U-Tas 5-8 Transition Inquiry Project.

Tasman District School
Participants

Martin McRae – Grade 7/8 Maths

Ben Vaughan-Williams – Primary AST, Grade 9/10 Maths

Lydia Graham – Grade 5/6 Teacher

DJ Boost – Grade 4/5 Teacher

Valma Fannon – Principal

Ken Eldridge – Lead Teacher

Dr. David Moltow – U-Tas Liaison
Project Topic

• Inquiry Question: *How can the development of collaborative learning communities enhance transition and student learning for years 5-8 at Tasman District School?*

• Curriculum Focus: *Plan, implement and monitor lessons to improve student knowledge of proportional reasoning.*
SMART Goal

Implement a collaborative planning process by December 2013 that informs the way we teach to enhance transition through years 5 - 8 at Tasman District School.
Strategy 1

The team completed four days of professional learning with academic staff from the University of Tasmania.
**Purpose**

- We have a goal so that we stay focused.
- An improvement in S-P teaching practice and resultant improved transition.
- To share skills and to provide support.

**Valma**
- Create a collaborative learning community at TDS
- A whole school approach with an understanding of transition areas
- Create a structure which will inform other groups

**Lydia**
- To improve transition for 6 students
- Gain knowledge to improve my practice

**Ben**
- To minimise the middle school dip
- Create a culture of collaborative planning which spans the year levels
- To improve prop. reasoning in middle school
- Link the teachers in planning groups
- Create a structure to improve planning practice

**DJ**
- Improve teaching practice
- Practical activities
- To collaborate
Implement a collaborative planning process by December that informs the way we teach transition through Years 5-8 at Tasman District School.
<table>
<thead>
<tr>
<th>Success will be determined by,</th>
<th>Greater engagement of students</th>
<th>Extension of the Rainbow Chart</th>
<th>Development of tool kits</th>
<th>Communication between classes</th>
<th>Teachers feeling confident</th>
<th>Success of timetabling and improvement of student outcomes</th>
<th>Staff morale and positive attitude towards the process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing support and resources for success...</td>
<td>Provision of time</td>
<td>Financial resources for planning</td>
<td>Spaces appropriate for activities</td>
<td>Time off class</td>
<td>Hands on materials</td>
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<tr>
<td>A key question for implementation of the plan is...</td>
<td>How to deliver the curriculum in a way that uses the strengths of the staff</td>
<td>How do we develop a collaborative mind set around the change of timetables</td>
<td>What are the good tasks and how do we assess?</td>
<td>Where is the knowledge coming from?</td>
<td></td>
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<tr>
<td>Progress will be monitored by...</td>
<td>Monitored by Principal and leadership group. Structured process of timetabling</td>
<td>Shared definition of Proportional reasoning</td>
<td>Formation of collaborative teams</td>
<td>Identification of expertise</td>
<td>Development of timetable structure</td>
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</table>
Real life problem solving such as Valma’s shoes using proportional reasoning
What is proportional reasoning?

• Proportional reasoning is the consideration of number in relative terms, rather than absolute terms. This allows us to compare numbers and quantities and to understand mathematical operations involving multiplication, division, percentages and fractions. Proportional reasoning allows us to estimate and predict changing values.

• “All ability to reason using proportional relationships is a complex process that develops over an extended period of time. It takes many varied physical experiences to develop an understanding of what a proportional relationship is and then more time to gain the ability to deal with it abstractly.”

• (Cordel, & Mason, 2000)

• The toolkit pdf contains a good example (picture-poster) of why students need PR.

THE DEVELOPMENT OF PROPORTIONAL REASONING THROUGH THE EARLY TO MIDDLE YEARS INCLUDES:

• Children develop a sense of number, order, sequence and pattern by understanding quantities and their representations
• Counting, skip counting, adding
• Develop a deep understanding of whole numbers to build reasoning in fractions and decimals and to develop conceptual understanding of place value.
• Sharing, halving and doubling, words and numbers
• Develop proportional reasoning and flexibility with number through mental computation skills
• The move from additive to multiplicative thinking
• Trusting the count! Numbers as entities, 4 is not just four 1’s
• Ratio and proportion
• Scale drawing, enlargement
• Rates and change over time
Strategy 2

The team have developed a structured fortnightly meeting schedule at school level that includes an in school meeting each month and an after school meeting each month.

This group is building a Professional Learning Community structure.
Liberal High School PLC Manual

A useful process to follow.

Page 4. PLC Systematic Process

Team Norms

• Start and finish on time
• Keep a record of meetings
• Have a set agenda
• Manners – Respect all opinions
• Regular schedule
• Assign responsibilities for actions
Questions to guide the work

• What do we want our students to learn?
• How will we know they have learned it?
• How will we respond when a student experiences difficulty?
• How will we respond when a student already knows it?
Strategy 3. How does this translate to the kids?
Gather, store and interpret baseline data.

