Research Project

2011 Assessment Report

Government of South Australia

SACE Board of SA

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RESEARCH PROJECT

2011 ASSESSMENT REPORT

OVERVIEW

Assessment 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.

2011 was the first year of the Research Project and 15 888 students completed the subject. (Research Project A is not eligible to be used by a student to contribute to their Australian Tertiary Admission Rank (ATAR), whereas Research Project B can contribute to a student's ATAR.)

Research Project A	Research Project B
1705 students	14 227 students

It was possible to result students' work at either the end of Semester 1 or the end of Semester 2, with more than half of the schools choosing the first option.

A range of topics covering a multitude of subject disciplines and fields of academic research was presented. These broad areas include, but are not limited to, the following:

- art design socio – environmental
- economic
- fitness
- literature
- medical and health
- media-based
- political
- practical/technical
- sport
- technology
- work-related.

Choice of topic was important to the success of the research project. The more effective research projects tended to be those in which a topic of significant personal relevance and interest had been chosen. This motivated students to engage in a comprehensive and worthwhile investigation of their topic, often showing considerable initiative in the research processes used. It also provided a greater capacity for insight in various aspects of the assessment.

Less effective projects were often characterised by topics that were either too broad or too narrow to sustain the student's interest. This restricted the capacity of students to conduct thorough and meaningful research and hindered their ability to respond in an insightful manner, often leading to complaints about teachers and placing blame on external forces.

SCHOOL-BASED ASSESSMENT

Assessment Type 1: Folio

Students are assessed on the planning and application assessment design criteria in the folio. Teachers base their assessment decisions on the whole folio; however, for moderation purposes, a selection of 10 pages representing the research development is made by the student and teacher. In addition, 2 pages/10 minutes of evidence is provided of the discussion.

Moderators commented that many students had carefully selected the 10 pages (or multimodal equivalent) to support the grade given for the folio. In these folios, each page contained evidence for one or more of the specific features of the planning and application criteria (numbered P1, P2, A1, A2 and A3 in the subject outline). This assisted moderators to verify a school's assessment decisions. It was rewarding to see that students did not have to create 'artificial pages' to achieve an excellent result.

In less effective selections, however, the pages did not provide clear evidence of all the specific features. Often a number of pages were 'wasted' by downloads of information, with little indication of the purpose it served in furthering the research. Other practices that made it difficult for moderators to confirm teachers' assessment decisions were associated with unclear multimedia evidence and when work chosen for moderation was too difficult to read (for example, due to photocopying and reducing the materials).

Although not compulsory, the majority of students chose to include the proposal amongst their 10 pages of evidence. At its best, a proposal was able to provide very good evidence of the specific features for the planning assessment design criteria, including evidence of the refinement of the topic, as well as the planning of the research processes and attention to ethical considerations.

Planning

With respect to the consideration and refinement of the research topic (P1), the most effective responses demonstrated high levels of consideration of different facets of the topic, to provide an emerging focus and purpose for the research. In projects with less effective evidence, an in-depth exploration of the topic was missing, or limited to a small section of the breadth and depth possible. This superficial grasp often restricted the research potential.

Effective refinement of the topic impacted on students' success. It was evident that students who had a more refined or focused topic were able to concentrate their study on researching specific elements or facets of their study and allowed them to display growth in knowledge and understanding. The timing of the refinement of the topic was not a determinant of success, so long as it was clearly identified. For some, it occurred early in the process and was mentioned in the proposal, while for others it occurred later and was included as a critical reflection in the folio or discussion evidence.

Topics that were framed as open-ended questions provided scope for more extensive research. A closed question such as 'Is obesity going to cost Australia?'

invited a yes/no response and therefore limited the research. It is quite different to an open question such as 'What are the social costs of the increase of obesity to Australia?' An open question like this allows a student to investigate financial, employment, educational, social activity, and medical costs, and therefore a variety of research methodologies would more likely be embedded within this project.

