Middleton Grange School – Technology and ICT Board Report – May 2019

Update:

Technology in the Primary School is closely linked with other curriculum areas such as Social Studies and Science. Following a two-year scheme (See appendix 1), broad themes or threads are investigated. Learning Teams collaboratively plan and teach units that align with a particular thread and encompass multiple aspects of the curriculum. E.g. Reading, Writing, Mathematics, Science, Technology, Social Studies and Visual Art could all be incorporated into the study of one thread over a term. Because the threads are very broad the units taught at each level of the school can be very different, while the overarching thread provides continuity across the school in terms of the theme, and FPC and curriculum coverage.

Technology is taught following the Technology Design Process (See Appendix 2) in which pupils identify a need and the stakeholders involved, before researching, designing, developing and manufacturing their solutions. This process incorporates many aspects of the key competencies, allows pupils to work collaboratively or independently and often facilitates input from parents and outside community agencies
The Technology Design Process being used brings an outward focus to technology as it requires pupils to think about who would benefit from, and who would be negatively affected by their final outcome.

ICT in the Primary School at Middleton Grange has been on a massive journey over the last 10 years. As technology has become more readily available, throughout the country, we have seen a big shift in teacher's pedagogy and how electronic devices are used within classes on a regular basis. At Middleton devices are used every day and they are a key teaching tool that teachers choose to use to support their pupil's learning.

Current Classroom Resources

- In the Year 1-2 learning team they have 5 x iPads per class.
- In the Year 3-4 & 5-6 learning teams they have 8 x iPads per class and hoped to get a few desktops per class over the Christmas break, but these did not eventuate.
- In the Year 5-6 Activity Room there are 12 additional desktops that are shared between the four classes.

Pupils are using a range of online learning tools such as: Mathletics, STEPS WEB, Reading Eggs, and many more. We are an Office 365 School so we are all learning how the Microsoft suite can best meet our needs. Staff have been amazing at adapting to 3 different student management systems over the last few years. We have changed from, MUSAC to KAMAR and now to LINC-ED. We feel that LINC-ED is the best system for us going forward and we are all excited about its capabilities.

Strengths & Weaknesses:

Technology Strengths:

- The current scheme allows for collaborative planning covering a wide range of learning contexts. It provides scope to tailor learning to the specific needs or interests of the pupils, allows variety and creativity for both pupils and teachers and ensures good curriculum coverage.
- Using the Technology Design Process requires pupils to focus on others when developing an outcome. That is, they must assess the benefits and costs to the stakeholders other than themselves.

Technology Weaknesses:

- Resourcing is one of the main weaknesses of our technology program. Often pupil's creativity and their designs are restrained by the physical resources available. Moving to digital planning and design platforms would allow the development of thinking, planning and problem-solving skills, without the need for as many physical, and often consumable resources. The introduction of technologies such as 3D printers, craft and vinyl cutters, design software, and electronics is essential in keeping pace with current educational trends.

ICT Strengths:

- Moving to iPads in Years 3-6 this year is a great start towards having a more reliable platform across the Primary School. We are now able to use more creative apps helping to create the move towards being 'creators not consumers' and also supports our journey into the new Digital Technologies Hangarau Matihiko Curriculum (DTHM).

ICT Weaknesses:

- We are limited by the number of devices we have in Primary. All year levels need more devices to be able to cater for every pupil more effectively. Ideally having 1-1 in Years 4-6 would be desirable but at this stage it is not achievable with our current budget. We currently have a device to pupil ratio of 1:3, made up of 40 x iPads and 12 x desktops for 162 pupils.

In the past, because we have had limited working devices in classrooms staff have been tentative to put time and energy into learning new skills around ICT. They felt that they would not practically be able to use their new knowledge in the classroom because of the shortcomings they regularly experienced with the network, wifi or devices. This has been one of the key barriers we are trying to overcome and having ICT as a focus in the strategic plan for 2019 has meant we can now make more progress in this area of staff professional development. However, please note more money needs to be allocated to fund more devices in Primary classes

Links to Special Character & FPCs:

In the Primary School the FPC's are interwoven into all classroom practice and their incorporation in the teaching and learning of technology and ICT is no different.

Technology allows teachers to make strong links with many aspects of the FPC such as #3 our moral responsibility, #4 Man's ability to think, plan, be creative and communicate, #6 stewardship, #10 being and becoming who you are in Christ and #12 truth and order.
In ICT the beginning of every year starts with looking at digital citizenship and teachers make clear links to the FPC's, in particular #3 our moral responsibility, and #4 Man's ability to think, plan, be creative and communicate.

