

Rotary Club of Warrnambool Tuesday, 5th April 5.45pm,

The TAP - An innovative curriculum model

1. Thank you for the opportunity to introduce to the Warrnambool Rotary Club, something that I am immensely proud to be a part of – the TAP (Timboon Agriculture Project).
2. Let me put it in context. Most of you would be aware of Timboon, it's a small, rural community about an hour east of Warrnambool. It is situated in the heart of dairying country & in proximity to the Great Ocean Road Road with great tourism & 'foodie' or niche business opportunities. Timboon P-12 School was built in the 1940s, & at it's peak, had over 1,000 students, today it has approx 460 students. Dairy farms are getting bigger but rural communities are getting smaller with fewer families sending fewer children to rural schools.
3. Why TAP? The School needed to address – What strengths do our young people need to succeed? What does this community need from its young people now and in the future? What do young people need from this community to succeed in life?
4. Something had to change. This is the Timboon 2012 Attitudes to school survey from across years 7-12. Student wellbeing, Student's perception of teaching/learning & Student relationships were below par. Interestingly, Maths results have always been strong at Timboon P-12 as we've had some great maths teachers.
5. What is the TAP? A partnership to enhance student learning. A project that links Timboon P-12 School more closely with it's community and with the agricultural industries that support our community. It's goals were to
 - Increase applied learning opportunities
 - Increase awareness of agricultural career opportunities
 - Increase community engagement
 - Increase uptake of Maths / Science in senior years
 - Increase student retention rates
6. Strategy. A Steering Committee was formed which was made up of teachers, Agribusiness professionals including a vet, a field officer, WestVic Dairy Careers Coordinator, farmers & ex students. They developed a vision planned for the goals they wanted to pursue & formed a partnership with WestVic Dairy. The SC applied for funding from Gardiner Foundation for the (TASP)Timboon Agriculture Scoping Project with the aim to target students Years 5-8 in Maths & Science.
7. TAP Coordinator (Learning Broker) This is my role, it's 8 hours per week during school term. I discuss curriculum needs & potential topics with teachers & then research and propose resources. Teachers are very time poor with constant demands so I package modules with resources, contacts, extension activities, guest speakers, excursions etc. I work with industry personnel as presenters to help them 'pitch' their messages appropriately. I am very fussy whom I invite to speak to teachers or students as they have to be articulate, passionate about what they do, good business operators, approachable & suitable mentors- lots of footy coaches or Surf Club members. Preferably young or with school involvement. The role has meant partnerships have been built quickly
8. Targeted PD for teachers. Make them aware of the Maths/Science involved in our businesses on a daily basis & the level of sophistication or knowledge it takes to run a good agribusiness. On a Maths/Science PD day I explained that we used $\pi \times r^2$ when determining the circumference of our rotary when we were building it & Pythagoras theorem to work out the slope of our underpass so the cows wouldn't slip. The day after, the senior Maths teacher chased me down the school passage exclaiming, "Do you know the amount of maths in your farm map?" It's about hands on learning,

engagement, ownership & instilling confidence in the teachers. I take my hat off to the Timboon teachers as it takes courage to stand up in front of a class of teenagers & talk about something you are not au faux with so I can't let them down with inaccurate information or dodgy speakers as the kids will call them on it.

