

Research Project A

2014 Chief Assessor’s Report

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Overview

Chief Assessors’ reports give an overview of how students performed in their school and external assessments in relation to the learning requirements, assessment design criteria, and performance standards set out in the relevant subject outline. They provide information and advice regarding the assessment types, the application of the performance standards in school and external assessments, the quality of student performance, and any relevant statistical information.

**Choice of Topic for Research Project**

More effective responses were elicited from student questions which were structured to begin with ‘why’ or ‘how’, as this allowed students to consider more insightful research opportunities and provide a deeper level of analysis.

Personally meaningful and relevant questions, such as those based on personal interest or future career choice, enhanced student capacity for success.

A wide variety of topics were selected. Popular choices included researching career paths, restoration of machinery, construction of products, and current social issues.

Less effective questions included those that:

* were not refined, as this led to research that was superficial because students were unable to engage in focused and meaningful research
* were too simplistic or easy to answer; for example, leading to a yes or no answer
* used topic statements instead of questions, as this limited the sophistication and synthesis of ideas.

School Assessment

Assessment Type 1: Folio

The following focusses on how students provided evidence of their learning in relation to the specific features of the assessment design criteria listed in the subject outline for this assessment type.

Planning (P1)

While a majority of students included their proposal as evidence of planning and refinement, students benefited when they included examples of other planning exercises, such as mind maps, charts, and diagrams that indicated a development of ideas and processes.

Moderators noted that these planning exercises (e.g. lotus diagrams) were most useful when they were annotated or included accompanying notes or discussion about the planning processes. A variety of planning tools were used and, while scaffolding of these tasks was evident, they allowed students to show the progress in their thinking. The best student responses used these exercises to show a development in thinking and consideration of a range of aspects, as well as a justification for the refinements occurring.

Clear documentation of refinement occurred most frequently through short reflections which were generally located in the proposal. Additional evidence that showed a process of development, such as planning mechanisms or journals, assisted in providing a ‘thorough’ refinement of the research.

Planning (P2)

Stronger student responses documented ‘thorough’ planning through the inclusion of processes that were specific to the research question. Students who justified their intentions clearly and in a detailed way were able to show more detailed development of their planned processes.

When planning for research, stronger student responses were those that extended beyond the use of basic diagrams and checklists. More thorough evidence of planning was shown in the commentary of planning, particularly the assessment of ‘why’ and ‘how’ primary research would be undertaken.

Weaker evidence was found in folios that relied heavily on checklists, timelines, or to‑do lists that were briefly detailed or superficial. Limited responses were also found in folios that provided a broad outline of the intended research processes without consideration of their applicability to the research question.

Planning in stronger responses was also seen throughout the folio with new plans made in response to developments or challenges as the folio progressed. This enabled students to show a more thorough understanding of planning. Clear evidence of planning for each research process that occurred (e.g. experiments, action research, interviews) also enabled students to show their continued planning throughout the research development.

Development (D1)

Resourcefulness in research was demonstrated by the range of research processes undertaken by students. Stronger evidence was shown by students who engaged in multiple research processes and who recognised the applicability of their activities to their research question.

A heavy reliance on secondary research did limit some students, as they were not able to show the additional depth and development in their resourcefulness that could be shown by those students who undertook relevant and appropriate primary processes.

More effective evidence was demonstrated by:

* a variety of research processes being undertaken that were applicable to the research question and included evidence from both primary and secondary sources (where appropriate)
* a range of sources being selected through different research processes, as appropriate and relevant to the research question
* use of networking and initiative to find relevant and useful contacts
* understanding of different types of research; for example, background, development, cross-checking.

Stronger folios demonstrated resourcefulness through the integration of interviews, surveys, experiments, action research, and so on in a purposeful manner. Students who undertook these specific research processes, for example, experimentation of different methods for joining wood, were able to demonstrate a higher level of achievement. Within this, sample groups and participants who were selected for relevance and expertise enhanced the quality of the process. More successful examples of primary research used interaction with experts or those personally involved in the research area to confirm or clarify previously gathered information, to test theories and ideas, or to ask for specific questions that built on concerns or challenges.

Development (D2)

Analysis was deemed to be ‘in-depth’ when it consisted of a variety of perspectives, qualified key findings, and explored a range of ideas that were pertinent to the research question itself.

