

Research Project

2012 Subject Outline

Stage 2



Government
of South Australia

SACE
Board of SA

Published by the SACE Board of South Australia,
60 Greenhill Road, Wayville, South Australia 5034
Copyright © SACE Board of South Australia 2010
First published 2010 for 2011 (published online September
2010, printed January 2011), 2012
ISBN 978 1 74102 734 1 (online Acrobat PDF version)
ISBN 978 1 74102 735 8 (online Microsoft Word version)
ref: A101884

This subject outline is accredited for teaching at Stage 2 from 2011

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RESEARCH PROJECT SUMMARY

How it fits in the SACE

The Research Project is a compulsory subject of the South Australian Certificate of Education (SACE).

Students must complete the 10-credit Research Project at Stage 2 of the SACE with a C grade or better.

What students do

Students:

- choose a topic based on an area of interest
- learn and apply research processes and knowledge and skills specific to their research topic
- record their research and evaluate what they have learnt.

The term 'research' is used broadly and may include practical or technical investigations, formal research, or exploratory inquiries.

What is learnt?

Learning requirements

Students are expected to:

1. generate ideas to plan and develop a research project
 2. consider the relevance of a chosen capability (communication, citizenship, personal development, or work) to their research
 3. analyse information and explore ideas to develop their research
 4. develop and apply specific knowledge and skills
 5. produce a research outcome
 6. evaluate their research.
-

Content

The content of the Research Project comprises the:

- capabilities
 - research framework.
-

Capabilities

Capability

Research Project students

Learning

All students develop and show this capability through this subject.

Communication
Citizenship
Personal development
Work

Students choose one other capability relevant to their research. They reflect on this capability and its relevance to their research project.

Research framework	<p>Students follow the research framework below as a guide to completing their work:</p> <ul style="list-style-type: none"> • initiating and planning the research • carrying out the research • producing the research outcome • evaluating the research. 	
How well is it learnt?	School assessment (70%)	1. Folio (proposal, research development, and discussion) (40%)
Evidence of learning	External assessment (30%)	2. Research outcome (30%) 3. Evaluation (including the written summary) (30%)
Assessment design criteria	<ul style="list-style-type: none"> • Planning • Application • Synthesis • Evaluation 	
Performance standards	The performance standards describe five levels of achievement, A to E.	
Research Project A or B?	<p>Students enrol in either Research Project A or Research Project B, depending on whether or not they want the subject to contribute to their Australian Tertiary Admission Rank (ATAR). These enrolment options vary only in how students present their evaluation for external assessment.</p>	
	<i>External assessment: Research Project A</i>	<i>External assessment: Research Project B</i>
	<ul style="list-style-type: none"> • A 150- to 200-word written summary of the research project, research processes used, and research outcome. • A written, oral, or multimodal assessment: 1500 words maximum if written or 10 minutes maximum for an oral presentation, or the equivalent in multimodal form (excluding the written summary). • Does not contribute to the student's ATAR. 	<ul style="list-style-type: none"> • A 150- to 200-word written summary of the research project, research processes used, and research outcome. • A common written assessment: 1500 words maximum (excluding the written summary). • Contributes to the student's ATAR.

LEARNING

Learning requirements

These summarise the knowledge, skills, and understanding that students are expected to develop and demonstrate through their learning.

In this subject, students are expected to:

1. generate ideas to plan and develop a research project
2. consider the relevance of a chosen capability (communication, citizenship, personal development, or work) to their research
3. analyse information and explore ideas to develop their research
4. develop and apply specific knowledge and skills
5. produce a research outcome
6. evaluate their research.

Content

The content of the Research Project comprises the:

- capabilities
- research framework.

In the Research Project students choose a research topic that is based on an area of interest, and a capability (communication, citizenship, personal development, or work) that is relevant to their research. The capability for learning is integral to the Research Project for all students.

Students use the research framework as a guide to developing their research and applying knowledge and skills specific to their research topic. They evaluate the research processes used. They reflect on the relevance of the chosen capability to themselves and their research project.

