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Moreton Bay Environmental Education Centre (MBEEC) is committed to inspiring students through unique, place-based educational experiences and hands-on opportunities that enrich the curriculum and student learning. Highlighting our ability to lead and meet the needs of classroom teachers, the centre community and the Department is paramount.

The cornerstone of our improvement strategy is an unwavering focus on reflecting and reviewing our teaching methods, liaising with schools, and shared partner commitment to ensure best practice. The centre has a demonstrated capacity to plan, provide direction and revise practices for the benefits of our visiting schools and students.

The Annual Report, designed to provide an overview of MBEEC’s achievements and practices for 2019 reflects on strengths, limitations and future directions. Detailed information about centre priorities ensures that the centre is working towards achieving them. This report is one component of a suite of strategic documents the centre develops and implements in collaboration with staff and the Department of Education. It reflects the development of the centre along with Headline Indicator Data, Data Plan, Professional Learning Plan, Pedagogical and Curriculum Framework, and Business Plan while drawing from the Annual Implementation Plan, Investing for Success Plan and Strategic Plan.

The focus for centre improvement as documented in the 2019 Annual Implementation Plan (AIP) and supported by the 2017 – 2020 Strategic Plan remained on four key elements:

- **Maximising student learning** through effective teaching practice focussed on the achievement of every student guided by an explicit pedagogical framework.
- **Instructional leaders and capable workforce** through continuous passion and commitment to improve every aspect of operations and services in the pursuit of excellence.
- **Our Curriculum** through authentic student experiences aligned to the AC and connected to unique places where students are challenged to critically and creatively think about their learning.
- **Partnerships - A collaborative empowered community** through innovative partnerships enhancing student learning and community outcomes.

We are proud of our focussed results to date. Moreton Bay EEC, along with Brisbane Urban and Toohey Forest EEC’s, were recipients of the Peter Doherty STEM Education Partnership Award in 2019 for *STEM Horizons for High Achievers*. This recognition complemented the Healthy Land and Water Sustainable Education Award in 2018 for *Inspiring Bay Champions through STEM*. Our partnership program with Newstead House, *War Years: Americans at Newstead* were finalists in the Queensland Museum and Galleries Awards. This was an incredible achievement and testament to the strength of this immersive program. These awards further supported our work in 2017 when Moreton Bay EEC were awarded the Department of Education and Training Showcase Award for Industry Partnerships for the *STEM Horizons for High Achievers* Program and a Metropolitan Regional Showcase Award Commendation for *Inspiring Curiosity through Theatre-In-Education*.

Staff presented Moreton Bay EEC’s highlights and ways of working at various conferences throughout the state including the European Association for Practitioner Research on improving Learning (EAPRIL) on *Inspiring Bay Champions through STEM and beyond*, Queensland Museum and Galleries State Conference about the collaborative journey and richness of the museum theatre *War Years: Americans at Newstead* Program, the P&C State Conference and the State-wide Marine Teachers Association Conference titled Waves of change. Our AIP highlighting impacts through partnerships is evident as we continually strive to work closely with our schools, partners and wider community to continue to improve our centre and its learning outcomes for all.
Moreton Bay Environmental Education Centre Overview

Centre Profile

The Moreton Bay Environmental Education Centre is a day visit centre that shares a location with the Wynnum State School. The centre is located just a short walk from the Wynnum train station, and the vessel, Inspiration, a short walk from Manly train station, making it accessible for students. The centre caters for students across all phases of learning from P-12 through day visit programs. The majority of students visit from schools in the Metropolitan and South East Region, however students from the North Coast and Darling Downs South West Regions also access centre programs. Facilities at the centre provide an excellent stimulus for programs. The centre, modelled on exemplary sustainable design principles, received an exceptional 6.5 star rating for Green Design. Unique to the centre is the state-of-the-art twelve-metre aluminium catamaran, Inspiration. Inspiration is a floating classroom that has the ability to carry forty students on board while actively carrying out projects to further their environmental education and sixty as a transport vessel.

The centre uses environmental education to focus on heritage sites; natural, coastal and marine environments; urban development; industry and the Brisbane River catchment as well as the indigenous history and culture of the Quandamooka people of Moreton Bay and surrounding islands. The centre’s programs support cross-curricular priorities of indigenous histories and culture and sustainability as well as the key Australian Curriculum learning areas of science, history and geography. Unique partnerships with Queensland Parks and Wildlife Services, Newstead House, Port of Brisbane and Universities see centre staff deliver authentic programs connected to place.

