

Data collection and analysis for evaluation

Reference guides for teachers



Interviews and focus groups

Surveys

Observation

Document analysis

Interviews and focus groups

A quick reference guide for teachers

Interviews and focus groups are guided discussions that explore people's experiences, opinions, attitudes and motivations.

Interviewing people individually gives each participant an equal opportunity to have their say, in private.

Focus groups can be undertaken with as few as 2-3 people, and up to a maximum of 9-10 people. Most focus groups consist of 4-8 participants.

Interviews and focus groups enable you to:

- take a personal approach, allowing participants to speak freely
- explore complex situations
- provide participants with additional information during conversations
- ask follow-up questions and explore new lines of inquiry.

In evaluations, interviews and focus groups are often integrated with other approaches (such as surveys). This helps avoid solely drawing general conclusions based only on the views of a small number of people.

Design your approach

A discussion guide sets out your questions. It also provides a structure for taking notes and analysing the data. You can create your own discussion guide from scratch, or adapt/use a pre-existing guide. Either way, question design is critical.

An example of a discussion guide can be found on the Evaluation resource hub: education.nsw.gov.au/evaluation-resource-hub

Tips for designing or adapting a discussion guide

- Include an explanation of your project, the purpose of it, and how the information you collect will be used.
- Make sure your questions address the purpose of your evaluation.
- Ask open-ended questions instead of closed-ended questions. For example, "What is your opinion of...?" instead of "Do you like...?"
- Keep your questions to a minimum to allow for detailed answers and discussion.
- Ask questions that are clear. Don't ask about more than one issue at a time.
- Ask questions that are relevant to the people you are interviewing.
- Use their language, not yours. Avoid jargon.
- Organise questions in a logical sequence. Start with non-threatening questions to build rapport.
- If asking about things in the past, start by jogging their memory about the time and place.
- Use visuals or short writing exercises to help break the ice and make sure that everyone's voice is heard.
- At the end, allow people to provide additional information and ask questions of you.

Sampling is the process of selecting people from your population of interest who will help answer your evaluation questions. Think carefully about who you need to hear from, and think creatively about how you can hear from them (for example, face-to-face, by phone, by email or via web conferencing).

With interviews and focus groups, the priority for sampling is to make sure the important perspectives are represented in your data. The aim is not to generalise from a small sample to the broader population.

Collect your data

First, consult with your principal or supervisor about your intended approach for the interviews or focus groups.

Conducting interviews and focus groups requires strong interpersonal and communication skills. You need the ability to build rapport quickly so that the people taking part feel at ease and speak freely.

Do	Avoid
<ul style="list-style-type: none"> • Explain the purpose and allow people to clarify any queries • Listen more than talk • Stay neutral at all times • Be attentive, focusing on group dynamics and power relationships • Use body language and verbal mannerisms to encourage discussion (for example, a non-committal 'hmmm') • Make sure everyone has an opportunity to participate • Ask follow-up questions or probe to discover more or explanatory information, as the need arises. For example, "Please explain further...", "Can you give me an example?", "Tell me more about..." • If a participant uses jargon or technical language, clarify • Take notes. If possible, have a note-taker and/or an audio recording (for direct quotes). • Ask permission to record and/or quote people and explain how the information will be used. 	<ul style="list-style-type: none"> • Leading participants or influencing their responses • Expressing your own views • Shifting your focus onto recording information instead of listening to the discussion • Using locations that are noisy or prone to interruption.

How to analyse

1. Straight after each interview or group discussion, review the notes to make sure you can understand them later. Add any impressions of your own, highlight important points and note questions that need follow-up.
2. Once all interviews or focus groups are complete, collate all the notes together. For each question in your discussion guide:
 - Manually highlight the main issues, comments or responses that keep recurring. These are your draft themes.
 - Now re-read from the start and:
 - Look for 'outlier' positions – perspectives that are important but less common.
 - Settle on your key themes for reporting.
 - If possible select direct quotes that illustrate these themes.
3. Summarise the key themes in a short report that would be suitable for sharing with a colleague.