Considered evidence of the performance standards was shown in folios that included examples of research that were commented on and annotated with some complexity. Those folios that only included evidence of highlighting sources with minimal engagement with the source were deemed to be ‘satisfactory’ or ‘basic’ in quality.

‘Thorough’ examples of analysis were achieved by those students who extracted key findings, commented on usefulness and limitations, and structured responses to the evidence using subheadings that guided reflection. Successful subheadings included those that guided the student to think critically about the source’s purpose, audience, and context, or those that allowed students to analyse the findings of the information provided.

Judgments made about the complexity of sources and analysis of source features (validity, bias, etc.), as well as the information presented (use, limits, new findings, etc.), allowed for a higher level of achievement. Particularly successful evidence of ‘insightful’ analysis drew conclusions from collation of primary evidence and recognised limitations as well as strengths of a variety of research processes.

Thorough analysis was more likely to be evidenced when students collated key findings into tables and assessed them for use. Useful evidence also was shown when students engaged in activities such as comparing sources and key findings for similarities and differences, and reflecting on how this affected their research. Thorough responses were those where source suitability was taken into account and potential issues with sources (e.g. bias) were used to enhance a nuanced understanding of the information sourced.

Cross-referencing was also a desirable feature, especially when students were able to identify evidence that was a key finding, supporting or contradictory evidence, and how these sources were providing new information and research prospects.

Printouts of sources, especially the repetition of source types, limited the resourcefulness of student research, as well as the complexity of analysis provided. It is recommended that students include extracts of sources and use their ten pages submitted for the purposes of moderation to show their journaling, analysis, and annotations of sources, instead of pages which are filled with the words of the source.

While models and templates did allow some students to access a scaffold for analysis, these often restricted students to yes/no answers without any justification, which ultimately limited student achievement. Moderators noted that many students were disadvantaged by just highlighting sources and ticking boxes in scaffolds and not contributing any personal reflection or analytical notes.

**Selection of the Ten Pages for Moderation**

Moderators requested that students select their evidence for the ten pages carefully. In particular:

* Students should aim to fill pages and not submit half empty or blank pages.
* Students should not submit the whole folio as only the first ten pages will be read.
* Students should include extracts of sources or combinations of different sources or activities to show more effective development of the research.
* The selection of the ten pages should be based on providing evidence across all performance standards to ensure that moderators have evidence of all assessment criteria.
* Students should include a sample of different processes and activities, without reproducing multiple pages of one source type (e.g. surveys, interviews).
* Transcripts and results can be summarised, as the entire interview or survey does not need to be included. Inclusion of transcripts without any student annotation or reflection was less effective evidence and limited student achievement.

Development (D3)

Better student responses clearly indicated the knowledge and skills acquired that were specific to the research question. However, many responses did not clearly indicate what new learning had occurred or how skills had been developed. More successful evidence made clear what students already knew, how their knowledge changed, what they hoped to find out in the future, or any other questions that they had.

Specific reflection on the changing nature of the student’s knowledge and skills, with particular emphasis on how these are related to the research question, allowed for ‘highly effective’ development to be documented.

Journals or reflections that included an indication of new skills and their development, how a source shaped the student’s thinking, any contradictions or difficulties the student was dealing with, or how the student had improved or needed to improve provided more effective evidence.

Development (D4)

This specific feature covers capabilities. More effective responses made the student’s understanding of the capabilities’ features, as well as evidence of the development of these capabilities, explicit throughout the folio development.

Better evidence was seen in folios which:

* referred explicitly to the capability in the proposal and explored possible ways to develop the capability
* planned for capability development explicitly
* referred to the capability in the development of the folio in journals and reflections
* included a reflection of the capability development as part of the folio with explicit examples and understanding included
* noted when and where capabilities were being developed in research processes through annotations, highlighting, and so on; however, simply pointing out a capability was not enough to show a thorough or informed development, and the best responses were able to define and develop key features of the capabilities, as well as identify the student’s understanding of these.

Less effective evidence included where:

* the capabilities were not explicitly mentioned and moderators had to rely on inference to determine development
* capabilities were not included in the folio
* capabilities were highlighted through annotations (e.g. ‘D4 here’) or basic reflections (e.g. ‘I used literacy here’); however, these were not expanded on to show an understanding of the features of the capabilities’ features and how these were being developed.