Achievement Information:

We do not currently collect achievement information across the Primary School in Technology or ICT. Any assessments that teachers do occur to inform their teaching practice and to create next steps for individuals and their class. As we move more into the DTHM curriculum we will comment on key dispositions learnt through ICT as a tool and this could be gathered through anecdotal notes or formative assessments. This is still a work in progress and until we complete our DTHM PLD we will not know exactly what we need to report on and how best to communicate this with whānau.

The Future:

We believe that continuing to integrate technology into the established 2-year thread scheme is the best plan moving forward. It allows creativity and ingenuity when planning while provide a depth of well thought out and proven resources and unit plans. Ideally, we would be more intentional about introducing digital planning and design platforms and resources, but this would be contingent on appropriate teacher PLD and resourcing.

As we look to the future, we need to celebrate the massive journey we have been on so far with ICT. Our pupils and staff are excited about what the future holds, and this is a great place to be as we springboard into a digital age.

We want learners to be 'creators not consumers', and to use ICT as a tool to support their learning. We do not want to see pupils stuck on a device all day. However, we want ICT tools to be available at any time to be used by pupils and staff to best meet the learners needs.

Our immediate next steps are to:

- Support staff as we develop confidence in using ICT ourselves (digital fluency)
- Support staff and develop confidence in using Linc-Ed to record and report learning achievement data.
- Communicate and proactively support parents in the smooth transition to pupil reporting on Linc-Ed
- Teach staff/pupils how to use the different apps available on the iPads
- Integrate/weave the DTHM language into their programme planning
- Support the use of creative apps/programmes to consolidate learning objectives
- Develop a whole school progression in ICT that links to DTHM

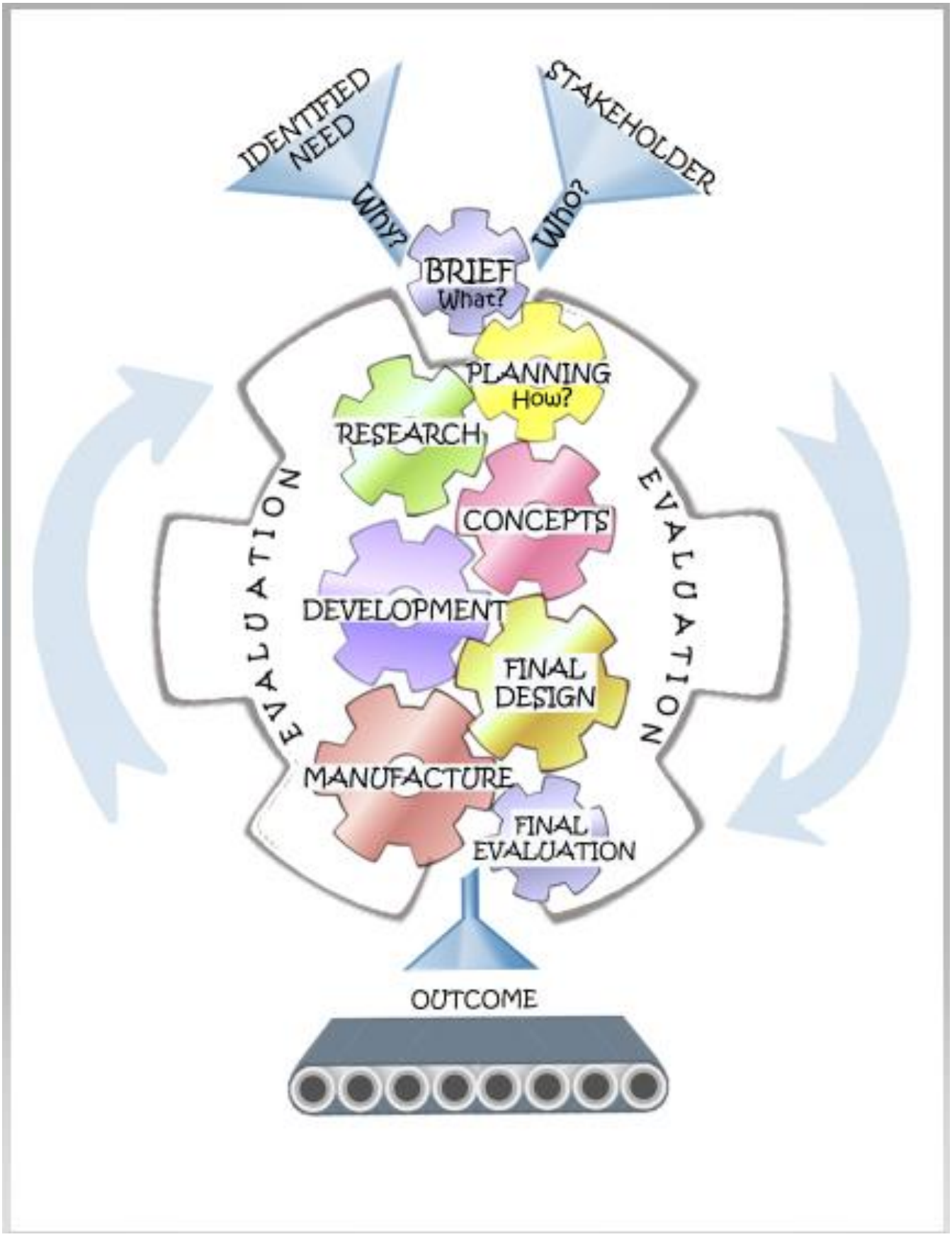
Nick Pomare
Acting Head of Primary School

