

the **ARCHIBULL** PRIZE

# 2016 ANNUAL REPORT

THE ARCHIBULL PRIZE HAS BECOME A TRADITION AT HURLSTONE. IT IS A PROJECT THAT CREATES UNITY AND COHESION ACROSS THE SCHOOL. STUDENTS ANTICIPATE THE CHALLENGE AND SET THEMSELVES VERY HIGH EXPECTATIONS. THE CONCEPTUAL CONTENT OF THE PROGRAM IS BOTH RELEVANT AND A CRITICAL COMPONENT OF A WELL-ROUNDED EDUCATION. THE ARTMAKING OUTCOMES ARE EXTRAORDINARY, AS THE SCALE OF THE WORK AND THE QUALITY THAT IS ACHIEVED WITH COLLABORATION IS EXCEPTIONAL."

Joanne Ross Head Teacher Creative Arts Hurlstone Agricultural High School









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## EXECUTIVE SUMMARY

Now in its sixth year The Archibull Prize continues to hone its delivery methods, aims and outcomes as it connects the next generation of Australians to the importance and relevancy of Australian Agriculture.

By introducing students to the challenges of and opportunities for agriculture, the connection between the rural and urban worlds is strengthened. This will in turn lead to informed decision making around this Important sector.

Using Australian farmers' practices as their inspiration students have considered what actions they can take to mitigate climate change, to prevent breaches to biosecurity, to ensure food security and to transition to renewable energy sources. They can now also picture themselves undertaking a career in agriculture and can appreciate the contributions our farmers make to the economy.

Students are now able to understand the impact of their food and clothing choices, have the capacity to make informed decisions and feel empowered to act to achieve social and environmental change.

Our surveys also show that students rate the program highly for its capacity to help them contribute to society and the sustainability of the agriculture sector through partnerships with farmers.


For sponsors and supporters of The Archibull Prize these are indeed encouraging and affirmative outcomes, for now the next generation not only understands but empathises with, and in cases desires to be part of, Australia's wool, grains, cotton, sheep and cattle industries.

The evidence presented in the external evaluation by Renshaw Hitchen and Associates Pty Ltd shows that participants and sponsors can be confident that The Archibull Prize has efficiently and effectively used its resources to significantly enhance understanding between farmers and consumers to deliver a sustainable future; and in the process, has contributed to highly significant outcomes in quality teaching and learning. *See Appendix 1 and Appendix 6.*

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IN 2016, TEACHERS IN 36 SCHOOLS ESTIMATED 22,850 STUDENTS WILL HAVE GREATER AWARENESS OF THE IMPORTANCE OF THE AGRICULTURAL SECTOR TO AUSTRALIA'S ECONOMY AND SUSTAINABILITY.

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IT'S AMAZING THE PEOPLE THIS PROGRAM REACHES AND IT'S NOT JUST THE 120,000 STUDENTS INVOLVED IN THE PROGRAM OR THE MEDIA COVERAGE. IT'S ALSO THE NUMBER OF OVERSEAS VISITORS, INTERNATIONAL DIGNITARIES AND MEDIA WHO PASS THROUGH THE MINISTER'S OFFICE (THE HON NIAL BLAIR MP NSW MINISTER FOR PRIMARY INDUSTRIES LAND AND WATER) WHO STOP AND COMMENT ON THE GRAND CHAMPION ARCHIBULL DISPLAYED IN HIS OFFICE EACH YEAR.

IT'S THE NUMBER OF SELFIES TAKEN WITH THE ARCHIE BY A CELEBRITY LIST OF POLITICIANS AND PEOPLE INVOLVED IN INTERNATIONAL TRADE FROM AROUND THE GLOBE.

THE ARCHIE IS STARTING CONVERSATIONS AROUND THE PROGRAM AND AUSTRALIA'S FOOD AND FIBRE PRODUCTION. IT'S IMPORTANT TO CAPTURE THESE CONVERSATIONS AND HAVE THEM IN OUR COMMUNITIES.

AUSTRALIAN FARMERS FEED 20 MILLION PEOPLE HERE. THEY ALSO FEED ANOTHER 60 MILLION PEOPLE AROUND THE WORLD.

IT'S IMPORTANT TO HAVE THESE CONVERSATIONS WITH OUR OVERSEAS CUSTOMERS AND SHOW HOW OUR FARMERS TURN WHAT NATURE PROVIDES INTO HIGH QUALITY FOOD AND FIBRE. 🍷🍷

Scott Hansen Director General NSW Department of Primary Industries



## ART4AGRICULTURE - WHO WE ARE WHAT WE DO

Art4Agriculture is a network of young people who share a passion to tell others about the pivotal role Australian farmers play in feeding the world. To achieve this goal, Art4Agriculture organises activities and events that focus on youth, career opportunities, the environment and the arts, and links them all back to agriculture. Their signature program, The Archibull Prize uses art and multimedia to engage school students in genuine farm experiences, and gain knowledge and skills about the production of the food they eat, the fibres they use, and the environment they live in. The 2016

competition theme 'Feeding, Clothing and Powering a Hungry Nation is a Shared Responsibility' encourages students and teachers to have courageous conversations about the greatest challenges to Australian agriculture – climate change, food and fashion waste, declining natural resources and biosecurity. The program design also invites the students to be part of the solution by sharing their ideas on how to tackle these challenges as individuals, as a community and as the mums and dads of the next generation.

## WHY WE DO IT

Feeding and clothing the world is a shared responsibility, right across the globe.

While Australia's farmers are among the world's best at growing quality food and fibre for our nation and many more people around the world, they cannot do it alone.

Every minute the world's population grows, adding another 158 mouths to feed. Over the next four decades, more food will need to be produced than has been produced during the last 10,000 years combined.

The last 100 years has seen Australia become increasingly urbanised. An estimated 89 percent of Australians now live in urban areas, with no close links to rural communities and little knowledge about the production of their food and fibre. It's equally troubling that farmers are also gradually losing touch with urban communities through their reduced interaction with modern supply chains.

The diversity and complexity of the modern Australian economy now means greater competition for natural resources, including land, water and people, among all sectors. A greater awareness of the role agriculture plays in supporting our cities will contribute to informed decision making around resource allocation.

It's clear that to move forward and meet the escalating food and fibre needs of our cities, as well as satisfy the community's expectations about environmental sustainability and animal care; both rural and urban communities must have a greater understanding of one another. This can only happen when a common ground for communication and knowledge-sharing is found.

That common ground is The Archibull Prize





## HOW DOES IT WORK

Schools participating in The Archibull Prize are paired with a young farmer, a Young Farming Champion, who visits the school to talk to the students and share their farming experiences. To compete for The Archibull Prize each school is invited to complete three tasks exploring and communicating the students' vision for a sustainable future within the theme of, 'Feeding, Clothing, and Powering a Hungry Nation is a Shared Responsibility'.

The tasks are to:

1. Use a blank fibreglass cow or calf (i.e. The Archibull) to create an artwork about an allocated food or fibre industry, the farmers who produce it, and how these commodities are being produced sustainably.

2. Produce a blog documenting the journey of the artwork and student learnings.
3. Create a multimedia animation or infographic for the web featuring the farming industry the students have been allocated that has both a powerful message and call to action.

Schools are supported in their projects with industry resources, which have been created by the food and fibre industries involved in The Archibull.

Schools are also allocated a Young Farming Champion who visits their school, shares their career journey and supports the students throughout the program

## THE ARCHIBULL APPROACH TO SUSTAINABILITY

The concepts relating to climate change, biosecurity, food security, and renewable energy are complex and require careful sequencing throughout schooling. The Australian curriculum builds knowledge and understandings on these topics progressively from primary to senior secondary levels. The Archibull Prize considers these concepts essential to student learning about farming and agriculture. It also links its approach to seven of the United Nations Global Goals for Sustainable Development i.e. quality education, sustainable cities and communities, responsible production and consumption, climate action, life below the water, life on land and affordable clean energy and partnerships.

Students are encouraged to appreciate the ways in which farmers are actively addressing the complex issues and challenges of climate change, biosecurity, food security, and renewable energy in their farming business and, by using farmers as inspiration, to think about applying this to themselves. To test the effectiveness of this approach, the entry and exit surveys asked students whether they had heard of these terms, what they thought they meant, and what actions they and farmers could take to mitigate the effects of climate change; prevent breaches in biosecurity; ensure improved food security for Australians; and transition to a low-carbon economy through adoption of renewable energy sources.





## WHAT WE AIM TO ACHIEVE

The ultimate long term goal of The Archibull Prize is to ensure young people have a deep understanding and appreciation of the role farmers and the agriculture sector play in contributing to the economy and well-being of all Australians by providing safe, affordable, healthy food and quality fibre every day.

As The Archibull Prize exit surveys continually show we are helping students and teachers value food and fibre and the farmers that produce it in a way they haven't before. Students are now able to

understand the impact of their food and clothing choices, have the capacity to make informed decisions and feel empowered to act to achieve social and environmental change.

Our surveys also show that students rate the program highly for its capacity to help them contribute to society and the sustainability of the agriculture sector through partnerships with farmers.

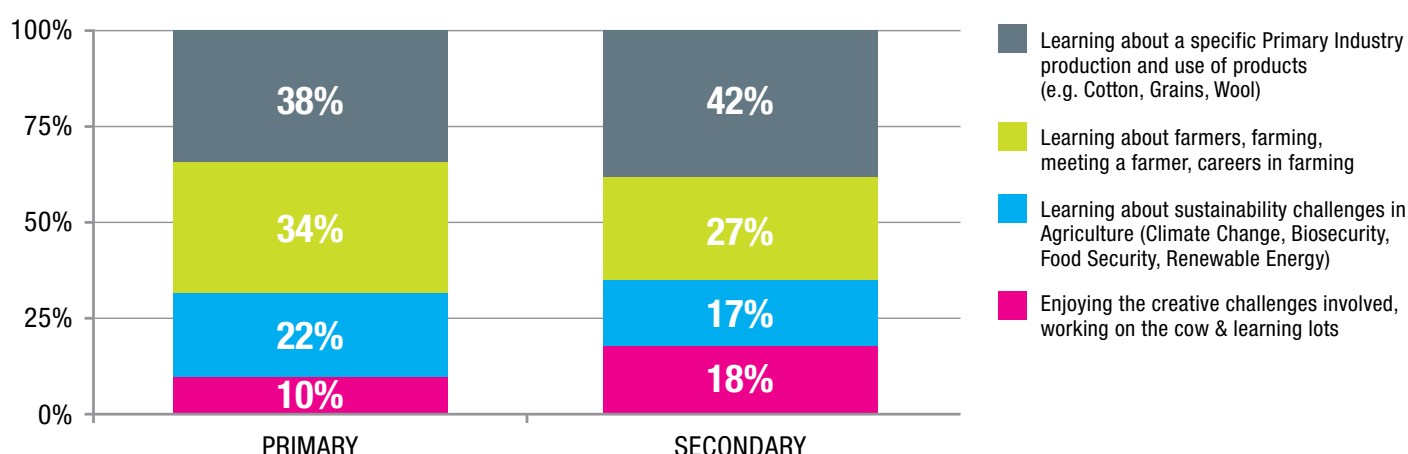
## DO YOU AGREE OR DISAGREE WITH THESE STATEMENTS ABOUT DOING THE ARCHIBULL PRIZE?



What students liked most about The Archibull Prize was the creative arts focus and they were most surprised and excited by learning about agriculture. This is an exciting finding that confirms the program theory of change i.e. that the creative multi-media project-based approach to engaging students in appreciating the challenges of Australian agricultural production is effective.

Lorraine J Larri. External Evaluation Report

## WHAT SURPRISED OR EXCITED STUDENTS MOST ABOUT WHAT THEY LEARNT - THEMATIC ANALYSIS, 2016



Teachers also value the program for its capacity to build students' soft skills and employability. Teachers identified increases between 55% and 85% in students' skill development in:

- Teamwork and cooperation
- Project based learning
- Creative problem solving
- Communication skills
- Planning and organising
- Critical thinking in researching and presenting new knowledge about agricultural issues
- Active citizenship i.e. exploring contemporary issues related to agriculture and suggesting solutions locally or nationally

# PARTICIPANTS IN THE 2016 ARCHIBULL PRIZE

In 2016, thirty six primary and secondary schools from NSW and QLD participated in the sixth instalment of The Archibull Prize following the theme 'Feeding, Clothing, and Powering a Hungry Nation is a Shared Responsibility'. Each school was assigned an industry – wool, cotton, grains, sheep or cattle – and was supported by a Young Farming Champion.

