DATA COLLECTION STARTS

A Practical Guide for Educational Research

From research approval and participant recruitment to collecting, recording, checking, and protecting data

Includes: start-up checklist • sampling and recruitment • consent • fieldwork steps • questionnaire/interview/observation examples • data quality • ethics • troubleshooting • templates

Illustrative learning resource

This guide is not permission to begin a real study. Follow your institution's ethics review, school authorization, consent, and data-protection requirements before collecting information.

Contents

- 1. What does 'data collection starts' mean?
- 2. The conditions to meet before starting
- 3. A step-by-step data collection workflow
- 4. Sampling and participant recruitment
- 5. Informed consent and participant communication
- 6. Collecting quantitative data
- 7. Collecting qualitative data
- 8. Example fieldwork plan
- 9. Data quality and secure management
- 10. Common fieldwork problems and solutions
- 11. Practical templates and checklists
- 12. Worked example and viva questions

Learning outcomes

By the end, the reader should be able to explain when data collection may begin, prepare a fieldwork plan, recruit participants fairly, administer instruments consistently, protect participants, document fieldwork, and prepare data for analysis.

1. What Does 'Data Collection Starts' Mean?

In a research project, **data collection starts** when the researcher begins gathering information from the selected sources using the approved methods and instruments. Depending on the study, this may involve distributing questionnaires, conducting interviews, observing lessons, administering a test, or reviewing documents.

It is not simply the moment the first questionnaire is handed out. Good data collection begins with preparation: the research questions, methods, tools, sampling plan, permissions, consent process, and data-management arrangements should be ready.

A common sequence is: proposal approval → ethics and site permissions → final tools → pilot and revisions → recruitment and consent → data collection → data checks and secure storage → analysis.

> Never begin participant recruitment or data collection earlier than permitted by your institution or ethics approval. A pilot may also require approval and consent.

2. Conditions to Meet Before Starting

Area	Ready-to-start question	Evidence or document
Research design	Do the methods answer the research questions?	Approved proposal or protocol
Permission	Have required ethics and site permissions been granted?	Approval letter or written authorization
Instrument	Are the final tools clear, versioned, and ready?	Questionnaire/interview guide/test/checklist
Pilot	Have pilot findings been considered and changes documented?	Pilot notes and revision log
Sampling	Is the target population and selection procedure defined?	Sampling plan and eligibility criteria
Consent	Are information sheets and consent/assent procedures ready?	Approved participant documents
Team	Do data collectors understand the procedures?	Training notes and role assignments

Area	Ready-to-start question	Evidence or document
Data security	Is storage secure and access restricted?	Data-management plan and file structure
Logistics	Are dates, rooms, devices, transport, and backup plans arranged?	Fieldwork schedule

3. Step-by-Step Data Collection Workflow

Step 1 — Confirm authorization

Check that the proposal, ethics review, school or organization permission, and any other required approvals are in place. Confirm the approved version of the protocol.

Step 2 — Freeze the instrument version

Give each tool a version number and date. Do not quietly change wording, response options, or procedures after approval; submit changes for review when required.

Step 3 — Confirm the sample

Use the planned sampling method and eligibility criteria. Keep a recruitment log that records invitations and outcomes without exposing unnecessary personal details.

Step 4 — Contact participants respectfully

Explain who is conducting the study, why they are invited, what participation involves, the time required, risks, benefits, and whom to contact with questions.

Step 5 — Obtain informed consent

Give enough time to decide, answer questions, and make participation voluntary. Obtain parent/guardian permission and child assent when required for minors.

Step 6 — Prepare the session

Check the venue, materials, device battery, internet if needed, recording permissions, accessibility, privacy, and emergency contact process.

Step 7 — Collect data consistently

Read the approved instructions, follow the same procedure, avoid influencing answers, and record deviations or interruptions.

Step 8 — Check completeness

At the end of each session, check for missing pages, unreadable files, skipped items, or recording problems. Do not pressure participants to answer questions they chose to skip.