Capabilities

The five capabilities that underpin SACE subjects enable students to:

- become well-rounded young people who can make the most of their potential and act in effective and successful ways
- make connections in their learning within and across subjects in a wide range of contexts.

The following illustrates how the Research Project can develop each capability. Students consider and choose a capability (communication, citizenship, personal development, or work) that is relevant to their research.

Capabilities

Learning

In the Research Project, students:

- locate, collect, organise, evaluate, analyse, and use information
 - develop their knowledge and understanding of a range of research processes
 - keep records of their research, such as a journal, a weblog (blog), an e-portfolio, scientific notes, or annotated photographic evidence
 - consider and respond to feedback from teachers, peers, and others
 - consider ethical research processes, including respecting the rights and work of others, acknowledging sources, and observing protocols when approaching people and organisations
 - develop their ability to think critically and ethically.
-

Communication

Students may, for example:

- interact with teachers, parents, peers, and experts in their area of interest
 - ask questions, express opinions, and take different perspectives into account
 - use appropriate language and forms of communication in different contexts, and for different purposes and audiences
 - use clear language to communicate their ideas and the research outcome
 - improve their skills in literacy and numeracy, and the use of information and communication technologies
 - understand the nature of the communication capability and its relevance to their research, for example
 - the relationship between language and culture
 - communication as a social and cultural practice
 - how contemporary information and communication technologies affect communication.
-

Capabilities

Citizenship

Students may, for example:

- become involved in, and contribute to, the community
- consider issues that are important to the community, such as social, environmental, economic, or political matters
- understand Australia's cultural, linguistic, social, and religious diversity
- learn to value and respect other people's perspectives and rights
- take actions that reflect their appreciation of values such as democracy, equity, and justice
- take and/or advocate social action that contributes to community objectives
- understand the nature of the citizenship capability and its relevance to their research, for example
 - how decisions are made at local, national, and/or global levels
 - how shared knowledge allows people to communicate, live, and work together
 - what global citizenship might involve.

Personal development

Students may, for example:

- build self-confidence, self-awareness, and interpersonal and intrapersonal skills
- show initiative and use their creative abilities
- improve their skills in planning, problem-solving, and managing a complex extended project
- develop their personal attributes including resilience, persistence, resourcefulness, empathy, and respect for others
- understand the nature of the personal development capability and its relevance to their research, for example
 - the notion and construction of identity
 - respect for diversity and an openness to different perspectives and experiences
 - learning about their own well-being, while learning about physical, social, emotional, spiritual, and environmental matters.

Capabilities

Work

Students may, for example:

- participate responsibly in learning, work, and community life
 - build links with others, locally, nationally, or globally
 - understand workplace practices and procedures
 - consider key influences in the changing labour market
 - understand entrepreneurial enterprise
 - develop skills in the use of information and communication technologies that are used in workplaces
 - understand the place of creativity in the workplace
 - understand the nature of the work capability and its relevance to their research, for example
 - the role of paid, unpaid, and volunteer work in communities
 - how an understanding of languages, cultures, and histories affects people's work behaviours
 - developing employability skills.
-

Research framework

The four parts of the research framework are:

- initiating and planning the research
- carrying out the research
- producing the research outcome
- evaluating the research.

This framework has the flexibility to accommodate different models and approaches to research and inquiry-based learning, and to guide each student's research, on any topic and in any context. The four parts of the research framework are explained below.

1. Initiating and planning the research

Students plan their research by making decisions, seeking help, responding to and creating opportunities, and solving problems.

Students define a research topic

Defining the topic helps students to focus their research.

A research topic:

- could be an idea or issue, a technical or practical challenge, an artefact, a problem, or a question
- may be a new topic that is not related to a subject or course
- may be a topic that is linked to an existing subject or course. Work that has been previously assessed for another subject or course cannot be used in this subject. However, information gained or ideas expressed in one assessment task can be extended in another assessment task. For example, a student can use the research data on a particular topic in another subject as part of his or her research project.

