Research Project A

2021 Subject Outline | Stage 2

Published by the SACE Board of South Australia,  
60 Greenhill Road, Wayville, South Australia 5034

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First published 2010 for 2011 (published online   
September 2010, printed January 2011)

Reissued 2012, 2013, 2014 (reaccredited), 2015, 2016,  
2017 (reaccredited), 2018, 2019, 2020, 2021

ISBN 978 1 74102 783 7 (online Microsoft Word version)

ref: A936793

*This subject outline has been* reaccredited *for teaching at Stage 2 from 2017*

contents

Introduction 1

Subject Description 1

Aboriginal and Torres Strait Islander Knowledge, Cultures, and Perspectives 1

Learning Scope and Requirements 3

Learning Requirements 3

Content 3

Assessment Scope and Requirements 11

Evidence of Learning 11

Assessment Design Criteria 11

School Assessment 13

External Assessment 16

Performance Standards 17

Assessment Integrity 20

Support Materials 21

Subject-specific Advice 21

Advice on Ethical Study and Research 21

Introduction

Subject Description

Stage 2 Research Project is a compulsory 10-credit subject. Students must achieve a   
C– grade or better to complete the subject successfully and gain their SACE.

Students enrol in either Research Project A or Research Project B.

For Research Project A, students can choose to present their external assessment in written, oral, or multimodal form. The external assessment for Research Project B must be written.

Research Project A and Research Project B may contribute to a student’s Australian Tertiary Admission Rank (ATAR).

Students choose a research question that is based on an area of interest to them. They explore and develop one or more capabilities in the context of their research.

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

The Research Project provides a valuable opportunity for SACE students to develop and demonstrate skills essential for learning and living in a changing world. It enables students to develop vital skills of planning, research, synthesis, evaluation, and project management.

The Research Project enables students to explore an area of interest in depth, while developing skills to prepare them for further education, training, and work. Students develop their ability to question sources of information, make effective decisions, evaluate their own progress, be innovative, and solve problems.

Aboriginal and Torres Strait Islander Knowledge, Cultures, and Perspectives

In partnership with Aboriginal and Torres Strait Islander communities, and schools and school sectors, the SACE Board of South Australia supports the development of high‑quality learning and assessment design that respects the diverse knowledge, cultures, and perspectives of Indigenous Australians.

The SACE Board encourages teachers to include Aboriginal and Torres Strait Islander knowledge and perspectives in the design, delivery, and assessment of teaching and learning programs by:

* providing opportunities in SACE subjects for students to learn about Aboriginal and Torres Strait Islander histories, cultures, and contemporary experiences
* recognising and respecting the significant contribution of Aboriginal and Torres Strait Islander peoples to Australian society
* drawing students’ attention to the value of Aboriginal and Torres Strait Islander knowledge and perspectives from the past and the present
* promoting the use of culturally appropriate protocols when engaging with and learning from Aboriginal and Torres Strait Islander peoples and communities.

Learning Scope and Requirements

Learning Requirements

The learning requirements summarise the knowledge, skills, and understanding that students are expected to develop and demonstrate through their learning in Stage 2 Research Project A.

In this subject, students are expected to:

1. generate ideas to plan and develop a research project

2. understand and develop one or more capabilities in the context of their research

3. analyse information and explore ideas to develop their research

4. develop specific knowledge and skills

5. produce and substantiate a Research Outcome

6. review their research.

Content

Stage 2 Research Project A is a 10-credit subject.

The content of Research Project A consists of:

* developing the capabilities
* applying the research framework.

In Research Project A students choose a research question that is based on an area of interest. They identify one or more capabilities that are relevant to their research.

Students use the research framework as a guide to developing their research and applying knowledge, skills, and ideas specific to their research question. They choose one or more capabilities, explore the concept of the capability or capabilities, and how it or they can be developed in the context of their research.

Students synthesise their key findings to produce a Research Outcome, which is substantiated by evidence and examples from the research. They review the knowledge and skills they have developed, and reflect on the quality of their Research Outcome.

Developing the Capabilities

The purpose of the capabilities is to develop in students the knowledge, skills, and understanding to be successful learners, confident and creative individuals, and active and informed citizens.

The capabilities that have been identified are:

* literacy
* numeracy
* information and communication technology capability
* critical and creative thinking
* personal and social capability
* ethical understanding
* intercultural understanding.

The capabilities enable students to make connections in their learning within and across subjects in a wide range of contexts.