Step 9 — Store and back up securely

Transfer data to approved secure storage, use participant codes where possible, limit access, and keep consent forms separate from response data.

Step 10 — Maintain a fieldwork log

Record date, setting, tool version, sample code, completion status, problems, deviations, and follow-up actions.

Step 11 — Review quality regularly

Look for patterns such as repeated missing responses or inconsistent administration. Resolve process issues without changing data to fit expectations.

Step 12 — Close recruitment and prepare analysis

Follow the planned stopping rule, document reasons for non-participation, finalize the data inventory, clean the dataset, and prepare a codebook.

4. Sampling and Participant Recruitment

Define who can participate

The **target population** is the group to which the research question relates. The **accessible population** is the group the researcher can realistically reach. The **sample** is the subset from whom data are collected.

Sampling approach	How it works	Possible use / limitation
Simple random	Every eligible member has a known chance of selection.	Can reduce selection bias when a suitable list exists; requires a sampling frame.
Stratified	Divide the population into meaningful groups, then sample within each.	Can ensure representation of groups such as grade levels.
Cluster	Select groups such as schools or classes.	Useful when individuals are spread across locations; analysis may need to account for clustering.
Convenience	Recruit accessible participants.	Practical but may limit representativeness and generalization.
Purposive	Select participants because they have relevant experience or characteristics.	Often used in qualitative research; selection rationale should be explicit.
Snowball	Participants refer others who may be eligible.	May help reach hard-to-access groups but can create network bias.

Choose a sample size based on the study design, analysis, population, expected effect or precision where relevant, and practical constraints. Do not claim that a sample is representative merely because it is large.

Recruitment log — example fields

- Participant code or invitation ID
- Date invited and recruitment channel
- Eligibility outcome (eligible / ineligible / pending)
- Response status (accepted / declined / no response)
- Consent status stored securely
- Appointment and completion status

Avoid recording sensitive reasons for refusal unless necessary and ethically approved. Participation must not be coerced by teachers, supervisors, employers, or people who control access to services.

5. Informed Consent and Participant Communication

Informed consent is an ongoing process, not just a signature. Participants should understand the study and make a voluntary choice without pressure.

Information participants should receive

- Study purpose and why they were invited.
- What they will do, how long it will take, and whether audio/video will be recorded.
- Foreseeable risks, possible benefits, and any compensation or costs.
- Voluntary participation, the right to skip questions, and withdrawal arrangements.
- How information will be used, who may access it, and how confidentiality will be protected.

- Any limits to confidentiality and the researcher's contact details.

Sample invitation wording

“You are invited to consider taking part in a study about [topic]. Participation involves [activity] and will take approximately [time]. Taking part is voluntary. You may decline to answer any question and may stop according to the withdrawal arrangements explained in the information sheet. Your decision will not affect your grades, services, or relationship with the institution. Please read the information sheet and ask any questions before deciding.”

This is a template, not a substitute for an approved consent document. Adapt it to the study and participant group.

6. Collecting Quantitative Data

Quantitative data are usually recorded as numbers or categories and analysed using descriptive or inferential statistics. Examples include questionnaire responses, test scores, attendance counts, and structured observation tallies.

Questionnaire administration checklist

- Use the approved questionnaire version and the same instructions for everyone.
- Explain how to mark responses and whether participants may leave items blank.
- Avoid explaining an item in a way that changes its meaning for different participants.
- Provide privacy so participants do not feel watched by teachers or peers.
- Record the number invited, returned, incomplete, and usable, using clear definitions.
- Check data entry against original responses and protect the identity key.

Example: response recording

Item	Response options	Coding example
Use of learning apps per week	0 days / 1–2 / 3–4 / 5–7 days	1 / 2 / 3 / 4
Agreement statement	Strongly disagree to strongly agree	1 to 5
Device access	Yes / No / Sometimes	1 / 0 / 2

The codes above are illustrative. Keep category labels in the codebook. A numerical code is not automatically a measurement with equal intervals; for example, ordinal response categories should be analysed appropriately.