Moderators also noted that a student's capacity to meet the performance standards at a higher level was enhanced by topics that allowed for research that went beyond secondary research and permitted some form of primary research.

More effective evidence of thorough planning of research processes (P2) was presented by students who used detailed timelines that focused on specific research processes. In contrast, less effective evidence was limited to very brief records in the proposal regarding the general activities planned, and/or a generalised chronological sequence of activities in a timeline. The items mentioned could often be applied to all research projects, such as 'continue research', 'write proposal', or when drafts or discussions would take place. More successful projects also showed evidence of careful thought about the validity of the chosen research processes to the topic being investigated. In contrast, less effective planning of research processes included choosing whatever was easiest or most accessible, or creating a survey because it was thought to be necessary, rather than because it was well suited to the research purpose or topic.

The majority of students chose a focus that reflected the values of their school, and was ethically sound and safe. Concerns were, however, expressed by moderators about the ethical considerations associated with some topics or research processes. At times, students may have potentially put themselves or others at risk.

Moderators were impressed that the majority of students did acknowledge elements of ethical research in conjunction with their planning of appropriate research processes. These included reference to the need for privacy, confidentiality, gaining permission, and avoidance of plagiarism. The better responses demonstrated a more sophisticated understanding of ethical research, identifying ethical considerations specific to their research topic and acknowledging how these would shape their research processes (especially evident if the student's work required some form of experimentation). Their awareness extended to matters concerning health and safety; use of potentially offensive material; environmental issues; legal issues such as trespassing, age appropriateness, or use of intellectual property belonging to others; financial and personal costs; and psychological risks. Less effective responses showed no evidence of ethical considerations, even when the topic warranted it, or made a superficial comment about plagiarism.

Application

The most effective evidence of thorough development of the research (A1) was presented by students who had gone beyond basic use of the Internet. Instead, through using a wide range of well-thought-out processes that were fit for purpose, they had pursued and obtained a broader and more in-depth range of information. Less effective evidence was limited to a small number of Internet sites and/or brief questions in a survey. Moreover, in the less successful responses, the survey was often not well thought through before distribution. Consequently, it did not provide the information required to develop the research.

Moderators reported that other features of more successful research development included reference to the capability and the prominence of ethical considerations.

After showing awareness of how their chosen capability shaped the types of research processes *planned*, these students then considered the way the chosen capability determined the way the research was *developed*. This included reference to evidence of literature reviews to determine what was already known and to shape the direction of the research, showing initiative to seek multiple viewpoints and perspectives on the topic, and exploring different processes to obtain broader information associated with the chosen topic. Ethical considerations were also at the forefront of some work, with some students even providing statements about how such considerations helped define and refine their research; for example, not using a friend for experimentation for a jumping program in case of injury and therefore choosing to have only themselves as the sole candidate for the sample group.

The majority of students were able to not only highlight and annotate information but provide analysis (A2). The more effective evidence of this criterion showed an understanding that research was more than a collection of material. At its best, this analysis reflected what the student had learnt, in terms of new insights and emerging findings, but also went on to indicate how it would assist in further research and even shape the future directions of the individual's research project. For these students, interviews or surveys were also analysed as to whether they were successful, and the rationale for why or why not was given. The process was subsequently treated as a learning tool for the next step of research. Less effective responses were those that were limited solely to downloads or downloads with some highlighting, or generalisations such as 'my research has been helpful'. And where multiple research processes were used, these tended to be treated in isolation.

Evidence of application of knowledge and skills (A3) varied significantly according to the research topic and research processes. For some students, evidence of this feature was specifically identifiable, whereas for others it was more naturally integrated into the evidence for A1 and A2. Students who developed research topics through the application of practical/technical knowledge or skills, or topics that were more discipline-specific, tended to provide more overt evidence of A3. Either way, the majority of students tended to provide adequate evidence of this specific feature within the application assessment design criterion.