Literacy

In Research Project A, students develop their capability for literacy by, for example:

* communicating with a range of people in a variety of contexts
* asking questions, expressing opinions, and taking different perspectives into account
* using language with increasing awareness, clarity, accuracy, and suitability for a range of audiences, contexts and purposes
* accessing, analysing, and selecting appropriate primary and secondary sources
* engaging with, and reflecting on, the ways in which texts are created for specific purposes and audiences
* composing a range of texts — written, oral, visual, and multimodal
* reading, viewing, writing, listening, and speaking, using a range of technologies
* developing an understanding that different text types (e.g. website, speech, newspaper article, film, painting, data set, report, set of instructions, or interview) have their own distinctive stylistic features
* acquiring an understanding of the relationships between literacy, language, and culture.

Numeracy

In Research Project A, students develop their capability for numeracy by, for example:

* using appropriate language and representations (e.g. symbols, tables, and graphs) to communicate ideas to a range of audiences
* analysing information displayed in a variety of representations and translating information from one representation to another
* justifying the validity of the findings, using everyday language, when appropriate
* applying skills in estimating and calculating, using thinking, written, and digital strategies to solve and model everyday problems
* interpreting information given in numerical form in diagrams, maps, graphs, and tables
* visualising, identifying, and sorting shapes and objects in the environment
* interpreting patterns and relationships when solving problems
* recognising spatial and geographical features and relationships
* interpreting and incorporating statistical information that requires an understanding of the diverse ways in which data are gathered, recorded, and presented.

Information and Communication Technology Capability

In Research Project A, students develop their capability for information and communication technology by, for example:

* understanding how contemporary information and communication technologies affect communication
* critically analysing the limitations and impacts of current technologies
* considering the implications of potential technologies
* communicating and sharing ideas and information, to collaboratively construct knowledge and digital solutions
* defining and planning information searches of a range of primary and secondary sources when investigating research questions
* developing an understanding of hardware and software components, and operations of appropriate systems, including their functions, processes, and devices
* applying knowledge and skills of information and communication technology to a range of methods, to collect and process data, and transmit and produce information
* learning to manage and manipulate electronic sources of data, databases, and software applications
* applying technologies to design and manage projects.

Critical and Creative Thinking

In Research Project A, students develop their capability for critical and creative thinking by, for example:

* thinking critically, logically, ethically, and reflectively
* learning and applying new knowledge and skills
* accessing, organising, using, and evaluating information
* posing questions, and identifying and clarifying information and ideas
* developing knowledge and understanding of a range of research processes
* understanding the nature of innovation
* recognising how knowledge changes over time and is influenced by people
* exploring and experiencing creative processes and practices
* designing features that are fit for function (e.g. physical, virtual, or textual)
* investigating the place of creativity in learning, the workplace, and community life
* examining the nature of entrepreneurial enterprise
* reflecting on, adjusting and explaining their thinking, and identifying the reasons for choices, strategies, and actions taken.

Personal and Social Capability

In Research Project A, students develop their personal and social capability by, for example:

* developing a sense of personal identity
* reviewing and planning personal goals
* developing an understanding of, and exercising, individual and shared obligations and rights
* participating actively and responsibly in learning, work, and community life
* establishing and managing relationships in personal and community life, work, and learning
* developing empathy for and understanding of others
* making responsible decisions based on evidence
* working effectively in teams, and handling challenging situations constructively
* building links with others, locally, nationally, and/or globally.

Ethical Understanding

In Research Project A, students develop their capability for ethical understanding by, for example:

* identifying and discussing ethical concepts and issues
* considering ethical and safe research processes, including respecting the rights and work of others, acknowledging sources, and observing protocols when approaching people and organisations
* appreciating the ethical and legal dimensions of research and information
* reflecting on ethics and honesty in personal experiences and decision-making
* exploring ideas, rights, obligations, and ethical principles
* considering workplace safety principles, practices, and procedures
* developing ethical sustainable practices in the workplace and the community
* inquiring into ethical issues, selecting and justifying an ethical position, and understanding the experiences, motivations, and viewpoints of others
* debating ethical dilemmas and applying ethical principles in a range of situations.

Intercultural Understanding

In Research Project A, students develop their capability for intercultural understanding by, for example:

* identifying, observing, analysing, and describing characteristics of their own cultural identities and those of others (e.g. group memberships, traditions, values, religious beliefs, and ways of thinking)
* recognising that culture is dynamic and complex and that there is variability within all cultural, linguistic, and religious groups
* learning about and engaging with diverse cultures in ways that recognise commonalities and differences, create connections with others, and cultivate mutual respect
* developing skills to relate to and move between cultures
* acknowledging the social, cultural, linguistic and religious diversity of a nation, including that of Aboriginal and Torres Strait Islander societies in Australia
* recognising the challenges of living in a culturally diverse society and of negotiating, interpreting, and mediating difference.