Moderators noted that more focus on capabilities was needed to ensure student success. Use of the capabilities document (one of the support materials available in the Research Project minisite on the SACE website) provided a useful template for simple reflection and planning of the capability. Templates for encouraging students to reflect on capability development may enable more students to consistently refer back to the capabilities throughout their folio.

Use of the correct capabilities was also required. Moderators noted that significant numbers of students referred to the wrong set of capabilities.

Assessment Type 2: Research Outcome

A majority of outcomes were written reports or essays; however, in 2014 an increased number of students used multimodal presentations to meet the assessment design criteria more effectively. The use of multimodal outcomes was most successful when the outcome format allowed students to convey their key findings in the most appropriate way.

It was positive to see that most products were submitted with substantiation statements that detailed the key findings and substantiated the product.

The following discussion addresses how students provided evidence of their learning in relation to the specific features of the synthesis assessment design criterion, as listed in the subject outline for this assessment type.

Synthesis (S1)

Insightful synthesis of knowledge, skills, and ideas was best shown by responses that included balanced judgments, evidence of problem-solving, engagement with hypotheses, and a range of viewpoints which were used to reach a cohesive and logical conclusion.

Practical responses showed ‘insightful’ synthesis when evidence of the process undertaken to reach the final product was provided, including the range of activities undertaken, such as prototypes and trial and error. High-level responses also included consideration of the replicability of the product and how the instructions or method might be accessible for others.

Synthesis (S2)

‘Insightful’ synthesis was best shown through the integration of evidence from a range of perspectives. Students who substantiated key findings in an insightful and thorough manner showed insight when using multiple pieces of evidence to support conclusions. Thoroughness was achieved through the consistent use of evidence to support ideas, integration of multiple sources, consideration of appropriateness of the sources, and the inclusion of appropriate forms of substantiation.

Moderators indicated that there were many responses which did not clearly substantiate at all. Substantiation at a ‘satisfactory’ level could include reference to activities undertaken (e.g. ‘In discussing this with …’) or a bibliography or reference list that is referred to in the outcome.

Moderators recommended that students reference formally where possible throughout the outcome to enhance the thoroughness of the substantiation. Weaker student responses produced a ‘basic’ level of substantiation when no formal reference system was used, when references were used infrequently or not at all, or when no bibliography or reference list was attached.

Practical responses were best substantiated when multiple activities, concepts, and research processes were referred to.

Synthesis (S3)

Moderators noted that there was a clear difference between correctly written work and clearly expressed ideas. Stronger responses expressed ideas that were relevant to the resolution of the research question and allowed the intended concepts to be conveyed easily.

Clarity of expression was deemed to be ‘clear and coherent’ when the idea was clearly conveyed, as well as grammatically expressed. Students who produced outcomes that used subheadings, focus questions, or direct statements of key findings often showed additional clarity.

Copying and pasting of folio journals or reflections limited students in the clarity of their key findings. Better responses clearly indicated the key finding and the supporting ideas and evidence.

The best achievements came from questions that had clearly defined boundaries that assisted students to write clearly and to order ideas logically.

Multimodal outcomes allowed students to convey information in more accessible formats. However, multimodal formats such as PowerPoint presentations and videos must contain substantiation and synthesis of knowledge and skills. Substantiation in multimodal formats was best shown when students included references on slides, referred to processes and materials verbally, or included an annotated transcript.

Assessment Type 3: Review

Markers frequently commented that the design of a strong, appropriate research question led to a much more rigorous and in-depth review.

A large proportion of the student work did not meet the specific features or the specifications for the review that were identified in the 2014 subject outline. Many students wrote responses that met the assessment criteria and performance standards of the 2013 Research Project A course or for the evaluation from Research Project B. This significantly impacted on student achievement.

A formal discussion of capabilities, as required in the 2013 subject outline for Research Project A, was still evident among a significant number of reviews. Student responses were weakened by this practice because it limited the number of words available for review of the other specific features.

Many responses were weakened by overemphasis on the specific feature R1 (review of knowledge and skills) while skimming over R2 (challenges and opportunities) and R3 (quality of the outcome). As there is a holistic and equal approach to the marking process, students who gave a more equitable weighting of words to each specific feature were able to perform more successfully.

