



## STEM Team Makes an IMPACT!!

The IMPACT STEM Team is a networked community of 12 educators from six Queensland state schools. These schools have identified STEM as a key part of their 2016 improvement agenda.

Led by key staff from the IMPACT Centre, collaboration amongst the group is key. Regular web conferences, face-to-face workshops and digital resource sharing keep the group connected.

The initial professional learning program was engaging, relevant and carefully structured. It was delivered in late 2015 and enhanced the team members' scientific inquiry and technology skills. It also introduced them to the IMPACT Learning Framework, the program's innovative pedagogical approach.

"This team was a success from the start," said Glen Watt, Director of the IMPACT Centre. "The teachers came ready to collaborate. It was obvious that every one of them was committed to improving STEM outcomes for their students, colleagues and school communities."

The teachers then implemented *Danger Zone* during Semester 1, 2016. *Danger Zone* is an investigation into the plight of endangered animals and was constructed by the IMPACT Centre's STEM Coordinator, Katie Ellard, in collaboration with the Australia Zoo Education Team.

### IMPACT STEM Team – left to right above

Kate Hyder (Birkdale SS), Debbie Banks (Thornlands SS), Tania Cross (Thornlands SS), Glen Watt (IMPACT Centre - Director), Dr Greg Tibbits (Strategic Partnerships - Researcher), Dr Lesley Jolly (Strategic Partnerships - Researcher), Judy Menary (Brisbane SDE – Executive Principal), Paul Guilfoyle (Currumbin SS), Grace Seng (Fairview Heights SS), Trina Murphy (Fairview Heights SS), Marc Baker (Brightwater SS), Deirdre Mansfield (Birkdale SS), Katie Ellard (IMPACT Centre – STEM Coordinator)



The leadership/direction provided by the IMPACT Centre has been very professional and focussed. They have guided us through the daunting "START" of our

STEM journey and provided us with the confidence we require to create a sustainable STEM program within our school context. We are in the planning stage of our next learning program – Alien Invasion – which involves a research excursion to Toohey Forest Environmental Education Centre and support from Bulimba Creek Catchment Committee. The students ask us daily when it will begin!



*Katie Ellard and Glen Watt preparing for the team's regular web conferences*

“*Danger Zone* transforms students into citizen scientists.” said Mrs Ellard. “A research excursion to Australia Zoo was a major highlight. Students were given behind the scenes access to the zoo’s Wildlife Hospital where they learned about the important role of scientific inquiry within conservation work. They collected data on patient admissions, treatments, and conservation threats and solutions facing wildlife locally and globally. The whole experience was a lot of fun and ensured that the investigation was authentic.”

Assessment included a pre and post-test comparison of scientific inquiry skills. The results were very positive, with students showing significant improvement in their ability to pose questions; make predictions; plan and conduct investigations; process and analyse data; draw evidence-based conclusions; and evaluate decisions.

The students also constructed a digital infographic which assessed their ability to analyse and present scientific data in a digital format. Feedback about this task was compelling. The students truly enjoyed creating a powerful infographic that can be shared globally. It was the first time that many of the students had been challenged to communicate scientifically in an innovative way.



*Birkdale SS students proudly display their Danger Zone certificates and infographics*

Importantly, team members are now designing and delivering their own exciting initiatives for implementation in Semester 2, 2016.

Dr Lesley Jolly from Strategic Partnerships is undertaking evaluation of the IMPACT STEM Team initiative. Dr Jolly said, “All of the teachers we have interviewed to date comment spontaneously on how much more confident they are in addressing the planning and implementation of STEM lessons.

“While the schools represented are in different regions with sometimes significantly different circumstances they all intend to expand the program and/or to involve external partners such as local environmental groups or STEM-trained parents and supporters.”

“It’s pleasing to see that the project team practice what they preach by using the IMPACT Learning Framework themselves in the training of other teachers. Not only do they explicitly teach it to the group but it underpins their activities.”

**Are you joining the IMPACT STEM Team in 2017?!!**

**Click here to express interest now!**



The IMPACT STEM Team is hugely worthwhile. We have developed a program in partnership with the University of Sunshine Coast and the local council called Local Heroes. It supports the students in scientific and mathematical inquiry. The IMPACT Centre has given us the tools and confidence to build the capability of teachers across the whole school in relation to STEM.



Our work with the IMPACT Centre has been a huge step towards professional change. Their leadership of this program, plus the professional learning program and curriculum resources are outstanding. The opportunity to engage with experts in online learning is exceptional. Networking opportunities have been a huge benefit to our participation in this program. We are really looking forward to now working with Currumbin Creek Environmental scientists and volunteers to investigate our school’s impact on the local ecosystem. We are expecting another overwhelming positive parent response as was experienced in *Danger Zone*.



We received support from the IMPACT STEM Team on our journey of learning. Timely supports were put in place such as PD opportunities, web conferences, access to an eLearn course for resources and reflection. Their guidance has given us the confidence to develop our own project - Conservation, Sustainability, Community Engagement – engaging with experts from Amaroo EEC and the University of Southern Queensland to effectively communicate vital messages of sustainability within our wider community. We see this as just the beginning of our school’s STEM story.



The IMPACT STEM Team has been engaging, supportive and professional. It has definitely been collaborative, sharing ideas with colleagues from other schools, and working with the IMPACT Centre to achieve positive outcomes. *Code Zone* is our next exciting project. Using the engaging context of coding, students will investigate functional requirements of a simple game to design a space adventure game. Being part of the IMPACT STEM Team has given us the confidence to design and implement this project. It has encouraged us to challenge ourselves to work outside of our comfort zone to benefit our students and school community.