

quicksmart

numeracy
& literacy



INTERVENTION
PROGRAM



EVIDENCE
BASED



RESOURCES



The QuickSmart Team

From the Founder

3

John Pegg

Founder and Director

John is the co-founder of the SiMERR National Research Centre and *QuickSmart*. He is heavily involved in overseeing the *QuickSmart* project, among other projects of the centre.

Anne Parnell

Numeracy Presenter

Anne delivers the Numeracy workshops, and is on the road a fair bit. In the office Anne looks after the accreditation of teachers with NES, is heavily involved in the *QuickSmart* Online project and makes sure the materials are up-to-date. Once a year she is also the main organizer of the Year 8 Maths Day here at the University of New England.

Anne Shortis

Literacy Presenter

Anne works off-site, out of Dubbo and travels around Australia to deliver Literacy workshops. Anne is an experienced teacher and literacy expert, having worked with children and adults.

Lyn Alder

Literacy Presenter

Lyn is now semi-retired but her love of *QuickSmart* keeps her involved in the delivery of the workshops. Lyn works off-site, enjoying the good life on the North Coast of NSW, also actively participating in Surf Lifesaving!

Stefan Horarik

Data Analyst

Stefan carries out statistical analyses of the data sent in by the schools and prepares it for the *QuickSmart* reports.

June Billings

Executive Assistant

June looks after the day-to-day operations in the office. She is also responsible for the *QuickSmart @home* project, and oversees the *QuickSmart* reporting.

Andrew Goode

IT-Support

Andrew runs the *QuickSmart* Helpdesk, providing technical support for the *QuickSmart* program in schools Australia-wide. He also manages our websites and the yearly updates to our OZCAAS software.

Ambrose McDermott

Multimedia Developer

Ambrose generates and sends *QuickSmart* reports to schools. He also creates and develops new multimedia content for SiMERR.

Sophie Westermarck

QuickSmart Operations

Sophie organizes all the workshops, starting from participant registrations, to communications and contracts with schools.

We are excited about entering our 17th year of *QuickSmart* in Australia. We have offered help in numeracy and literacy to struggling middle school children since 2001 and since then have seen the program grow from only a few regional schools to a nation-wide program.



From a couple of schools in the Northern Tablelands and the North Coast of NSW, we now span from NSW to WA and have delivered professional development to staff members in over 1200 schools. Over 60,000 students have gone through the program, showing staggering improvements in their numeracy and literacy results.

Each year around 500 teachers, teacher aides and principals attend our professional development training to gain knowledge about the *QuickSmart* program(s). After the training, these staff return to their schools and offer the program(s) to an average of over 7000 students each year. Last year alone over 150 schools signed up for professional development training for their staff.

In the coming year(s), we are excited about many new directions that the program will take; we are in the beta stage of an online version of the program, the testing stage of a home version of the program designed for parents, and in the early stages of developing *QuickSmart* programs for younger learners.

The workshops will kick off again in February 2020 and we look forward to welcoming both existing and new schools to the *QuickSmart* family!

With warm regards,

John Pegg,
Founder and Director



QuickSmart in a Nutshell

- ✓ Evidence-based
- ✓ Proven outcomes
- ✓ Australia-wide
- ✓ Ready-to-use resources
- ✓ Accredited PD

The low-achieving students in middle school continue to decline as they progress through their schooling.

Students who experience ongoing failure in upper-primary and lower-secondary school face a myriad of difficulties in pursuing post-school options and contributing to society through employment and aware citizenship. Those who exhibit consistent weaknesses in basic skills, such as the recall of number facts, or who experience difficulty with reading and comprehension are particularly vulnerable. These students are usually caught in a cycle of continued failure, as it is particularly difficult to bring about sustainable change within the usual classroom environments for students who by Year 4 are persistently at or below national benchmarks.

Well-documented evidence reports a substantial systemic decline in achievement for vulnerable students in terms of reaching National Australian Benchmarks from Year 3 to Year 5 and on to Year 7 and Year 9. Data from national assessments e.g., NAPLAN, underpin a compelling case for the need to develop

instructional programs that improve the numeracy and literacy outcomes for Australian students performing in the lowest 30% of the achievement spectrum – students performing at or below the national numeracy/literacy benchmarks.

