

September Quarterly Report

To help our youth of today succeed in
tomorrow's world



CoRE
Learning
Foundation

SEPTEMBER 2022



PRESENTED TO

CLF Members &
Sponsors

COMPILED BY

Suzy Urbaniak



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Executive Summary 0922

CoRE Schools - Expansion and Explorers

- Two new CoRE Schools commenced their CoRE Learning Journey in Semester 2, 2022.
 - Bencubbin Primary School
 - Australian Christian College - Darling Downs
- Three CoRE Explorer Professional Development Sessions
 - Koorda Primary School
 - Beacon Primary School
 - Trayning Primary School
- Four new CoRE Explorer Schools for 2023
 - Boddington DHS
 - Carnarvon - 2 Primary Schools and Canarvon Community College
- Six field trips
 - Bencubbin Mt Marshall
 - Australian Christian College - Wungong River and Darliing Scarp
 - Kent Street - Year 10 Turquoise Coast
 - Paraburdoo - Cheela Plains Station
 - Merredin Year 9 - Merredin Energy and Collgar Wind Farm
 - Merredin Year 9 - Mid-West Field Trip
- Two IGO Graduate Days at Norseman CoRE
- Ashburton Schools Alliance Showcase during National Science Week

Key Successes



133% increase in potential new Gamifying Earth Science Schools



3 new CoRE Schools
4 new CoRE Explorer Schools for 2023

Gamifying Earth Science - CoRE's National Expansion Program

**88 Potential New
Schools**

Two conferences increased the awareness & importance of Earth Science Education

Gamifying Earth Science

- Phase 1 was completed, and Phase Two commenced during the semester
- Two conferences were attended
 - SASTA (South Australian Science Teachers Association) generated 21 leads
 - Conasta (Australian Science Teachers Association) - Canberra - generated 67 new leads.
- Newcrest Eucalypt sponsorship was secured.
- The World Mining Congress Manuscript "Building a Stronger STEM Talent Pipeline for the Future Resources Industry through Gamification" was submitted. A massive shout-out to all those involved in the editing and feedback of the document (Appendix 1).
- Seven face-to-face workshops and tutorials were held at schools in Western Australia (Kent Street and Bruce Rock), South Australia (Roxby Area School), two workshops at SASTA, and one workshop each at Conasta and Geoscience Australia.
- ACARA V9 curriculum is not conducive to current games branding.

Key Successes



Geoscience Australia Workshop demonstrated how the games can be used in a classroom by educators.



Uncover (Game 4, OaD) LinkedIn Post with over 100 likes resonated with Industry geologists.

Gamifying Earth Science

A digital learning tool improving Earth Science education and connecting it to resource industry careers.

Benefit

"Structured way to use Minecraft Edu, accessible by all levels of students. Connecting classroom learning to scenarios beyond the classroom and the Australian context. Students were excited to begin exploring." - Leone, South Australia



"A huge thank you to Jett Coletti from CLF Gamification for facilitating two workshops with our Year 8 and 9 groups. Educator Steph Ludeken's praised the alignment of the Archaean Adventure OAD game to the context of our Year 9 project 'Evolution of Geoscience Technology', noting that students had to work together across groups, communicating and sharing information and applying their understanding of deep-sea divergent plate boundaries and black smokers to locate the hidden resources."



Kathleen Booth, CoRE Champion



Testimonial

"This month, the year 8's have been furiously working to create a fully autonomous mine site #MinePower2040. CoRE's Old as Dirt gamification program was a valuable resource. The game 'Modern Mine' provided great insight into the operations involved within a mine. It also gave them ideas to research that could then be transferred to their mine site."

Celebrating CoRE Schools



Kent Street Year 10 Turquoise Bay Field Trip - The Barrow Island Analogy



Bencubbin Mt Marshall Field Trip - examining the impact of the Cadoux Earthquake.



Paraburdoo Cheela Plains Field Trip - The Great Oxidation Event



Gamifying Earth Science at the ASA Showcase - engaged the entire community including parents

Connecting Industry and Education - Authentic STEM Learning.



Two IGO Graduate Days were held at Norseman CoRE



A PD day to BHP's Olympic Dam & playing OaD at Roxby Downs



"Sam La Macchia (IGO Graduate) - "What I loved about this CoRE event (and a basis of the CoRE Foundation) was the focus on non-traditional teaching methods – which stray away from textbooks and focus on engaging with students using more practical techniques. The first activity involved calculating the specific gravity of different rocks, which was made relevant to the familiar context of ore trucks passing through Norseman. The second activity involved fitness testing used for entry-level mining jobs – which is relevant to students to understand what is



required to earn a job on a mine site. And Norseman is packed with mining history! I believe relevant context-based activities are essential in enhancing classroom engagement; otherwise, why would students feel enthused enough to care about what any teacher has to say? I believe that these CoRE experiences will stand out for students when they reflect on their high school time and will positively impact their early decision-making skills in their lives and careers."