Tip: To check your analysis, ask a colleague to look at the same raw data and see if they draw similar conclusions.

The analysis of data from interviews and focus groups can also benefit from a strategy called 'coding'. For more information:

- Evaluation resource hub: education.nsw.gov.au/evaluation-resource-hub.
- Analysing qualitative data page on the School Excellence Framework evidence guide: bit.ly/2vTscuN.

What next?

Are there any implications for your teaching practice?

- If yes, make a plan of action and evaluate the impact of the change. Your analysis may provide baseline data for your evaluation.

Do you still have unanswered questions about the teaching practice you were evaluating?

- If yes, continue evaluating this teaching practice. Consider whether you need another interview or focus group or a different method (for example, surveys and observations).

Are you familiar with the evidence-base that underpins this aspect of teaching?

- If no (and also if yes), look for useful professional learning or literature on the CESE website: cese.nsw.gov.au

Would any of your colleagues be interested in what you've done, how you've done it, and what your next steps are?

- If yes, share and collaborate.

Consider reflecting the above in your Performance and Development Plan. Talk with your principal or supervisor about this.

Surveys are collections of questions delivered to people that can be used to examine their experiences, opinions, attitudes and motivations. Surveys can contain a mix of open-ended and closed-ended questions.

Open-ended questions ask for a free-text response – anywhere from a few words to a full paragraph.

Closed-ended questions ask respondents to choose from a limited number of predetermined responses.

Surveys enable you to:

- efficiently collect consistent data from large or small groups of people
- conduct simple analysis of patterns and trends
- gather responses anonymously if you need to.

In evaluations, surveys are often integrated with other approaches (such as observations). This helps avoid solely relying on self-reported information.

Design your approach

Your **questionnaire** contains the full set of questions and response options you give people.

Question design is critical if you are going to consistently measure the same thing among different people in different contexts at different points in time.

Do	Avoid
<ul style="list-style-type: none">• Make sure the questions address the purpose of your evaluation.• Explain to participants the purpose of the survey and how the information will be used.• Keep the survey short. Time how long it takes to complete the survey before you send it out.• Ask questions and provide response options that are clear, concise and self-explanatory.• Use open-ended questions purposefully as they take a lot of time to complete and analyse.• Test the survey with a few people before you send it out. This will help you solve any problems with individual questions or the overall survey structure.	<ul style="list-style-type: none">• Double-barreled questions. If you see the words 'and' or 'or' in your question, you may need to break the question into two.• Jargon. Use their language, not yours.• Leading questions. Keep your questioning neutral and your response options balanced.• Forcing people to guess or make things up. Instead, provide 'I don't know', 'not applicable' or 'other' options where relevant.• If you are trying to measure change over time, avoid changing the wording of questions or the structure of the questionnaire when it is redistributed.

An example of a questionnaire can be found on the Evaluation resource hub: education.nsw.gov.au/evaluation-resource-hub
In school settings, most surveys are either online or on paper. A mix of the two might be required to capture different audiences.

Online surveys	Paper surveys
<ul style="list-style-type: none">• Quick and easy to send out.• Let you track and remind non-responders.• Provide accessibility options (for example, for participants who use screen readers).• Avoid the need to manually enter survey responses to analyse the data.	<ul style="list-style-type: none">• Do not rely on access to the internet or familiarity with online platforms.• Often yield higher response rates because you can collect responses on the spot.• More prone to errors by people completing the survey.

Decide whether to make the survey anonymous or identified. If you make it identified, you could ask for a name, email address or a code (for example, library card number).

Identified surveys	Anonymous surveys
<p>Enable you to:</p> <ul style="list-style-type: none"> • match survey responses with other data you have (for example, grades, attendance) • follow up important or interesting comments with the people who made them • remind non-responders to complete the survey • analyse change more precisely. 	<p>Enable you to:</p> <ul style="list-style-type: none"> • possibly collect more honest responses • protect people's identities • simplify administration and analysis.

