

# Supporting students in the Sciences

## IA3: Research investigation

Effective processes and practices: Communicating your findings

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### Purpose

Effective implementation of a research investigation involves five processes organised around a research question, as shown below. This resource supports students in communicating their findings.



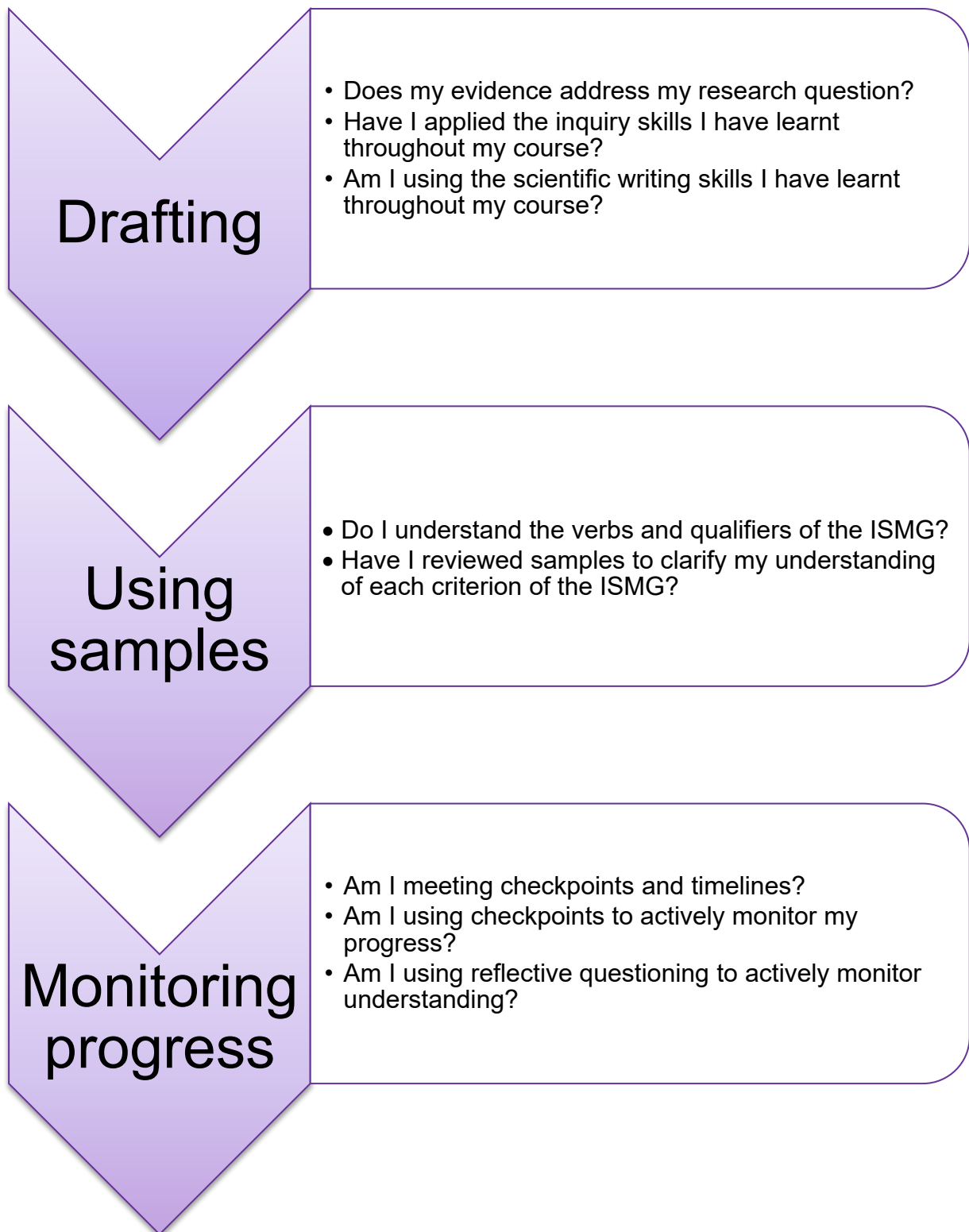
### What is effective communication of findings?

In the research investigation, you work individually to produce a response in an appropriate scientific genre. In this response, you will show how you have researched, analysed and interpreted secondary evidence from credible sources to form a justified conclusion to a research question and related this to a claim.