In choosing a research topic, students should identify the potential value of the research to themselves and, where applicable, to others.

Students and teachers must ensure that the research topic and the research processes proposed do not compromise the principles of honest, safe, and ethical research.

Students plan their research

Students:

- consider and select research processes that are appropriate to their research topic
- investigate and propose safe and ethical research processes
- identify knowledge and skills that are specific to their research topic
- identify people with whom to work (e.g. their teacher, a community expert, or a peer group) and negotiate processes for working together

- plan the research in manageable parts
 - identify a capability (communication, citizenship, personal development, or work) and its likely relevance to their research project
 - consider how to present the research outcome.
-

2. *Carrying out the research*

Students carry out their research

Students:

- consider the chosen capability and explore its relationship to themselves and their research project
- develop and apply specific knowledge and skills to practical and creative tasks, trials, and experiments
- develop and explore ideas
- locate, collect, select, organise, analyse, and use information from different sources
- consult teachers and others with expertise in their area of interest
- participate in formal and informal discussions with the teacher about the progress of their research
- apply safe and ethical research processes
- review and adjust the direction of their research in response to feedback, opportunities, questions, and problems as they arise
- maintain a record of progress and sources used, which the teacher verifies.

Group programs

Teachers may develop group programs for students to carry out their research collaboratively around a common theme.

Each student:

- develops an individual topic on one or more aspects of the common theme
- conducts independent research that reflects his or her own interests and ideas, and the capability that he or she has chosen, related to the common theme
- produces a distinct, individual research outcome
- presents an individual evaluation for the external assessment component.

3. *Producing the research outcome*

Students produce their research outcome

Students identify or demonstrate their key findings (knowledge, skills, and ideas), which they substantiate with evidence and examples from their research. Students can present their key findings in a number of different forms, including:

- written results, conclusions, recommendations, or solutions to a problem or question (e.g. an essay, a report, a booklet, or an article)
- a product (e.g. an artefact, a manufactured article, or a work of art or literature)
- a display or an exhibition
- a multimedia presentation
- a performance (live or recorded)
- a combination of any of the above.

Audience

Students present their research outcome to the teacher and, if they choose, to a broader audience (e.g. other students, a live or virtual audience, community members, or a reader or viewer).

4. *Evaluating the research*

Students evaluate their research

Students:

- make judgments about how successfully they have managed and developed their research
 - evaluate the usefulness of the research processes used
 - reflect on their understanding of the chosen capability and its relevance to themselves and their research
 - reflect on the research outcome and its value to themselves and, where applicable, to others.
-

ASSESSMENT

All Stage 2 subjects have a school assessment component (70%) and an external assessment component (30%).

Evidence of learning

The following assessment types enable students to demonstrate their learning in the Research Project:

<i>Assessment types</i>	
School assessment	1. Folio (proposal, research development, and discussion) (40%) 2. Research outcome (30%)
External assessment	3. Evaluation (including the written summary) (30%)

Assessment design criteria

<i>Criteria</i>	<i>Specific features</i>
Planning	<p>P1 Consideration and identification of a research topic</p> <ul style="list-style-type: none">• Exploration of the research topic within an area of interest• Refinement of a particular research topic. <p>P2 Planning of research processes appropriate to the research topic</p> <ul style="list-style-type: none">• Identification, selection, and design of research processes appropriate to the research topic• Due attention to ethical and manageable research processes.
Application	<p>A1 Development of the research</p> <ul style="list-style-type: none">• Location, collection, and recording of information• Interaction with others and response to feedback• Application of relevant research processes and reference to the chosen capability. <p>A2 Analysis of information and exploration of ideas</p> <ul style="list-style-type: none">• Organisation and analysis of relevant information and ideas• Appropriate response to challenges when undertaking the research. <p>A3 Application of knowledge and skills</p> <ul style="list-style-type: none">• Development and use of topic-specific knowledge and skills.