BHP's support for Gamifying Earth Science has enabled CoRE's first national expansion opportunities.

CoRE ASA (Ashburton School Alliance) Showcase

Education to Industry Pathways



"Suzy, the CoRE Founder, said, "I was filled with pride as I witnessed how the students engaged with the people and confidently answered their questions. There was so much spectacle this year, and the decision to make it more interactive was a winner. I even had parents participating in gamification, 'playing Old as Dirt'. The evening was an exemplar of STEAM Learning, showcasing the technical skills and knowledge and, most importantly, the Year 8 CoRE class collaboration to complete the four-part Smart Mine 2040 display, connecting the work from their four business units."

Angela Panizza, CoRE Coordinator Tom Price SHS

CoRE Operations

01

Together with several national Geoscience associations and NFPs - The bid was won, and CoRE will co-chair 'The International Geoscience Education Conference' in 2026 in Adelaide. This is significant support for improved Geoscience Education and an opportunity to change the narrative for the resources industry and its future talent pipeline.



02

The website was redesigned and rebranded with three key videos added reflecting CoRE's vision. CoRE Alumni, CoRE Principals and Teachers and Gamifying Earth Science. Here is the [website link](#).



03

The Women in STEM Ambassador Program - 'Future You' is a CoRE Collaboration that will feature CoRE Alumni - Emily Farr as an example of Education to Industry Pathways and featuring geoscience and the importance of mining as a STEM career for the younger generations. Filming has been rescheduled to early next year.



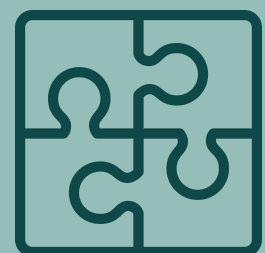
04

With the support of the Gascoyne Technology Innovation Cluster, CoRE will potentially commence CoRE Exploring in its new **Gascoyne Hub**. A resource cluster featuring Hydrogen Energy, Rare Earth Metals (Hastings) and Heavy Mineral Sands (Strandline Resources).



05

Long time CoRE supporter - **Chevron** have reinvested in the CoRE Learning Foundation with their **Celestial Sponsorship**. Diversification of the energy sector is new and through this partnership, CoRE students will be exposed to the latest developments in this area.



Appendix 1

BUILDING A STRONGER STEM TALENT PIPELINE FOR THE FUTURE RESOURCES INDUSTRY THROUGH GAMIFICATION

*S. Urbaniak¹, J. Terry², J. Heyes³, S. Troeth⁴

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ABSTRACT

Today's primary and secondary school students have the potential to lead Australia's world-class resources sector through the fifth Industrial Revolution and beyond with innovation, creativity and intellectual curiosity. Yet the talent pipeline to attract and retain the STEM resource stars of the future is under threat from a lack of quality Earth Sciences education, common understanding of resource industry career opportunities and poor promotion across the education system. Australia's resources sector and the CoRE Learning Foundation (CLF) are working together to solve this problem through the CoRE Learning Model and a unique and innovative Gamification Pilot (Gamifying Earth Science Initiative). The CoRE Learning Model has evolved over almost twenty years and has demonstrated success through 54% of CoRE alumni being female and CoRE alumni working extensively in the resource industry. The use of a 'real classroom' approach aims to increase geoscience literacy and create a greater awareness of resource industry careers for primary and secondary students – building a better and more robust STEM resources pipeline for the smart mines of the future. CoRE's purpose is *to help today's youth succeed in tomorrow's world* through a vision that *realises the full potential of students to create and thrive in a future economy*. Through a project-based learning environment, CoRE students work in the future classroom with projects that embrace digital disruption, decarbonisation, and diversification. The latest powerful demonstration of this ethos is through the national Gamifying Earth Science Initiative involving primary and secondary educators and students across Australia. The initiative will reinforce the importance of Earth Science knowledge understanding and create greater awareness of various career opportunities in a resources industry that is essential to every aspect of modern life. With the rise of digital literacy in the classroom, gamification can engage more Australian youth to understand the importance of resource careers. CoRE games are integrated with the Australian curriculum for content, scientific and STEM processes and capabilities. Their interdisciplinary nature addresses the cross-curricular priorities of sustainability, the Asian resources market and First Nations culture and heritage.

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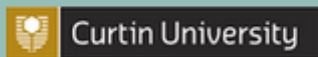


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