Students were generally able to provide a clear summary of their research project including a statement of their question, the processes undertaken, and the format of the outcome produced. However, many students were penalised by exceeding the word-limit for this section. Overuse of generalisations and a lack of specificity in this section also limited student success.

The following discussion examines how students provided evidence of their learning in relation to the specific features of the assessment design criteria applicable to this assessment type.

Review (R1)

This section was often poorly completed, as many students concentrated on the evaluation of research sources or processes and many students undertook source-analysis summaries. Student responses were often weakened when their review of this section met the specific features for the 2013 Research Project A evaluation guidelines.

More successful students were able to clearly identify what new knowledge and skills had been gained throughout their research. Better responses were able to explain the significance of new knowledge and skills to the resolution of their research question. Students who recognised the meaning and value of their significant findings were able to better convey this development of new learning.

Weaker responses tended to include irrelevant knowledge and skills that were not related specifically to the research question. Scaffolding of generic responses also limited student achievement, with many terms and ideas thrown into the review without further discussion or clarification. Stronger students were able to consider how their research had developed and what they had learnt through this process.

Many students recounted their refinement process to show how they determined their final research question. Students who did this well were able to show that they had responded to new knowledge and skills to make this decision, while weaker responses only recounted the process without addressing the specific features.

Similarly, a recount of the research undertaken was severely limiting to student success. Those students who reviewed their learning were able to provide a more thorough and sophisticated reflection.

Review (R2)

While most students could briefly identify challenges and opportunities that occurred, an overwhelming majority of responses did not provide consideration of the decision made in response to these challenges or opportunities. This had a significant impact on student success.

Many students recounted generic challenges (time management, difficulties of obtaining sources, and poor organisation were common themes) and only identified what had been the most challenging aspect of the project without further elaboration. Without this reflection and review of how these challenges were dealt with, much of this recount was not productive.

Stronger student responses provided deeper insight into challenges and opportunities that came about by way of the research and how these were managed. The best responses were able to articulate how these challenges or opportunities shaped the research and reviewed whether the student’s response had been appropriate.

Review of the decision-making process and the consequences of these decisions was only seen with a limited number of students, despite being a requirement for high-level achievement. The discussion of the significance of decisions was the primary focus for more successful students.

Review (R3)

More successful student responses assessed the suitability of the outcome format in relation to the question and considered the purpose of the outcome and how this was met. Other features of strong responses included those that reviewed the clarity of the final piece and considered how well the question had been answered. Successful students also provided a brief description of the features of the outcome and the relevance of the outcome to the project.

Less successful responses made overarching generalisations about the perceived success of the research outcome and did not justify statements with evidence. Comments on features such as the length and layout of the outcome were only useful when qualified appropriately.

A review of both successes and limitations was seen in the most successful responses. Additionally, higher-level achievement was enhanced by the use of justifications and examples. Students who understood the impact of limitations were able to produce much more sophisticated and nuanced reviews.

Synthesis (S3)

Markers felt that the clarity and fluency were pleasing overall, with a majority of responses that were well structured. The communication of ideas was generally logical and allowed students to convey their ideas clearly.

Scaffolding strategies were helpful to some students who were able to use subheadings to assist in the review process. However, these scaffolds limited higher student achievement when the questions and subheadings did not directly align with the performance standards. Students also only benefited when scaffolding strategies matched the 2014 Research Project A specific features.

Operational Advice

School assessment tasks are set and marked by teachers. Teachers’ assessment decisions are reviewed by moderators. Teacher grades/marks should be evident on all student school assessment work.

Moderators noted that most materials were packaged in an organised manner with samples well labelled. Some issues that required additional attention from some teachers include ensuring that samples are labelled with student names and/or SACE numbers on all assessment types.

Moderators also commented that assessment sheets which indicated how performance standards for each assessment type had been marked were helpful for providing clearer feedback if adjustments were required.

Markers noted that many samples of the external assessment pieces were identifiable with the teacher, school, and student names. The subject operational information indicates that ‘The school number and students’ SACE registration numbers must be used instead of school and student names’.

Teachers are also reminded that moderators and markers do not read past the word-limit for each assessment type.

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