Collect your data

First, consult with your principal or supervisor about your intended approach for the survey.

Tips for administering a survey

- When you first introduce the survey, make sure people know the purpose, when and how to respond, and who to contact with any questions.
- Monitor response rates and send reminders when necessary.
- Thank people for their involvement.

Analyse your data

1. Data entry – if you have used a paper survey, set up the survey as an online form and enter responses.
2. Data cleaning – if you have used a paper survey, you will naturally do this during data entry. If you have done an online survey, check each response. To clean the data:
 - remove non-serious responses
 - check for duplicates and data entry errors
 - delete data where people have answered a question that was not meant for them.
3. Analysis – closed questions. Use the survey software to see the basic results for each question. This usually consists of charts and/or tables representing proportions and averages (for example, 'means'). Export these results into a format you can save and annotate (for example, PDF).
 - For more advanced analysis, export the data to Excel and use pivot tables to compare responses from different groups.
PivotTables for Beginners: lynda.com/Excel-tutorials/Excel-PivotTables-Beginners/651187-2.html
4. Analysis – open-ended responses: Print out all open-ended responses or export them into a format you can annotate. For each open-ended question:
 - Manually highlight the main issues, comments or responses that keep re-occurring. These are your draft themes.
 - Now re-read from the start and
 - look for 'outlier' positions – perspectives that are important, but less common
 - settle on your key themes for reporting
 - if possible, select direct quotes that illustrate these themes.
5. Summarise your interpretation of the analysis in a short report that would be suitable for sharing with a colleague.

What next?

Are there any implications for your teaching practice?

- If yes, make a plan of action and evaluate the impact of the change. Your survey may provide baseline data for your evaluation.

Do you still have unanswered questions about the teaching practice you were evaluating?

- If yes, continue evaluating this teaching practice. Consider whether you need another survey or a different method (for example, interviews and focus groups).

Are you familiar with the evidence-base that underpins this aspect of teaching?

- If no (and also if yes), look for useful professional learning or literature on the CESE website: cese.nsw.gov.au

Would any of your colleagues be interested in what you've done, how you've done it, and/or what your next steps are?

- If yes, share and collaborate.

Consider reflecting the above in your Performance and Development Plan. Talk with your principal or supervisor about this.

Observation

A quick reference guide for teachers

Observations refer to an organised process for watching and recording 'events' that occur in a particular setting.

- Common settings for observation in schools include learning spaces, playgrounds and meetings.
- Events to observe could include what people are doing, how they are using their time, and how they are interacting with others and the space around them.
- You can observe teaching and learning in your own classes by filming it and watching it back. Alternatively, you can ask other people to observe by inviting them to be in the room or giving them video footage to watch later.

Observations enable you to:

- collect data about events that do not rely on memory or self-report
- record information as it happens with minimal disturbance for the participants
- examine relationships between people, activities, space and time.

Observations can be structured or unstructured, or contain a mix of both aspects.

Structured observations	Unstructured observations
<ul style="list-style-type: none">• Record the incidence of pre-determined events using numbers or codes.• Require more preparation than unstructured observations, but are easier to conduct and analyse.• Are more suitable for comparisons (for example, student engagement in different classrooms or over time).	<ul style="list-style-type: none">• Record as much information as possible by describing what happens in detail.• Require less preparation than structured observations, but are harder to conduct and analyse.• Are more suitable for exploring a unique situation, or when you are not sure what you are looking for.

In evaluations, observations are often integrated with other approaches (such as interviews and focus groups). This helps to understand why people interact or behave a certain way.

Design your approach

Your **observation schedule** sets out the events you're observing and how they're recorded.

A structured observation schedule uses a checklist of events that can be used to record frequencies or ratings. An unstructured observation schedule might simply use a blank piece of paper to record notes. You can create your own observation schedule from scratch or adapt/use a pre-existing observation schedule.