Moreton Bay Environmental Education Centre is committed to supporting young Australians in becoming successful learners, confident and creative individuals and active and informed citizens. This is achieved by delivering high quality environmental education learning experiences that use a multi-disciplinary approach to enhance classroom learning; providing professional support that builds the capacity of classroom teachers and pre-service teachers to educate for a sustainable future; and supporting a nucleus for creating effective community and school partnerships.

Annual Implementation Plan 2019 Snapshot

Improvement priorities, strategies and actions to achieve them with accompanying targets are discussed throughout this report.

<table>
<thead>
<tr>
<th>Improvement Priorities</th>
<th>Started</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Senior secondary curriculum alignment – quality teaching through alignment and collaboration for the new senior assessment and tertiary entrance (SATE) systems</strong>&lt;br&gt;- Ensure alignment of secondary programs to the new senior assessment and tertiary entrance (SATE) systems, communicating opportunities for client schools.&lt;br&gt;- Utilise data collection and analysis to inform continuing excellence.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>Leadership through intentional collaboration</strong>&lt;br&gt;- Formalised coaching including professional development (PD) opportunities that support teachers to deliver high yield strategies enhancing student learning experiences.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>Impact through partnerships</strong>&lt;br&gt;- Systematic evaluation of theatre-in-education partnership programs to measure enhanced student learning.</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>Wellbeing</strong>&lt;br&gt;- Develop practices to support the staff who support our students.</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
Our Staff Profile

2019 Staffing

- Band 7 Teaching Principal
- 3 Teachers and 1 HOD (across 3 x FTE Teaching Positions)
- Business Services Manager A03 (0.97 FTE centre funded upgrade)
- Boat Officer (Funded)
- Cleaner (11.75 hours per week)
- Centre purchased Unit Support Officer (0.66 FTE)
- Centre purchased Administrative Officer A02

Professional Development

Expenditure on and teacher participation in PD include the following major initiatives:

- Aspiring Thinkers PD with Peter Ellerton (IMPACT Centre) ... Aspiring Thinkers Network
- Professional Development Network
- Wynnum Manly school education alliance (WMsea) professional development
- STEM Symposium and National Science Week initiatives
- UQ Moreton Bay Research Station science updates
- Museum and Galleries State Conference
- Marine Teachers Association State Conference
- QCAA Senior Syllabus (Biology and Geography) professional development opportunities
- STAQ Senior Science Syllabus professional development opportunities with Dr Gurion Ang (UQ)
- Birdcage of the Bay Exhibition at the Queensland State Archives
- Australian Association of Environmental Education National Conference 2018

Teaching staff have engaged in Aspiring Thinkers PD with Peter Ellerton to develop understanding and enhanced competence in looking for opportunities to enable students to critically and creatively think about responses within programs. An AIP focus was on alignment of secondary programs (particularly Biology and Geography) to the new senior assessment and tertiary entrance systems, which has resulted in targeted PD for identified staff to ensure development of comprehensive programs to support teachers in schools. The newly developed programs are well represented in 2020 and evaluation and refinement will continue.

Identified professional learning and development opportunities were identified by staff to support targeted programs in Museum Theatre and to optimally position the Centre as an innovative place of student, staff and community learning. Initiatives which included Friday morning Pilates sessions was one example of supporting the staff who support our students. This was a positive way to finish the week taking time to develop our core, stretch and breathe deeply.

Staff Attendance and Retention

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff attendance</td>
<td>98.7%</td>
<td>99.4%</td>
<td>97.6%</td>
</tr>
</tbody>
</table>

Staff at Moreton Bay EEC are committed, passionate and dedicated practitioners and educators. With a small staff, a team environment where everyone will do whatever it takes to ensure optimal outcomes is essential. The proportion of staff proudly retained from the previous year is 100%.
Vision, Mission and Values

Vision

‘Inspiring Champions for the Bay’

Mission

To inspire students through unique, place-based education experiences and hands-on opportunities that enrich curriculum and student learning while showcasing our ability to lead and meet the needs of classroom teachers, schools, community and the Department.