Many Indigenous and geographically isolated students, and students from families within the low socio-economic range, are particularly in need of support. This consistent low-equity feature of Australian education was a catalyst for the development of *QuickSmart*.

QuickSmart is available in two separate programs - Numeracy and Literacy.

QuickSmart programs offer students a second (or last?) chance to become active and confident learners in the classroom. Improving speed, accuracy and understanding of basic mathematics or reading accuracy, vocabulary knowledge and comprehension performance enables the students to perform at levels comparable to those of their average-achieving peers.

The QuickSmart Pedagogy Explained

The pedagogical approach adopted within *QuickSmart* is considered at three levels:

1. as an intervention program that withdraws students from their classes in pairs for three 30-minute lessons a week for a 30-week period;
2. within *QuickSmart* lessons where instruction builds on the existing knowledge and understandings of students, encourages self-belief through providing genuine quantifiable success, and focuses on developing and practising essential foundational skills in basic mathematics or literacy; and
3. through providing an extensive professional learning program that equips teachers to competently coordinate and teacher assistants to instruct, provide feedback and monitor student performance during *QuickSmart* lessons.

Within *QuickSmart* lessons, the emphasis is on instruction and subsequent student performance that is linked to success. *QuickSmart* provides extensive support materials, including a variety of hard copy and electronic teaching and learning resources. Use of the computer-based Cognitive Aptitude Assessment System (OZCAAS) is incorporated into each lesson as formative assessment and as a motivating activity. In a typical *QuickSmart* lesson students are engaged and on task for the full 30 minutes.

QuickSmart programs in schools are supported by a program of professional learning directed at principals, senior school executives, teachers, and teacher assistants. For example, in the first year of *QuickSmart* instructors participate in six days of professional learning where they practise using specially constructed teaching materials and computer-based resources. Professional learning workshops also explore ways to encourage students to demonstrate a 'can do' attitude and the confidence to 'trust their heads'.

★ **Over 1,100 schools across Australia have implemented *QuickSmart***

★ **Research data collected from over 40,000 *QuickSmart* students**

★ ***QuickSmart* consistently delivers**

Stock Image by GraphicStock



Students work in pairs with one instructor for thirty minutes at a time, three times a week.

Research Outcomes

Independent (federal, state-wide or standardised tests) assessments gathered from *QuickSmart* and comparison students over thirteen years consistently show that *QuickSmart* students make substantial academic improvement. Research data collected from over 40,000 *QuickSmart* students across Australia report:

- effect-size results of 0.60 to 0.94 that translate into growth of two to three years in one year when compared to the gains made by average-achieving students. (An effect size of 0.3 represents the expected yearly average growth for non-*QuickSmart* students.) In terms of individual students' growth this improvement can be as high as a factor of 7;
- substantial improvement on standardised test results in the first year of implementation that increases, and sometimes doubles, during the second year of implementation as schools and Instructors become more experienced;
- academic gains are maintained or enhanced in subsequent years; and
- Indigenous students receive great benefit from the program, with their results mirroring those of non-Indigenous students, and reports indicating increased student engagement in class and improvements in school attendance.

Verbal and written comments from principals, teachers, teacher aides and parents confirm the positive impact of the *QuickSmart* programs.

"The majority of QuickSmart students achieved fantastic academic results, some advancing three bands in the Basic Skills tests."

- *QuickSmart Instructor*

A Summary from the QuickSmart National Numeracy and Literacy Reports 2016

Introduction

The analyses presented in the national reports provide information about students' performance in the *QuickSmart* Numeracy and Literacy programs. In particular, the focus here is on the Cognitive Aptitude Assessment System, Australian version (OZCAAS) and on standardised test measures, specifically the Progressive Achievement Tests in Mathematics (ACER).

The Tests

OZCAAS Numeracy is a random *number* computer generated testing approach that measures the response time and the accuracy of *basic arithmetic computation*. The results for the four operations offered at each of two levels indicate a very strong to substantial improvement for the *QuickSmart* students in terms of accuracy and speed. **OZCAAS Literacy** is a random *letter and word* computer generated testing approach that measures the response time and the accuracy of *basic literacy*. The results for Vocabulary and Comprehension indicate a strong to substantial improvement for the *QuickSmart* students in terms of accuracy and speed.