The 2016 sponsors of The Archibull Prize were Grains Research and Development Corporation, Cotton Australia, NSW Department of Primary Industries, NSW Local Land Services, Australian Wool Innovation and the Royal Agricultural Society of NSW.

## JUDGING TOUR

Artwork judge Wendy Taylor from Redblue Architecture and Design visited schools to judge the artworks and meet students and teachers participating in the program.



2016 WAS A VERY IMPRESSIVE YEAR FOR THE ARCHIBULL PRIZE.

AS THE ARTWORK JUDGE, MY JOB IS BECOMING INCREASINGLY DIFFICULT AS THE STANDARD BECOMES HIGHER AND HIGHER EACH YEAR. THIS YEAR WAS NO EXCEPTION. THE LEVEL OF CREATIVITY BEING DISPLAYED BY PARTICIPATING SCHOOLS WAS TRULY INSPIRING. IT IS NOW A HUGE ACHIEVEMENT JUST TO BE SELECTED AS A FINALIST, DUE TO THE QUALITY OF ENTRIES BEING PRODUCED.

WE SAW SOME WONDERFUL AND POIGNANT STORIES BEING TOLD THROUGH THE ARTWORK IN 2016, AS WELL AS SOME INCREDIBLY CLEVER AND UNIQUE CONCEPTS. THE LEVELS OF UNDERSTANDING BEHIND THESE WERE TRULY OUTSTANDING. OUR SIMPLE ARCHIE WAS TURNED INTO A COWASAKI MOTORBIKE, AN ICE AGE MAMMOTH AND BOTH THE MONOPOLY AND THE OPERATION BOARD GAMES JUST TO MENTION A FEW.

OF NOTE IN 2016 HOWEVER, WAS THE OUTSTANDING TECHNICAL QUALITY OF THE ARTWORK. THE LEVEL OF FINISH ACHIEVED AND THE EXPERIMENTATION OF TECHNIQUE WERE FAR BEYOND WHAT WAS EXPECTED FROM SCHOOL BASED ARTWORK PROJECTS.

I CAN'T THANK ALL SCHOOLS PARTICIPATING ENOUGH FOR THE EFFORT THEY HAVE PUT IN THIS YEAR. IT WAS A PLEASURE TO MEET YOUR WONDERFUL STUDENTS AND TO BECOME A PART OF YOUR ARCHIBULL JOURNEY. " "

Wendy Taylor artwork judge.





## CELEBRATION AND RECOGNITION

Twelve school teams were selected to represent the program as artwork finalists at the awards and exhibition ceremony on November 22nd 2016 at the Sydney Showgrounds.

The event was attended by over 160 students, teachers and guests. Guest speakers included Costa Georgiadis and Scott Hansen, Director General NSW Department of Primary Industries.



CONGRATULATIONS TO EVERYONE INVOLVED IN THE ARCHIBULL PRIZE. I CAN'T THINK OF A BETTER WAY TO COMBINE ART AND CAREER OPPORTUNITIES IN AGRICULTURE.

I HAD THE PLEASURE OF JUDGING (THE FINALISTS IN THE ANIMATION AND INFOGRAPHIC SECTION AND EVERY SINGLE ONE WAS PHENOMENAL. ”

Costa Georgiadis guest judge.



IT'S BEEN SUCH A PLEASURE TO REVIEW THESE ENTRIES. I'M IN AWE OF HOW MUCH CREATIVITY, ORGANISATION AND COMMITMENT WENT INTO MAKING THEM. IT WAS BREATHTAKING TO SEE ALL THESE YOUNG MINDS AT WORK! THANKS FOR THE HONOUR! ”

Les Robinson secondary school animation judge.

Students and teachers met teams from competing schools, shared their learning journey with one another and were recognised for their efforts. The students and their teachers reconnected with their Young Farming Champions and were introduced to funder and sponsor representatives.



ON BEHALF OF OUR STUDENTS, I WOULD LIKE TO EXTEND OUR THANKS AND APPRECIATION FOR THE ARCHIBULL PRIZE AWARD CEREMONY TODAY.

BEING OUR FIRST ENTRY, REACHING THE FINALS WAS BEYOND OUR EXPECTATION. ATTENDING TODAY WAS SUCH AN INSIGHT INTO MANY THINGS. THE ORGANISATION OF THE AWARDS WAS OUTSTANDING WITH EACH OF THE PRESENTERS BEING ENGAGING AND INFORMATIVE IN BOTH THEIR FORMAL ROLES AND IN THEIR INFORMAL CHATS WITH OUR STUDENTS.

THE QUALITY OF WORK PRESENTED BY THE OTHER SCHOOLS WAS EXCEPTIONAL AND A REAL EYE OPENER INTO THE MANY SHARED HOURS OF RESEARCH, COLLABORATION AND DEDICATION INVOLVED IN THIS PROGRAM. THE REACTIONS OF THE STUDENTS FROM OUR, AND OTHER SCHOOLS, AND THEIR OBVIOUS PRIDE IN THEIR WORK WAS AN ABSOLUTE DELIGHT TO WITNESS. ”

Marijana Grbac Secondary Teacher  
Campbelltown Creative and Performing Arts High School.

The high calibre of work produced by students in 2016 demonstrates the capacity this program has for achieving its intended student learning outcomes. This year exemplars of student work in climate change, biosecurity, food security and renewable energy gained significant recognition.

As an example Northlakes High School students developed a book aimed at primary schools called "Climate Change is a Shared Responsibility" (<http://archibullprize.com.au/img/halloffame/2016awards/earthhouraward-northlakeshighschool.pdf>), which attracted powerful testimonials from Australia's leading climate scientists including Professor Mark Howden and Professor Richard Eckard.



IT IS NOW CLEAR THAT CLIMATE CHANGE WILL HAVE A PROFOUND EFFECT ON THE PLANET AND ESPECIALLY ON OUR FOOD PRODUCTION SYSTEMS. AUSTRALIAN FARMERS ALREADY HAVE TO COPE WITH THE MOST CLIMATICALLY VARIABLE COUNTRY ON THE PLANET AND CLIMATE CHANGE ADDS FURTHER TO THIS COMPLEXITY. HOWEVER, AROUND THE WORLD GOVERNMENTS HAVE BEEN FAR TOO SLOW TO RESPOND EFFECTIVELY, MAINLY DRIVEN BY THEIR PERCEPTIONS OF THEIR VOTERS VIEWS. THIS MEANS WE NEED TO URGENTLY ENGAGE ALL SECTORS OF SOCIETY TO CHANGE OUR ATTITUDES AND CULTURE ABOUT RESOURCE-USE AND THEREBY RAISE THE URGENCY FOR GOVERNMENTS TO ACT. THIS BOOK IS AN EFFECTIVE MEANS TO RAISE AWARENESS IN AN IMPORTANT DEMOGRAPHIC - THE YOUNG SCHOLARS OF TODAY WHO WILL BE THE KEY INFLUENCERS AND DECISION MAKERS OF THE FUTURE. THIS BOOK DOES AN OUTSTANDING JOB OF SIMPLIFYING AN EXTREMELY COMPLEX SUBJECT, INTO WORDS AND IMAGES THAT SHOULD CAPTURE THE ATTENTION OF PRIMARY SCHOOL STUDENTS. HOPEFULLY THROUGH THIS, TOGETHER WITH OTHER MECHANISMS, THE NEXT GENERATION WILL NOT COMPOUND THE MISTAKES AND EXCESSES OF THE CURRENT GENERATION. I STRONGLY SUPPORT THIS BOOK AS A RESOURCE TO START THE PROCESS OF CHANGE FOR THE GOOD OF OUR FUTURE. ”

Professor Richard Eckard  
Primary Industries Climate Challenges Centre  
The University of Melbourne

### VISIT THE ARCHIBULL PRIZE HALL OF FAME TO SEE ALL THE WINNING ENTRIES FROM 2016

[WWW.ARCHIBULLPRIZE.COM.AU/HALLOFFAME](http://WWW.ARCHIBULLPRIZE.COM.AU/HALLOFFAME)

# PROGRAM EVALUATION

## WE TAKE OUR RESEARCH SERIOUSLY...

The Archibull Prize integrates sound monitoring and evaluation practices into its program implementation and reviews this annually. Research evaluation is conducted by Renshaw-Hitchen and Associates. See Appendix 2.

In 2016 we targeted a sample of 800 students and 40 teachers across both regional and metropolitan NSW and QLD in two surveys – when they first started their projects, and at the end. This magnitude means that the data is statistically significant, valid and reliable. The research has the approval of the NSW and QLD Departments of

Education. Without a doubt, the insights gained from this cohort will inform strategic planning for our supporting partners in government, industry and education sectors around youth engagement in agricultural messaging in this space. Continuous research and review of our programs identifies areas for improvement to ensure best practice is always being integrated into program design and delivery into the future.

The following diagram presents an overview of the logic and stages of intended outcomes for The Archibull Prize.







THE ARCHIBULL PRIZE IS AN EXTREMELY REWARDING PROJECT FOR STUDENTS. IT CLEARLY DEVELOPS AN UNDERSTANDING OF AGRICULTURAL AND ENVIRONMENTAL ISSUES. THE PROGRAM OFFERS STUDENTS THE OPPORTUNITY TO WORK AS A TEAM TO PRODUCE AN ARTWORK OF AN EXTREMELY HIGH STANDARD THAT THEY WILL BE PROUD OF. FURTHER TO THIS, THE ARCHIBULL BUILDS A SENSE OF COHESION ACROSS THE SCHOOL. THE PROGRAM IS EASY TO FOLLOW AND CAN BE ADJUSTED IN COMPLEXITY TO CHALLENGE ANY STUDENT. ”

Jo Ross Hurlstone Agricultural High School



The Program begins with awareness and proceeds, by implementing a series of educative activities, to achieve celebration and recognition. The three key observable changes that we hope to see in students are:

**7A. CREATIVE & COLLABORATIVE:** Young people have gained skills in effective communication; as well as collaborative and creative problem-solving.

**7B. CONSCIOUS CONSUMERS:** Young people are aware of, and understand the challenges of farming in a carbon constrained world and are conscious consumers of healthy food and quality fibre.

**7C. CAREERS IN AGRICULTURE:** Young people are excited by and choose career opportunities in (or related to) agricultural production.

The purpose of the report is to determine whether The Archibull Prize Art4Agriculture program has achieved its intended outcomes and the objectives of using creative arts and multimedia to engage urban and rural school students to:

1. Consider agriculture related careers;
2. Expand their understanding of farming; and
3. Understand the challenges of farming

Each year, after The Archibull Prize, the program is evaluated to determine its achievements and opportunities for improvement. One of the strongest findings is that students get excited and engaged in learning through the project-based approach. This means that they work in teams taking ownership of learning to collaborate in problem-solving.

Each year The Archibull Prize has experimented with improvements so that students are challenged to see themselves as part of the solution. This was strongly illustrated in 2015 when The Archibull Prize introduced the topic of biosecurity being a shared

responsibility. Aided by excellent government resources, the initiative saw student understanding of biosecurity rise from 38% to 100% throughout the program.



BIOSECURITY WAS SOMETHING WE HAD NEVER, EVER THOUGHT ABOUT TEACHING UNTIL WE DID IT (THE ARCHIBULL PRIZE) BUT WE ARE GOING TO RUN IT AGAIN NEXT YEAR AND KEEP IT AS AN ASSESSMENT TASK WITH YEAR NINE. WE ARE TRYING TO RE-JIG OUR PROGRAMS AROUND BIOSECURITY BECAUSE IT IS REALLY IMPORTANT. ”

Karen Johnston of Hurlstone Agricultural High School.

In 2016 The Archibull Prize used this approach of shared responsibility to convey the complex, and often poorly understood, subject of climate change to school students. Using farmers as an example of how people are affected by, and can respond to climate change students were keen to learn how they could make a difference. Solutions to climate change were communicated through artwork, blogs and animations as part of The Archibull Prize, while individual opinions and solutions were also discussed in entry and exit survey questions.