Criteria	Specific features
Synthesis	<p>S1 Production of the research outcome</p> <ul style="list-style-type: none"> • Creation of a research outcome that brings together the knowledge, skills, and ideas that have emerged from the research. <p>S2 Substantiation of key findings</p> <ul style="list-style-type: none"> • Identification or demonstration of knowledge, skills, and ideas, central to the research outcome, that are supported by evidence and examples from the research. <p>S3 Expression of ideas</p> <ul style="list-style-type: none"> • Clear organisation of information and ideas • Accurate and appropriate communication in written, oral, or multimodal form.
Evaluation	<p>E1 Evaluation of research processes</p> <ul style="list-style-type: none"> • Judgments about the relative effectiveness of the research processes used. <p>E2 Reflection on the chosen capability and its relevance to the students themselves and the research project</p> <ul style="list-style-type: none"> • Observations about the nature of the chosen capability • Reflections on the connections between the chosen capability and the research project • Reflections on the significance of the chosen capability to themselves. <p>E3 Reflection on the research outcome and its value to the students themselves and, where applicable, to others</p> <ul style="list-style-type: none"> • Reflections on the significance of key findings that have emerged from the research • Conclusions about the possible value of the research outcome to themselves and, where applicable, to others.

School assessment (70%)

Assessment Type 1: Folio (40%)

The folio is a record of the student's research. Students select and present evidence of their learning from different stages of the research project.

There are three parts to the folio:

- proposal
- research development
- discussion.

Proposal

Students present a proposal. As a guide, this proposal should be approximately 500 words if written or approximately 3 minutes for an oral presentation (live or recorded), or the equivalent in multimodal form.

Students provide evidence of:

- considering, identifying, and defining a research topic and outlining their initial ideas for the research
- considering a capability that is likely to be relevant to their research project
- negotiating processes for working with others
- considering and selecting research processes that are likely to be appropriate to their research topic (i.e. valid, ethical, and manageable research processes).

Research development

Students present selected evidence of the development of their research project.

Evidence could include:

- information collected, selected, annotated, and analysed, and ideas explored (e.g. notes, drafts, letters, sketches, plans, models, interview notes, observations, trials, reflections, data from experiments, records of visits or fieldwork, photographs, feedback, translations, and interpretations)
- responses to feedback, interactions, opportunities, questions, and problem-solving
- reflection on the research processes used, including progress made and actions taken (e.g. major activities, insights, turning points, and problems encountered).

Discussion

Students have one or two formal discussions with the teacher about:

- how the research is developing
- the research processes they are using
- ideas they are developing through the research
- the knowledge and skills they are developing and applying.

Students must bring evidence of their research to support the discussion.

Students nominate the date of their discussion(s), in negotiation with the teacher. A discussion may also involve others, such as community members, experts, or other students.

The discussion must be recorded either digitally or in the form of notes taken by the student. If the discussion is recorded digitally, a continuous section (a maximum of 10 minutes) from the recording must be selected for inclusion in the folio.

For this assessment type, students provide evidence of their learning in relation to the following assessment design criteria:

- planning
- application.

Assessment Type 2: Research Outcome (30%)

Students produce a research outcome to identify or demonstrate their key findings, which they substantiate with evidence and examples from their research.

Form

Students negotiate with their teacher suitable forms for producing their research outcome, for example:

- written results, conclusions, recommendations, or solutions to a problem or question (e.g. an essay, a report, a booklet, or an article)
- a product (e.g. an artefact, a manufactured article, or a work of art or literature)
- a display or an exhibition
- a multimedia presentation
- a performance (live or recorded)
- a combination of any of the above.

Audience

Students present their research outcome to the teacher and, if they choose, to a broader audience (e.g. other students, a live or virtual audience, community members, or a reader or viewer).

Word/time limit

Evidence of the research outcome should be:

- a maximum of 1500 words if written, *or*
- a maximum of 10 minutes for an oral presentation, *or*
- the equivalent in multimodal form.

