Final in-class exam or integrative exercise (depending on instructor's choice).
  - Course evaluation and feedback.
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## Week 15 6/1 – Final Exam

- Structure of a full research article or thesis chapter.
- Writing introductions, discussions, limitations, and implications.
- Strategies for revision, responding to reviewers, and avoiding self-plagiarism.
- Individual or small-group consultations on final proposal revisions.

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## Week 16 6/8– Final Projects Due 17:00

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### Student Ability Analysis (Intended Learning Outcomes)

By the end of the course, students are expected to progress along these dimensions:

Ability Dimension	At Course Start	At Course End
<b>Understanding of Research &amp; Ethics</b>	Limited understanding of what counts as rigorous communication research; ethics seen as abstract rules.	Can clearly explain what makes a good quantitative communication study, identify ethical issues, and follow institutional ethics rules (including AI use).
<b>Research Question &amp; Theory Use</b>	Has broad interests but questions are vague or not researchable; weak linkage between theory and questions.	Can formulate clear, researchable questions/hypotheses and link them explicitly to theories and prior studies.
<b>Conceptualization &amp; Measurement</b>	Unfamiliar with operational definitions, scales, reliability, and validity.	Can conceptualize key constructs, choose or design appropriate measures, and evaluate their reliability and validity.
<b>Method Selection &amp; Design</b>	Limited knowledge of differences among survey, experiment, content analysis, and big data approaches.	Can match research questions to suitable methods (survey, experiment, content analysis, big data), design feasible studies, and justify methodological choices.
<b>Basic Implementation Skills</b>	Little or no hands-on experience with questionnaires, sampling, coding, or data handling.	Can design basic questionnaires or coding schemes, propose realistic sampling strategies, and understand basic steps of data collection and analysis.
<b>Critical Reading of Articles</b>	Focuses on topic and findings; pays little attention to research design quality.	Can systematically evaluate the methods of published articles (design, sampling, measurement, validity, reliability, limitations).

<b>Ability Dimension</b>	<b>At Course Start</b>	<b>At Course End</b>
<b>Independent Research Planning</b>	Unsure how to start a quantitative study; no full plan.	Produces a complete, coherent quantitative research proposal in English (about 10–15 pages), ready to be developed into a thesis or article.
<b>Academic English for Research (EMI)</b>	Can read English papers slowly; limited experience writing academic texts.	Can write structured research sections (background, literature review, methods) in English and present research orally in English in a semi-formal setting.