Values

- Innovative learning experiences connected to place and linked to the Australian Curriculum.
- Passionate and committed practitioners.
- Collaborative authentic partnerships.
- Respect for the environment to support sustainable futures.
- Inclusion of indigenous perspectives to promote a culture of respect and understanding.

Pedagogy

Moreton Bay Environmental Education Centre’s pedagogical framework, collaboratively developed with our community, ensures consistent and effective teaching and learning practices focussed on successful student learners. Our Journeys embeds collaborative inquiry processes and supports critical evaluation of the impact of research-validated pedagogies within the context of the centre.

Place-based pedagogy features in all programs. Elements of Place include being in the natural environment / life learning in real places / exploring issues in local contexts / learning by doing / full sensory, mind and body engagement / adventure and challenge.

Moreton Bay EEC operates across 10+ significant sites aligned to specific programs. Working within these authentic sites using Elements of Place ensures optimal engagement and learning.

- Natural sites including Moreton Bay, mangroves, foreshore, catchments, seagrass beds, coral reefs.
- Cultural sites including North Stradbroke Island.
- Historical sites including Fort Lytton National Park, St Helena Island National Park, Newstead House, North Stradbroke Island Museum.
Our School at a Glance

Centre Snapshot

Coeducational or single sex: Coeducational
Independent Public School: No
Year levels programs offered in 2019: Prep – Year 12
Community programs: Yes

Centre Analysis

This section of the report provides a summary of specific data including student, staff and community attendance, instructional hours, staff and visitor satisfaction ratings.

Trends 2015 - 2019

A review of the visitation data over the last four years indicates a number of trends:

- Growing engagement of the prep to year three age group in programs.
- Continued high demand of the Habitat Heroes program (year 1) with not all school being able to be accommodated.
- Strong growth in the museum theatre programs History in a Box (year 3), Immigration (year 6) and Returned (year 9) with consistent strong support for War Years: Americans at Newstead and Frontline (year 10).
- Consistent engagement in upper secondary MBEEC programs – Biology and Geography.
- Increase in the number of hours of student instruction (Table 1).
- Stable student visitor numbers with our predicted amount achieved (Table 1).
- Continued strongest engagement from Metropolitan and South East Queensland.
- Partnership opportunities continue to be strong and focussed with Community Events Inspiring Champions for the Bay through CoralWatch, UQ Moreton Bay Research Station, Education Queensland International and Ocean Crusaders.

Table 1: Student visitation and instructional hours delivered by MBEEC staff from 2015 to 2019

<table>
<thead>
<tr>
<th>Year</th>
<th>Student Visitation (no.)</th>
<th>Instructional Hours (hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>16 595</td>
<td>40 307</td>
</tr>
<tr>
<td>2016</td>
<td>16 568</td>
<td>41 951</td>
</tr>
<tr>
<td>2017</td>
<td>18 591</td>
<td>51 832</td>
</tr>
<tr>
<td>2018</td>
<td>16 435</td>
<td>53 295</td>
</tr>
<tr>
<td>2019</td>
<td>16 063</td>
<td>54 283</td>
</tr>
</tbody>
</table>

Analysis from 2015 to 2019 reveals a **35% increase** in student instructional hours (Table 1). MBEEC has reached centre capacity on student visitation and instructional hours with similar figures predicted for 2020. It is clear that our staff support for visiting teachers and students is significant.
Moreton Bay EEC is an inclusive school. The range of schools visiting for programs is across state, independent and catholic, and is comprised of a diverse range of ethnicity and cultural backgrounds.

The centre welcomed and engaged with 16,063 students during 2019. The greatest number of visiting students were from state primary schools with 12,061 (72%) attending. The remaining number of students were from state high schools (2,012 / 12%); non state schools (1,882 / 15%) and internationals (108 / 1%).

In regards to educational phases, the centre has predominantly connected with the early (Prep - 3) and middle primary (Years 3-6) phases. The early and middle phase student numbers for 2019 were 6,684 and 5,743 respectively, which accounted for 77% of student attendance.

Table 2: Moreton Bay EEC’s most popular programs for 2019, by student numbers.