Material submitted as evidence for the discussion was either written or multimodal and neither mode was preferable. For many students, the discussion was a valuable tool for providing evidence for some specific features not present in the 10 pages of selected evidence, and thus for verifying the teacher assessment. Teachers should use the Variations in Materials for the Sample for Final Moderation form to communicate missing evidence for individual students to moderators, such as a discussion.

When discussions were conducted in the middle or towards the end of the research, the students had more to talk about. It was evident (especially in the video discussions) that when a teacher posed questions that were specific to the student's actual research, an authentic dialogue occurred and the discussion became interactive and dynamic. When teachers moved away from a prescribed generic list of questions and asked open questions that allowed for in-depth reflections and the chance to elaborate or explore areas of interest, they increased the capacity of students to provide evidence to meet the performance standards at the highest level.

Assessment Type 2: Research Outcome

For the research outcome, students are required to synthesise the key findings from their research (S1) and substantiate them with examples and/or references drawn from their research (S2). Students choose the form of presentation and are also assessed on their expression of ideas (S3).

The moderation panel pointed out that in the most effective research outcomes careful consideration had been paid to an appropriate choice for revealing the findings. While the majority of students chose to present their findings in written form, outcomes such as blogs, websites, films, oral presentations, and multimedia presentations were also presented on DVDs. If a product has been made, it can be advantageous to at least include a photograph of what was created (for example, the artwork or the machine).

The mode of presentation on its own did not dictate achievement, as students excelled in all modes. What was critical, however, was the clarity and explicitness of the synthesis (S1) and the substantiation (S2). In the most successful research outcomes, it was obvious that key findings had been clearly delineated from other findings drawn from the research. This was often emphasised by organisational prompts such as signposting, with the use, for example, of phrases such as 'one of my key findings was' and 'another key finding was', or 'the most significant finding was'. In less successful responses, it was difficult to distinguish the key findings from among all the information presented; or the key findings were implicit to the outcome, requiring the moderator to rely on inference; or it was not clear that the key findings had been drawn from the research and combined into the research outcome.

Overt and detailed substantiation (S2) was also a significant feature of the more successful responses. In these works, a product was not merely produced and expected to stand on its own (for example, a photo of a musical instrument that had been made). As well as clearly articulating what had been discovered in regards to, for example, the creation of the instrument, the key findings were then substantiated. This was done by making reference to specific elements of the research from which they were drawn, such as a particular trial and error process, a lesson drawn from consultation with experts, analysis of particular YouTube clips or how-to manuals, or observation of craftspeople. The substantiation contained direct reference to examples or references from their research which were then acknowledged with some form of referencing, either Harvard style or footnoting. It was difficult to confirm teacher assessment decisions, particularly at the higher standards, when the substantiation had to be inferred from a couple of footnotes or was completely absent.

It was also difficult to verify assessment decisions when the outcome was brilliant in presentation, but lacked overt evidence for the synthesis and substantiation specific features. It is important to remember that work needs to be assessed in relation to the performance standards for all specific features and not just for the 'way it looks' or the amount of time and energy 'spent by the student'.

With regard to expression of ideas (S3), more successful responses articulated their key findings and substantiation with mature insight and clarity. Ideas were organised in a coherent manner with related points grouped together to present evidence for a well-developed finding. Less successful responses, however, were characterised by a lack of coherence.

On the whole, the moderation panel reported that students' evidence was presented within the word-count and/or time-limit. It is important to note that diagrams, photos, images, and graphs that were used effectively to support the findings enhanced the research outcomes. Students are advised to use these purposefully.

EXTERNAL ASSESSMENT

Assessment Type 3: Evaluation

The evaluation requires students to look back on their project with respect to the following:

- evaluating the research processes they have used in their research project
- reflecting on the nature of the capability and its personal relevance and relevance to the research project
- reflecting on the research outcome in terms of its value to themselves and, if applicable, to others.

The vast majority of students did not appear to have problems adhering to the limits of 1500 words for written material or 10 minutes for oral presentation.