Applying the Research Framework

The four parts of the research framework for Research Project A are:

1. initiating and planning the research

2. developing the research

3. producing and substantiating the Research Outcome

4. reviewing the research.

The four parts of the research framework are explained below.

1. Students Initiate and Plan their Research

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

Students Formulate and Refine a Research Question

Formulating and refining the question help students to focus their research.

A research question:

* could be based on an idea or issue, a technical or practical challenge, a hypothesis, creating an artefact, or solving a problem
* may be an area of interest that is not related to a subject or course
* may be linked to content in 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.

Students refine their question, ensuring that the question lends itself to being researched and that the research is likely to be manageable and achievable. Refining a question may involve identifying a precise context, for example, place, type, age group, or time period.

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

Students Plan their Research

Students:

* consider, select, and/or design research processes (e.g. qualitative and quantitative research, practical experimentation, fieldwork) that are appropriate to their research question
* investigate and propose safe and ethical research processes
* identify knowledge, skills, and ideas that are specific to their research question
* 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
* explore ideas in an area of interest
* explore the concept of a capability or capabilities in the context of their research
* consider the form of and audience for the Research Outcome.

2. Students Develop their Research

Students:

* develop a capability or capabilities in ways that are relevant to their research question
* develop and apply specific knowledge and skills
* develop and explore ideas
* locate, select, organise, analyse, use, and acknowledge information from different sources
* consult teachers and others with expertise in their area of interest
* participate in 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 made and sources used.

3. Students Produce and Substantiate their Research Outcome

Students synthesise their key findings (knowledge, skills, and ideas) to produce a Research Outcome.

The Research Outcome is substantiated by evidence and examples from the research, and shows how the student resolved the research question.

Substantiation should be relevant to the Research Outcome, and is usually provided in one or both of the following ways:

* By referencing the key findings from the research to sources, using, for example, in‑text references and thereby demonstrating the origin of ideas and thoughts.
* By explaining the validity of the methodology adopted and thereby demonstrating that it is able to be reproduced.

The Research Outcome must include the key findings and substantiation. The Research Outcome can take the form of:

* the key findings and substantiation, which together form a product

Examples include: an essay, a report, an oral or written history with appropriate in-text referencing and a bibliography and/or references list; a multimedia presentation; a documented science experiment

or

* the key findings and substantiation, with elements of or reference to a separate product

Examples include: a supporting statement and annotated photographs of a product that has been created; an extract from a student-developed children’s story, with a record of the background research

or

* the key findings presented as annotations on a product, and substantiated by evidence and examples of the research

Examples include: a recorded dance performance with notes and a director’s statement.

Students negotiate with their teacher suitable forms for producing their Research Outcome.

4. Students Review their Research

Students:

* review the knowledge and skills developed in response to the research question (e.g. what students have learnt about their research, what practical and theoretical skills they have developed through their research)
* review decisions made in response to challenges and/or opportunities (e.g. major activities, insights, turning points, and problems encountered)
* reflect on the quality of the Research Outcome
* organise their information coherently and communicate ideas accurately and appropriately
* communicate in written, oral, or multimodal form.

Assessment Scope and Requirements

All Stage 2 subjects have a school assessment component and an external assessment component.

Evidence of Learning

The following assessment types enable students to demonstrate their learning in Stage 2 Research Project A:

School Assessment (70%)

* Assessment Type 1: Folio (30%)
* Assessment Type 2: Research Outcome (40%)

External Assessment (30%)

* Assessment Type 3: Review (30%).

Assessment Design Criteria

The assessment design criteria are based on the learning requirements and are used by:

* teachers to clarify for the student what he or she needs to learn
* teachers and assessors to design opportunities for the student to provide evidence of his or her learning at the highest possible level of achievement.

The assessment design criteria consist of specific features that:

* students should demonstrate in their learning
* teachers and assessors look for as evidence that students have met the learning requirements.

For this subject the assessment design criteria are:

* planning
* development
* synthesis
* review.

The specific features of these criteria are described below.

The set of assessments, as a whole, must give students opportunities to demonstrate each of the specific features by the completion of study of the subject.

Planning

The specific features are as follows:

P1 Consideration and refinement of a research question.

P2 Planning of research processes appropriate to the research question.

Development

The specific features are as follows:

D1 Development of the research.

D2 Analysis of information and exploration of ideas to develop the research.

D3 Development of knowledge and skills specific to the research question.

D4 Understanding and development of one or more capabilities.

Synthesis

The specific features are as follows:

S1 Synthesis of knowledge, skills, and ideas to produce a resolution to the research question.