In the case of the ACER PATM tests, Norm Tables were used to convert raw scores from various forms of the PATM to consistent Scale scores, which were used for all subsequent calculations. Two analyses were undertaken on the PATM scores.

In the case of the ACER PAT-V and PAT-C tests, Norm Tables were used to convert raw scores from various forms of the PAT to consistent Scale scores, which were used for all subsequent calculations. Two analyses were undertaken on the PAT scores.

Numeracy Results

In 2016, the *QuickSmart* team at the University of New England received data from 5257 students who participated in *QuickSmart* Numeracy lessons and 16331 average-achieving comparison peers. These students were drawn from schools from 30 regions around Australia.

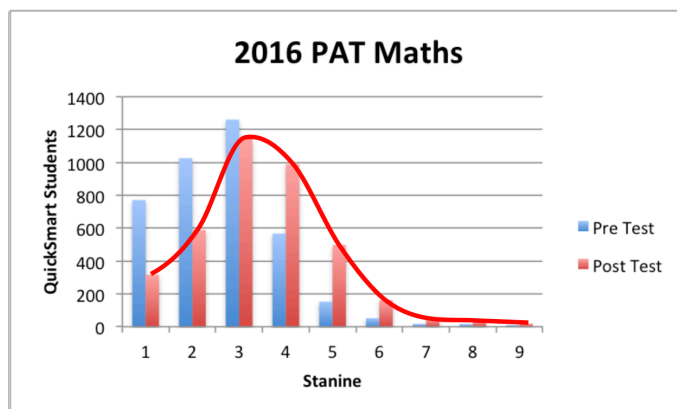
A mark of the success of *QuickSmart* is the results of those students, who did not succeed in completing the pre-test. In such cases Instructors were advised not to continue collecting data as doing so would have confronted these students

dramatically with their weaknesses at the beginning of the program. These students did manage to complete all OZCAAS assessments at the end of the program with accuracy above 79% and response times below 4.5 seconds.

In many cases they attempted post test for operations they had not been taught and their achievements in these operations are likely due to:

- some mutually beneficial development of the common areas of the brain that process the four operations;
- students having increased their ability to benefit from classroom instruction; and
- students' overall improved levels of confidence leading to a 'have a go' attitude that was not present at the beginning of the *QuickSmart* program.

The results of independent sample t-tests of *QuickSmart* students show that for the ACER PAT results the differences in male and female scores are not statistically significant at the 0.01 significance level ($p = 0.495$).



Results of the independent PAT-M tests show that students shift from the lower stanines to the higher stanines during the *QuickSmart* program.

The results also show substantial improvement for the Indigenous students who participated in *QuickSmart*. In 2016, this improvement was greater than that of the overall *QuickSmart* group.

To download the complete 2016 National Numeracy Report, go to:
<https://goo.gl/UVvsVW>

Literacy Results

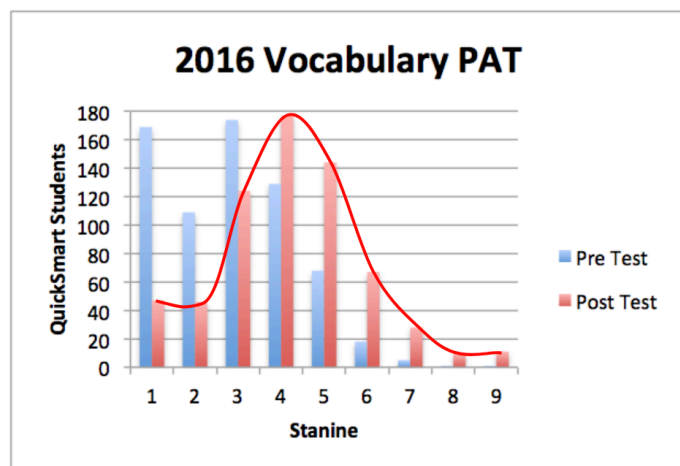
In 2016, the *QuickSmart* team at the University of New England received data from 1363 students who participated in *QuickSmart* Literacy lessons

and 249 average-achieving comparison peers. These students were drawn from schools from 19 regions around Australia.

