



Australian Science & Mathematics School

2017 Annual Report to the School Community



Government
of South Australia

Department for Education
and Child Development

Australian Science & Mathematics School Number: 1800

Partnership: Marion Inland

Name of School Principal:

Susan Jayne Heath

Name of Governing Council Chair:

Peter Amerl

Date of Endorsement:

School Context and Highlights

2017 at the ASMS has seen the retirement of Susan Hyde, Principal since 2010 and the appointment of Jayne Heath. Our school community celebrated Susan's leadership at a farewell school assembly dedicated to acknowledging her work with our school community.

The reworking of our Central Studies continued into 2017 with the introduction of Internet of Things, Medical Engineering and Energy Equation. This has strengthened ASMS interdisciplinary approach with mathematics and technology more embedded in each of the Central Studies.

The Learning Studies program was expanded in 2017 with an extra 100 minutes focused on strengthening our development of students as self directed learners. Supportive relationships between students and their Learning Studies teacher remains central to the success of the program and our school's inclusive learning culture.

The annual ASMS International Science Fair engaged 90 participants from 9 nations who joined our year 10 & 11 students in our Challenge Based learning programs. Led by Glenys Thompson, Deputy Principal, the week was full of learning, getting out of the building into the field and having lots of fun as we learned together

We also managed our usual presence at Science Alive. Over 50 students and 10 staff volunteered their time to run these events.

Our partnership with WorkForce BluePrint enabled us to run the Real Day Out. This program is co-designed with our students to raise awareness of 21C careers and opportunities with a focus on STEM. The day was a lot of fun with students and teachers exploring the career and study opportunities in the Adelaide CBD, Flinders Tonsley Campus, Adelaide University Thebarton Precinct and Uni SA Mawson Lakes campus.

The International Aeronautical Congress was held in Adelaide with over 20 ASMS students being involved as volunteers. We are thrilled that our "Project Toad" students successfully pitched their idea for "The cultivation of Ganoderma lucidum in a microgravity environment for medicinal purposes upon the International Space Station" and will be mentored by experts in the field in developing their proposal further during 2018.

Governing Council Report

The Governing Council met monthly and under the Chairperson ship of Peter Amerl. Susan Hyde was farewelled at an official function hosted by the Governing Council in June. Peter thanked Susan for her leadership of the school over the previous 7 years and acknowledged the many initiatives she had implemented during this time.

The Flinders University representative is Professor Lindsay Conner, Dean, School of Education.

Activities of the 2017 GC included:

- Receiving regular reports about the progress of the 4 Strategic Directions of the ASMS Strategic Plan.
- Approving the ASMS Improvement Plan.
- Approving of 2018 Student Free and School Closure days.
- Governing Councillors participating in the ASMS Open Nights and the Presentation Night.
- Receiving regular reports about the progress of curriculum development, including the Central Studies, Learning Studies, International Science Fair activities and the Real Day Out.
- Receiving progress reports about the partnership with Flinders University, participation with Tonsley programs, support for ASMS student Research Projects.
- Over seeing the financial position of the school, monitored fee payments and approved debt recovery of school fees as required.
- Participating in the new Principal position panel

The Governing Council had significant input into the refreshing of the ASMS Vision, Mission and Values statement. Key processes included Focus Group conversations, Silent Feedback, and on-line survey responses.

It was a productive year for the council.

Improvement Planning and Outcomes

A variety of school self-review processes were used in 2017 in order to monitor the impact of learning programs on students' academic achievement, growth, engagement and participation. Online surveys, Focus Groups, student attendance & academic results data and participation in outreach programs were among the key data sources used. We have used data at the individual and cohort level to inform our learning design so we can plan and deliver targeted learning opportunities for our students. We have had a focus on our assessments that allow our teachers to extract and use a wider variety of information that informs them of the learning needs of their students, allowing for differentiation for cohorts and personalisation for individuals. The results from the PAT-Reading, PAT-Mathematics and PAT-Science tests undertaken by our year 10 students is informing our 2018 curriculum design.

A focus for 2017 was to determine effective ways we can determine improvement in the critical and creative thinking capacity of the self-directed learner. Base line data was identified and collected including assessment task designs and rubrics, student self-reports on their capabilities in the end of semester reports, and teacher observations. The data is inconclusive at this stage, however with the 2018 appointment of our Senior Leader: Learner Analytics we will be able to strengthen our focus on gathering data to support us in improving learning design for the development and growth of the General Capabilities.

Three new Central studies were designed for the 2017 school year; Internet of Things (semester 1) and Medical Engineering and The Energy Equation (semester 2). Based on the data indicating high levels of engagement, academic achievement and growth of our students in our 2016 renewed Central Studies we were resolved to strengthen the interdisciplinarity and our focus on developing and valuing the General Capabilities.