Students are required to provide a written summary of between 150 and 200 words. Written summaries were generally well done. The most effective summaries provided a precise context for the marker, clearly identifying the research processes used, the nature of the research outcome, and the chosen capability. Weaker summaries were characterised by lack of clarity and/or the absence of some vital information, such as the chosen capability and the nature of the research outcome. The total absence of a written summary of any kind posed some difficulty for the markers, which was compounded if explicit reference to certain things like the chosen capability and outcome was not easily found within the evaluation.

Using scaffolding and following templates were features of the work seen. These features functioned to both assist and hinder student responses. When closely aligned to the specific features of the evaluation criterion, they appeared to assist students to keep their discussion focused on areas that would provide evidence for the specific features. On the other hand, however, the use of templates aligned to earlier versions of the subject outline or not relevant to the specific features of the evaluation led students to digress into irrelevancies.

Evaluation of the research processes (E1)

This part of the evaluation is worth half the marks allocated for this assessment type. The explicit identification of the research processes used to investigate the topic and locate the required information was a feature of better responses. The types of research processes indentified included interviews, observations, trial and error, experimentation, consultation with experts, surveys, library research, specific Internet sources, and online forums. Less effective responses, however, tended to omit the identification of the research processes used or provided imprecise lists of what they termed research processes, such as 'the Internet' and 'books'.

One of the most defining features of the better responses was the emphasis on evaluation of specific research processes, as opposed to a recount or description of what was done. After defining the research processes, judgments were then presented about the research processes; for example, describing them, as 'useful',

'important', or 'significant', and also the converse of these. Less successful responses were often entirely deficient in any judgments, but instead engaged in a description of the *process of doing* the research project, such as drawing up mind maps and lotus diagrams, creating an organised folder with printouts, or explaining how they came up with their first idea and then changed it several times.

In responses where the evidence of the evaluation of the research processes was the most insightful, the judgments were qualified, using terms like 'very useful', 'most useful', and 'highly important'. These judgments were then justified by reference to the way the use of the specific research process had contributed new or important insights to their knowledge of their topic or the development of key findings. The nature of the new knowledge or insight gained from the specific process was precisely defined. In addition, these judgments were balanced, as they considered both the ways in which the process assisted in the development of the research and the ways in which it did not. Less successful responses, however, were more black and white. Unable to discriminate between the uses and the limitations of the research processes, they focused only on the positive elements of the research processes used.

Markers commented that less successful responses frequently contained lists of research processes used with little or no evaluation, or if judgments were provided, they were not backed up with specific and detailed reasons. A common example of this was merely claiming that the Internet was the most useful research process as it helped in learning more about the topic. In addition, some judgments were so generic that they could apply to any topic and resources; for example, 'all sites/articles were useful, as they provided the context for my research and pointed out the current advantages and issues of my topic'. These judgments were not then further explained. Moreover, weaker responses also presented sweeping generalisations about the usefulness of a process, or based the evaluations on whether the process was easy or hard to do.

The strongest evidence in relation to E1 featured evaluations which based their comments on more than just the way the process added to the growing understanding of the topic or the key findings. These responses also took into account the *validity* and *reliability* of the process, in terms of its appropriateness to investigating the topic or for providing the information sought after. Use of terms such as 'qualitative', 'quantitative', and 'action research' is not a subject requirement. When used well, the use of these methods was accurately justified in terms of validity and reliability for the research being conducted.

In less successful responses, generalisations were made about the research processes, with oversimplified claims that the sources were all reliable without any justification, explanation, or specific examples. At times, simplistic generalisations about processes being reliable or not were made, such as that magazines were very reliable as the information is guaranteed to be correct, or that a website is credible as it has an author, or that data that is more recent is reliable but older data is not.