After The 2016 Archibull Prize students were easily able to provide examples of ways farmers manage the challenges of climate change and to suggest actions they could take to change their own behaviour or to raise awareness and educate others. This showed that giving students ownership of the problem (in this case climate change) and encouraging them to be part of the solution was an effective and powerful teaching method. Students learnt how to make a difference.

Lastly, while The Archibull Prize was originally only designed for secondary schools it has been encouraging to see primary students take ownership of the competition and produce artwork, infographics and animations on par with many of the secondary students.

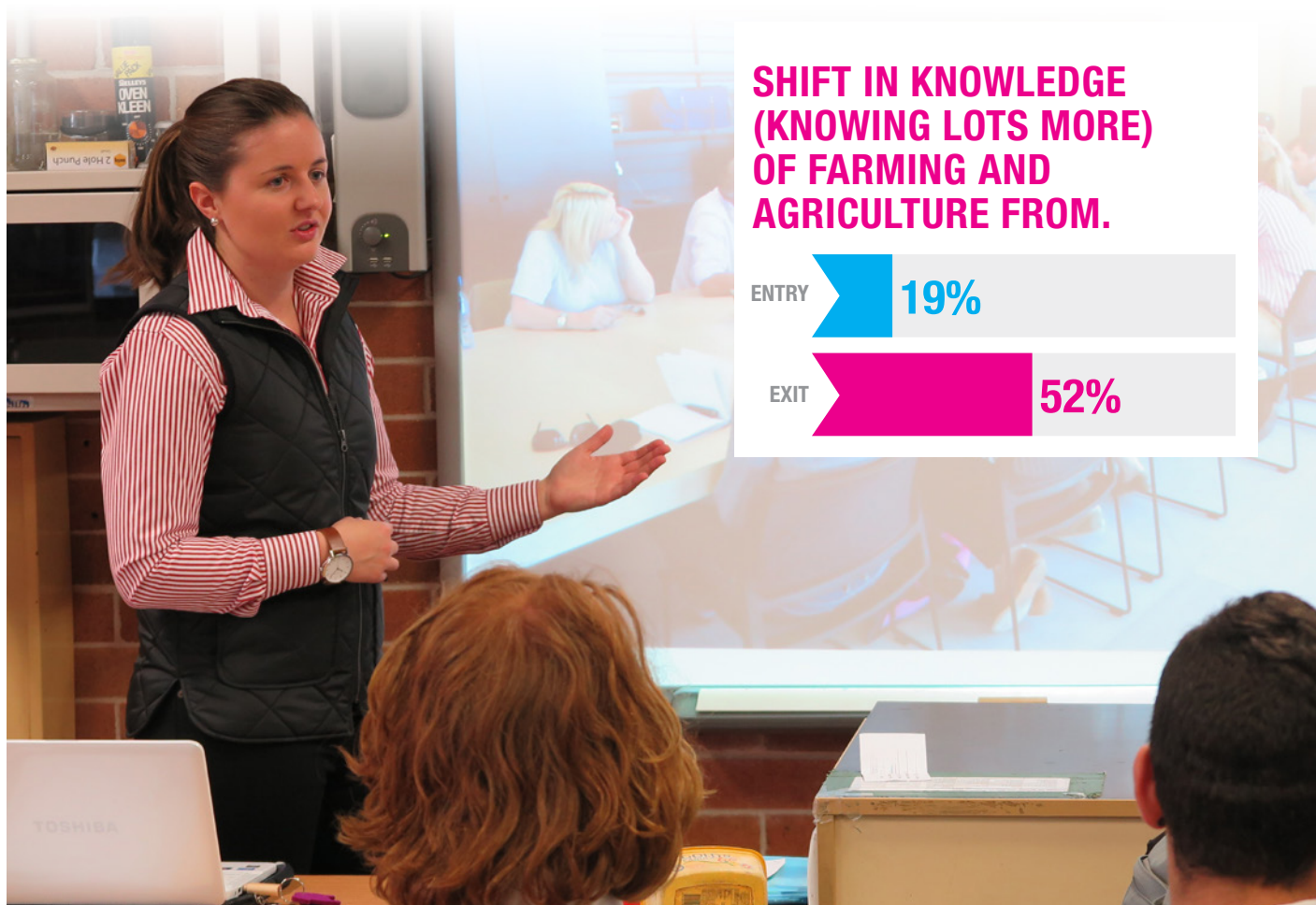
# PROGRAM OUTCOMES

The 2016 Archibull Prize showed increase awareness and learning in several key areas:

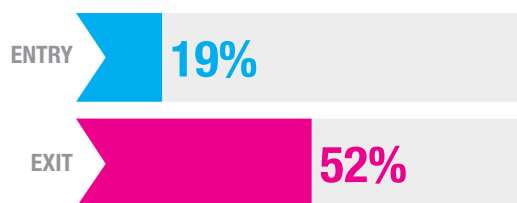
- Knowledge of agriculture
- Climate change
- Renewable energy
- Biosecurity
- Careers

## KNOWLEDGE OF AGRICULTURE

Students were surveyed prior to and at the completion of The Archibull Prize and the results showed a staggering 250% shift in students believing they have a strong knowledge of farming and agriculture.



### SHIFT IN KNOWLEDGE (KNOWING LOTS MORE) OF FARMING AND AGRICULTURE FROM.



BUILDING PARTNERSHIPS BETWEEN FARMERS AND CONSUMERS TO DELIVER A SUSTAINABLE FUTURE

MAINTAINING AND INCREASING SOCIAL LICENCE FOR AGRICULTURAL PRODUCTION HAS BEEN ACHIEVED.

STUDENTS AND TEACHERS UNDERSTANDING OF FARMING DEEPENED AND EXPANDED. ALL STUDENTS HAD POSITIVE ATTITUDES TOWARDS FARMERS' ENVIRONMENTAL STEWARDSHIP AND WATER RESOURCE MANAGEMENT. THEIR APPRECIATION OF NATURAL FIBRE GROWTH, PRODUCTION, AND USE WAS MOST SIGNIFICANT.

A MAJORITY OF TEACHERS REPORTED HAVING CHANGED THE WAY THEY NOW THINK ABOUT AGRICULTURE. THEY HAVE A STRONGER UNDERSTANDING OF AGRICULTURAL SYSTEMS

FROM FARM TO FINAL PRODUCT AND THE CHALLENGES FACING FARMERS. TEACHERS LEARNT MORE ABOUT THIS EACH TIME THEY UNDERTAKE THE ARCHIBULL PRIZE.

THERE HAS BEEN AN INCREASED RESPECT FOR FARMERS, AND AN APPRECIATION OF THE HIGH LEVEL OF COMPETENCE IT TAKES TO DELIVER FOOD AND FIBRE TO THE COMMUNITY. MUCH OF THIS IS DUE TO TWO FACTORS: CONTACT WITH YOUNG FARMING CHAMPIONS AND OTHER FARMING / AGRICULTURAL PROFESSIONALS; AND LEARNING ABOUT SUSTAINABILITY CHALLENGES AFFECTING AGRICULTURE THROUGH TOPICS SUCH AS CLIMATE CHANGE, BIOSECURITY, FOOD SECURITY AND WASTE, RENEWABLE ENERGY. ”

Lorraine J Larri External Evaluation



**STUDENT AND TEACHER APPRECIATION OF NATURAL FIBRE GROWTH, PRODUCTION, AND USE WAS MOST SIGNIFICANT CHANGE IN ATTITUDE.**



**I PREFER TO WEAR CLOTHES MADE FROM NATURAL FIBRES (SUCH AS COTTON OR WOOL).**

ENTRY

**43%**

EXIT

**68%**



**I KNOW HOW COTTON OR WOOL GET CHANGED INTO CLOTHES THAT I CAN WEAR.**

ENTRY

**57%**

EXIT

**89%**



## CLIMATE CHANGE

At the beginning of the 2016 Archibull there was a high degree of awareness of climate change and its significance to farmers and students but, as with the 2015 survey, a low understanding of the issue. At the end of the 2016 program there was a significant turnaround in students' understanding of the issue and how to take climate change action.

Using Australian farmers as their inspiration most primary and secondary students could suggest actions they could take to either change their own behaviours or raise awareness and educate others with the hopes of changing other people's behaviours. This is indicative of active environmental citizenship.

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### SUSTAINABILITY DEFINITIONS AND TEACHER CAPABILITY IN COMMUNICATING THEM

Teachers are key to facilitating learning. Critical to educational program implementation is ensuring teachers have the capability to deliver the program's intended outcomes. This section looks at teacher capacity to communicate key sustainability concepts of Climate Change, Biosecurity, Food Security, and Renewable Energy.

The Archibull Prize recognises that Climate Change is a complex concept and there is no clear and concise definition or explanation. In her advice to teachers, Lynne Strong, the National Program Director, encourages teachers to adopt a simple statement along the lines of, "Climate Change is change in weather patterns over decades. Climate Change is a natural phenomenon with 97% of scientists agreeing that current human activities are accelerating it." Teachers are provided with links to credible Australian sources such as the NSW Department of Primary Industries, and The Climate Council.

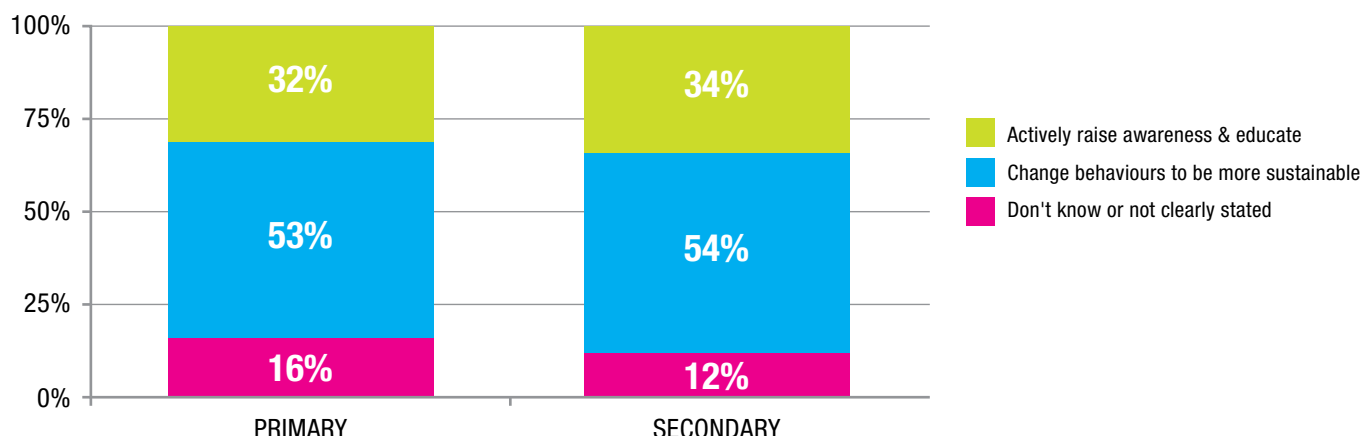
At the start of the 2016 competition, 32 teachers (out of 38) gave their ideas about how they would explain Climate Change to their students. Many of the explanations were incomplete. Having this insight early on meant that the program could better help teachers with resources about Climate Change.