Social Studies, Science and Technology

NB: Ideally at least one Inquiry topic per year and one unit involving Scientific Processes

	Term 1	Term 2	Term 3	Term 4
Even Year NB. Conceptual Strands can be moved to different terms within a year to align and integrate with school or team-wide themes	**SS** Imago Dei (Made in God's image) FPC 2, 4, 10,11,13 Identity, Culture and Organisation 'Knowing me, knowing you' Possible Contexts • My class, my school • Me and my family, Whanau • Treaty of Waitangi • Christians caring for others • Who am I and what's my impact • Rules and Responsibilities	**Sc** The Existence of God FPC 1, 3, 4, 8 Planet Earth and Beyond 'Earth is our Spaceship' Possible Contexts • Earth Systems • Seasons and Tides • The Water Cycle • Astronomical Systems • Solar Energy • Space Exploration • *Technology Challenges* ***BIG QUESTION:*** *Why are we able to survive on 'Spaceship Earth'?*	**SS** God's World FPC 4, 8, 12 Place and Environment ' Environment and Impact' Possible Contexts • Mapping • Living on an Island • Tangata Whenua • Special Places • A Pacific Island Family • Global Citizenship • Natural Disasters • Immigrants and refugees • Helping Agencies • *Impact of Technology on Society*	**Sc** Design and Detail FPC 1, 4, 7, 12 Material World 'The Mad Scientists Club' Possible Contexts • Scientific Process • Air • Water • Melting and Dissolving • Floating and Sinking • Freezing and Thawing • Mixing and Separating • Making Crystals • Kitchen Chemistry • Predicting, Experimenting, Concluding ***BIG QUESTION:*** *What chemical changes or properties can we see and explain?*
Odd Year	**SS** Created for Community FPC 4, 5, 10, 11 Continuity and Change 'Looking back to look forward' Possible Contexts • God's plan for humanity • Integrate with Scripture or MGS school-wide theme • Work of missionaries • Heroes of the faith • ANZAC/Treaty ofWaitangi • Grandparents • Early Canterbury • Times past	**Sc** Creator and Created FPC 4, 5, 6, 7, 8 Living World 'Under the Microscope' Possible Contexts • Creation • Life Processes • Ecology • Classification and change over time • Endangered Animals • Native Flora and Fauna • Ocean Life • Forest Life Stream or Garden ***BIG QUESTION:*** *What influences living things?*	**Sc** God's Power FPC 1, 4, 12 The Physical World 'May the force be with you' Possible Contexts • Light, darkness, shadows • Electricity • Forces and Motion • Sound • Gravity and Flight • Heat • Physical laws and Spiritual Laws • Simple Machines • *Technological Knowledge* ***BIG QUESTION:*** *How do everyday forces (sound, light, electricity) work?*	**SS** Stewardship FPC 3, 4, 6 The Economic World/Technology 'Enterprise, Innovation, and Creativity' Possible Contexts: • Down on the Farm • Small business • Using technology • Production and processes • Solving environmental problems • Conserving resources • *Technological Practice – Design, create and evaluate*

Appendix 2


IDENTIFIED NEED
STAKEHOLDER
Why?
Who?
BRIEF
What?
PLANNING
How?
RESEARCH
CONCEPTS
DEVELOPMENT
FINAL DESIGN
MANUFACTURE
FINAL EVALUATION
EVALUATION
EVALUATION
OUTCOME