Tips for designing or adapting an observation schedule

- Clarify how you will look for the behaviours (for example, scan the room every 30 seconds).
- Record the context in the schedule's heading, including time, duration, number and age of people being observed, layout of the setting (for example, seating arrangements), time of day and other relevant aspects (for example, topic being taught).
- If you are using a pre-existing observation schedule, be careful about changing it. There may be good reasons for the specific type and sequencing of observed events.
- Test the observation schedule before using it. This will help you solve any problems with the schedule, and also support consistency if there will be more than one person recording the observation/s.

For structured observations:

- keep the list of events you are observing to a minimum (for example, 1-5)
- to enable consistent judgement between teachers or over time, be as specific as you can about what you are observing.
- ensure each event is discrete (for example, no overlap between the events)
- design a system of codes so that data can be recorded quickly (for example, ticks, crosses, numbers or a style of shorthand).

An example of an observation schedule can be found on the Evaluation resource hub: education.nsw.gov.au/evaluation-resource-hub

Collect your data

First, consult with your principal or supervisor about your intended approach for the observation.

Do	Avoid
<ul style="list-style-type: none">• Be attentive. Ensure your focus remains on observing and that you don't get distracted by your own note-taking.• Use a video recording if appropriate. This will help you recall information later or share your thoughts with a colleague if your observation schedule involves counting events, do this on the spot.• If your observation schedule requires you to reflect on an entire lesson (or similar), do this at the end.• Summarise your initial thoughts immediately following the observation.• Consider annotating a diagram of the setting to provide more detail.• Ask permission if you are observing specific people.	<ul style="list-style-type: none">• Interpreting what you see before it is recorded. Stick to the facts and save your interpretations for the analysis.• Potential bias (for example, allowing judgements to be clouded by feelings).• Getting in the way of participants. You want them to behave naturally.

Analyse your data

1. Data entry – Enter data from structured observations into a table (for example, Excel spreadsheet). For unstructured observations, put your notes into a format that can be annotated (for example, Word document).
2. Data analysis for structured observations – Calculate the frequencies and means (for example, 'averages') of each event. Compare and contrast variables (for example, certain behaviours and specific participants). Illustrate the results using charts and/or tables.
3. Data analysis for unstructured observations – Manually highlight the main issues or behaviours that keep recurring. These are your draft themes. Also identify any significant incidents or noteworthy events that offer important insight. Compare and contrast themes and incidents to look for patterns or trends.
4. Interpretation – Summarise the key findings of the analysis in a short report that would be suitable for sharing with a colleague. Include the main tables, charts or descriptions of significant incidents from the data analysis.

The Using data with confidence resource supports teachers' confidence in understanding and interpreting data. Using data with confidence resources: cese.nsw.gov.au/effective-practices/using-data-with-confidence-main

What next?

Are there any implications for your teaching practice?

- If yes, make a plan of action and evaluate the impact of the change. Your initial observations may provide baseline data for your evaluation.

Do you still have unanswered questions about the teaching practice you were evaluating?

- If yes, continue evaluating this teaching practice. Consider whether you need more observations or different methods (for example, a survey, interviews or a focus group).

Are you familiar with the evidence-base that underpins this aspect of teaching?

- If no (and also 'if yes'), look for useful professional learning or literature on the CESE website: cese.nsw.gov.au

Would any of your colleagues be interested in what you've done, how you've done it, or what your next steps are?

- If yes (and also if 'not yet'), share and collaborate.

Consider reflecting the above in your Performance and Development Plan. Talk with your principal or supervisor about this.

Document analysis

A quick reference guide for teachers

A document analysis involves a process of systematically reviewing existing documents that are of relevance to your evaluation questions. This provides context to your research and enables you to:

- collect and analyse data in an efficient way that minimises time, cost and disruption
- step back in time and look at historical trends from a variety of events and settings
- make use of documents that are already easily accessible - the type of documents will depend on what you are evaluating.
 - programming documents (for example, lesson plans and annotations, timetables)
 - teaching resources (for example, worksheets, computer software)
 - research articles
 - policies (school-specific or from the department)
 - work samples
 - units of work
 - correspondence
 - newsletters and notes
 - scope and sequence
 - social media posts
 - meeting minutes.