Larraine J Larri – External Evaluation Report

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## STUDENTS SUGGESTIONS FOR CLIMATE CHANGE ACTIONS FOR STUDENTS

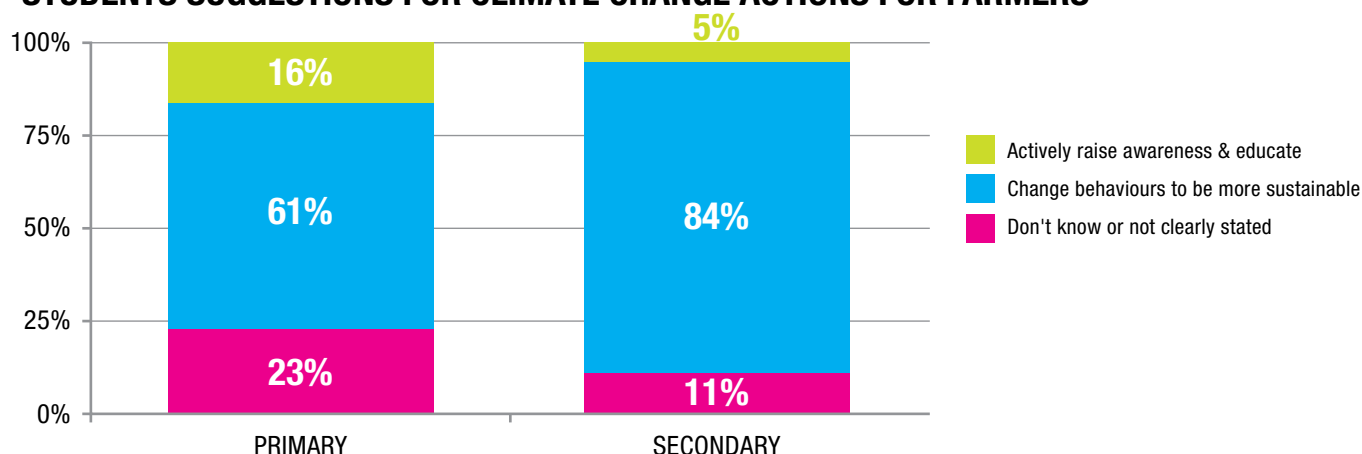


STUDENTS HAVE A ROLE IN PRESERVING THE EARTH, BY BUYING PRODUCTS FROM FARMS WHO ARE ALREADY MAKING A MOVE TO COMBAT CLIMATE CHANGE, RAISE AWARENESS, WHETHER THROUGH ORAL COMMUNICATIONS OR VIA SOCIAL MEDIA, AND EAT FOOD PROVIDED ON THE TABLE RATHER THAN THROWING IT AWAY AND USING EVERY PART OF THE VEGETABLE OR PIECE OF MEAT EFFICIENTLY. ”

Secondary school student

In addition, students could name ways for farmers to raise awareness, educate their peers and change their own behaviour and farm practices.

## STUDENTS SUGGESTIONS FOR CLIMATE CHANGE ACTIONS FOR FARMERS



AUSTRALIAN FARMERS MAY HAVE TO ADAPT TO THE CHANGING ENVIRONMENT AROUND THEM DUE TO CLIMATE CHANGE TO KEEP THEIR CROPS AND LIVESTOCK HEALTHY AND ALIVE. DOING THIS COULD INCLUDE: RECORDING AND MONITORING WEATHER PATTERNS, CHANGING WHEN CROPS ARE GROWN; CHANGING WHERE CROPS ARE GROWN; REGULARLY CHECKING WEATHER REPORTS; MOVING CROPS AND LIVESTOCK TO MORE SUITABLE PLACES; MAKING PETITIONS AND SPEAKING UP TO GOVERNMENT TO ENSURE SUPPORT FOR CLIMATE CHANGE ADAPTATION. ”

Secondary school student



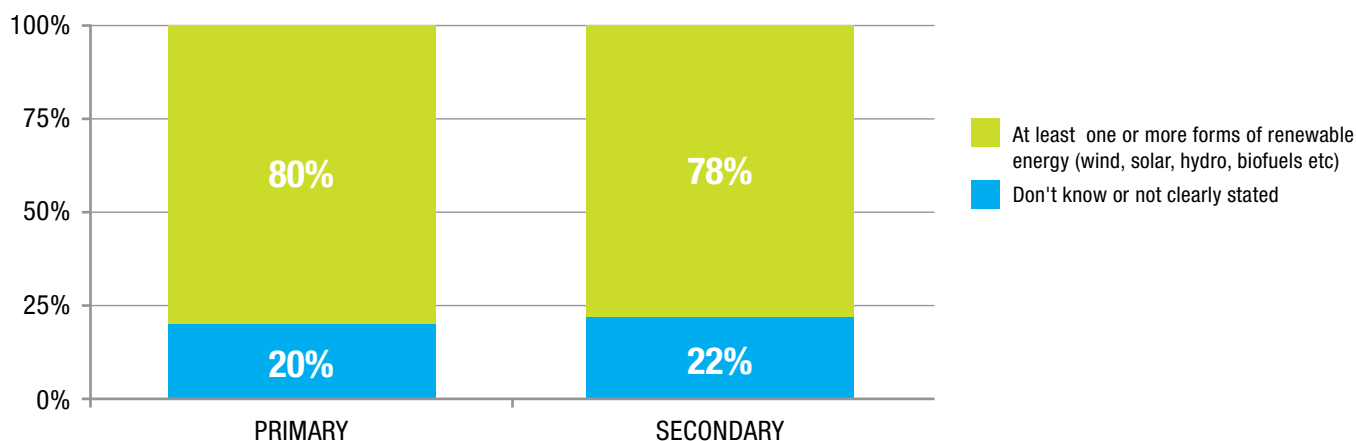
## RENEWABLE ENERGY

AUSTRALIA IS AN IDEAL COUNTRY FOR GENERATING SOLAR AND WIND POWER AND OUR FARMERS ARE LEADERS IN USING RENEWABLE ENERGIES.”

Secondary school student

Despite limited availability of general education resources on renewable energy students easily identified one or more forms of renewable energy as options for farmers and many showed a deeper understanding of farmers’ use of renewables.

### RENEWABLE ENERGY OPTIONS FOR FARMERS THAT STUDENTS KNOW ABOUT

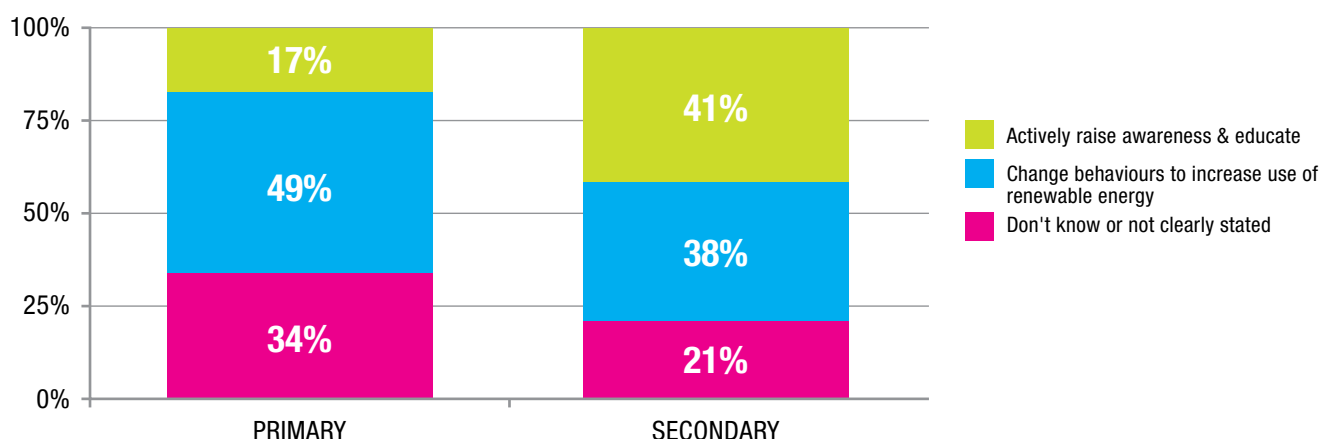


HAVING WIND FARMS; ELECTRIC DEVICES SUCH AS CARS AND POWER TOOLS; PUTTING SOLAR PANELS ON YOUR ROOF; USING HYDROELECTRICITY; POWERING THEIR HOUSES AND BUILDING WITH WATER IF THEY HAVE AN ACTIVE MOVING WATER SOURCE, SOLAR POWER TO RUN IRRIGATION PUMPS. THIS REDUCES THE USE OF DIESEL WHICH IS NOT RENEWABLE. IN THE LONG RUN THE SOLAR POWER IS ALSO SIGNIFICANTLY CHEAPER FOR THE FARMER. METHANE POWER CAN BE GENERATED FROM EFFLUENT FROM PIGGERIES AND DAIRIES.”

Secondary school student

Around 66% of primary and 79% of secondary students could suggest actions they could personally take towards transitioning to renewable energy options.

### STUDENTS SUGGESTIONS FOR ACTIONS THEY CAN TAKE TOWARDS TRANSITIONING TO RENEWABLE ENERGY OPTIONS



ITS IMPORTANT WE ALL BECOME AWARE OF OPTIONS AVAILABLE AND EDUCATE OTHERS ON METHODS OF PRODUCING RENEWABLE ENERGY. STUDENTS CAN ENCOURAGE THEIR PARENTS TO INSTALL SOLAR PANELS AND ADVOCATE THEIR COMMUNITY TO USE RENEWABLE ENERGY SOURCES.”

Secondary school student

## BIOSECURITY



I WAS EXCITED TO SEE MY STUDENTS MAKING CONNECTIONS BETWEEN THE LEARNING THEY WERE DOING IN THE CLASSROOM AND THEIR DAILY WORLD. FOR EXAMPLE, MY STUDENTS OFTEN SEE 'RESPECT FARM BIOSECURITY' POSTERS ON FARM GATES - HOWEVER SOME HAD NOT REALLY UNDERSTOOD THE ISSUES OR CONSEQUENCES AROUND IGNORING BIOSECURITY MEASURES."

Primary school teacher

Biosecurity was an issue that 85% of primary and 80% of secondary students reported discussing during their projects. Around half of the primary and just over a third of secondary students delved into the topic "a lot". Students provided many examples of ways farmers can raise awareness and educate each other about biosecurity.



FARMERS CAN ACTIVELY TAKE STEPS TO ESTABLISH AND IMPROVE BIOSECURITY PLANS AND PROTOCOLS, ENSURING BIOSECURITY IS A PRIORITY AND THAT ALL LIVESTOCK ARE CLEAN AND HEALTHY, AND ALWAYS BE AWARE OF RISKS POSED ON THE BIOSECURITY OF THE FARM AND ELIMINATE IMMEDIATELY IN THE EVENT OF A BREACH."

Secondary school student

Students were also highly aware of their role in reducing biosecurity risks and how they could change their personal behaviours.



DON'T DO WHAT JOHNNY DEPP DID. DON'T BREAK BORDER CONTROL FOOD LAWS."

Secondary school student

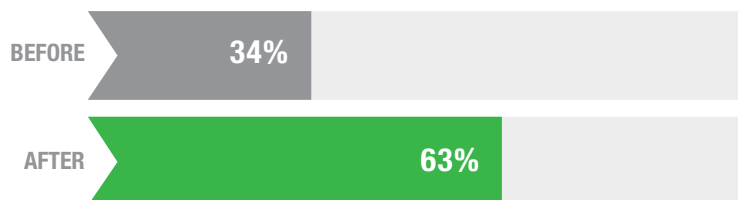
### OVERALL SHIFTS IN STUDENT UNDERSTANDING OF SUSTAINABLY CONCEPTS

Teachers reported significant shifts in their students in greater understandings of farmers concerns about Climate Change, Biosecurity, Food Security and Food Waste "a lot more". This indicates that teachers have become better able to understand these concepts and can assess their students' development. In this sense, it can be considered a proxy measure (or indirect indicator) for increased teacher capability. Lorraine J Larri – External Evaluation

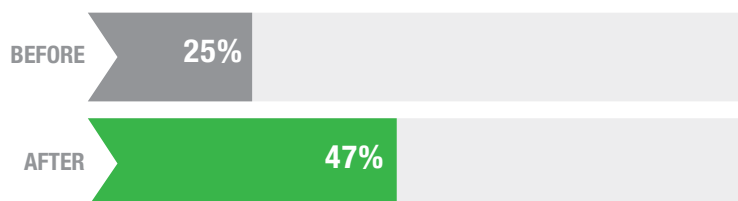




**FARMERS USE WATER CAREFULLY.  
82% IMPROVEMENT IN STUDENTS WHO  
STRONGLY AGREE FARMERS USE  
WATER WISELY.**



**FARMERS CARE ABOUT THEIR ANIMALS.  
82% IMPROVEMENT IN STUDENTS WHO  
STRONGLY AGREE FARMERS CARE ABOUT  
THEIR ANIMALS.**



*2015 Survey Results*





THINK WHAT YOU HAVE IN YOUR HANDS. AN OPPORTUNITY TO HAVE AN AMAZING CAREER IN AGRICULTURE.

