Cultivating Gifts and Talents at Ilam

an overview of our professional learning and extension opportunities in cultivating gifts and talents.

Whakaahurutia te iho wairua o te tamaiti
Nurture the essence of the child

Prepared by the Ilam Learning Support Committee
What do we Provide and Offer?

We provide:
- Inquiry based approaches in classrooms and differentiated programmes
- Opportunities to develop children who are passionate about the environment
- Leadership opportunities
- Robotics, code club and chess
- Home learning challenges across the school
- Discovery Time for Year 1
- Language learning in Mandarin for Year 3/4
- External Maths competitions for Year 5/6
- Choir and orchestra and subsequently the opportunity to be selected for Canterbury’s “special choir” and/or Junior orchestra to perform at the Christchurch Music festival
- Opportunities for Passion groups or individual passions to be developed
- Mentoring with UC students
- Monitoring of our Gifted and Talented students through a Learning Support register
- Extension opportunities for children in different cultures
- New 2017: 2 teams competed in the EPro8 challenge
- Passion time (iTime) in the Middle and Senior School

We offer:
- Extension opportunities in Science, Maths and Creative Writing (including competitions and publishing opportunities)
- Opportunities to take external ICAS competitions
- Extension language learning in Mandarin
- Itinerant music for a wide variety of instruments and a rock band
- Dance
Gifted Awareness Week 2017

We shared on our Ilam Facebook page links related to Gifted Awareness Week 2017 (June 12th to 18th)

Check them out here if you missed that:

New Zealand Gifted Awareness Week.
Book Crossing initiative
What Can SOLO Taxonomy do for Gifted and Talented Children?

by **Pam Hook**

a frank and thought provoking presentation

Pam Hook on: **SOLO and Gifted and Talented Children**

Pam has referred to Carol Dweck’s work on developing a positive mindset
“Mozart, Edison, Curie, Darwin and Cézanne were not simply born with talent; they cultivated it through tremendous and sustained effort.

“Similarly, hard work and discipline contribute much more to school achievement than IQ does.” from: High ability and the impact of mindset
Observations are being made that the field of gifted education is being transformed by the mindset research findings:

Mindsets and gifted education
In the past decade there has been a shift in emphasis from how to identify gifted children to how to cultivate giftedness and talent—a change in focus from measurement psychology to cognitive and motivational psychology:

**Giftedness, A Motivational Perspective**
Sonia White on Catering for Gifted and Talented Children

From a Sonia White presentation

Some pertinent points:

- always have the child at the centre of all considerations
- aim for chn to be connected, confident, self managing, autonomous, motivated
- need a multi-faceted school-wide approach
- need rigour and challenge in area of expertise (this often means outside the classroom and not “the curriculum”)
- the whole school raises the child not just one teacher in a single cell classroom
- qualitative differentiation (as opposed to quantitative)
- individualised (special provisions, may extend beyond the classroom)
- personalised (empower students to take control of their own learning)
Gifted Māori Students

Gifted and Talented Māori Students

Manu Tu, Mana Ora Identifying Characteristics of Māori Giftedness
Identification of gifted Pacifika students must be a holistic process; social, emotional, physical, spiritual, academic and cultural aspects need to be considered.

The Complexity of Pacifika Giftedness

Identification of Gifted Pacifika Students from TKI
Science Challenges:

This runs throughout the year in the Junior School. The children have opportunities to hypothesise, experiment and record conclusions in Science and Technology. The themes covered are: Pondering on Plants, World of Water, Tantalizing Toys and Weather Watch. At the end of the year we have a Science Expo that showcases the children involved as real scientists discussing their findings with their visitors.
Homework Badges

Homework badges are offered throughout the school as an option for home learning. They are designed to encourage and develop a number of key competencies from the New Zealand curriculum as well as extend thinking and develop curiosity. The topics that are covered in the homework badges are; Sustaining Me, Radical Recyclers, Community Minded and Into the Future.

Students are able to select the tasks that they are interested in learning about, utilise their research as well as developing their thinking and creative skills.
This slide and the following slide are an example of one child’s choice and creative extension response to a Home Learning Challenge.
Angry duty teacher
10 mins ago
A typical American school kid generates 34.4 kg of lunch box litter every school year.