In evaluations, document analyses are often integrated with other approaches (such as interviews). This helps avoid drawing general conclusions based only on documents.

Design your approach

Carefully consider each of your evaluation questions and identify documents that might be relevant. Make a note of the specific reasons why you are analysing these documents to avoid it becoming an endless task.

Keep your scope tight. Education settings produce a lot of documentation. Your aim should not be to review all of the documents on offer but instead focus only on those that are particularly relevant to your evaluation.

Document analysis works a bit differently to other data collection methods. Instead of collecting and analysing new (primary) data, you are selecting and analysing existing (secondary) data.

Select your documents

Consult with your principal or supervisor about your intended approach for document analysis. They may be able to assist with document access and help frame the approach.

Tips for selecting your documents

- If relevant, share a list of the documents you intend to review and ask for additional suggestions.
- Skim-read these documents and determine if they are in fact relevant. If you find that the documents are less relevant than you thought they were going to be, you may need to rethink your approach.
- Consider a 'snowball' method, where you use your original set of documents to identify any additional relevant documents, ensuring that you stay focused on your evaluation questions.
- Get copies of the documents that you expect will be relevant. If you have a large number of potential documents to work with (for example, work samples or research articles), use a sampling strategy. Possible sampling strategies include:
 - choosing at random
 - choosing a representative sample from each group of students (for example, work samples from one student per reading group)
 - choosing a representative sample of different perspectives (for example, different authors writing on the same topic).

An example of document analysis can be found on the Evaluation resource hub: education.nsw.gov.au/evaluation-resource-hub

Analyse your data

A document analysis is conducted using a three-step process:

1. **Identify:** determine which text (or data) is relevant to the evaluation question/s (for example, using a highlighter, with different colours for each question). You may find it beneficial to pause and reflect on the document as a whole before reading it in-depth.
2. **Read:** dig a little deeper to identify relevant patterns in the text. Categorise any patterns or trends that provide insight into the evaluation question/s. You can also categorise according to an existing frame of reference (for example, where you are analysing units of work against the syllabus). This is known as a content analysis.

A content analysis is the process of categorising words or phrases in a document, and counting the number of references in each category. Knowing how many times words or phrases have or have not occurred can provide insight into the evaluation question/s.

3. **Interpret:** use the categorised data to generate an interpretation of “what am I seeing?” into “what does it mean?” by describing the key, overarching themes that you’ve found in the data. This includes what is new and how it aligns with any existing knowledge. You may also want to think about who wrote it and what their perspective is, and whose voice might be missing.

Do	Avoid
<ul style="list-style-type: none">• Capture and preserve your annotations. You could do this by scanning or taking a photo of the documents, or using computer software to annotate.• Ask a colleague to look at the same documents and see if they draw similar conclusions.	<ul style="list-style-type: none">• Removing context from text. In the Identify stage, include contextually relevant sentences and phrases.• A ‘single-read’ analysis. Follow the Identify-Read-Interpret process to systematically scaffold your analysis.• Relying solely on content analysis to generate your findings. Use the Interpret stage to generate meaning from the text.

What next?

Are there any implications for your teaching practice?

- If yes, make a plan of action and evaluate the impact of the change. Your document analysis may provide important context for your evaluation.

Do you still have unanswered questions about the teaching practice you were evaluating?

- If yes, continue evaluating this teaching practice. Consider whether you need to undertake further document analysis, or employ a different method (for example, observation).

Are you familiar with the evidence-base that underpins this aspect of teaching?

- If no (and also if yes), look for useful professional learning or literature.
- It may also be worth mapping your findings to the evidence-base to ensure documents reflect what the literature shows.

Would any of your colleagues be interested in what you’ve done, how you’ve done it, and what your next steps are?

- If yes, share and collaborate.

Consider reflecting the above in your Performance and Development Plan. Talk with your principal or supervisor about this.