THE OPPORTUNITIES ARE ENDLESS AS IS THE ENERGY AND VITALITY OF THE YOUNG PEOPLE THAT I HAVE MET THAT ARE INVOLVED IN THIS SPACE.

CAREERS IN AGRICULTURE CAN TAKE SO MANY DIFFERENT SHAPES. THEY CAN TAKE SO MANY DIFFERENT FORMS. MAKE IT HAPPEN."

Costa Georgiadis





## CAREERS

### CONTRIBUTION TO CAREERS EDUCATION IN AGRICULTURE AND FARMING PATHWAYS

Teachers were impressed by meeting a Young Farming Champion (YFC). They developed an appreciation of the physical aspects of farming; as well as admiration for the professionalism, knowledge, work skills and ethic and personal passion of each YFC. They gained insights into farm practices and potential career pathways through hearing the YFC's story. Teachers also observed these changes in their students. Teachers observed a significant increase in student interest in careers in Agriculture. Lorraine J Larri – External Evaluation

At the beginning of The Archibull Prize primary school students struggled to identify more than two jobs within agriculture and most suggestions were vague and related to labouring jobs on farm. None of the primary students mentioned science or technical related jobs.

On completion of their projects for The Archibull Prize 64% of the primary students were easily able to nominate up to three different agricultural careers and the jobs they now thought of were more specific (crop duster, farm manager, fashion designer, wool classer etc.). The career list also included science based careers such as agronomist (identified by 21% of students), food scientist and veterinarian, which were absent from the entry survey.

Similarly, in the survey prior to The Archibull Prize secondary school students also struggled to identify more than two farming or agricultural jobs, with less than 5% of jobs related to scientific roles. By the end however 30% of the jobs mentioned related to the sciences and other jobs were more specifically labelled. Examples of the range included agronomist, animal nutritionist, rural real estate agent, crop consultant, geneticist, gin machine operator, horse trainer, banker, food engineer and dog trainer.



**THERE ARE MANY OTHER JOBS APART FROM JUST FARMING IN AGRICULTURE."**

Secondary school student



**YOU CAN DO ANYTHING YOU WANT IN AGRICULTURE."**

Secondary school student

Students reported that most of the information about careers in agriculture came from speaking to a Young Farming Champion.



**STUDENTS BECAME MUCH MORE AWARE OF THE CAREERS AVAILABLE IN THE COTTON INDUSTRY THANKS TO THE VISIT FROM OUR YOUNG FARMER. THEY FOUND THE WHOLE PROCESS VERY MOTIVATING AND WERE VERY INTERESTED TO LEARN MORE ABOUT OUR ALLOCATED INDUSTRY-COTTON."**

Primary school teacher



**STUDENTS WERE REALLY ENGAGED IN THE PROJECT; MORE STUDENTS ARE WANTING CAREERS IN AG AND THEY KNOW MORE ABOUT COTTON AND BIOSECURITY AND FOOD SECURITY."**

Secondary school teacher

The Jim Pratley Award asked students to envisage a working day in an agricultural profession. The award was won by Samuel Carpenter from The Henry Lawson High School at Grenfell who accurately portrayed a day in the life of an agronomist – a career he is now actively planning for.

**75% OF STUDENTS REPORTED MAJORITY OF KNOWLEDGE OF AGRICULTURE RELATED CAREERS CAME FROM SPEAKING TO A YOUNG FARMING CHAMPION**









# THE IMPACT OF THE YOUNG FARMING CHAMPIONS

The Archibull Prize matches Young Farming Champions (YFC), enthusiastic young people working within agriculture, to each school. The YFC support the students and excite them about career prospects in the sector and, with the support of industry, assist the students to follow the journey to feed and clothe and power an ever-increasing population and to understand the challenges facing farmers. *See Appendix 3*



HAVING THE YFC VISIT MEANT I FEEL MORE INFORMED. I AM IN AWE OF THE WORK FARMERS DO, THE STRUGGLES THEY FACE AND THEIR PERSEVERANCE. THE YFC VISIT AND THE RESOURCES PROVIDED WERE ABLE TO ASSURE ME THAT AUSTRALIAN FARMERS ARE REALLY CONCERNED ABOUT CLIMATE CHANGE, BIOSECURITY, PROTECTING THE ENVIRONMENT, LAND, WATER AND WASTE MANAGEMENT, RENEWABLE ENERGY SOURCES ETC. PARTICIPATION IN THE PROJECT BROUGHT AGRICULTURE TO THE FOREFRONT OF MY THINKING ON A DAILY BASIS WHEREAS AGRICULTURE WAS NOT NECESSARILY SOMETHING THAT I HAD GIVEN MUCH THOUGHT TO ON A REGULAR BASIS BEFORE. ”

Secondary Teacher



## THE ARCHIBULL PRIZE AND TEACHERS

Teachers participating in The 2016 Archibull Prize were high in their praise of the competition for increasing their, and their students, awareness of Australian agriculture; from biosecurity and careers, to climate change and the adoption of new technology. *See Appendix 4 and Appendix 5*



THE ARCHIBULL PRIZE IS A FABULOUS EXPERIENCE AND A GREAT WAY FOR STUDENTS TO GAIN A MUCH DEEPER UNDERSTANDING OF AGRICULTURE, WHO IS INVOLVED AND THE INGENUITY IN THE INDUSTRY."

Teachers were proud to support and promote agriculture and related topics of sustainability, environment and climate change, and were encouraged by their students who took these messages to their communities.



STUDENTS TOOK LESSONS HOME AND CHANGED PATTERNS IN THEIR OWN FAMILIES, FOR EXAMPLE: NOT BUYING CHEAP MILK AND BREAD, EATING LEGUMES AND TRYING NEW FOOD."

Teachers appreciated the opportunities for students to explore complex concepts in project based learning styles and the advantages of combining art and agriculture for cross-curriculum learning.



I HAVE GAINED A MASSIVE RESPECT FOR THE ART SECTOR AND THE ARTS HAVE DOWN THE SAME FOR AGRICULTURE. IT IS FUNNY HOW PRECONCEIVED PERCEPTIONS AND SOCIETAL THOUGHTS OF A LEARNING AREA CAN REDUCE THE VALUE/RESPECT YOU HAVE FOR IT UNTIL YOU ARE ACTUALLY INVOLVED."



IT IS A FABULOUS EXPERIENCE AND A GREAT WAY FOR STUDENTS GAIN A MUCH DEEPER UNDERSTANDING OF THE AGRICULTURAL INDUSTRY, WHO IS INVOLVED AND THE INGENUITY THAT IS HAPPENING IN THE INDUSTRY. STUDENT ENGAGEMENT AND INTEREST REMAINED STRONG THROUGHOUT THE PROJECT AND IT INCORPORATES ALL KLA'S. IT IS A FUN, MOTIVATING WAY TO LEARN ABOUT AGRICULTURE IN SCHOOLS."



INCREDIBLE JOURNEY FOR EVERYONE. SO MANY NEW SKILLS AND KNOWLEDGE LEARNT. TERRIFIC TO SUPPORT OUR AGRICULTURAL INDUSTRIES. HANDS-ON, ENGAGED LEARNING. THE END RESULT IS SOMETHING YOU WILL ALWAYS BE PROUD OF."



THE STUDENTS WERE REALLY ENGAGED. IT WAS A FANTASTIC PROJECT BASED LEARNING OPPORTUNITY, ABILITY TO INCORPORATE INTO THE CURRICULUM. IT WAS FUN & INFORMATIVE, THEY ARE KEEN TO SHARE THEIR EXPERIENCES WITH THEIR PEERS, THE COW IS A GREAT TALKING POINT IN THE CLASSROOM."





# CONCLUSION

The 2016 Archibull Prize has once again shown how the use of art and multi-media can convey the challenges and opportunities for Australian agriculture, and in doing so engage the next generation.

Students and teachers alike benefit from an increased awareness of issues facing agriculture and that these issues are also important to the community as a whole. They begin to understand the complexities of sustainability including climate change, renewable energy, biosecurity and the role agriculture plays in the wellbeing of all Australians. They realise where their food, fibre, and in some cases power, comes from and they are empowered to suggest actions to better these outcomes. At the end of the program students see themselves as part of the solution to a better world.

The Archibull Prize continues to garner national acclaim and recognition as it cements itself in the psyche of schools and is acknowledged as a ground-breaking program delivering on its aims of ensuring young people have a deep understanding and appreciation of the role farmers and the agriculture sector play in contributing to the economy.

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## RECOMMENDATIONS

- The Young Farming Champions face-to-face visits to Archibull Prize schools are essential to achieving the Program outcomes and are best done early on because they have a strong motivational force in inspiring students to learn more.
- That The Archibull Prize continue to challenge students with sustainability concepts and empower them to consider how they can show initiative and innovation in environmental citizenship.
- The Archibull Prize consider promoting the benefits of the program in terms of teacher development in excellence; and take into account teacher suggestions for professional development and how the program could resource these.

Larraine J Larri- External Evaluation Report

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# APPENDIX

## APPENDIX 1 SUMMARY OF KEY FINDINGS

### EFFICIENT USE OF FUNDS AND RESOURCES

In 2016, The Archibull Prize directly engaged approximately 1,280 urban and rural students from 36 schools. They were mainly located in metropolitan and regional / rural NSW, with a few in Queensland. Teachers and students from participating Primary and Secondary schools provided data about their expectations and experiences through entry and exit surveys. Teams of teachers in each school co-ordinated project-based learning involving a number of key learning areas across multiple Year levels. In some schools up to 6 teachers were involved. A conservative estimate would suggest there were around 100 teachers involved in delivering one of the four different Primary Industry sector's learning. This effort achieved a significant reach with an additional 21,000 students being indirectly aware of the Archibull taking place in their schools. School communities also became aware of The Archibull Prize through reporting in school newsletters and local media. This effort represents efficient use of sponsorship funds and resources.

### QUALITY TEACHING AND LEARNING

This program meets the needs of the curriculum, enhances student engagement in learning, and extends teacher capability. The Archie has helped in improving overall cohesion in most schools.

The Archibull Prize is attracting new teachers as well as continuing to involve teachers who have done the competition before. Teachers highly value the learning experiences that the Archie offers. Through it, teachers observed their students highly engaged in learning and achieving the highest standard possible for their abilities. Student responses confirmed this. They were generous in their comments about what they liked most about learning through doing their Archibull projects. Having a cow (or calf) as a focus of artistic and creative expression was a definite plus in terms of student engagement. Students were excited and surprised by what they learnt about agricultural production and sustainability challenges facing farmers. In this way, the Archie provides educational opportunities not normally available. Most teachers planned to integrate the Archie into their teaching programs in the following year and agreed that it links well with the school curriculum.

The teacher ratings of their student's skill development show an overall significant increase (i.e. from 'a little more' to 'a lot more') across all areas for all students. Teachers considered that their students benefitted in all the areas listed,

1. Teamwork and cooperation (82% 'a lot more')
2. Creative arts and multimedia (69%)
3. Planning and organising (67%)
4. Creative problem solving (67%)
5. Communication (67%)
6. Project-based learning (67%)
7. Critical thinking in researching and presenting new knowledge about agricultural issues (64%)
8. Active citizenship i.e. exploring contemporary issues in agriculture & suggesting solutions locally or nationally (54%)
9. Experiencing a range of learning styles (51%)
10. Initiative and enterprise (46%)
11. Self-management (44%)
12. Using digital technologies (44%)

There were professional development benefits for teachers in relation to:

- being more confident doing project-based inquiry with students (90%, 35 teachers);
- teaching about careers in Agriculture (84%, 33);
- coordinating cross-curriculum work with other teachers (72%, 28).

Teachers ranked the educational resources provided by this program highly and considered that this had contributed to their

- Confidence in teaching about careers in Agriculture (90% overall, 35 teachers)
- Knowledge of the primary industries sector (85% overall, 31 teachers)
- Confidence in teaching about food and fibre (82%, 30 teachers)

### BUILDING PARTNERSHIPS BETWEEN FARMERS AND CONSUMERS TO DELIVER A SUSTAINABLE FUTURE

Maintaining and increasing social licence for agricultural production has been achieved.