For this assessment type, students provide evidence of their learning in relation to the following assessment design criterion:

- synthesis.

External assessment (30%)

Assessment Type 3: Evaluation

Students:

- evaluate the research processes used
- reflect on the chosen capability and its relevance to themselves and their research project
- reflect on the research outcome and its value to themselves and, where applicable, to others.

Students enrol in either Research Project A or Research Project B

Research Project A

Students:

- prepare a 150- to 200-word written summary of the research project, research processes used, and research outcome (the summary provides background information for the assessors and forms part of the evaluation)
- choose, in consultation with their teacher, the best form in which to present their evaluation; it may be in written, oral, or multimodal form
- prepare an assessment of a maximum of 1500 words if written or a maximum of 10 minutes for an oral presentation, or the equivalent in multimodal form (excluding the written summary).

Research Project A does not contribute to the student's Australian Tertiary Admission Rank (ATAR).

Research Project B

Students:

- prepare a 150- to 200-word written summary of the research project, research processes used, and research outcome (the summary provides background information for the assessors and forms part of the evaluation)
- must present their evaluation in written form; it can include visual material such as photographs and diagrams integrated into the written text
- prepare a written assessment of a maximum of 1500 words (excluding the written summary).

Research Project B contributes to the student's Australian Tertiary Admission Rank (ATAR).

For this assessment type, students provide evidence of their learning in relation to the following assessment design criteria:

- synthesis (focusing on specific feature S3)
- evaluation (focusing on all the specific features, E1, E2, and E3).

Performance standards: how they are used

The performance standards describe five levels of achievement, A to E (see the table on the following pages).

Each level of achievement describes the knowledge, skills, and understanding that teachers and assessors refer to in deciding, on the basis of the evidence provided, how well a student has demonstrated his or her learning.

When and how students, teachers, and assessors use the performance standards

Students

- Students use the performance standards during the teaching and learning program to identify
 - the knowledge, skills, and understanding they have demonstrated
 - those specific features they still need to demonstrate to reach their highest possible level of achievement.
-

Teachers

- Teachers refer to the performance standards during the teaching and learning program to decide the quality of students' learning and give them feedback.
 - In the school assessment, the teacher uses the performance standards to assign a grade between A+ and E– for each of Assessment Type 1 and Assessment Type 2.
 - At the student's completion of the school assessment, the teacher uses a SACE Board school assessment grade calculator to combine the grades for Assessment Types 1 and 2 and to determine the student's school assessment grade in the range A+ to E–. For the calculator, visit the SACE website (www.sace.sa.edu.au).
 - In the external assessment, the teacher uses the performance standards to assign a grade between A+ and E– for Assessment Type 3.
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Assessors

- In the external assessment, assessors use the performance standards to assign a grade between A+ and E– for Assessment Type 3.
-

The student's school assessment and external assessment are combined for a final result, which is reported as a grade between A+ and E–.