<table>
<thead>
<tr>
<th>Program</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat Heroes</td>
<td>1,707</td>
</tr>
<tr>
<td>First Contact</td>
<td>1,608</td>
</tr>
<tr>
<td>Connect with Heritage</td>
<td>1,081</td>
</tr>
<tr>
<td>Immigration</td>
<td>969</td>
</tr>
<tr>
<td>Mangroves &amp; the Environment</td>
<td>950</td>
</tr>
<tr>
<td>History in a Box</td>
<td>944</td>
</tr>
<tr>
<td>Small Town, BIG History</td>
<td>837</td>
</tr>
<tr>
<td>Birds and Beaches, Dogs and Leashes</td>
<td>794</td>
</tr>
<tr>
<td>Go With the Flow</td>
<td>728</td>
</tr>
<tr>
<td>Overboard &amp; Underwater</td>
<td>719</td>
</tr>
<tr>
<td>Living By the Bay</td>
<td>431</td>
</tr>
<tr>
<td>The War Years</td>
<td>399</td>
</tr>
<tr>
<td>Moreton Bay Studies: Senior and IMPACT programs</td>
<td>305</td>
</tr>
<tr>
<td>Frontline - WWII</td>
<td>299</td>
</tr>
<tr>
<td>STEM Horizons</td>
<td>291</td>
</tr>
<tr>
<td>Returned - WWI</td>
<td>231</td>
</tr>
</tbody>
</table>
Curriculum Delivery

Teaching and learning approaches (for P-12 students, focusing on Science, History and Geography) included:

- Inquiry-based learning – science investigation, scientific inquiry and critical thinking
- Utilisation of variety of natural and cultural sites in and around Moreton Bay.
- Critical thinking activities designed to challenge.
- Theatre-in-education strategies and conventions.
- Experiential learning strategies and hands-on learning experiences utilising relevant and familiar contexts.
- Narrative pedagogy and play-based learning methods.
- Information communication technology (ICT) to enhance the learning experience.

These reflect the Centres Pedagogical Framework of Connecting to Place; Hands on experiences; Curiosity and thinking; Authentic Partnerships and Relationships and the Learning Journey.

Other activities

- Tour guide induction and certification for St Helena in partnership with Queensland Parks and Wildlife Services (QPWS).
- Delivery of teacher professional development including:
  - EQi overseas visiting teachers on STEM delivery on Moreton Bay
  - Visiting school whole staff sessions on connecting to place and discovery of significant Brisbane historical events
  - Non-teaching staff team building and well-being sessions
- Staff presented Moreton Bay EEC’s highlights and ways of working at various conferences throughout the state including:
  - The European Association for Practitioner Research on improving Learning (EAPRIL) on *Inspiring Bay Champions through STEM and beyond*,
  - Queensland Museum and Galleries State Conference about the collaborative journey and richness of the museum theatre *War Years: Americans at Newstead Program*,
  - P&C State Conference on sustainability initiatives,
  - State-wide Marine Teachers Association Conference titled *Waves of change*.

In summary, we strive to work closely with our schools, partners and wider community to continue to improve our centre and its learning outcomes for all.

Awards 2019

- Peter Doherty STEM Education Partnership Award for *STEM Horizons for High Achievers* which complemented the Healthy Land and Water Sustainable Education Award in 2018 for *Inspiring Bay Champions through STEM*.
- Finalist in the Queensland Museum and Galleries Awards for our Museum Theatre partnership program with Newstead House titled *The War Years: Americans at Newstead*. 
Social Climate

2019 Headline Indicators

Headline indicators for MBEEC indicate positive student instruction and professional development (Table 3 and Diagram 1). Feedback survey results from partner schools and teachers indicate MBEEC offered highly engaging, safe and well organised programs. Survey results demonstrate high levels of satisfaction with quality of teaching and contribution of programs to student learning. The centre is explicit in learning outcomes and alignment of programs to the Australian and Queensland Curriculum. The MBEEC STEM Horizons programs and BSDE extension programs extend students beyond their year level. All data is Blue with indicating optimum outcomes (Diagram 1).