Students and teachers understanding of farming deepened and expanded. All students had positive attitudes towards farmers' environmental stewardship and water resource management. Their appreciation of natural fibre growth, production, and use was most significant.

A majority of teachers (62%) reported having changed the way they now think about agriculture. They have a stronger understanding of agricultural systems from farm to final product and the challenges facing farmers. Teachers learnt more about this each time they undertake The Archibull Prize.

There has been an increased respect for farmers, and an appreciation of the high level of competence it takes to deliver food and fibre to the community. Much of this is due to two factors: contact with Young Farming Champions and other farming / agricultural professionals; and learning about sustainability challenges affecting Agriculture through topics such as Climate Change, Biosecurity, Food Security and Waste, Renewable Energy.

## CONTRIBUTION TO CAREERS EDUCATION IN AGRICULTURE AND FARMING PATHWAYS

Students were impressed by meeting a Young Farming Champion (YFC). They developed an appreciation of the physical aspects of farming; as well as admiration for the professionalism, knowledge, work skills and ethic and personal passion of each YFC. They gained insights into farm practices and potential career pathways through hearing the YFC's story. Teachers also observed these changes in their students. Teachers observed a significant increase in student interest in careers in Agriculture.

Students are now able to mention up to three different farm related jobs and around one quarter are Sciences related (i.e. 20% for Primary and 28% for Secondary students) e.g. 21% of students mentioned Agronomist, Soil scientist, or Agricultural Scientist.

## RECOMMENDATIONS

1. The Young Farming Champions face-to-face visits to Archibull Prize schools are essential to achieving the Program outcomes and are best done early on because they have a strong motivational force in inspiring students to learn more.
2. The set of facts considered to be basic to The Archibull Prize require ongoing and greater emphasis for each year of the competition. All students competing should be required to understand the implications and significance of these facts to the sustainability of Australia's Primary Industries and their contribution to Australian life.
3. A more in-depth follow-up case study of Archibull Prize teachers is recommended to gain a deeper understanding of their professional development needs in understanding and teaching sustainability concepts. This should also include an analysis of why teachers find The Archibull Prize helps them and their students understand these complex issues.
4. That The Archibull Prize continue to challenge students with sustainability concepts and empower them to consider how they can show initiative and innovation in environmental citizenship.
5. The Archibull Prize consider promoting the benefits of the program in terms of teacher development in excellence; and take into account teacher suggestions for professional development and how the program could resource these.





## APPENDIX 2

### RENSHAW-HITCHEN AND ASSOCIATES PTY LTD

The 2016 External Evaluation of The Archibull Prize was undertaken by Lorraine J Larri, Director and Principal Consultant, Renshaw-Hitchen and Associates. Lorraine is a highly skilled experienced evaluator with specialisation in innovative programs related to education for sustainability. For the last 15 years, Lorraine has been at the forefront of researching and evaluating education for sustainability programs, primarily the Australian Sustainable Schools Initiative (AuSSI). She has successfully undertaken program evaluations for the NSW, Victorian, WA, Tasmanian, and ACT Departments of

Education and Environment in relation to the AuSSI. Added to this have been evaluations of programs linked to AuSSI – CarbonKids Pilot (CSIRO Education) and Global Communities for Sustainability (Centre for Environmental Education India and Australia). This work has given Lorraine valuable insights into critical success factors in integrating sustainability content into whole-school curriculum. Lorraine is now undertaking a Doctorate in Education through James Cook University.



## APPENDIX 3

### STUDENT COMMENTS ABOUT MEETING A YOUNG FARMING CHAMPION BY INDUSTRY SECTOR

#### CATTLE

It was interesting to hear about his life because it is like an inside to another person's story. It was great to learn that cow fat is in bubble gum and that a lot of the leftovers from a cow are used to create other things.

I liked how he explained his back story and why he loves cattle. I also liked how he explained his businesses and his knowledge of the cattle industry.

I found it interesting how committed to farming he was, he is an inspiration to young farmers.

#### COTTON

She was a young Australian like me and she found a passion for cotton.

They work with cotton everyday of their life and really know what they are talking about. It excited me to know that we were working with a pro on the subject. :)

He taught me things I didn't know. What interested me the most was hearing his life story and how he became a cotton farmer. It showed our class how a person gets into the cotton industry and some of the struggles and obstacles they had to overcome to achieve what they wanted to do.

The wide amount of information he gave us and shared about his work with cotton. he explained all the processes in detail to help us have a great understanding of the industry and how he works in it.

Our YFC came to our school near the start of the competition. What excited me about his visit was the amount of knowledge and passion he had about the cotton industry. He inspired me to further my interests in the Agriculture industry.

How ambitious he was, how he was so young but had accomplished a lot.

He excited me by telling how they maintain and take care of their farm which interests me in many ways.

The Young Farming Champion discussed the interesting jobs within agriculture, including the growing and manufacturing in the cotton industry. She wanted to be a Cotton Agronomist for her career and is currently studying the course at University. A key point that she covered was cotton irrigation, which personally was an interesting topic to learn.

That they were a farmer and I want to be a farmer too.

What interested me about the farmer we met was his job, which was that he was an agronomist. He was very informative and provided us with lots of information, which helped us process that knowledge onto our cow and connect it to others

How much they have done in their career and how much they liked their career.

#### GRAINS

Speaking to someone from the country was fun, learning lots of things I did not know before. She knew a lot about grains and I was really interested.

I learnt soooooooooooooo much about grains and that gave us so much inspiration about what we did for the cow.

She showed us technology for farming that was cool.

The different perspective our YFC brought to us, as the consumers of their products, as well as the insightful information they provided.

She seemed to be very smart and had a good background knowledge about climate change.

The technology, tools and methods they use to farm and their experiences.

He was really passionate. His knowledge base was astounding and he could answer all the questions we had. We really enjoyed his speech.

I loved her passion for the role of women in agriculture. She also brought some real example of grains and equipment that uses grains and described and explained to us how they use it or what it was like how they kept it growing.

It was nice to meet someone who was young and was in the industry and was very passionate about agriculture.

#### WOOL

The fact that she was very friendly and young, had a lot of experience, and engaged everyone into her presentation really well.

She was very enthusiastic and knowledgeable in the field of agriculture. It was fun listening to her.

It was interesting because she knew a lot about colouring wool and I didn't know how to do it. I also found out about the process of wool.

I was interested to see what her experience in the wool industry has been like so far and I was really happy to see that she was genuinely interested in wool.

Their journey and how they got to be a farmer. It was exciting to learn about how she was brought up in conditions which were so different to mine and to also see the career choices she took in relation to the field of agriculture.

She had a lot of interesting information about the Wool industry I was not aware of and really opened up my eyes to this area of Agriculture.

She had provided us with a lot of information regarding the wool industry that helped us with our research and with coming up with ideas to add to our work. She was also interactive with us and answered our questions well so that we could use her time effectively and to the maximum.

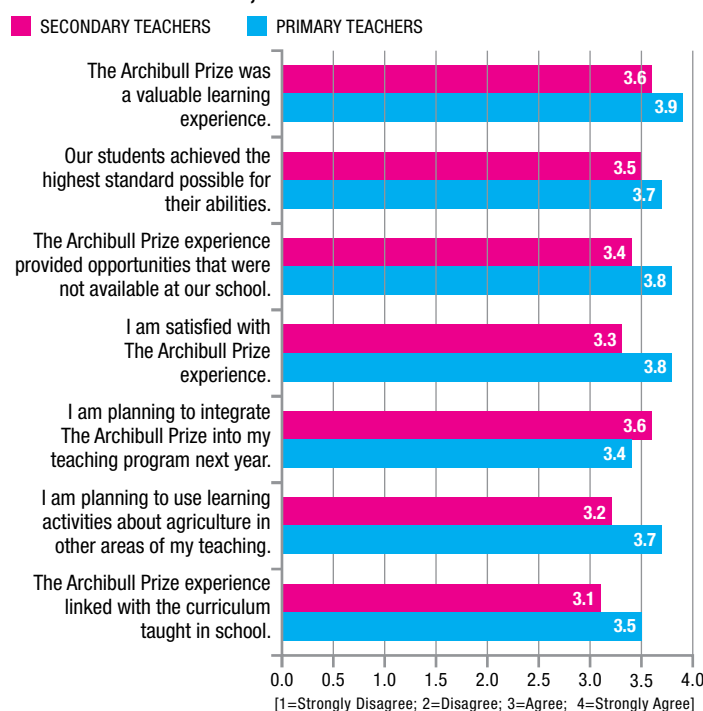


## APPENDIX 4 TEACHER ASSESSMENT OF STUDENT LEARNING

The Archibull Prize is seen by teachers as a highly-valued learning experience for their students. Through it, students achieve the highest standard possible for their abilities. The program provides educational opportunities not normally available. Most teachers plan to integrate The Archibull Prize into their teaching programs in the following year and agree that it links with the school curriculum. *See Chart 1*

The teacher ratings of their student's skill development show an overall

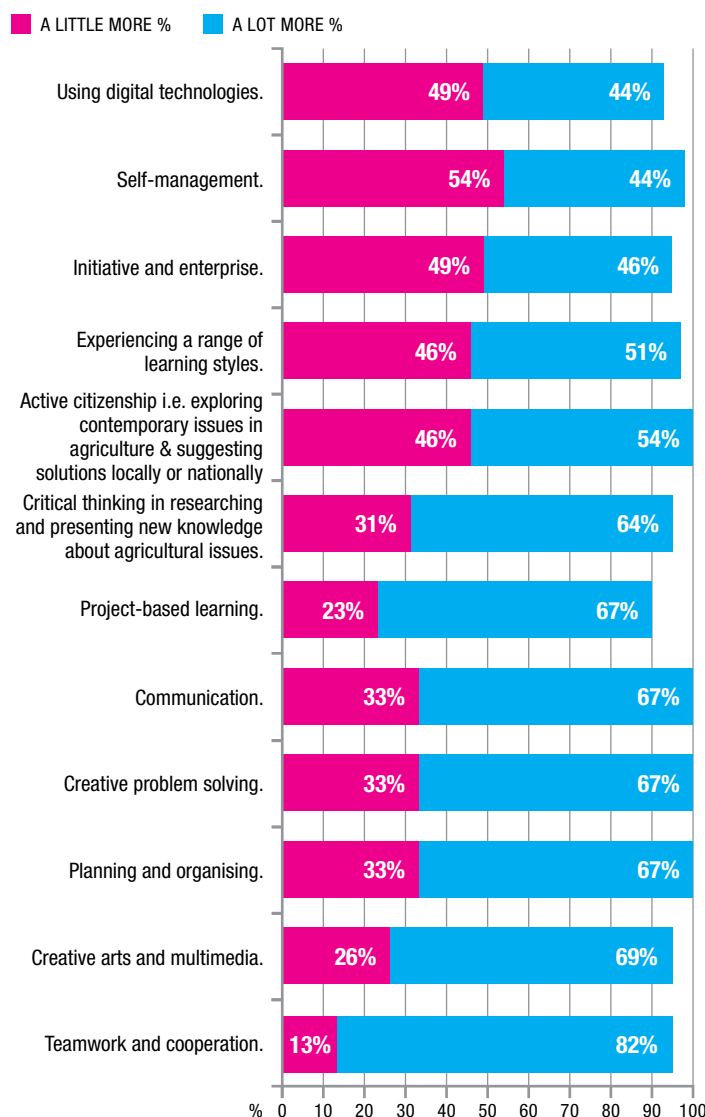
**CHART1: TEACHER SATISFACTION RATINGS WITH THE ARCHIBULL PRIZE, 2016**



significant increase (i.e. from 'a little more' to 'a lot more') across all areas for all students. See Chart 2. Teamwork and cooperation was highest (i.e. 82% rating this 'a lot more'). Using digital technologies was rated the least (i.e. 44% rating this 'a lot more'). Teachers considered that their student benefits were achieved in all the areas listed,

1. Teamwork and cooperation (82% 'a lot more')
2. Creative arts and multimedia (69%)
3. Planning and organising (67%)
4. Creative problem solving (67%)
5. Communication (67%)
6. Project-based learning (67%)
7. Critical thinking in researching and presenting new knowledge about agricultural issues (64%)
8. Active citizenship i.e. exploring contemporary issues in agriculture & suggesting solutions locally or nationally (54%)
9. Experiencing a range of learning styles (51%)
10. Initiative and enterprise (46%)
11. Self-management (44%)
12. Using digital technologies (44%)

**CHART 2: TEACHER RATINGS OF THEIR STUDENT'S SKILL DEVELOPMENT AS A RESULT OF PARTICIPATION IN THE ARCHIBULL PRIZE, 2016**



Teachers noticed that their students had developed skills in other areas such as,

- Patience (not rushing to complete something, but taking the time to show pride in their work) (Primary Teacher)
- They developed an awareness of the impact their actions as an individual affects our climate and our environment as a whole. This made them reflect on the changes they could make to assist in maintaining and sustaining our environment to the best of our ability. (Primary Teacher)
- They learnt mistakes are part of learning. Mistakes are good. My students gained the experience of being successful, for many this is a first. They have blossomed. (Secondary Teacher)
- Whilst my students display all of these qualities to a high standard, I believe that a project like this gives them an invaluable opportunity to synthesise and strengthen these qualities. (Secondary Teacher)

The teacher surveys asked a series of open-ended questions designed to elicit greater understanding of the ways in which they valued the competition. These questions were,

- From your perspective as a teacher, what did you really like the most about doing the Archibull Prize? and why?
- What surprised or excited you the most about what your students learnt?