No wonder I am feeling sick

Earth
6 hours ago
Guys don’t litter it makes me sick

Earth
10 hours ago
Just to let you know if you throw glad wrap on the ground it makes me sick for over a 1000 yrs. That’s how long it takes to rot away so DON’T LITTER
Science and Maths Badges offer a wide variety of challenges to our students. They cover areas from optics to marine biology and Technology to Cultural Maths. They are primarily offered to the Senior School students but some Middle School students have participated.

The Certificates and Badges are geared to the following levels:

- **Science Certificates** - Yrs 5-6
- **Science Badges** - Yrs 7-10
- **Maths Badges** - Yrs 5-8

**Mathletics** - An interactive online maths site that covers the New Zealand Curriculum and is used throughout the Senior School. It is self-paced but can be regulated by the teacher to meet student needs.
Questions which encourage students to do more than recall known facts have the potential to stimulate higher levels of thinking. To emphasise problem solving, application, and the development of a variety of thinking skills students are given rich tasks which use open-ended questions. The goal is for students to think, to learn, to analyse, to make conjectures, to follow arguments, to criticise, to comment on results and to be able to solve unfamiliar problems.

Using rich tasks, games and supporting materials students are encouraged to discuss possibilities, share wonderings and work towards solutions. As they work through problems an emphasis is placed on systematically recording the steps they have taken using maths notation, and sharing their process with others.
“Educators have long touted the benefits of playing chess, and it's easy to see why! Decades of research demonstrate that playing chess improves students' social skills, memory, spatial skills, numerical abilities, verbal aptitude, creative thinking, problem solving, and reasoning skills.” from: Why Chess is Good for You.

Examples of research papers on the benefits of chess in education.
Our Chess Club is held each Thursday for one hour for Year 0-6. Children learn to play, develop further strategies and play each other competitively. We enter two interschool competitions per year and have had some excellent results.
Opportunities For Gifted and Talented across Cultures

- Cultural Leaders - Students from other cultures are able to represent their culture and their school in different activities. They also develop cultural awareness within the staff by conducting cultural presentations.

- Cultural Performance opportunities are available through both Kapa Haka and Pacifika performance groups. Students are encouraged to take leadership roles and to mentor younger students in the group. These groups participate in the Christchurch Cultural Festival as well as performing to community groups. It is hoped to develop other cultural performance groups representing different school communities.

- Cultural Day - Provides opportunities for different cultural groups to perform for the rest of the school primarily in song or dance.
“Languages are inseparably linked to the social and cultural contexts in which they are used. Languages and cultures play a key role in developing our personal, group, national, and human identities.” NZC

Why study a new language? Find out from NZC Learning Languages.

Currently at Ilam we provide ‘taster’ tuition in Mandarin, which is provided by the University of Canterbury Confucious Society.

Our Middle school children receive this tuition for half an hour a week. An after school class is offered at Ilam School for those students who would like to undertake further extension.
Mentors

"One of the most valuable experiences a gifted student can have is exposure to a mentor who is willing to share personal values, a particular interest, time, talents, and skills." Sandra L. Berger. Mentor relationships and Gifted Children

Ilam School works alongside the University of Canterbury Golden Key Mentoring system where 16 of our Year % Gifted and Talented children are buddied up with UC mentors with similar interests and work on a project over a five week period.
Golden Key Presentations

Golden Key mentees from Ilam School have the opportunity to present their projects at the University of Canterbury. In past years they have included Music Around the World, The Heart, a game made with Java script, The Brain, Dinosaurs, Finger Printing, The Humming Bird, coding, A to Z of Maths, a Minecraft film, electrical circuits, role plays and a book. What a wonderful variety!
Discovery Time Year 1

During our discovery sessions children are given the opportunity to extend thinking and delve deeper into an area of interest.

Children discover, build on and improve social skills through hands on activities that are linked to the Key competencies in the NZ Curriculum.
STEM Education

**STEM:** Integrating and innovating with Science, Technology, Engineering and Maths in real world contexts. There is also mounting support for STEAM .... integrating the Arts into STEM. Senior and Middle classes are including some STEAM activities in their current passion/choice times.

Eleven of our Junior teachers attended a very comprehensive STEAM and programming course in 2016.
STEM Challenges

Cup Challenge:
The aim was to make the tallest tower from 48 cups in 30 minutes. We worked in groups and came up with many different solutions, soon realising that there are many different ways we can stack cups! We learnt the importance of balance and being gentle when placing the cups upon one another.

Check out more STEM challenges [here](#), [here](#) and on [Pinterest](#). Ultimately STEM challenges can be linked to solving real world problems.