Strategic Directions 1 Co-design

'Choose a Curriculum for the Future' is the first of our Strategic Directions commitments. This year has seen strong integration of co-design into our central studies and year 12 curriculum offerings. This has resulted in students having the opportunity to self-determine a range of learning, including goals, outcomes and assessment.

Strategic Directions 2 Partnerships

During 2017 we have reviewed and aligned all international and national educational partnerships to ensure that there is a shared vision and approach. We have also maintained university partnerships which have had a significant impact on our curriculum deliveries and developed additional partnerships with other areas of the university as well as industry.

Strategic Direction 3 Capabilities and Dispositions

Descriptors developed for the ASMS Graduate Capabilities, building on AC metacognitive capabilities. 4 students completed the Portfolio Accredited Tertiary Entrance. Thirteen Year 12 students undertook a University Extension Subject (UES) 6 students achieving High Distinctions in both semesters.

Strategic Directions 4 Impact and Influence

During 2017 the ASMS has continued to have significant impact and influence on Maths and Science education on a state, national, and international level. This year we have provided strong leadership of key professional learning linked to the DECD STEM strategy. During 2017 ASMS staff have facilitated professional learning for 3361 participants totalling 1518.4 hours of planning and facilitation. In addition we have had 204 visitors to the ASMS working alongside our staff for 158 hours. ASMS staff have engaged in 3570.75 hours professional learning during school time and an additional 1881.40 of out of hours professional learning.



South Australian Certificate of Education - SACE

SACE Stage 2 Grades – Percentage of grades that are C- or above for attempted SACE subjects (SEA).

2014	2015	2016	2017
96%	96%	94%	96%

Data Source: SACE Schools Data reports, extracted February 2017.

*NOTE: Reporting of data not provided when less than six students in the respective cohort.

SACE Stage 2 Grade distribution

Grade	2014	2015	2016	2017
A+	1%	3%	1%	3%
A	6%	7%	5%	4%
A-	12%	9%	10%	9%
B+	13%	12%	15%	13%
B	15%	17%	16%	16%
B-	14%	16%	16%	19%
C+	16%	14%	12%	14%
C	14%	11%	11%	11%
C-	6%	7%	8%	7%
D+	2%	3%	2%	3%
D	1%	1%	2%	1%
D-	0%	0%	1%	0%
E+	0%	0%	0%	0%
E	0%	0%	0%	0%
E-	0%	0%	0%	0%
N	0%	0%	0%	0%

Data Source: SACE Schools Data reports, extracted February 2017.

*NOTE: Reporting of data not provided when less than six students in the respective cohort. Due to rounding of percentages, data may not add up to 100%.

SACE Completion - Percentage of completers out of those students who had the potential to complete their SACE that year.

2014	2015	2016	2017
94%	95%	95%	96%

Data Source: SACE Schools Data reports, extracted February 2017.

*NOTE: Reporting of data not provided when less than six students in the respective cohort.

	2014	2015	2016	2017
Percentage of year 12 students undertaking vocational training or trade training	13.75	15	7.62	11.8
Percentage of year 12 students attaining a year 12 certificate or equivalent VET qualification	11	2	5.71	

School Performance Comment

In 2017 ASMS focused on ensuring students were clear about learning intentions and were supported to provide evidence of their learning as specified in the Australian Curriculum and SACE Standards in a variety of ways. Strengthening student's understanding of the General Capabilities including critical and creative thinking, ethical understanding, personal and social capability, literacy, numeracy, inter-cultural understanding & ICT capability was evident in the Learning Conversations, achievement levels in assessment tasks designed to build capabilities and student's written reflections in their end of semester Reports. Teachers continued to support student's in identifying and collecting evidence of their growth across the General Capabilities in their e-Portfolios with 4 students using the Portfolio Accreditation Tertiary Entrance (PATE) as pathway into university programs.

Fifty nine of our year 10 & 11 students received ASMS Awards in recognition of their achievement, growth and participation. Student performance was closely monitored across 2017, a variety of interventions were successfully implemented to support students achieve success at Australian Curriculum and SACE levels.

ASMS year 12 students received twelve SACE Merit Awards, three in Research Project, two in Specialist Mathematics, two in Chemistry, one in Physics, one in Biology and one in Maths Methods. Thirteen Year 12 students undertook a University Extension Subject (UES) six students achieving High Distinctions in both semesters. Thirty students received ASMS Merit or Excellence Awards, ten received multiple awards. We were thrilled when Max Amerl received the Governor's Excellence Award at the SACE Merit ceremony, this was in recognition of his high level involvement in our school community, support for other students and participation in a range of community events.

Attendance

Year level	2014	2015	2016	2017
Year 10	93.4%	93.8%	94.4%	93.6%
Year 11	89.9%	92.7%	93.7%	92.3%
Year 12	95.2%	96.0%	94.8%	93.5%
Secondary Other		96.5%	100.0%	97.1%
Total	92.4%	94.1%	94.3%	93.1%

Data Source: Site Performance Reporting System, Semester 1 Attendance.