Teachers consistently mentioned the same positive aspects of The Archibull Prize. These related directly to the use of project-based, cross-curricular and Year level approach through a focus on visual arts creative processes. Students were challenged and extended in their ability to interpret researched knowledge and apply graphic communications skills. A number of the fibreglass bulls and calves cleverly incorporated visual humour to engage viewers.

The teacher's comments cannot be reduced to simple lists of features because they reflect an holistic approach to teaching that fits well with the NSW Quality Teaching model (QT)<sup>1</sup>. This indicates that undertaking The Archibull Prize is pedagogically sound. Teachers were surprised at the high degree of engagement in learning and resultant deep knowledge of students. In order to demonstrate this Box 1 outlines the dimensions and elements of QT. Examples of the teacher comments that reflect multiple elements of the QT are listed following it in Box 2.

#### BOX 1: DIMENSIONS AND ELEMENTS OF THE NSW QUALITY TEACHING MODEL

	DIMENSIONS		
	Intellectual Quality	Quality Learning Environment	Significance
ELEMENTS	Deep Knowledge	Explicit Quality Criteria	Background Knowledge
	Deep Understanding	Engagement	Cultural Knowledge
	Problematic Knowledge	High Expectations	Knowledge Integration
	Higher-order Thinking	Social Support	Inclusivity
	Metalanguage	Students' Self-regulation	Connectedness
	Substantive Communication	Student Direction	Narrative

<sup>1</sup> See NSW Department of Education and Training Quality teaching in NSW public schools: Discussion paper (2008), p.4. Other States and Territory Educational systems adopted similar frameworks with elements integrated across pedagogical frameworks e.g. see Queensland Education <http://education.qld.gov.au/curriculum/pdfs/pedagogical-framework.pdf>





## BOX 2: TEACHER COMMENTS THAT REFLECT THE WAYS IN WHICH PARTICIPATION IN THE ARCHIBULL PRIZE ACHIEVES THE NSW QUALITY TEACHING FRAMEWORK

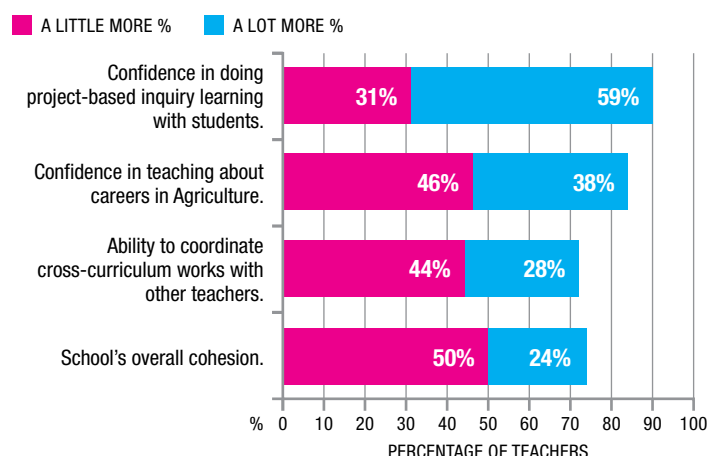
PRIMARY TEACHERS	SECONDARY TEACHERS
<ul style="list-style-type: none"> <li>The cross curriculum, project based, interest level of collaboratively learning that took place. I also enjoyed really challenging my own expertise and learning so many new skills too.</li> </ul>	<ul style="list-style-type: none"> <li>Decorating our entry was something out of the ordinary, it has real purpose and meaning outside the school community as well as within. Seeing our students commit to a large-scale project was rewarding. I have only been at the school this year and our students are often criticised for lacking commitment. Our entry is proof that they can commit to a task.</li> </ul>
<ul style="list-style-type: none"> <li>team building as the students have been able to work collaboratively to complete their cow</li> </ul>	<ul style="list-style-type: none"> <li>The artistic challenge of conveying a very real message. Loads of fun!</li> </ul>
<ul style="list-style-type: none"> <li>I really enjoyed incorporating agricultural concepts into the classroom. The design process of creating our calf was also a highlight.</li> </ul>	<ul style="list-style-type: none"> <li>The Archibull Prize has become a tradition at Hurlstone. It is a project that creates unity and cohesion across the school. Students anticipate the challenge and set themselves very high expectations. The conceptual content of the program is both relevant and a critical component of a well-rounded education. The artmaking outcomes are extraordinary, as the scale of the work and the quality that is achieved with collaboration is exceptional.</li> </ul>
<ul style="list-style-type: none"> <li>I loved seeing the students excitedly sharing ideas and seeing them through.</li> </ul>	<ul style="list-style-type: none"> <li>I love participating in The Archibull Prize because it allows the students to shine. They are recognised for their strengths. I enjoy setting my students a challenge and watching them jump straight over it. I love it when they surprise me. I love it when they prove others wrong.</li> </ul>
<ul style="list-style-type: none"> <li>Their understanding of connections/interactions between people, places and environments</li> </ul>	<ul style="list-style-type: none"> <li>The sense of achievement for the students. I really value seeing the actualisation of their teamwork and the value that they put on everyone's contribution.</li> </ul>
<ul style="list-style-type: none"> <li>Their realisation of the effort, skill and technology farmers place into their jobs</li> </ul>	<ul style="list-style-type: none"> <li>Real world connections, great practical project that really engaged the students &amp; gave us lots of learning opportunities</li> </ul>
<ul style="list-style-type: none"> <li>To see the student knowledge growth from the beginning to the end</li> </ul>	<ul style="list-style-type: none"> <li>I really enjoyed seeing students develop their learning throughout the process, and facilitating that development in their learning.</li> </ul>
<ul style="list-style-type: none"> <li>Their cooperation throughout the whole process, they were engaged and excited to learn new facts</li> </ul>	<ul style="list-style-type: none"> <li>It was a challenge to create such a big project and through the process has helped with building knowledge and understanding of building resilience in students, and seeing the students communicate and organise ways to create the Archibull from an informed point of view.</li> </ul>
<ul style="list-style-type: none"> <li>Creating our Archibull calf was a fabulous journey of design, collaboration and engagement. Also their understanding, knowledge and risk taking of new technologies, especially designing and creating the blog and infographic.</li> </ul>	<ul style="list-style-type: none"> <li>The broad general knowledge gained. The artistic challenge (and associated limitations) of it all. Hard to get them 're-engaged' after they were disengaged earlier in the year. Getting to know the students better, outside of a 'structured' learning environment.</li> </ul>
<ul style="list-style-type: none"> <li>I was excited to see my students making connections between the learning they were doing in the classroom and their 'daily world'. For example, my students often see respect farm biosecurity posters on farm gates - however some had not really understood the issues or consequences around ignoring biosecurity measures.</li> </ul>	<ul style="list-style-type: none"> <li>The students were interested in the breadth and diversity of carers in agriculture beyond the farm gate. They also have developed a strong understanding of the wool industry in Australia. The techniques applied in the creation of the artwork have given them practical skills they can employ in the future. But perhaps the most exciting aspect of the program is seeing the leadership and collaborative skills that were developed.</li> </ul>
<ul style="list-style-type: none"> <li>The ideas students had to solve today's issues...both on the farm and in the classroom.</li> </ul>	<ul style="list-style-type: none"> <li>I was surprised by lots this year; this cohort of students is the MOST challenging (behaviourally) yet. The Archibull Prize seemed to neutralise their behaviours. They loved coming to class and learning. And I loved teaching them, because they were like sponges. This is the first group of students to take the lessons home and change patterns in their own families. e.g. not buying cheap milk and bread, eating legumes, trying new foods.</li> </ul>
<ul style="list-style-type: none"> <li>how they worked together and valued ideas and opinions</li> </ul>	<ul style="list-style-type: none"> <li>I was really surprised at a core group who loved to blog... "Bloggin' Life" as they termed it! I was surprised by the bio energy/ethanol/renewable energy angle. all the incidental skills that they acquire when doing a project like this excites me as an educator</li> </ul>
	<ul style="list-style-type: none"> <li>The resilience and perseverance the students demonstrated</li> </ul>
	<ul style="list-style-type: none"> <li>Their ability to pick up on a concept or technique quickly</li> </ul>
	<ul style="list-style-type: none"> <li>How well the students independently summed up our research in the animation</li> </ul>
	<ul style="list-style-type: none"> <li>The interest from non-ag students wanting to help and get involved.</li> </ul>
	<ul style="list-style-type: none"> <li>I was surprised by the students' ability to collaborate.</li> </ul>
	<ul style="list-style-type: none"> <li>Students working with other students across year groups and organizing resources. The discussion of students was great to listen to.</li> </ul>

## APPENDIX 5

### SUPPORT FOR TEACHERS CHANGES IN TEACHER PROFESSIONAL CAPABILITY

Teachers considered that professionally they had gained the most in being more confident doing project-based inquiry with students (90%, 35 teachers). They also considered they made gains in teaching about careers in Agriculture (84%, 33); coordinating cross-curriculum work with other teachers (72%, 28). The Archibull Prize had also helped in improving overall cohesion in their schools (74%, 28). *See Chart 1.*

**CHART 1: CHANGES IN TEACHER CAPABILITY, 2016**



### EDUCATIONAL RESOURCES PROVIDED TO SUPPORT TEACHERS

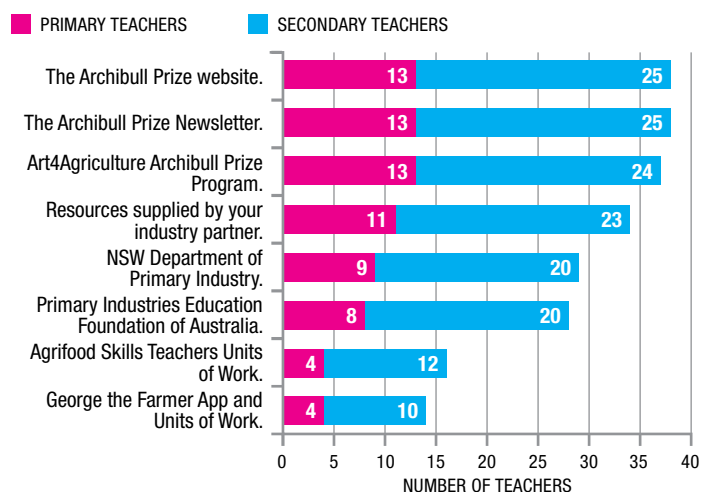
The Archibull Prize supports teachers by providing access to educational resources that address each of the topics to be studied. This section presents the findings of the feedback from teachers about the usefulness of those resources.

