

A FRAMEWORK FOR EFFECTIVE TEACHING AND LEARNING

Vision, Values and Purpose	Professional Learning and Leadership	Procedures, Practices and Strategies
<p>Our Vision “Inspiring Science Beyond the Classroom”</p> <p>Our Values</p> <ul style="list-style-type: none"> • Respect yourself • Respect for others • Respect for the Environment • Active Participation <p>Our Purpose Toohey Forest Environmental Education Centre (TFEEC) is a day visit facility offering real world science experiences for students from Prep to Year 12. The centre aims to develop scientifically literate citizens with the knowledge and skills to be responsible and informed 21st century citizens. Programs, and the individual activities that they are comprised of, address the requirements of the Australian Curriculum and QCAA Senior Syllabus documentation. The cross curricular priority of sustainability, and general capabilities of critical and creative thinking and ethical understanding, receive particular emphasis. TFEEC uses a variety of <i>contemporary ICT's (ES=0.47)</i> to create an authentic experience and enhance the learning outcomes of students. The intent is provide an educational experience to further support school based curriculum in a way that cannot easily be replicated in a traditional classroom environment (i.e. beyond the classroom). This may be attributable to geographic limitations (i.e. limited access to natural environments) and / or the requirement for specific knowledge, equipment and skills.</p> <p>Scientifically literate citizens¹:</p> <ul style="list-style-type: none"> • are interested in the world around them • identify questions, investigate and draw evidence-based conclusions • reflect critically on information, data or the claims made by others • make informed personal decisions and choices 	<p>Toohey Forest EEC teachers utilise specialist content knowledge and pedagogical skills to deliver high-quality evidence-based educational programs. The quality of the pedagogical practices, and how they are monitored, is consistently evidenced in annual headline indicator reports where the visiting teachers consistently respond to all elements of the centre’s practice at >5.8, well above the highest threshold of 5.5 (6-point Leichardt Scale)</p> <p>Feedback (ES=0.73)</p> <ul style="list-style-type: none"> • Teacher Feedback Survey completed by visiting teachers allowing centre staff to reflect on their teaching, potential areas for development and the needs of the students • Internal review by peers through the Collegial Mentoring Process (CMP) provides formal facilitated feedback focusing on areas of strength and those requiring further targeted professional development following Robert Marzano’s Art and Science of Teaching. <p>Consultation</p> <ul style="list-style-type: none"> • New programs are developed and trialled in consultation with a range of stakeholders including HOCs, HODs, visiting teachers and partnerships with professional organisations. • Formal collaborative processes to review program effectiveness in terms of resources and pedagogical practice. <p>Professional Development</p> <ul style="list-style-type: none"> • All staff at Toohey Forest EEC participate in professional development that aligns to their Personal Development Plans and the Key Priorities of the Annual Implementation Plan. • Sharing of the learning from professional development at staff meetings enables staff to reflect on the knowledge and skills obtained by others, and their relevance/potential application to the unique context of the centre. • The centre is committed to the development of leadership capacity for all staff, being a small school we recognise to take leadership roles and participate in leadership programs. <p>Professional learning The centre is committed to the development of knowledge and skills of all staff through the provision of professional learning opportunities targeting pre-identified instructional elements (<i>Microteaching ES=0.88</i>) focussed on through the Collegial Mentoring Program.</p>	<p>At Toohey Forest Environmental Education Centre teachers build their teaching and learning practices around the constructivist approach of Active Learning and the use of highly effective, evidence-based T&L strategies¹. This approach acknowledges that learners are “active” in the learning process by building knowledge and understanding in response to learning opportunities beyond what is possible in a traditional classroom. This places students at the centre of all teaching and learning practice, and teachers as an activator of learning. These approaches “challenge, support and interest students as well as engaging them with authentic and contemporary issues requiring <i>problem solving (ES=0.68)</i>”.</p> <p>What does this mean for students?</p> <ul style="list-style-type: none"> • Clearly articulated <i>learning goals (ES=0.68)</i> relevant to the content descriptors of the Australian Curriculum: Science • <i>Classroom discussions (ES=0.82)</i> which allow students to communicate with one another on their existing knowledge, experiences and foundation thinking skills. • provides opportunities to investigate, draw evidence-based conclusions and justify arguments for and against issues • encourages them to ask questions, seek answers and critique the claims made by others • develops higher-order thinking processes <p>What does this mean for teachers?</p> <ul style="list-style-type: none"> • program development and learning follow the <i>Piagetian program (ES=1.28)</i> approach • utilising activities or investigations that provide for active (i.e. ‘doing’) rather than traditional passive learning opportunities (inspire, model, practice, apply, connect and transform) • employing <i>questioning techniques (ES=0.48)</i> beyond recall or descriptive skills following Eric Frangenheim’s Thinking Skills Framework and encourage more sophisticated, evidence based, evaluative thinking • using ‘real life’ contexts and narratives that are relevant to the lives, interests and future applications of students to provide a <i>deep motivation and approach (ES=0.69)</i> to the program