Table 3: 2019 Headline Indicator Teacher survey data in response to statement about MBEEC. Responses measured on a 6 point Likert Scale (1 = Strongly Disagree to 6 = Strongly Agree)

<table>
<thead>
<tr>
<th>Headline Indicator Teacher Survey Questions</th>
<th>Mean Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>The centre was explicit about the alignment of the program to the Australian and Queensland curriculums.</td>
<td>5.8</td>
</tr>
<tr>
<td>Students achieved the learning outcomes identified for this program.</td>
<td>5.9</td>
</tr>
<tr>
<td>Students received quality teaching from the centre staff.</td>
<td>5.9</td>
</tr>
<tr>
<td>Students were highly engaged in the program.</td>
<td>5.8</td>
</tr>
<tr>
<td>The centre has positively contributed to the overall education of students.</td>
<td>5.9</td>
</tr>
<tr>
<td>Student safety was well managed by staff at this centre.</td>
<td>6.0</td>
</tr>
<tr>
<td>Student behaviour was well managed by staff at this centre.</td>
<td>5.8</td>
</tr>
<tr>
<td>The centre is well organized.</td>
<td>5.9</td>
</tr>
<tr>
<td>The centre is well resourced.</td>
<td>5.9</td>
</tr>
<tr>
<td>The centre is well maintained.</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Additional information is sought from our visiting teachers. Survey results overwhelmingly indicated that the teachers agree or strongly agree that:

- program resources provided by Moreton Bay EEC staff supported teachers resulting in enhanced student learning experiences;
- the program provided students the opportunity to connect to place and develop additional skills and understandings within your curriculum unit;
- the program supported students in achieving the planned learning intentions as identified in the Moreton Bay EEC overviews and itineraries; and
- students were provided opportunities to think critically and creatively about the program learnings.

Data has been collected and utilised to inform continuing excellence. In-depth case studies have occurred with a selection of our Museum Theatre programs highlighting maximum engagement and teachers indicating transformational learning. The War Years: Americans at Newstead was recognised as a State Finalist in the Queensland Museum and Galleries Awards. Teachers have strongly indicated that they would recommend the education programs and services of Moreton Bay EEC to other teachers.
### School Opinion Survey

<table>
<thead>
<tr>
<th>Percentage of school staff who agree that:</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>...they enjoy working at their school (S2069)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...they feel that their school is a safe place in which to work (S2070)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...they receive useful feedback about their work at their school (S2071)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...students are encouraged to do their best at their school (S2072)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...students are treated fairly at their school (S2073)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...student behaviour is well managed at their school (S2074)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...they feel well supported at their school (S2075)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...their school takes staff opinions seriously (S2076)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...their school looks for ways to improve (S2077)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...their school is well maintained (S2078)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...their school gives them opportunities to do interesting things (S2079)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...staff morale is positive at their school (S2084)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...they feel that social, cultural and racial diversity are respected (S2083)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...they feel they have access to quality professional development (S2086)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>...they feel the school encourages coaching and mentoring activities (S2103)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
An in-depth Study: STEM Horizons for High Achievers

Positive survey data from teachers and partner schools is evident by analysis of student survey data collected via STEM Horizon programs and BSDE extension opportunities.

Feedback from students who attended MBECC’s day in the STEM Horizons for high achievers program (Year 9 n = 206, Year 7 n = 239, Year 6 n = 217) indicate that a large proportion of students found activities engaging and extended their knowledge and would recommend to a friend (Table 4 and Diagram 2).

Table 4: Student, Teacher and Parent voice from MBECC’s day on the STEM Horizons for High Achievers. Figures indicate the proportion of students who agree or strongly agree with the given statements.

<table>
<thead>
<tr>
<th>Statements about Program</th>
<th>Yr. 6</th>
<th>Yr. 7</th>
<th>Yr. 9</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Voice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I found the activities scientifically interesting and engaging</td>
<td>94%</td>
<td>91%</td>
<td>96%</td>
<td>94%</td>
</tr>
<tr>
<td>I extended my STEM knowledge and understanding during activities</td>
<td>94%</td>
<td>97%</td>
<td>96%</td>
<td>95%</td>
</tr>
<tr>
<td>It has inspired continuation of STEM study to the end of schooling</td>
<td>95%</td>
<td>95%</td>
<td>96%</td>
<td>95%</td>
</tr>
<tr>
<td>I would be interested in participating in STEM education experiences on Inspiration at the Moreton Bay EEC in the future</td>
<td>92%</td>
<td>85%</td>
<td>91%</td>
<td>89%</td>
</tr>
<tr>
<td><strong>Teacher Voice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased students engagement and motivation in STEM</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Enabled valuable networking with scientists to build capacity</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Parent voice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engaged their child to participate in STEM Horizons in the future</td>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>A valuable experience</td>
<td></td>
<td></td>
<td></td>
<td>98%</td>
</tr>
</tbody>
</table>