A majority of teachers found that the resources offered through the competition were “extremely easy to follow and understand”

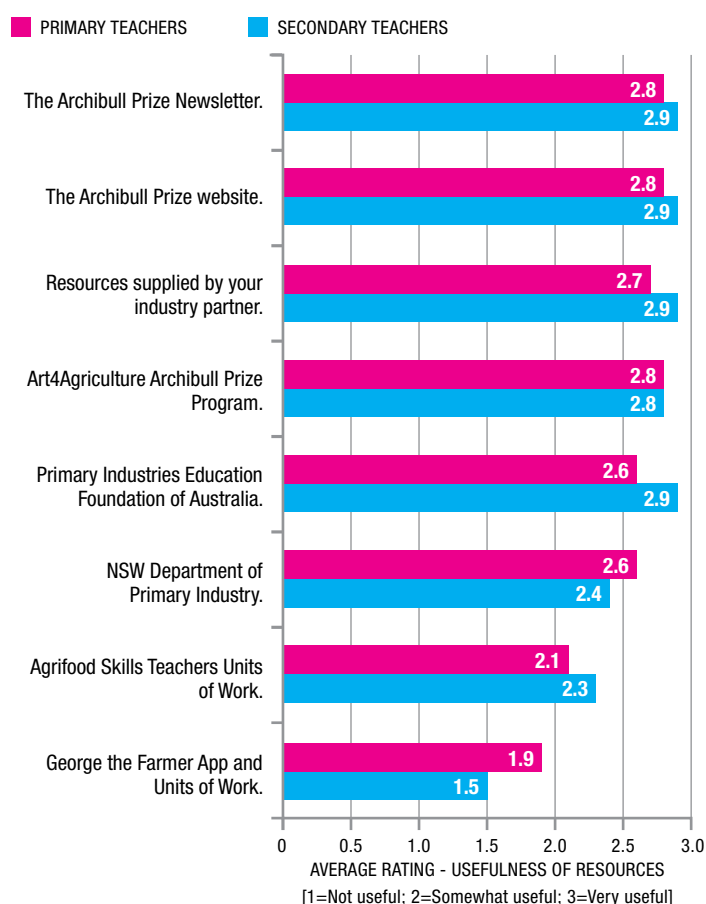
Chart 2 shows the numbers of teachers who used and rated each resource. Chart 3 shows the average ratings for each resource.

The most useful resources were materials offered by The Archibull Prize (i.e. newsletters, website, and general program information); specific Primary Industry partners; Primary Industries Education Foundation; and the NSW Department of Primary Industries. The least useful resources were George the Farmer App and Units of Work, and the Agrifood Skills Teachers Units of Work.

**CHART 2: NUMBERS OF TEACHERS WHO USED EACH RESOURCE, 2016**



**CHART 3: TEACHER RATINGS OF USEFULNESS OF RESOURCES USED DURING THE ARCHIBULL PRIZE, 2016**





Additional resources that teachers found useful included:

- Canada Agriculture and Food Museum Biosecurity Educational Activity Kit - great for biosecurity games  
<http://cafmmuseum.techno-science.ca/en/education/education-biosecurity.php>
- Target 100 – Sustainable farming of sheep and cattle  
<http://www.target100.com.au/Home>

Teachers generally considered there were plenty of resources that helped students with the research tasks. The challenge was to review them and see how appropriate they were for their student's abilities. Here are suggested improvements to resources:

- How to blog and create infographics.
- Samples (like what you can get from the education kit from the Cotton Australia website)
- More contact with real people, farmers, industry e.g. online emailing to an agronomist/farming champion; a visit from an industry representative such as the Cotton Australia education person.

Teachers considered that they had gained professional capabilities through using the resources provided to them. See Chart 4

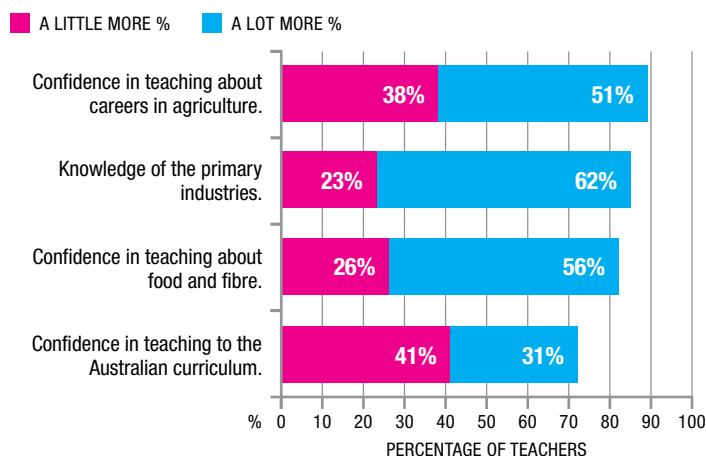
Most gains were in:

- Confidence in teaching about careers in Agriculture (90% overall, 35 teachers)
- Knowledge of the primary industries sector (85% overall, 31 teachers)
- Confidence in teaching about food and fibre (82%, 30 teachers)

Least gains in,

- Confidence in teaching to the Australian Curriculum (72%, 28 teachers)

**CHART 4: TEACHER RATINGS - INCREASES IN PROFESSIONAL CAPABILITIES THROUGH USING RESOURCES PROVIDED BY THE ARCHIBULL PRIZE, 2016**



## APPENDIX 6




### PROGRAM PERFORMANCE IN RELATION TO INVESTMENT VALUE FOR MONEY

This section provides an assessment in answer to the question asked by program sponsors, 'Did we get value for our investment?' It is based on both quantitative and qualitative data combined to give an impressionistic rating of achievement from 'Highly significant achievement'; 'Significant achievement'; 'Average achievement'; 'Underperforming achievement'. The evidence in Table 4 shows that this program rates highly significant achievement in all the key



performance indicators areas listed here,

- Efficient use of funds and resource inputs
- Quality teaching and learning
- Build partnerships between farmers and consumers to deliver a sustainable future
- Contribution to careers education in Agriculture and Farming pathways

TABLE 1: EVALUATIVE ASSESSMENT OF PROGRAM PERFORMANCE IN RELATION TO INVESTMENT

EFFICIENT USE OF FUNDS AND RESOURCE INPUTS		
INDICATOR	EVIDENCE AND ASSESSMENT OF ACHIEVEMENT	RATING
Number of schools, students and teachers directly engaged as participants	Sponsors contributed \$175, 000 to The ArchibullPrize so that 36 schools could be adequately resourced to undertake their competition entries. Thus, the average allocation per school was \$4861.	 HIGHLY SIGNIFICANT achievement that represents efficient use of sponsorship resources.
Outcome 1 Awareness	An estimated 1,280 students were directly involved.	
Outcome 2 Activation & Preparation	Coordinating teachers in each school collaborated with at least one or more teachers across the range of Key Learning Areas. In some schools up to 6 teachers were involved. A conservative estimate would therefore add 72 to 108 (i.e. 2 or 3 per school) teachers involved in delivering one of the four different Primary Industry sectors learning. A broad range of Years from 4 to 11 were involved.	
Average cost per student	The schools reported they directly involved an estimated total of 1,280 students, thus the average cost per student was approximately \$137. This figure does not take account the significant in-kind contribution by the Picture You in Agriculture program co-ordinator. Equally this figure does not take into account the involvement of teachers or in-kind contributions which cannot adequately be quantified but are indicated in teacher comments such as the significant amount of out-of-class time from both teachers and their students to complete competition tasks; or the additional materials used in the artworks beyond the paints supplied.	This indicator needs to be compared with other average cost per student figures for similar programs so that a meaningful assessment can be made.
Reach	<p>A further estimated 21,000 students drawn from broader participant school populations are likely to have also been aware of their colleagues learnings through the 'power of the cow' (as one teacher calls it) and school newsletters.</p> <p>If the total of school populations is considered (i.e. all students whether indirectly or directly involved) this equates to around \$8 per student.</p>	 HIGHLY SIGNIFICANT achievement of brand awareness and general knowledge of Agriculture's contribution Australian life.
QUALITY TEACHING AND LEARNING		
INDICATOR	EVIDENCE AND ASSESSMENT OF ACHIEVEMENT	RATING
Meets the needs of the curriculum, enhances student engagement in learning, and extends teacher capability	The Archibull Prize is seen by teachers as a highly valued learning experience for their students. Through it, students achieve the highest standard possible for their abilities. The program provides educational opportunities not normally available. Most teachers plan to integrate The Archibull Prize into their teaching programs in the following year and agree that it links with the school curriculum. Comments indicate that the benefits (pros) for student learning outcomes far outweigh the frustrations of implementing a project that has a significant time commitment.	 HIGHLY SIGNIFICANT achievement in student engagement
Outcome 3 Implementation – Research	Student engagement in learning was significantly enhanced by doing The Archibull Prize.	
Outcome 4 Implementation – Creative Multimedia Realisation	Teacher's professional capability increased in relation to: being more confident doing project-based inquiry with students (90%, 35 teachers). They also considered they made gains in teaching about careers in Agriculture (84%, 33); coordinating cross-curriculum work with other teachers (72%, 28). The Archie had also helped in improving overall cohesion in their schools (74%, 28)	
Outcome 5 Implementation – Judging Tour	Teachers ranked the educational resources provided by this program highly and considered that this had contributed to their	
	<ul style="list-style-type: none"> <li>• Confidence in teaching about careers in Agriculture (90% overall, 35 teachers)</li> <li>• Knowledge of the primary industries sector (85% overall, 31 teachers)</li> <li>• Confidence in teaching about food and fibre (82%, 30 teachers)</li> </ul>	



BUILD PARTNERSHIPS BETWEEN FARMERS AND CONSUMERS TO DELIVER A SUSTAINABLE FUTURE		
INDICATOR	EVIDENCE AND ASSESSMENT OF ACHIEVEMENT	RATING
<p>Maintain and increase social licence</p> <p><i>Outcome 7B: Conscious consumers</i></p>	<p>Students' and teachers' understanding of farming was deepened and expanded. All students had positive attitudes towards farmers' environmental stewardship and water resource management. Their appreciation of natural fibre growth, production, and use was most significant.</p> <p>A majority of Teachers (62%) reported having changed the way they now think about agriculture. In particular, understanding agricultural systems from farm to final product and the challenges facing farmers. Teachers are learning more about this each time they undertake The Archibull Prize.</p> <p>There has been an increased respect for farmers, those supporting farmers, and appreciation of the high level of competence it takes to deliver food and fibre to the community. Much of this is due to two factors: contact with Young Farming Champions and other farming / agricultural professionals; and learning about sustainability challenges affecting Agriculture through topics such as Climate Change, Biosecurity, Food Security and Waste, Renewable Energy.</p>	 <p>HIGHLY SIGNIFICANT achievement in increased social licence</p>
CONTRIBUTION TO CAREERS EDUCATION IN AGRICULTURE AND FARMING PATHWAYS		
INDICATOR	EVIDENCE AND ASSESSMENT OF ACHIEVEMENT	RATING
<p><i>Outcome 7C: Careers in Agriculture</i></p>	<p>Students were impressed by meeting a Young Farming Champion (YFC). They developed an appreciation of the physical aspects of farming; as well as admiration for the professionalism, knowledge, work skills and ethic and personal passion of each YFC. They gained insights into farm practices and potential career pathways through hearing the YFC's story. Teachers also observed these changes in their students.</p> <p>Teachers observed a significant increase in student interest in careers in Agriculture.</p> <p>Students are now able to mention up to three different farm related jobs and around one quarter are Sciences related (i.e. 20% for Primary and 28% for Secondary students) e.g. 21% of students mentioned Agronomist, Soil scientist, or Agricultural Scientist.</p>	 <p>HIGHLY SIGNIFICANT achievement in greater knowledge of Agricultural career options.</p>

## CONCLUSION

The evidence presented in this report shows that participants and sponsors can be confident that The Archibull Prize has efficiently and effectively used its resources to significantly enhance understanding between farmers and consumers to deliver a sustainable future; and in the process, has contributed to highly significant outcomes in quality teaching and learning.

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THE ARCHIBULL PRIZE IS A PICTURE YOU IN AGRICULTURE, ART4AGRICULTURE INITIATIVE.



THE 2016 ARCHIBULL PRIZE AND YOUNG FARMING CHAMPIONS PROGRAMS WERE SPONSORED AND SUPPORTED BY GRAINS RESEARCH AND DEVELOPMENT CORPORATION, COTTON AUSTRALIA, NSW DEPARTMENT OF PRIMARY INDUSTRIES, NSW LOCAL LAND SERVICES, AUSTRALIAN WOOL INNOVATION AND THE ROYAL AGRICULTURAL SOCIETY OF NSW.



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Primary Industries



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