¹ Hattie, John., 2013, *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*. Routledge

6 Principles	Evidence and Practice
Student-centred planning	<p>The unique context of TFEEC has enabled the development of a school ethos that focusses on student learning rather than simply ‘attainment’ (i.e. teaching to the test model). This is intended to foster greater student enjoyment and ownership of their learning. Teaching staff ensure student-centred planning by:</p> <ul style="list-style-type: none"> Quickly establishing a positive teacher-student relationship (ES=0.52) to enable formative assessment of individual needs and to determine student progress, in addition to feedback provided from visiting teachers regarding requirements for individual or group differentiation. Identifying and articulating clear links to the curriculum (for teachers) and explicit learning goals (for students) during initial stages of the program to motivate students to become active participants in the learning process. Developing programs around a relevant, meaningful context such as clearly-articulated, engaging narratives (e.g. teacher-in-role) at the concrete operational stage of development or more authentic, industry-based contexts at the formal operational stage of development (e.g. bio-condition reports) Creating strategies embedded within programs to engage students in collaborative tasks (ES=0.34) that require students to interact with peers in a variety of ways, including small to medium sized groups to large groups. This requires a high level of collaboration at the formal operational stage of development to successfully complete tasks. Utilising formative assessment techniques (e.g. observations, questioning, teacher led discussion, peer / self-assessments) to determine student progress and provide feedback on student learning throughout the program.
High Expectations	<p>Students are presented with challenging learning goals (ES=0.59) and problem-based scenarios (ES=0.68) that require the application of higher order thinking skills. This is achieved by:</p> <ul style="list-style-type: none"> Providing learning opportunities that scaffold tasks to enable students to activate prior knowledge and integrate it with new knowledge to reconstruct misconceptions and deepen their knowledge and understanding of issues. Developing higher order thinking skills by creating tasks that allow students to analyse, evaluate, justify and/or create using knowledge and understanding acquired during the early stages of programs. Use of digital technologies (ICT’s) to enhance student learning where appropriate by enabling a greater scope of learning through improved time management and collaboration. High expectations are evident in the Annual Improvement Plan (AIP), particularly Workforce Planning and Development initiatives. Staff maintain a high level of proficiency relevant to the unique setting through professional development across a range of areas including content knowledge, pedagogical skills, the Australian Curriculum and the application of ICTs to the learning environment.
Alignment of curriculum, pedagogy and assessment	<ul style="list-style-type: none"> Program documentation uses a consistent format to clearly articulate the <i>Australian Curriculum</i> content descriptors and related student learning goals addressed in individual programs. To assist visiting teachers with program selection, planning and reporting, the documentation is freely available on the centre’s website in both html and PDF formats. The majority of programs are accompanied by a detailed student field booklet to guide and support student learning. These booklets are suitably scaffolded and developed to align with school-based units of work aligned with the Australian Curriculum standards. Field booklets are developed to provide students with an increasing level of task complexity following Eric Frangenheim’s Thinking Skills Framework. Client schools have the option of utilising the student field booklet as an assessment (formative or summative) piece. Criteria sheets assist teachers to make a determination in relation to student achievement against a 5 point scale. Visiting teacher feedback and internal peer mentoring serve as a measure of quality assurance to ensure programs meet the expectations and educational needs of participating students.