Two Ilam teams took part in ChCh EPro8 (Engineering, Problem Solving and Innovation) **Challenges** this year (2017): [http://www.epro8challenge.co.nz/](http://www.epro8challenge.co.nz/).
Robotics is a great way to get kids excited about science, technology, engineering, and math (STEM) topics. Studies show that it is highly effective in developing team-work and self-confidence.

Robotics includes *science, technology, maths and ICT* so students can:

- Problem solve and work as a team
- Develop solutions, select build, test and evaluate
- Programme and control input and output devices
- Learn about the impact of emerging technology on society and the environment
- Investigate energy, force and speed
- Use scientific processes and understanding to find answers to their questions
- Work and think statistically and mathematically
- Explore concepts of number, space, measurement, chance, data and structure
- Understand and use fractions, decimals, ratios and proportions
Robotics was reinstated at Ilam in 2015, continued in 2016 and 2017 with Year 6 children working with four EV3 robots. We have had a number of challenges, including programming robots to:

- follow the lines on a triangle
- stay within the lines of a hexagon
- apply the above, plus push an opponent out of the hexagon arena in a Sumo challenge

View some of our Sumo challenge in the video here:

Our children have successfully competed in Robocup and Robofest.
Code Club is a nationwide network of free volunteer-led after-school coding clubs for kiwi kids.

The philosophy of Code Club is for children to gain skills that are useful to them - not only learning to program, but also learning about computational thinking, problem solving, planning, designing and collaboration. Learning to work in a team to solve real world problems is one of the greatest skills students can leave Code Club with.

“We want to break the perception that coding is some ‘exceptional skill’ that only few people can master - Code Club is for everyone and we believe every child can benefit from joining our clubs.” Code Club Aoteoroa.
We are running an hour of code once a week for three terms of this year (2017). We run a beginners and advanced club concurrently. In 2016 we ensured we specifically integrated it with our current inquiry and will aim to do something similar this year. Watch Ilam School children and Michael Trengrove talking about Code Club (recorded from 6.57m in on this video):

Ilam Code Club on Metro News

Re-emphasising: code clubs are for everyone; everyone benefits including children who are gifted and talented.
250 Year 5-8 students attended “Mashup”, involving advanced creative problem solving, held at Selwyn House School and designed to give students exposure to some of the thinking processes behind creating a software product that not only solves a real world problem, but people would be willing to pay money for it.

A group of five Ilam students took part in this competition to plan, design, seek feedback from potential consumers (adults and children on site), seek advice from experts (on site), create and “sell” a product.
“Computer Science is a way of thinking and not computer usage.”

Some classes at Ilam School during 2015, 2016 and 2017 have been and are involved in a research project with Caitlin Duncan from the University of Canterbury, introducing Computer Science into Primary Schools, building familiarity with the strands of the NZC Digital Technologies curriculum. We have also been involved in testing out exemplars for the new Digital Technologies Curriculum working with both Otago and Canterbury universities.

The emphasis is on making this available to children of all levels and abilities, not just for those for whom we think may fit the outdated (and unhelpful) stereotype. It will be a great opportunity to spark, challenge and extend the interests and abilities of all, including Gifted and Talented students. In the meantime take a look at Computer Science Unplugged, based on Professor Tim Bell’s work.

The emphasis is on the fact that Computer Science is for everyone; everyone benefits including children who are gifted and talented.
Inquiry approaches challenge and open up opportunities for all children, including gifted and talented children, to think more deeply and to take their learning further. At Ilam, we aim to integrate inquiry approaches to most of our teaching and learning. Some of the ways we implement these are:

- making connections to the children’s lives
- making connections across learning areas
- integrating ideas
- asking focussed questions
- integrating rich and authentic learning experiences within the school
- integrating rich and authentic learning experiences beyond the school, physically and virtually
- providing opportunities for student voice and choice
- initiating wonderment and curiosity
- providing open-ended experiences
- having overarching concepts to ensure learning is “above” mere topics and activities
- integrating higher order thinking skills
- collaboration and working with others
Otherwise known as break out time, i-time or genius hour or passion groups.