As with Numeracy, there were students who did not have the skills or confidence to complete the OZCAAS pre-tests initially. For these students in Essential Words and Level 1 Words, the average response rates at the end of the program were below two seconds, with accuracy results above 92%. In Level 2 Words, the average response rates were close to 2 seconds, with average accuracy above 83%.

In Comprehension Level 1, the average response rates were almost within the goal range, with average accuracy above 95%. Even though some of these students may not have progressed to Level 3 Words during *QuickSmart* lessons, their post-test results are encouraging with response speeds below 3.9 seconds and accuracy over 68% at post-test. It is likely that part of this improvement may be due to the fact that students':

- increased their ability to benefit from classroom instruction; and
- improved their levels of confidence may have led to a 'have a go attitude' that was not present at the beginning of the *QuickSmart* program.

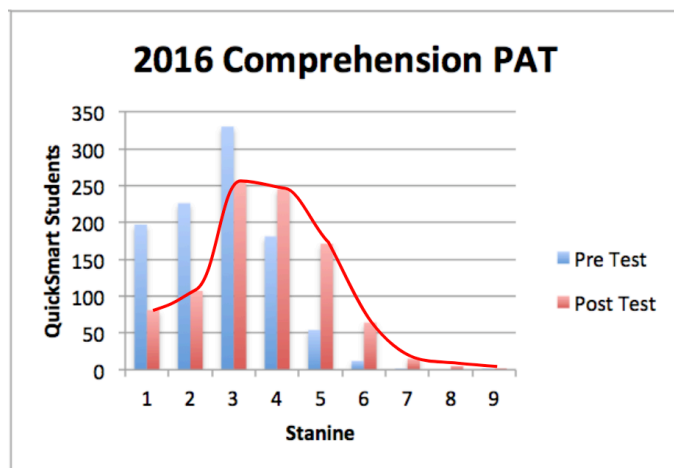


Results of the independent PAT-V tests show that students shift from the lower stanines to the higher stanines during the *QuickSmart* program.

The results indicate a very strong improvement for *QuickSmart* students in both Vocabulary and Comprehension. These improvements are greater than those recorded for the comparison group of average-achieving peers.

In terms of Scale scores derived from the PAT-V and PAT-C tests, the results indicate that male *QuickSmart* students improved slightly more in vocabulary compared to female *QuickSmart* students, and female students improved more in comprehension. The Independent sample *t*-tests showed that these differences are not

statistically significant at the 0.01 significance level ($p = 0.579$ for vocabulary and 0.298 for comprehension).



Results of the independent PAT-C tests show that students shift from the lower stanines to the higher stanines during the *QuickSmart* program.

In the case of Indigenous students who participated in *QuickSmart*, the results show strong improvement in both vocabulary and comprehension. These students were able to report a rate of growth higher than the total cohort of *QuickSmart* students and in excess of that achieved by the comparison group.

To download the complete 2016 National Literacy Report, go to:
<https://goo.gl/LFchyY>

In Conclusion

In overview, the National Report focuses on the quantitative aspects of the program. In all analyses, the data report a narrowing of the achievement gap between *QuickSmart* students and their average-performing comparison group peers. Additionally, substantial qualitative data (reported in school presentations during professional workshops 2 and 3) indicate that *QuickSmart* students gained a new confidence in the area of mathematics and reading. Many stories within the corpus of qualitative data document improvements for *QuickSmart* students not only in relation to their performance in class, but also with regard to students' attitudes to school, their attendance rates and levels of academic confidence both inside and outside the classroom.

The data collected to date from tens of thousands of *QuickSmart* students indicate that the narrowing of the achievement gap between *QuickSmart* and comparison students results in low-achieving students proceeding with their studies more successfully by learning to 'trust their heads' in the same ways that effective learners do.

- One instructor
- Two students
- Three lessons per week
- Thirty minutes each lesson
- Thirty weeks of instruction
- Lesson structure provided
- Progress at the students' pace

When do we start QuickSmart?

Most schools are able to begin *QuickSmart* instruction within about two to three weeks of the completion of the first two-day workshop. Time is needed to prepare the room, select and pair the students, develop a timetable, inform the staff and parents, and undertake an assessment of all *QuickSmart* students as part of pre-test data collection. Pre-test data also helps establish where *QuickSmart* instruction might most appropriately start for each student.