Evidence-based decision making	<p>TFEEC uses evidence-based decision making to enhance its program development and delivery by making small, incremental changes to its pedagogical practice that are both measurable and targeted. Centre staff use evidence gathered from a variety of contexts to inform their practice.</p> <p>Teaching staff are engaged in a continuous cycle of improvement, with data at the centre of teacher feedback including:</p> <ul style="list-style-type: none"> • Peer review processes following the centre’s collegial mentoring program to identify and target Art and Science of Teaching (ASoT) instructional elements of their pedagogical practice. • Accessing professional development opportunities that enable improvement in both content knowledge / skill and / or pedagogy. • Feedback derived from the visiting teacher survey which is analysed at the end of each term. The centre constructs targeted questions within the survey that are narrow and explicit and allow staff to focus on specific pedagogical practices identified within the Annual Implementation Plan as areas for potential improvement. • Team teaching as a means of de-privatising the classroom and as a catalyst to (i) reflect on their own practice and (ii) embrace new teaching methods. • Visits to other outdoor and environmental education centres to view best practice. • Pedagogical practices employed by centre staff have also been assessed to determine their influence on student learning. Considering the short timeframe of student exposure to centre programs, ensuring that the approaches adopted have the greatest impact on student outcomes is essential. Centre staff do this by: <ul style="list-style-type: none"> ➢ Aligning pedagogical practices to those that have an influence above the effect size hinge point of 0.4 according to John Hattie’s Visible Learning model ➢ Aligning pedagogical practices with current, peer reviewed recognised research through professional sharing / discussion at staff meetings ➢ Recognising pedagogy utilised by other O&EEC and mainstream schools as best practice and adopting and adapting applicable practices.
Targeted and scaffolded instruction	<p>Students undertake activities / programs with a varying level of knowledge and skill development. Consequently, centre teachers are constantly required to draw upon a range of teaching strategies to meet the educational needs of students. This is achieved by:</p> <ul style="list-style-type: none"> • Breaking down concepts into manageable steps (i.e. Scaffolding (ES=0.82)) and monitoring student learning using formative evaluation (ES = 0.48) techniques. Scaffolding tasks allows centre staff to tailor student challenges according to ability and provide rich feedback that actively helps students develop a deeper understanding of issues / problems, and assess the merits of potential solutions. • Utilising a variety of teaching strategies to appeal to a diversity of learners (e.g. auditory, visual, tactile-kinaesthetic stimuli) • Selecting and adapting resources to ensure all students have an opportunity to achieve learning goals • Incorporating a mixture of individual, flexible groupings (cooperative learning) and whole class discussions • Modification of teaching (language, tone, pace, positioning, student-teacher ratio)
Safe, supportive and inclusive learning environments	<p>Staff are dedicated to providing a safe, supportive and inclusive learning environment to meet the educational needs of learners. This is achieved by:</p> <ul style="list-style-type: none"> • A consistent approach to student management that advocates that all students demonstrate “RESPECT for self, others and place” (i.e. the physical environment) • Creating an innovative, engaging and interactive learning environment that enables students to actively participate in learning through ‘hands on’ experiences • Valuing diversity and prior learning (i.e. constructivism) when planning and delivering programs • Open and transparent communications with the visiting teacher to provide opportunities to impart their knowledge of the students to further assist centre teachers to deliver programs that address the specific learning needs of students • Centre staff undertaking an annual review of Curriculum Activity Risk Assessments and incident / accident reports • All staff complete mandatory departmental training, including senior first aid