S2 Substantiation of key findings relevant to the Research Outcome.

S3 Expression of ideas.

Review

The specific features are as follows:

R1 Review of the knowledge and skills developed in response to the research question.

R2 Discussion of decisions made in response to challenges and/or opportunities.

R3 Reflection on the quality of the Research Outcome.

School Assessment

Assessment Type 1: Folio (30%)

The Folio is a record of the student’s research. Students develop a research question and then select and present evidence of their learning from the planning and development stages of the research project. The Folio includes a proposal (evidence of planning), and evidence of the research development, which may take a variety of forms, including a discussion.

Proposal

Students:

* consider and define a research question, and outline their initial ideas for the research
* consider and select research processes that are likely to be appropriate to their research question (i.e. valid, ethical, and manageable research processes).

Evidence could include:

* a mind map
* guiding questions
* a written statement
* an oral discussion
* a multimedia presentation,

that may lead to the development of, and incorporation in, a management plan.

Research Development

Students:

* develop the research, including knowledge and skills specific to the research question
* organise and analyse information gathered
* explore ideas
* understand and develop one or more capabilities.

Evidence could include:

* information collected, selected, annotated, and analysed, and ideas explored in relation to the research question

Examples include: notes, drafts, letters, sketches, plans, models, interview notes, observations, trials, reflections, data from experiments, records of visits or fieldwork, photographs, annotations, feedback, translations, and interpretations

* responses to feedback, interactions, questions, and problem-solving

Examples include: major activities, insights, turning points, and problems encountered

* recordings of discussions with the teacher (either digital or in the form of notes taken by the student) about how the research is developing, the research processes used, ideas that are developing through the research, and the knowledge and skills being developed and applied.

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

* planning
* development.

Refer to the subject operational information on the Research Project minisite on the SACE website (www.sace.sa.edu.au) for details about materials to be submitted for moderation.

Assessment Type 2: Research Outcome (40%)

The Research Outcome is the resolution of the research question, through the presentation of the key findings from the research.

Students identify the intended audience for their Research Outcome, and consider the value of their research to this audience. The form and language of the Research Outcome should be appropriate to the intended audience.

In resolving the research question, students come to a position or conclusion as a response to their research question.

Students synthesise their key findings (knowledge, skills, and ideas) to produce a Research Outcome and substantiate these with evidence and examples from their research to show how they resolved the research question.

Substantiation should be relevant to the Research Outcome, and is usually provided in one or both of the following ways:

* By referencing the key findings from the research to sources, using, for example, in‑text references and thereby demonstrating the origin of ideas and thoughts.
* By explaining the validity of the methodology adopted and thereby demonstrating that it is able to be reproduced.

The Research Outcome must include the key findings and substantiation. The Research Outcome can take the form of:

* the key findings and substantiation, which together form a product

Examples include: an essay, a report, an oral or written history, with appropriate in-text referencing and a bibliography and/or references list; a multimedia presentation; a documented science experiment

*or*

* the key findings and substantiation, with elements of or reference to a separate product

Examples include: a supporting statement and annotated photographs of a product that has been created; an extract from a student-developed children’s story, with a record of the background research

*or*

* the key findings presented as annotations on a product, and substantiated by evidence and examples of the research

Examples include: a recorded dance performance with notes and a director’s statement.

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) and a producer’s statement
* a display or exhibition with annotations
* a multimedia presentation and podcast
* a performance (live or recorded) with a supporting statement
* a combination of any of the above.

Students submit their Research Outcome to the teacher and, if they choose, present it to a broader audience (e.g. other students or community members).

Evidence of the Research Outcome must 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 all specific features of the following assessment design criterion:

* synthesis.

External Assessment

Assessment Type 3: Review (30%)

The Review is a series of reflections about the knowledge and skills developed, decisions made, and the Research Outcome produced.

For this assessment type, students:

* review knowledge and skills developed in response to the research question.

Students review their knowledge and skills by discussing the information that they initially had and how this has developed over the period of research, providing examples.

* discuss the decisions made in response to challenges and/or opportunities.

Students discuss their actions when faced with challenges and/or opportunities. They briefly outline the challenge and/or opportunity, state the decision made in response to that challenge and/or opportunity, and discuss how their decisions influenced their research development.

* reflect on the quality of the Research Outcome

Students reflect on the quality of their Research Outcome and discuss the significance of their findings and the features that influence the overall value and worth of their Research Outcome, including the extent to which the question has been answered.

* organise their information coherently and communicate ideas accurately and appropriately.

Students prepare a summary of the research question and the Research Outcome, to a maximum of 150 words if written, or a maximum of 1 minute for an oral presentation, or the equivalent in multimodal form. This summary is assessed.