When do we finish QuickSmart?

Generally *QuickSmart* is expected to last for about 30 weeks of instruction. This is sometimes difficult to achieve in the first year. This issue is discussed and clarified at the second workshop. It takes about two weeks to close the program down for the year.

What happens if a student requires two years' support?

For most students 30 weeks is sufficient time to complete *QuickSmart*. However, there are some students who may require additional help and, hence, a second year of instruction. The data thus far show that those students who do require a second year usually improve at a far greater rate during the second year than was the case in the first year.

What staff time is involved in QuickSmart?

For 12 students the staff commitment of a *QuickSmart* Instructor is a minimum of ten hours a week, i.e., 6 pairs x 3 lessons x 30 mins = 9 hours, plus one hour for preparation. Some time allocation for the *QuickSmart* Coordinator is also necessary, unless it is built into the expectations of their roles, as in the case of a Head of Department AP/DP/Principals.

There is no maximum number of students that a

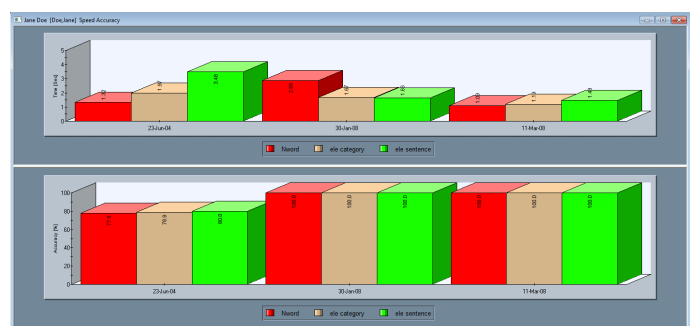
school can encourage to participate in *QuickSmart* programs in any one year. It is recommended that a minimum of 12 students (6 pairs) undertake *QuickSmart* in order to provide an adequate sample size for data analysis. It is acknowledged, however, that in small schools this number is not possible.

What does the school need to run QuickSmart?

A room or private area set aside for *QuickSmart* lessons must include at least one workstation. A workstation involves a desk, three chairs, shelving for worksheets and student folders, storage space for the games pack and resource kit, and a computer with a microphone (supplied). Some schools have accommodated five workstations in a traditional classroom. In such cases, ten students and five *QuickSmart* Instructors would be working at any one time. Some schools also include a white board for extended activities and wall display space to celebrate student success.

What are the IT requirements for QuickSmart?

QuickSmart requires one PC desktop or laptop computer to run. You will be supplied with a three-year software licence for the OZCAAS software. OZCAAS is used for the pre- and post-testing of students as well as for one lesson component in the *QuickSmart* lesson. The program allows the teacher and the student to monitor progress and helps determine when students are ready to move forward in the program.



The OZCAAS software provides detailed graphs on students' progress. This information is available and visible to both the instructor and the learner after each session.

What other expenses would be expected?

Photocopying of worksheets is necessary, as is the purchase of a student folder for each student. There are also some costs associated with parent involvement (e.g., morning tea), and the purchase of additional microphones if using more than one workstation.

Who makes up the QuickSmart team in a school?

The Principal or AP/DP/Head of Department provides overall oversight of the program.

A teacher takes on the role of *QuickSmart* Coordinator and manages the day-to-day issues, as well as mentors *QuickSmart* Instructors, prepares the *QuickSmart* timetable, supervises the pre- and post-testing, facilitates communication of student progress with class teachers, and assists with the reports about the implementation of *QuickSmart* delivered to the second and third workshop. It is valuable if this person is able to instruct a pair of *QuickSmart* students.

QuickSmart Instructors provide the lessons to students, monitor their progress and trouble shoot with the *QuickSmart* School Coordinator. Instructors are drawn from staff across the school, however, currently about 75-80% of *QuickSmart* Instructors are teacher assistants.

What are the professional learning demands on staff?

The *QuickSmart* professional learning involves six days in the first year made up of three two-day workshops. Workshop 1 is typically held in Term 1, and Workshops 2 and 3 are conducted at three to four month intervals after the preceding workshop. Advanced-skills *QuickSmart* training is also offered in the second year and involves three days of workshops.