Our starting point.

Scaffolding Numeracy in the Middle Years – Assessments and Rubrics.

Create and implement a common curriculum planning process.

A useful place to start.

Page 15 LHS PLC Manual

Implementing lessons to improve student knowledge of proportional reasoning.

Our starting point – Maths 300

http://www.maths300.esa.edu.au//
# Timeline

**Targets**

- Develop team norms by PL days 23rd and 24th of May.
- Develop and adhere to a fortnightly meeting schedule.
- Gather, store and interpret baseline data prior to planning and implementing lessons.
- Create and implement a common curriculum planning process prior to planning and implementing lessons in proportional reasoning.
- Develop a common definition of proportional reasoning.
- Create a proportional reasoning stripe for the rainbow chart.

**Actions**

- Set as an agenda item for meeting 11/4/13. (achieved 11/4/13)
- Publish and invite comment. Agenda item meeting 9/5/13 (achieved 9/5/13)
- Meeting dates set as an agenda item at each meeting. (Achieved 9/5/13)
- Publish all meeting dates on a shared calendar. (suggested agenda item 30 & 31 May)
- Discuss and select baseline data collection strategies. (Achieved 9/5/13)
- Use assessment booklets and marking rubrics from Scaffolding Numeracy in the Middle Years (*Govt. Victoria 2006*) to collect data in week beginning 20th May. (Achieved)
- Performa’s PLC Manual Duncan/Kapplemann 2011. Peter Sullivan unit planning model. Maths 300 and mental computations folder. **Discuss meeting 27th June.**
- Ben will bring examples to the meeting 13th June (Achieved)
- Write draft questions at the PL days. (Is this still a medium term target) **Discuss meeting 27th June.**

**SMART Goal**

Implement a collaborative planning process by December 2013 that informs the way we teach to enhance transition through years 5 - 8 at Tasman District School.
# 2013 Timeline

<table>
<thead>
<tr>
<th>Targets</th>
<th>Actions</th>
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</thead>
<tbody>
<tr>
<td>• Develop an inquiry question</td>
<td>• Achieved</td>
</tr>
<tr>
<td>• Establish a curriculum focus</td>
<td>• Achieved</td>
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<tr>
<td>• Establish a team</td>
<td>• Achieved</td>
</tr>
<tr>
<td>• Establish a meeting structure</td>
<td>• Achieved</td>
</tr>
<tr>
<td>• Collect baseline student data</td>
<td>• Achieved</td>
</tr>
<tr>
<td>• Build an evaluation instrument for staff</td>
<td>• Achieved</td>
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<tr>
<td>• Establish team norms</td>
<td>• Achieved</td>
</tr>
<tr>
<td>• Develop and publish a team SMART goal</td>
<td>• Achieved</td>
</tr>
<tr>
<td>• Develop a common team lesson planning structure.</td>
<td>• Current 27/6/2013</td>
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<tr>
<td>• Write introductory student lessons.</td>
<td>• Current 27/6/2013</td>
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<tr>
<td>• Teach introductory lessons.</td>
<td>• Weeks 1-3, Term 3, 2013</td>
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<tr>
<td>• Evaluate introductory lessons.</td>
<td>• Meeting 2, Term 3, 2013</td>
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<tr>
<td>• Develop a common team unit planning structure.</td>
<td>• Weeks 3-7, Term 3, 2013</td>
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<tr>
<td>• Plan introductory units.</td>
<td>• Weeks 3-5, term 3, 2013</td>
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<tr>
<td>• Teach introductory units.</td>
<td>• Week 5, term 3 to week 5, term 4</td>
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<tr>
<td>• Evaluate introductory units.</td>
<td>• Weeks 5-7, term 4, 2013</td>
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<tr>
<td>• Publish units of work as exemplars for the whole school mathematics plan.</td>
<td>• Weeks 7-10, term 4, 2013</td>
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<tr>
<td>• Evaluate collaborative planning process.</td>
<td>• Ongoing term 3 and 4 2013</td>
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<tr>
<td>• Implement a collaborative planning process in with alternative curriculum focus</td>
<td>• Term 1, 2014</td>
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</table>

*Implement a collaborative planning process by December 2013 that informs the way we teach to enhance transition through years 5 - 8 at Tasman District School.*
Successes

• Positive working relationship with U-Tas staff.
• An inquiry question that is consistent with the priorities of the school and NLS/NLT strategy.
• Principal and NLS/NLT support.
• Formation of a school based working group.
• Students have been impacted positively.
• Strengthening working relationships between senior and beginning teachers.
Challenges

• Developing a process that value adds, supports and informs teachers’ workload.
• Providing release time for teachers to attend meetings and PL.
• Maintaining a focus on developing instructional leadership and teacher pedagogy when teachers want “activities and ideas”.