Responses:

‘This program was highly regarded by our students, and parents were very keen for their child to be involved. Thanks so much for offering such a rich experience for our students.’ (Wondall Heights SS)

‘Opportunities like this for students to participate in real world learning cannot be underestimated. Our capable students need challenges and opportunities to explore their perceived interests and strengths.’ (Anglican Church Grammar)

‘This program provided a wonderful opportunity for our high achieving students in Maths and Science to participate in extension activities which would at the same time provide them with possible STEM related career pathways in the future.’ (Mt Gravatt SHS)
Diagram 2: STEM Horizons for High Achievers summary

**What is STEM?**

STEM is an acronym for Science, Technology, Engineering and Mathematics practice and education.

**Why STEM?**

In the move towards a knowledge-based economy, a workforce of scientifically and technologically literate people is key. In 2011-12, approximately 10.5% of the Australian workforce were directly employed in STEM-related occupations while 75% of the fastest growing occupations require STEM skills and knowledge.

“A renewed national focus on STEM is critical to ensuring that young Australians are equipped with the necessary STEM skills and knowledge that they will need to succeed.”

---

**VISION**

To provide extraordinary STEM experiences for students through a range of diverse unique opportunities.

**HOW**

Ensure activities are hands-on and enable students to actively engage in critical and creative thinking and problem solving. Linked authentic ‘real world’ science enhances engagement and connection with possible future STEM careers.

---

**OUTCOMES**

**PARENT VOICE**

STEM Horizons

Engaged their child to participate in STEM Horizons in the future 100%

A valuable experience 98%

**STUDENT VOICE**

STEM Horizons

Provided opportunities not available in schools 100%

Enhanced their STEM knowledge and understanding 97%

Scientifically interesting and engaging 100%

Inspired continuation of STEM study to end of schooling 95%

**TEACHER VOICE**

STEM Horizons

Increased student engagement and motivation in STEM 100%

Enabled valuable networking with scientists to build capacity 100%

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1500+
Primary and Junior Secondary students
Executive Summary of 2019

Throughout 2019 the centre provided over 15 different programs for over 16,000 students from Prep through to Year 12. A process of refinement of current programs characterized the year as well as being explicit in incorporating critical and creative thinking skills into programs (Diagram 3).

The continuation of Science, Technology, Engineering and Math (STEM) Horizons program for Years 6, 7 and 9 students was successful beyond all expectations. MBBEC achieved the Peter Doherty STEM Education Partnership Award in 2019 for STEM Horizons for High Achievers which followed the Healthy Land and Water Sustainable Education Award for Inspiring Bay Champions through STEM in 2018. Demonstrating our commitment to STEM education, this further complements the 2017 Showcase Award for Excellence in Industry Partnerships, which MBBEC achieved in partnership with Toohey Forest and Brisbane Urban EEC’s.

Our Museum Theatre partnerships programs have been highly recognised by receiving a Regional Commendation in the 2018 Showcase Awards for Excellence in Community Engagement for Inspiring curiosity through theatre-in-education. In partnership with Newstead House we were finalists in the Queensland Museum and Galleries Awards for The War Years: Americans at Newstead.

The Young Writers program, another successful initiative, saw in excess of 100 students become published authors and achievements celebrated by the community. The Duke of Edinburgh Awards program commenced in 2015 is continuing with delivery of the Bronze Adventurous Journey Award. The deliberate focus on consolidating existing programs ensured realignment with the Australian Curriculum and included critical thinking opportunities for students. Program Itineraries, reviewed and streamlined, ensured explicit learning intentions. Feedback processes, utilised to collect greater data on student learning and experience, informed program refinement.

The business plan implemented during 2015, resulted in the appointment of a fully funded 1.0 full-time boat officer for 2016 ongoing. The professional development of staff emerged as a key priority in 2019 along with the introduction of positive feedback and mentoring processes, group and targeted professional learning and networking opportunities. Teaching staff have all completed the Aspiring Thinkers Program with University of Queensland’s Peter Ellerton and attendance at the Australian Association of Environmental Education National Conference in October 2018 brought new initiatives to the centre. Targeted professional development for the new senior syllabus has ensured staff capability to support schools in transitions to these new programs and ways of working. This investment developed staff competence and confidence resulting in enhanced student learnings.