- Up to five staff attend training
- Training locations determined by demand
- Training offered to both teachers and teacher assistants
- NESA accredited training (NSW) for teachers

Where can we attend training?

QuickSmart is a not-for-profit program and every attempt is made to look for savings for schools implementing the Numeracy and/or Literacy programs. For this reason, schools from the same geographic regions/areas are organised to form a cluster. This spreads the cost of the program and means that the financial burden on individual schools is contained.

Who should attend the training?

QuickSmart workshops are targeted at a broad audience. It is common to have present at workshops: teachers; teacher



While one student works on an independent worksheet or does independent reading, the other student completes the OZCAAS computer assessment with the instructor.

assistants/paraprofessionals; school executive members, system representatives; specialist teachers; and, consultants. School executive staff are strongly encouraged to attend Workshop 1 to familiarise themselves with the support requirements of the program and equip themselves to enhance the effective implementation of the program. The focus on aspects of quality teaching and neuroscience in education means that there are insights available for all educators committed to improving student learning. It is critical that those people expected to assume the roles of *QuickSmart* Coordinator and *QuickSmart* Instructors attend all professional development workshops.

How many staff should I send to the PD?

Schools are invited to send up to five staff members to the professional development series, with a minimum of three highly recommended. Additional places may be offered depending on the total number of participants and the capacity of the workshop venue. Please note that *QuickSmart* Instructors in your school do not have to be qualified teachers.

Is there recognition for the PD workshops?

All staff members who successfully complete the *QuickSmart* workshops are awarded a *QuickSmart* Certificate. Extensive documentation of the teaching standards addressed is also provided for executive staff and teachers, and documentation of the professional competencies addressed is detailed for teaching assistants and

"QuickSmart has had a huge effect on our daughter's performance at school – most notably the Basic Skills results. In Year 3 she was in the bottom 30% of the state. This year, in Year 5, she was in the top 30%."

- Parent of QuickSmart Student

What resources are included?

Every school that signs up for *QuickSmart* will receive a resources kit, a three-year *QuickSmart* OZCAAS software licence, access to online resources and worksheet generators, folders containing master copies of all resources, and access to printable resources online (including flash cards),

*"I definitely got better at maths.
QuickSmart still helps with maths
even though I'm in the bottom class,
I'm one of the smartest there."*

- QuickSmart Student



All flash cards come in their own boxes according to operation/level.

What support is available to schools?

Annual Reports

QuickSmart schools are invited to submit pre- and post-test program data for *QuickSmart* and comparison students to SiMERR for analysis. Each school then receives an annual report detailing the performance of students as a group. The report includes program-specific tests and standardised tests measuring improvement (e.g. speed and accuracy from pre-test to post-test intervention).

HelpDesk – Educational and IT Support

SiMERR offers educational program support by phone and email, from 9am-5pm (EST) five days a week. IT support for the software aspects of *QuickSmart* is also available five days a week - from 10am-2pm.

Online Resources and Private Area

Each school that signs up for *QuickSmart* will receive full access to all online resources, which include additional texts for Literacy, a worksheet generator for Numeracy, resources from other schools that are shared, links to educational websites, and printable copies of all folders and flash cards.

SiMERR National Research Centre

The SiMERR National Research Centre has been active in undertaking high quality research and professional learning activities with impact in education since it was first established as the Centre for Cognition Research in Learning and Teaching (CRiLT) in 1996.

Equity of participation and achievement for all learners (students in schools and adults) in Australian society are at the heart of SiMERR's research activities. By acting as a catalyst to bring together and working collaboratively as researchers with different stakeholder groups (Governments, statutory authorities, key policy makers, schools, industry and business, parents and philanthropic benefactors), SiMERR works to advance and enhance the delivery of education to all Australians.

SiMERR's research work and proven expertise is offered at a critical point in time for Australia. Numeracy and literacy skills comprise the heart of individuals' capabilities to make a worthwhile contribution through meaningful employment. In addition, as the 21st century progresses science, technology and mathematics influence more and more aspects of everyday life and underpin more overtly our nation's prosperity. Data illustrate that school children, particularly those in the bottom 30% of the achievement continuum, as well as many adults, who have drawn few benefits from schooling, are marginalised.