7. Collecting Qualitative Data

Qualitative data include interview transcripts, focus-group discussions, field notes, open-ended responses, and documents. The aim is usually to understand experiences, meanings, processes, or context in depth.

Interview collection steps

- Choose a private and accessible setting, and confirm consent before recording.
- Start with a brief explanation and easy, open-ended questions.
- Use neutral probes such as “Can you tell me more?” or “Could you give an example?”
- Avoid leading prompts, showing approval of particular answers, or rushing silence.
- Record field notes about context and non-verbal observations only when relevant and appropriate.
- Label files with participant codes rather than names and transfer them securely.
- Transcribe accurately, mark inaudible sections, and remove direct identifiers during de-identification.

Observation collection steps

- Define each behaviour or event in operational terms before observing.
- Specify the observation period, sampling interval, and recording method.

- Train observers with examples and practice cases.
- Distinguish what was directly observed from the observer's interpretation.
- Record disruptions and changes to the planned procedure.

In qualitative research, researchers should also document their role, assumptions, decisions, and how interpretations are developed. This supports transparency and reflexivity.

8. Example Fieldwork Plan

Phase	Activity	Responsible person	Evidence / output
Preparation	Confirm permissions, final tools, and schedule	Principal researcher	Approval record and final instruments
Training	Brief data collectors and rehearse procedures	Research lead	Training checklist
Recruitment	Invite eligible participants and explain study	Recruitment team	Recruitment log
Consent	Answer questions and record consent appropriately	Authorized researcher	Consent record
Collection	Administer survey, interview, test, or observation	Data collector	Completed forms or files
Daily review	Check completeness, quality, and secure transfer	Data manager	Daily quality log
Close-out	Reconcile records and prepare dataset/transcripts	Research team	Data inventory and codebook

Example daily routine: before sessions, check equipment and materials; during sessions, follow the protocol; after sessions, review completeness without pressuring participants; then transfer data securely and update the fieldwork log.

9. Data Quality and Secure Management

Quality checks

- Completeness: are expected fields present, while respecting participants' right to skip?
- Accuracy: do entered values match source records?
- Consistency: are the same definitions and procedures used across sessions?
- Plausibility: are values within the allowed range and logically possible?
- Traceability: can each dataset version be linked to documented cleaning decisions?

Data security basics

- Collect only information needed to answer the research question.
- Use participant codes and store the identity key separately.
- Use institution-approved encrypted or access-controlled storage where available.
- Restrict access to authorized team members and avoid sending identifiable data through insecure channels.
- Set a retention and deletion schedule consistent with approvals, law, and institutional policy.
- Keep an audit trail of edits, cleaning, exclusions, and corrections.

Never invent, fabricate, or alter participant responses to make results appear complete. If a problem occurs, preserve the original record, document the issue, and apply the pre-planned rule.

10. Common Fieldwork Problems and Solutions

Problem	Practical response
Low response rate	Use approved reminders, review timing and access barriers, and report response rates transparently. Do not pressure people.
Participants misunderstand an item	Record the issue; pause if needed; follow the approved clarification protocol and consider a formally reviewed revision.
Missing answers	Respect the right to skip; apply the pre-specified missing-data procedure during analysis.
Recording device fails	Stop and explain the issue; ask permission before using an alternative; write notes only if permitted and appropriate.
School timetable changes	Reschedule with authorization and document deviations from the plan.
Data are lost or exposed	Follow the institution's incident-reporting and data-protection procedures promptly.
Researcher feels pressured to change responses	Preserve source data, document concerns, and consult the supervisor or ethics contact.