Research investigation findings are effectively communicated through:

- drafting — using internal assessment and scientific writing skills
- samples — using resources to review and build understanding of the requirements of the task
- monitoring progress — using checkpoints and reflective questioning.

## Key questions when communicating your findings



# Considerations when communicating your findings

## Drafting

### Am I applying internal assessment and scientific writing skills?

- Does my evidence address my research question?
  - Review your summaries of evidence collated from credible sources and explain how your findings can be used to address your research question and evaluate the claim.
  - Discuss why the evidence is interesting and how it allows you to evaluate the claim. This builds your understanding and gives you ownership of your investigation.
  - Check that you have discussed the key evidence to make the overall conclusions, and then identify the limitations of the evidence.
  - Identify what you struggled with or what you wish was in the evidence. This hints at limitations of the evidence and possible improvements.
- Have I applied the inquiry skills I have learnt throughout my course?
  - Apply the analysis techniques you learnt in practical work and activities in class.
  - Review the skills used to complete the data test (IA1) and the student experiment (IA2).
- Am I using the scientific writing skills I have learnt throughout my course?
  - Create a plan (e.g. subheadings, paragraph topics) to help you begin your draft report.
    - Do not expect to write a final draft at your first attempt.
    - Initially, draft your report using the plan and add images, evidence and ideas as dot points. Once you are happy with the structure of the response, then turn this into paragraphs.
  - Consider using tables to summarise improvements and suggestions.
  - Check that your draft is concise, specific and based on evidence.
    - Show what you have learnt through the evidence that you have found.
    - In each paragraph, introduce the topic, explain your ideas concisely, provide evidence and then make a link back to your research question.
    - Avoid long sentences.
  - Ask other students to give you feedback on your draft before submitting it to your teacher.

- Do I understand the descriptors in the ISMG?
  - Ensure that you understand the verbs and qualifiers of each descriptor.
    - Highlight the words that are different at each performance level.
    - Look up definitions for each word in the syllabus glossary.
    - Compare the meanings of descriptors at different levels, e.g. reasonable vs insightful.
  - Link each section of your draft to a descriptor in the ISMG.
    - Check that you are not missing anything in your draft.
    - Ensure that you are not including anything that does not match a descriptor in the ISMG.
- Have I reviewed samples to clarify my understanding of each descriptor in the ISMG?
  - Use samples from the QCAA website and past students' work (if possible) to help you understand what is required.
    - Review samples to consider what should go in each section of your response. Discuss this with your classmates and teacher.
    - Use annotated samples to see how each section connects to the ISMG.
    - Dissect a high-level sample, noting all the features of the ISMG, to consolidate your understanding of what different terms in the ISMG mean.
  - Use small snips of an annotated response to highlight the specific attributes of each section.
    - Ask questions like: What made this section match the 5–6 performance level? Have I demonstrated this in my own investigation?
    - After reading an example of a justified conclusion, highlight the evidence that links to the research question and justifies the conclusion. Then do this with your own conclusion.
  - Use samples from other science subjects to understand how different types of evidence can be used.

## Monitor progress

### Are you using checkpoint to monitor your progress and understanding?

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- Am I meeting checkpoints and timelines?
  - Manage your time by using the ISMG. Identify where you should be up to at the end of each lesson.
  - Stick to checkpoints and time limits.
  - Submit your draft on time so that you have time to reflect on your teacher's feedback.
  - If necessary, submit your draft in dot point form and then convert these into paragraphs for your final response.
- Am I using checkpoints to actively monitor my progress?
  - Use checkpoints to:
    - identify which of your sources are most useful
    - conference with your teacher to ensure that you are on track
    - discuss the ISMG with your teacher so they can guide you to demonstrate the top performance levels
    - check that your writing is succinct enough to complete your response in 2000 words.
  - Use the ISMG as the primary document to monitor your progress.
- Am I using reflective questioning to actively monitor my understanding?
  - Continually ask yourself the following questions.
    - What is my research question?
    - What have I learnt in my science course that I can apply to this question?
    - How does the evidence support what I believe?
    - Why do I trust this author?
    - Why should the reader believe me?
    - Have I answered the research question?
    - How confident am I in my answer?
    - What evidence do I have to support my conclusion?
    - Why do I believe this evidence?



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