Little can be more destructive for communities than for children, young adults and more mature adults to under-perform in formal education or experience reduced opportunities. As a nation we need to identify these limiting conditions and address them, so that all Australian learners have the opportunity to achieve their potential.

This is the mission of SiMERR: to undertake strategic research in key areas of need, to ensure collection and analysis of valid and reliable data, and then take the next step of using this evidence to inform future practice. Further, where benefits are significant and ongoing, SiMERR commits to scaling evidence-based practices manageably and in efficient and cost-effective ways.

"I've used a number of intervention programs and I think the beauty of QuickSmart is that it works with a computer which monitors student's progress really carefully. It gives students a lot of feedback."

- QuickSmart Instructor

How to Sign Up for QuickSmart

Each year the *QuickSmart* workshop series start in February-May with the first two days of training. During the initial training participants receive their school resources and learn how to use the different components of the program. Instruction of students can generally be started within a few weeks of the initial training.

Workshop 2 introduces a few new concepts to the lesson, and Workshop 3 focuses on how to close down the program for the year and submit data for the school report.

Enrolments are now open for 2018. It is recommended to sign up at the latest three weeks prior to the commencement of workshop 1, to

allow sufficient time for resources to be sent. Late entries are possible where the venue space allows.

Schools can sign up to the program(s) by filling in the enrolment form available on the website: www.quicksmart.une.edu.au and returning it to quicksmart@une.edu.au via email.

The locations and tentative dates can be found on our website. Locations and dates will be confirmed as sufficient participant numbers are reached.

All fees relating to the program are payable after Workshop 1.



The QuickSmart resources arrive in a sturdy, neat and colourful box, which allows easy access and maintains order of the materials.

"My students have made great strides while participating in the QuickSmart Numeracy program. It really is a great program and the children themselves appreciate seeing their own progress."

- QuickSmart Instructor

QuickSmart Products and Prices

The initial enrolment in *QuickSmart* costs the following:

PRICING OF THE QUICKSMART PROGRAMS (PRICE PER PROGRAM)		
	SCHOOLS WITH UNDER 100 STUDENTS	SCHOOLS WITH OVER 100 STUDENTS
PROFESSIONAL DEVELOPMENT	\$3500	\$7000
RESOURCES	\$3500	\$3500
TOTAL	\$7000	\$10 500
PRICES EXCLUDE GST		
Included in the price: QuicksSmart kit, all folders and user guides, all online resources, three-year QuickSmart software licence, IT-support, educational support and professional development training for up to 5 staff members for six days in total.*		
*Additional cost at a pro-rata, cost recovery basis: Contribution towards venue hire and catering cost. Maximum cost \$40 per person per day for attending workshops.		

QuickSmart Workshops

Locations and Dates

Workshop series will start in Term 1, usually in the end of February. The first workshops generally finish by early May, giving schools at least three terms with the program(s) in their first year of implementation.

Each year workshops are determined based on expressions of interest, so we urge every school that would like to attend professional development workshops to send in an expression of interest.

The professional development schedule is available on our website www.quicksmart.une.edu.au > for schools > PD workshops 2019, and it will be updated on a regular basis as times and locations are confirmed. For further details about the workshops, please contact the office on the details provided below.

Below is a brief description of what you can expect from each workshop in the program(s).

Numeracy

Workshop 1

In workshop 1, participants learn the theoretical framework behind QuickSmart. The basic lesson structure is introduced and all the lesson components are practised using hands-on materials.

Workshop 2

In the second workshop participants reflect on their progress in the program so far and further develop their knowledge. The concept of problem solving is introduced and practiced.

Workshop 3

The final workshop focuses on 'graduating' students from the program and data analysis. Participants will have a final chance to practice any components and clarify any concepts. Some time is dedicated to perfecting the program for the following year.

Literacy

Workshop 1

In workshop 1, participants learn the theoretical framework behind QuickSmart. The basic lesson structure is introduced and all the lesson components are practised using hands-on materials.

Workshop 2

In the second workshop participants reflect on their progress in the program so far and further develop their knowledge. The concept of comprehension is introduced and practiced.

Workshop 3

The final workshop focuses on 'graduating' students from the program and data analysis. Participants will have a final chance to practice any components and clarify any concepts. Some time is dedicated to perfecting the program for the following year.

CONTACT INFORMATION

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