The centre’s wide process of reflection resulted in a more targeted use of the building and grounds as a base for appropriate programs. Streamlined and enhanced scheduling of programs achieved through the online booking portal has been evident. A focus on building stronger external networks with other environmental education centres, professional curriculum associations and experts in relevant fields. In 2019 MBBEC continued to serve its many partners within a mutually beneficial relationship.

Feedback surveys from attending schools, teachers and school leaders are extremely positive indicating that MBBEC offered highly engaging, safe and well organised programs. These survey results demonstrated high levels of satisfaction with the quality of teaching and the contribution of the programs to student learning. Additional surveys with the STEM Horizons and Brisbane School of Distance Education extension groups found exceptional student feedback indicating challenging curriculum within authentic experiences.
Diagram 3: Highlights 2019

MORETON BAY EEC
Inspiring Champions for the Bay
SNAPSHOT 2019

STUDENT ENGAGEMENT
connecting to place and being immersed in authentic learning experiences inspiring curiosity and thinking
Over 16,000 students

PROGRAMS: PREP – YEAR 12
15+
PLUS International students, universities + the community

AWARDS AND GRANTS
• 2019 Peter Doherty STEM Partnership Award
  STEM Horizons for High Achievers
• 2018 Healthy Land and Water Sustainable Education Award
  Inspiring Bay Champions through STEM
• 2017 Showcase Awards for Excellence in Industry Partnerships:
  STEM Horizons for High Achievers
  (Moreton Bay, Toohey Forest, Brisbane Urban EEC's and SPARQ-ed)
• 2016 Showcase Awards for Excellence in Schools:
  State School Leadership Team of the Year
  (as part of the WMsea cluster) titled Powerful Empowering Partnerships
• 2016 Premier's Sustainability Awards:
  Highly commended Sustainability in Education Award
• Port of Brisbane Community Grant
• Collaboration Innovation Fund 2016

SPECIALTY PROGRAMS
STEM Horizons
Young Writers
Young Leaders
Solid Pathways
Duke of Edinburgh

100% Programs linked to the AUSTRALIAN CURRICULUM

TEACHER VOICE
100% of visiting teachers highlight that students were:
• Highly engaged in discovery and exploration
• Provided with opportunities to think critically and creatively

STUDENT AND COMMUNITY ENGAGEMENT
OVER 54,200 student instructional hours
5% More since 2015
80+ dedicated schools over 4 regions
450 passionate community members

10+
SPECIALISED LEARNING SITES
• Moreton Bay
• St Helena Island
• Fort Lytton
• Wynnum Mangrove Boardwalk
• Stradbroke Island
• Moreton Bay
• Port of Brisbane
• Red Hill
• Green Island
• Newstead House
Overview – MBEEC progress towards its goals in 2020

An Explicit Improvement Agenda

The MBEEC improvement agenda has been effective in focusing, and to some extent narrowing and sharpening the whole attention on inquiry and experiential learning priorities across programs. There is a strong and optimistic commitment by all staff to an improvement strategy and a clear belief that further improvement is possible.

The following key planning tools guided activities completed in 2019:

- Strategic plan from 2017 – 2020
- Annual implementation plan 2019 / Investing for Success 2019
- Annual Report 2018
- Data Plan
- Professional Learning Plan

2020 Future outlook

The new year of 2020 provides further opportunity to build on achievements of the previous year. Reaching optimum booking makes it vital to explore creatively ways of service delivery to meet client demands. Focus will be on continuing the MBEEC journey to ensure rich student learnings.

Moreton Bay Environmental Education Centre is committed to the following in 2020:

- Senior secondary curriculum alignment – quality teaching through alignment and collaboration for the new senior assessment and tertiary entrance (SATE) systems and further review and refinement.
- Leadership through intentional collaboration – review coaching and professional development opportunities that support teachers to deliver high yield strategies enhancing student engagement and thinking experiences.
- Impact through partnerships – systematic evaluation of partnership programs to measure enhanced student learning with particular focus on Museum Theatre programs which feature significantly in our most attended programs. Continue to explore other possibilities.
- Wellbeing ensuring optimal performance – develop practices to support the staff who support our students.

Further Information

If you require any further information in regards to this Annual Report, please contact the Principal as directed below:

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