11. Practical Templates and Checklists

A. Daily fieldwork log

Field	Entry
Study / site code	_____
Date and session code	_____
Tool version	_____
Activity completed	_____
Number invited / participated	_____
Problems or deviations	_____
Action taken / follow-up	_____
Secure transfer completed by / time	_____

B. Before each session

- ■ Required approvals remain current.
- ■ Correct tool version and materials are ready.
- ■ Privacy and accessibility arrangements are suitable.
- ■ Consent/assent process is ready and understood.
- ■ Equipment, battery, storage, and backup are checked.
- ■ Participant instructions are consistent.
- ■ Secure transfer and storage are available.

C. After each session

- ■ Completion status is recorded accurately.
- ■ Missing or unclear data are flagged without guessing answers.
- ■ Field notes and deviations are documented.
- ■ Files use participant codes and contain no unnecessary identifiers.
- ■ Data are transferred to approved secure storage.
- ■ Any incident is reported through the required process.

12. Worked Example

Topic: Mobile Learning Use and Study Engagement among Grade 9 Students in a Selected Secondary School in Bangladesh.

Stage	Illustrative decision
Question	How do Grade 9 students report using mobile learning resources, and what barriers do they describe?
Design	A cross-sectional questionnaire with a small qualitative component, if justified by the approved proposal.
Participants	Eligible Grade 9 students at the selected school, recruited using the approved sampling plan.
Tool	Final questionnaire; optional interview guide for a separately consented subset.
Before starting	Obtain institutional and school permissions; complete required ethics and consent steps; pilot and finalize tools.
During collection	Provide standard instructions, protect privacy, record completion status, and avoid teacher influence.
After collection	Check records, secure data, document missingness, prepare codebook, then analyse according to the proposal.

This example illustrates the workflow only. It does not establish that any real school has granted permission or that the proposed design is suitable for every study.

13. Examination / Viva Questions

When does data collection begin?

Model answer: After the required approvals, final instruments, sampling procedures, consent arrangements, and practical preparations are in place.

What is a target population?

Model answer: The full group about which the research aims to draw conclusions.

Why is informed consent necessary?

Model answer: It supports voluntary participation by ensuring people understand the study and their choices.

What is a fieldwork log?

Model answer: A systematic record of collection sessions, tool versions, problems, deviations, and follow-up actions.

How do quantitative and qualitative data differ?

Model answer: Quantitative data are typically numerical or categorical; qualitative data capture words, meanings, experiences, or context.

What should a researcher do with missing responses?

Model answer: Respect the participant's choice, document missingness, and apply the planned analysis procedure rather than guessing.

Why is a pilot useful?

Model answer: It identifies problems with comprehension, timing, logistics, and procedures before main collection.

How can participant confidentiality be protected?

Model answer: Minimize identifiers, use codes, separate identity keys, restrict access, and store data securely.

What is a protocol deviation?

Model answer: A departure from the approved or planned procedure that should be documented and handled according to policy.

Why must data not be fabricated?

Model answer: Fabrication destroys the integrity of the evidence and can harm participants, institutions, and public trust.

14. Final Start-Up Checklist

- ■ The research questions and approved design are clear.
- ■ Required ethics and site permissions are confirmed.
- ■ The final tools have version numbers and clear instructions.
- ■ The sampling and recruitment plan is ready.
- ■ Participant information and consent/assent materials are approved.
- ■ Data collectors are trained and roles are assigned.
- ■ The fieldwork schedule and contingency plan are practical.
- ■ Secure storage, backup, access, and retention rules are ready.
- ■ The fieldwork log and codebook templates are prepared.
- ■ A plan exists for quality checks, missing data, and protocol deviations.

Key message: data collection should begin only when the study is authorized, the procedures are ready, and participants can make an informed and voluntary choice. Consistent methods, careful documentation, and secure handling are essential for trustworthy research.

Suggested further reading: Creswell & Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*; Cohen, Manion & Morrison, *Research Methods in Education*; and your institution's current research ethics and data-management guidance.