Other characteristics of less successful responses identified by the marking panel include:

- table formats which limited students in providing evidence at the highest level, as they hindered the capacity to be insightful or to back up evidence with examples

- confining evaluations to personal judgments about their own conduct of the research project as a whole, such as being disorganised, making lots of excuses for lack of work, and complaining about the subject and/or teachers
- giving trite reasons to show compliance with ethical processes, such as using recycled paper, or obvious ones, such as avoiding plagiarism
- showing little discrimination or awareness of the appropriateness of the research processes chosen, such as when commenting that schools had insisted on the inclusion of some primary data even when the topic did not lend itself readily to this, which resulted in tokenistic research — in particular, use of surveys was often not well thought out, and students appeared to lack awareness of the lack of validity of the process for the topic being investigated, judging that surveys were useless just because they didn't get enough completed surveys returned
- some topics were far too broad, leading students to either struggle to gather data in the first place or, paradoxically, to discern between useful and non-useful processes — this then led to difficulties in evaluating the research processes at the highest level
- lack of use of precise language with respect to making judgments, which prevented students from achieving at the higher level for E1 — instead, research processes were labelled using imprecise or overused adjectives such as 'good' or 'bad', with these judgments not being qualified by the use of examples.

Reflections on the capability (E2) and the research outcome (E3), and expression of ideas (S3)

The second part of the marks for the evaluation is allocated after a holistic assessment of the specific features of reflection on the capability (E2), reflection on the research outcome (E3), and the expression of ideas (S3).

Reflection on the Capability (E2)

The more effective responses presented detailed and in-depth evidence in relation to E2, whereas those responses which were restricted to a few sentences struggled to provide evidence at the higher levels. In less effective responses, the evidence about the capability was often not clearly presented, particularly if the capability was not identified in the written summary or anywhere else in the evaluation. This meant that markers had to search hard throughout the evaluation to locate evidence.

Reflection on one capability (from the SACE list of four capabilities), apart from learning, is the requirement. It was apparent to markers in both semesters, although less so in Semester 2, that there was some confusion, as some students reflected on more than one capability, thereby diluting the level of insight that they were able to demonstrate about the chosen capability. Others chose learning, or learning and one other, which was not appropriate. Choice of the capability is critical to the ability of students to reflect at the highest level. Some students chose a capability that was more suited to the research project in general, rather than their particular topic or broad area of research. Some students made up new capabilities, such as 'community' and 'service'. Of those students who chose one appropriate capability, the majority chose either personal development or communication, with work and citizenship featuring a little less frequently.

The reflections on the chosen capability at the higher levels require discussion of the capability itself, in addition to its relevance to both the student and their research project. The most successful reflections engaged in discussion of the chosen capability at the conceptual level, identifying new and profound understandings attained of the capability itself. Some examples of the way this was done successfully for each capability include discussion of:

- for communication — complexities of nonverbal communication; the interrelationship between message, sender and receiver; cultural differences in communication practices; or ways in which different modes affect the way the message is sent and received
- for personal development — the influences on the ways their own and others' identity is formed; new insights gained about acceptance of others' perspectives; or new awareness into their character or personality
- for citizenship — the realisation of their place in the world; the power that they have to take social action; or new insights about the different ways citizenship can be demonstrated and defined
- for work — new insights into being a successful employee; or the relationship between work and family life, gender roles, the economy, and government.

In general, students had real difficulty in providing evidence to address this facet of E2, often limiting their evidence to one or two sentences. Weaker responses involved copying phrases from the subject outline, but without giving examples from their own work, and these responses were unable to show in-depth understanding of the nature of the capability. Less successful reflections focused on how the student developed, demonstrated, or achieved the capability, often with the given examples not actually demonstrating the claims or not matching the capability itself. Many students did not engage in discussion of the capability at a conceptual level.

The better responses thoughtfully articulated the relevance of the chosen capability to their research project by making a real connection between the chosen capability and their topic or the processes used. An effective approach was to use the descriptions in the subject outline of how the research project can develop the capabilities, and backing them up with examples of how this was done in the research project. Most students, however, were unable to explain the connection of their capability to the research project, apart from stating that its relevance was obvious or that it was relevant because without it they couldn't do the project.