In consultation with their teacher, students choose the best form in which to present their review: written, oral, or multimodal.

Students prepare their review to 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).

The following specific features of the assessment design criteria for this subject are assessed in the external assessment component:

* review — R1, R2, and R3
* synthesis — S3.

Performance Standards

The performance standards describe five levels of achievement, A to E.

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

During the teaching and learning program the teacher gives students feedback on their learning, with reference to the performance standards.

At the student’s completion of study of each school assessment type, the teacher makes a decision about the quality of the student’s learning by:

* referring to the performance standards
* assigning a grade between A and E for the assessment type.

The student’s school assessment and external assessment are combined for a final result, which is reported as a grade between A and E.

Performance Standards for Stage 2 Research Project A

| - | Planning | Development | Synthesis | Review |
| --- | --- | --- | --- | --- |
| A | P1 Thorough consideration and refinement of a research question.  P2 Thorough planning of research processes that are highly appropriate to the research question. | D1 Thorough and highly resourceful development of the research.  D2 In-depth analysis of information and exploration of ideas to develop the research.  D3 Highly effective development of knowledge and skills specific to the research question.  D4 Thorough and informed understanding and development of one or more capabilities. | S1 Insightful synthesis of knowledge, skills, and ideas to produce a resolution to the research question.  S2 Insightful and thorough substantiation of key findings relevant to the Research Outcome.  S3 Clear and coherent expression of ideas. | R1 Insightful review of knowledge and skills developed in response to the research question.  R2 In-depth discussion of decisions made in response to challenges and/or opportunities.  R3 Insightful reflection on the quality of the Research Outcome. |
| B | P1 Consideration and some refinement of a research question.  P2 Considered planning of research processes that are appropriate to the research question. | D1 Considered and mostly resourceful development of the research.  D2 Some complexity in analysis of information and exploration of ideas to develop the research.  D3 Effective development of knowledge and skills specific to the research question.  D4 Informed understanding and development of one or more capabilities. | S1 Considered synthesis of knowledge, skills, and ideas to produce a resolution to the research question.  S2 Substantiation of most key findings relevant to the Research Outcome.  S3 Mostly clear and coherent expression of ideas. | R1 Considered review of knowledge and skills developed in response to the research question.  R2 Some depth in discussion of decisions made in response to challenges and/or opportunities.  R3 Considered reflection on the quality of the Research Outcome. |
| C | P1 Some consideration of a research question, but little evidence of refinement.  P2 Satisfactory planning of research processes that are appropriate to the research question. | D1 Satisfactory development of the research.  D2 Satisfactory analysis of information and exploration of ideas to develop the research.  D3 Satisfactory development of knowledge and skills specific to the research question.  D4 Satisfactory understanding and development of one or more capabilities. | S1 Satisfactory synthesis of knowledge, skills, and ideas to produce a resolution to the research question.  S2 Substantiation of some key findings relevant to the Research Outcome.  S3 Generally clear expression of ideas. | R1 Satisfactory review of knowledge and skills developed in response to the research question.  R2 Satisfactory discussion of decisions made in response to challenges and/or opportunities.  R3 Satisfactory reflection on the quality of the Research Outcome. |
| D | P1 Basic consideration and identification of a broad research question.  P2 Partial planning of research processes that may be appropriate to the research question. | D1 Development of some aspects of the research.  D2 Collection rather than analysis of information, with some superficial description of an idea to develop the research.  D3 Superficial development of some knowledge and skills specific to the research question.  D4 Basic understanding and development of one or more capabilities. | S1 Basic use of information and ideas to produce a resolution to the research question.  S2 Basic explanation of ideas related to the Research Outcome.  S3 Basic expression of ideas. | R1 Superficial description of some knowledge and skills developed in response to the research question.  R2 Basic description of decisions made in response to challenges and/or opportunities  R3 Superficial reflection on the quality of the Research Outcome. |
| E | P1 Attempted consideration and identification of an area for research.  P2 Attempted planning of an aspect of the research process. | D1 Attempted development of an aspect of the research.  D2 Attempted collection of basic information, with some partial description of an idea.  D3 Attempted development of one or more skills that may be related to the research question.  D4 Attempted understanding and development of one or more capabilities. | S1 Attempted use of an idea to produce a resolution to the research question.  S2 Limited explanation of an idea or an aspect of the Research Outcome.  S3 Attempted expression of ideas. | R1 Attempted description of some knowledge or a skill developed in response to the research question.  R2 Attempted description of decisions made in response to a challenge and/or opportunity.  R3 Attempted reflection on the quality of the Research Outcome. |

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).