Stage 2 Research Project performance standards

<i>Planning</i>		<i>Application</i>	<i>Synthesis</i>	<i>Evaluation</i>
Assessment Type 1: Folio			Assessment Type 2: Research Outcome	
				Assessment Type 3: Evaluation
A	<p>Thorough consideration and refinement of a research topic.</p> <p>Thorough planning of research processes that are highly appropriate to the research topic.</p>	<p>Thorough and highly resourceful development of the research.</p> <p>In-depth analysis of information and exploration of ideas to develop the research.</p> <p>Highly effective application of knowledge and skills specific to the research topic.</p>	<p>Insightful synthesis of knowledge, skills, and ideas to produce a well-developed research outcome.</p> <p>Insightful and thorough substantiation of key findings central to the research outcome.</p> <p>Clear and coherent expression of ideas.</p>	<p>Insightful evaluation of the research processes used.</p> <p>Insightful reflection on the nature of the chosen capability and its relevance to themselves and the research project.</p> <p>Well-considered and insightful reflection on the research outcome and its value to themselves and, where applicable, to others.</p>
B	<p>Consideration of the main area of research and some refinement of a research topic.</p> <p>Considered planning of research processes that are appropriate to the research topic.</p>	<p>Considered and mostly resourceful development of the research.</p> <p>Some complexity in analysis of information and exploration of ideas to develop the research.</p> <p>Effective application of knowledge and skills specific to the research topic.</p>	<p>Considered synthesis of knowledge, skills, and ideas to produce a well-developed research outcome.</p> <p>Substantiation of most key findings central to the research outcome.</p> <p>Mostly clear and coherent expression of ideas.</p>	<p>Considered evaluation of the research processes used.</p> <p>Considered reflection on the nature of the chosen capability and its relevance to themselves and the research project.</p> <p>Considered reflection on the research outcome and its value to themselves and, where applicable, to others.</p>
C	<p>Adequate consideration of a broad research topic, but little evidence of refining the topic.</p> <p>Satisfactory planning of research processes that are appropriate to the research topic.</p>	<p>Adequate development of the research.</p> <p>Adequate analysis of information and exploration of ideas to develop the research.</p> <p>Adequate application of knowledge and skills specific to the research topic.</p>	<p>Adequate synthesis of knowledge, skills, and ideas to produce a research outcome.</p> <p>Substantiation of some key findings central to the research outcome.</p> <p>Generally clear expression of ideas.</p>	<p>Recount with some evaluation of the research processes used.</p> <p>Reflection on the relevance of the chosen capability to themselves and the research project.</p> <p>Reflection on the research outcome and its value to themselves and, where applicable, to others.</p>

<i>Planning</i>	<i>Application</i>	<i>Synthesis</i>	<i>Evaluation</i>
Assessment Type 1: Folio		Assessment Type 2: Research Outcome	Assessment Type 3: Evaluation
D Basic consideration and identification of some aspects of a research topic. Partial planning of research processes that may be appropriate to the research topic.	Development of some aspects of the research. Collection rather than analysis of information, with some superficial description of an idea to develop the research. Superficial application of some knowledge and skills specific to the research topic.	Basic use of information and ideas to produce a research outcome. Basic explanation of ideas related to the research outcome. Basic expression of ideas.	Superficial description of the research processes used. Superficial reflection on the relevance of the chosen capability to themselves and the research project. Some reflection on aspects of the research outcome and its value to themselves and, where applicable, to others.
E Attempted consideration and identification of an area of interest. Attempted planning of an aspect of the research process.	Attempted development of an aspect of the research project. Attempted collection of basic information, with some partial description of an idea. Attempted application of one or more skills that may be related to the research topic.	Attempted use of an idea to produce a research outcome. Limited explanation of an idea or an aspect of the research outcome. Attempted expression of ideas.	Attempted description of the research process used. Attempted reflection on the relevance of the chosen capability to themselves and the research project. Emerging awareness that the research can have a value to themselves and, where applicable, to others.

ASSESSMENT INTEGRITY

The SACE Assuring Assessment Integrity Policy outlines the principles and processes that teachers and assessors follow to assure the integrity of student assessments. This policy is available on the SACE website (www.sace.sa.edu.au) as part of the SACE Policy Framework.

The SACE Board uses a range of quality assurance processes so that the grades awarded for student achievement, in both the school assessment and the external assessment, are applied consistently and fairly against the performance standards for a subject, and are comparable across all schools.

Information and guidelines on quality assurance in assessment at Stage 2 are available on the SACE website (www.sace.sa.edu.au).

SUPPORT MATERIALS

Subject-specific advice

Online support materials are provided for each subject and updated regularly on the SACE website (www.sace.sa.edu.au). Examples of support materials are sample learning and assessment plans, annotated assessment tasks, annotated student responses, and recommended resource materials.

Advice on ethical study and research

Advice for students and teachers on ethical study and research practices is available in the guidelines on the ethical conduct of research in the SACE on the SACE website (www.sace.sa.edu.au).