Note: A blank cell indicates there were no students enrolled.

Attendance Comment

The school is meeting the DECD target.

Behaviour Management Comment

ASMS Learning Studies program focuses on developing a common understanding of the core values and expectations of students in our school. Learning Studies Team Leaders support teachers in their team to plan and implement a series of sessions across the year to address issues such as bullying, harassment, cyber-safety etc
In 2017 two students were suspended each for four days.

Client Opinion Summary

Students and parents were involved in a series of on-line surveys and focus groups. Every year the ASMS administered the ACER School Life Questionnaire. In 2017 the Questionnaire was administered to 114 students in Years 10 to 12 during September and October 2017. Across the three year levels, 56 female students and 58 male students answered the Questionnaire, this is lower numbers than previous years and will be addressed in 2018. Students reported higher than national average levels of satisfaction in relation to their teachers, relevance of the curriculum, feelings of success, sense of being valued member of the school and for social integration. The data indicated our year 12 students felt the highest negative effect levels in our school. ASMS is strengthening our well-being for learning programs in 2018 in response to the results from this questionnaire and will monitor closely.

In 2017 the ASMS re-visited our Vision statement. Students,parents, our Governing Council, teachers and our Flinders University alliances engaged in a range of activities that enabled them to provide their ideas and thoughts about the future directions of our school. HRM Matters were contracted to assist in this process and worked closely with the Leadership Team to design, administer and synthesise a number of on-line surveys and focus groups.

Intended Destination

Leave Reason	School	
	Number	%
Employment	0	NA
Interstate/Overseas	24	14.1%
Other	0	NA
Seeking Employment	2	1.2%
Tertiary/TAFE/Training	5	2.9%
Transfer to Non-Govt School	9	5.3%
Transfer to SA Govt School	15	8.8%
Unknown	115	67.6%
Unknown (TG - Not Found)	0	NA

Data Source: Education Department School Administration System (EDSAS) Data extract Term 3 2017.

DECD Relevant History Screening

All staff and volunteers have the required screening. The process is managed by the Business Manager according to DECD guidelines.

Teacher Qualifications and Workforce Composition

All teachers at this school are qualified and registered with the SA Teachers Registration Board.

Qualification Level	Number of Qualifications
Bachelor Degrees or Diplomas	75
Post Graduate Qualifications	63

Data Source: DECD HR Management Reporting System, extracted Term 3 2017.

Please note: Staff who have more than 1 qualification will be counted more than once in the above qualification table. Therefore the total number of staff by qualification type may be more than the total number of teaching staff.

Workforce Composition including Indigenous staff

	Teaching Staff		Non-Teaching Staff	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Full-Time Equivalents	0.0	36.9	0.0	12.8
Persons	0	42	0	15

Data Source: DECD HR Management Reporting System, extracted Term 3 2017.

Financial Statement

Funding Source	Amount
Grants: State	5969020.80
Grants: Commonwealth	
Parent Contributions	488453.59
Fund Raising	
Other	161153.11

Data Source: Data Source: Education Department School Administration System (EDSAS).

2017 School Annual Report: Tier 2 Funding Report*

*Tier 2 funding provides additional resources to support students who are unlikely to obtain the desired outcomes without further support.

Tier 2 Funding Section	Tier 2 Category (where applicable to the site)	Briefly describe how the 2017 funding was used to improve the relevant Standard of Educational Achievement (SEA) outcomes	Outcomes achieved or progress towards these outcomes
Targeted Funding for Individual Students	Improved Behaviour Management and Engagement	\$8824 FLO funding	Funding supported external Case Worker and personalised learning strategies.
	Improved Outcomes for Students with an Additional Language or Dialect	\$54450.38 part of staffing budget to employ a teacher to support students with an Additional Language or Dialect	Literacy Levels increased across the school
	Improved Outcomes for Students with Disabilities	\$74783.40 part of staffing budget to employ SSO hours	NEP's established for students and progress monitored by key staff members.
Targeted Funding for Groups of Students	Improved Outcomes for - Rural & Isolated Students - Aboriginal Students - Numeracy and Literacy First Language Maintenance & Development Students taking Alternative Pathways Students with Learning Difficulties Grant	\$1189.92 part of staffing budget	Funding supported one student through the development of an Individual Learning Plan directed toward VET Cert III pathway due to complete in 2018
	Australian Curriculum		
Program Funding for all Students	Aboriginal Languages Programs Initiatives		
	Better Schools Funding	\$17717.38 used to employ one teacher and the student tutors every Tuesday afternoon	Students accessed the teacher on a regular basis for a range of support.
	Specialist School Reporting (as required)		
Other Discretionary Funding	Improved Outcomes for Gifted Students		
	Primary School Counsellor (if applicable)		