“*In Room 18 we want to navigate our own learning pathway... this means being an explorer or someone who is willing to go on an adventure*. Room 18 common belief

Adventure Learners is about creating a time in the week to really promote student voice and choice. The students set the pathway the learning will take, possibly with a common outcome but the teacher or teachers are the activators or observers at this time. Adventure Learners is also about the students really developing knowledge of themselves as learners and becoming reflective in their thinking. A.L. is about developing curiosity, promoting risk taking, being innovative and being uncomfortable. Adventure learning puts a spring in our step!
Leadership

Physically Active Leaders or PALS
PALs provide Year 5 and 6 students the opportunity to develop and grow their leadership skills through positive interactions and being a role model in the playground. PALs undertake workshops that encourage them to become positive role models for middle and junior students, they do this by organising games and activities for the younger student to play at morning tea and lunch time.

House Captains, School Council and Cultural Leaders
Each year Year 6 children are selected to take on the above responsibilities. These children have the opportunity to step up as positive role models, to lead and initiate activities and to play a lead role in school wide activities and events. One of the highlights of their year was to attend the National Young Leaders’ Day, where they were inspired by motivational leaders in New Zealand.

Other leadership opportunities include class reps, librarians and monitors for numerous duties around the school.

Ammar and William Pike at a Young Leaders’ Day
Environmental Education is an authentic, rich context that runs through many aspects of the curriculum. It encourages future focused thinking and promotes solution based problem solving. It aims to foster awareness and appreciation of the environmental issues that face Aotearoa and the wider global community today and in our future. Students are also encouraged to have a voice in how the school operates and make changes to systems or areas that they think require development.
Many Gifted and Talented children thrive on the challenge of competition.

At Ilam, children have the opportunity to take part in ICAS (International Competitions and Assessments for Schools) competitions including Science, Maths, Writing, English, Spelling and Digital Technologies.

This year we are trialling the Great Kiwi Challenge which is similar to ICAS but NZ based and prepared by UC. We aim to introduce it to some year levels in 2018.

Children who opt into the Creative Writing programme enter writing competitions and have a number of opportunities to have their writing published in writing magazines.

Each year a group of senior school mathematicians are tutored in, and sitting:
- APSMO (Australian Problem Solving Mathematics Olympiad) competitions
- Otago Problem Solving challenges

In 2017 we had two year 5/6 teams participating in the EPro8 Challenge
Maths Olympiads and Challenges

Aims of APSMO

- To introduce students to important mathematical concepts
- To teach major strategies and develop flexibility for problem solving
- To foster creativity and ingenuity and strengthen intuition
- To stimulate enthusiasm and enjoyment for mathematics
- To provide for the satisfaction, joy, and thrill of meeting challenges

The above aims also apply to the Otago Problem Solving challenges
Ilam School has three main choirs: Junior, Middle and Senior. From the senior choir, children are selected to audition for the Christchurch Music Festival Special Choir, which consists of approximately 100 children in Years 5 and 6, selected from throughout Canterbury. Last year Ilam had eleven children selected.

We have a school wide orchestra, from which some children audition and are chosen to take part in the Christchurch Music Festival orchestra.

Music tuition is also offered for a variety of instruments and percussion.

Some of the Ilam children, who were successful in being selected for the Christchurch Special Choir, seen here rehearsing..
Creative writing with Kerrin Davidson. Ilam School has published works and had winners in *Extra*, *The Poetry Box*, *Rattle*, *NZ Poetry Society* (Haiku section), *VOX*, Paula Green, MOE *Their Stories, Our Stories* and fingers, commas, toes.

**Science with Dr. Joyce. Term 1**
- Yr2 - Our Universe
- Yr3 - Electrical Circuits
- Yr4 - Systems of Pulleys & Levers
- Yr5 - Electricity
- Yr6 - Matter and Motion

**Science with Dr. Joyce. Term 2**
- Yr2 - Planet Earth
- Yr3 - Material Science
- Yr4 - Electricity
- Yr5 - Ions and Molecules
- Yr 6 - Advanced Electricity

**Maths with Dr. Joyce**
- Year 5/6 Term 1: Algebra
- Year 5/6 Term 2: Trigonometry
Some gifted students at Ilam have their performance impaired, or high potential masked, by a specific learning disability, physical impairment, disorder, or condition. Some may experience extreme difficulty in developing their giftedness into talent. We emphasise their strengths and work alongside parents and experts to help lift their confidence and achievement.

Twice Exceptional children (TKI)

Gifted Children’s Challenges With Learning and Behaviour Issues
Every child deserves a champion
An adult who will never give up on them
Who understands the power of connection
And insists that they become the best
That they can possibly be

Rita Pierson