Personal relevance of the capability was addressed most effectively when students identified ways in which they connected with the capability. Some responses were limited to one brief reason; for example, increasing research skills (personal development) or improving oral communication skills (communication).

Reflection on the Research Outcome (E3)

Again, the more effective responses presented detailed and in-depth evidence in relation to E3. Those responses which were restricted to a few sentences had difficulty in providing evidence at the higher levels.

The most effective responses were made by those students whose reflections on the research outcome differentiated between the value of the research outcome and the research project as a whole. They delineated the value of the research outcome to themselves and to others, in terms of new insights and understandings gained or improved services. These often included findings of considerable worth, even

sometimes of life-changing significance. Those students who had chosen topics with significance to themselves and others had more capacity to reflect insightfully as there were tangible benefits to themselves and others. Some projects cited feedback from others as evidence that their project had real value to themselves and others. Highly effective responses also conveyed a sense of the scope of their research, noting its strengths as well as its limitations, and identifying additional research needed to improve the overall quality and/or veracity of their research.

Markers commented that weaker responses reflected on the process of constructing the research outcome itself, often describing how they went about it and being personally critical of how well they put it together or drafted it. Many responses presented an inflated sense of the worth of their research to the community in general, and the academic community in particular, believing that others will benefit from their research, even though they had not found anything significant or new, or made their findings public in any way. Weaker responses also contained grandiose statements of increased knowledge and understanding of the topic, without specifying what. Other less successful attempts to reflect on the value of the research outcome equated the research outcome with the entire project or ignored the outcome and focused on the value of the subject itself, making comments that were generic to all projects such as improving their organisational or research skills or job prospects, rather than specifically exploring the value of their own research outcome.

Expression of Ideas (S3)

In general, markers commented favourably on the standard of expression, with the majority of students able to express their views clearly and fluently, showing evidence of editing and proofreading. Most evaluations were written in a personal voice. This was handled very successfully by most students. Those written in the third person were less common; however, they were often equally well done. The most effective responses were not only expressed clearly but were characterised by a high level of organisational coherence, both in the order of presentation of ideas and examples within paragraphs and the order of paragraphs itself. However, some students repeated points in different parts of the evaluation, or did not group their points and examples as logically as they could have, scattering points about the evaluation of the research processes throughout, for example. Some weaker responses followed their summary with an introduction which basically repeated what was in the summary.

The table format adopted by some students made it difficult to achieve at the highest level as the lack of complete sentences interfered with the communication of ideas.

OPERATIONAL ADVICE

In general, student materials for moderation were well labelled and organised. The careful packaging of the school assessment material assisted moderators to verify assessment decisions, such as the provision of separate cover sheets for folio and outcome with performance standards highlighted with a grade and a comment, for each student and their materials. This also facilitated the provision of specific feedback on student work that assisted moderators to confirm teacher assessments for the folio and research outcome.

It is crucial that all teachers check that the grade on the student work matches the grade on the SACE School Assessment Results Sheets.

As mentioned earlier, teachers should identify missing student materials submitted for moderation using the Variations in Materials for the Sample for Final Moderation form.

GENERAL COMMENTS

Different approaches to the formation of assessment groups were adopted by schools in 2011. Some larger schools chose to combine classes into a large assessment group, while others retained an assessment group for each teacher. It is recommended that schools choosing to combine classes into a larger assessment group conduct in-house benchmarking and quality assurance to ensure a consistent interpretation and application of the performance standards.

An option existed in 2011 for students who had been given a result in Semester 1 to repeat their research projects, or parts thereof, in Semester 2. For details of the changed processes for repeating in 2012, teachers are asked to consult the 2012 Guidelines for the Research Project.

There were many challenges facing teachers, students, schools, moderators, and markers this year with the implementation and arrangements for this new subject. Overall, moderation and marking panels of both semesters were impressed by the excellent work of teachers and the diversity and interest shown by students.

Chief Assessor
Research Project