9. At Timboon P-12 we don't have an Agriculture teacher as such – it's embedded right across the curriculum P-12. -snapshot
 - Yr 5 Ducks in maths with an egg selling business
 - Yr 9 Maths 'Buying a farm' Financial Maths unit with an agribusiness banker from CBA
 - Yr Prep 'TAP into FairyTales' – English- Cinderella, 3 Billy Goats Gruff, 3 Little Pigs
 - Stephanie Alexander Kitchen Garden Yrs 5 & 7
 - Yr 2 'Seasons on a farm' Science/Literacy
 - Yr 9/10 'Taste of Corangamite' Commerce elective visiting Garlic World
 - Cert 111 Companion Animal Services Yr 10 VET student which she studied online
 - VCAL students working with a concreter on the duck pond for the Yr 5 students poultry emporium
10. Further cross curriculum activities
 - Yr 3 Growing things Bullens Nursery
 - Yr 7/8 Food & Agriculture- Food tech studies local butcher
 - Yr 12 Business management with Robert Lane WCB discussing Corporate Governance/ Management/ Supato takeover in a polycom with students from Hawkedale P-12
 - Yr 12 excursion to the GOS plant in Allansford looking at Operations Management
 - Yr 9/10 Politics with Adam Jenkins UDV President looking at trade barriers, quotas, FTA
 - Yr 2 Science 'Push & Pull' gears/ levers, pistons, rams
 - Yr 7/8 Cows Create Careers class with a Vet looking at cow digestion
11. In detail a few examples- year Prep 'On the Move', Science/Literacy. Students discuss how things, including themselves move, they look at pictures, toys, then really BIG toys including Caterpillar Grader from Corangamite Shire & Claas tractor. They had real cause/effect with levers etc
12. Year 4 'Farm Science'. Taking a paddock to plate approach starting on a dairy farm & a beef farm, looking at the Science involved- Water recycling, effluent management/ recycling, Cuts on a beef cow, Visual Soil Assessments. They then visited a MG Factory looking at processing/manufacturing before visiting IGA Supermarket to study packaging/marketing. Students were also involved in Dairy Australia's Picasso Cow competition.
13. One of the initial projects, Year 5 TAP into Farm Safety, targets keeping kids safe on farms. This was our 2015 Victorian WorkSafe OHS Achievement entry.
14. Year 6 Chickens. This was an overwhelming success as in our first year we incubated & hatched 68 chicks from eggs donated by the Wbool Poultry Club & local families. We built a poultry emporium with the VCAL students & studied chickens in Science from everything to eggs to wing dissections. As chickens need to have relevance to the Australian curriculum we determined we could include rare breeds & have established a partnership with the National Trust at Nehill Bros Farm in Purrumbette. We have researched rare Australian heritage chickens & are going to incubate eggs/produce stock for the Nehill Bros property. Prior to this we were involved in designing a Chook emporium with the National Trust, interviewing the caretaker about the property & developing online resources. The National Trust have hit a snag with funding so, as part of our community engagement agenda, we are looking at breeding & training chooks to take into Nursing homes & kinders.
15. Year 7 Maths 'BAA+RAM +You' As there is such a strong dairy focus we needed to introduce something different in Jnr Maths. A sheep farmer visits the class & describes his operation- meat sheep vs wool

sheep, terminal shires, microns etc. Students visited Sheepvention to become aware of the various industries supporting wool & it provided PD for teachers. A farmer brought some lambs to school to weigh & drench & students saw the maths skills required to determine drench rates, calculate dosage etc.

16. Year 8 Science 'Camembert in the Classroom'. We are very good at piggy backing on existing programs, in this instance, Dairy Australia's Camembert in the Classroom. Staff participate in PD with a Master Cheesemaker & then instruct the students. As part of their studies they investigate Apostle Whey cheese looking at niche businesses, learn about targeting a market with an ad campaign & about global cheese markets with staff from WCB. Students' cheeses are judged against regional schools & now our students are instructing community members about cheesemaking to raise funds for the topic & educate the community.
17. Year 9 Maths 'Bilyana'. This is typical of the caliber of people we have involved in the TAP. The owners outline their business & students observe the heifers being weighed. Weights are sent to the school over a 10 month period & students learn about the business warts & all- being in the red over summer & having to budget & the importance of healthy, honest business relationships/reputation.
18. Year 9 - There was apprehension when the TAP was introduced that we were working to create a generation of relief milkers. As you can see, there are statistical analytical skills being developed in this project, it's a real applied learning example. One of our students was working on homework at the kitchen table & his Mother now runs similar data to track her heifers for their own business.
19. Year 9/10 Commerce elective 'Lavender'. The Commerce students were investigating various niche agri-businesses in the SW & were lucky enough to be mentored by Kaye Kelly from Tower Hill Lavender who had just sold her business. Students investigated their options & decided to produce their own lavender business. It was a steep learning curve re varieties, establishment, rows being flooded, starting all over, irrigation breakdowns, product development, marketing etc. We have lavender from 800 plants & produce sachets, lavender oil, hand cream, heatpacks & lavender treats etc
20. Year 10 Science Genetics. Dairy Futures CRC provide a travelling hands on Bio technology roadshow for senior studies where they investigate aspects of gene technology used in agriculture including electrophoresis gel for DNA analysis. After that, students visited a local dairy farm, where vet, Peter Younis, outlines the AI process before explaining about embryo transfers & genetic gains. Garry Hibberd explains about the benefits to his business & students watch the process & inspect eggs from donor cows.
21. TAP's On! A curriculum showcase. In 2012, after 4 months, to garner support from students, teachers & the community we held our inaugural applied learning ag expo. It's like speed dating on Ag.
 - Year 4 Farm Science Paddock to Plate
 - Year 2 Push & Pull experiments with milk carton cars
 - Year 6 Chicken guts
 - Year 7/8 Fearless Felting exhibit on what happens when you are mean to wool= felt
 - Year 9/10 Politics on FTA – a circle of adults listened intently to every session!
 - Dirty Science night mud portraits
 - Over 500 students from Timboon years P-10 & students from Nullawarre & Simpson Primary Schools participate on peer led 10 minute activities
22. TAP's On! – It's based on the premise that you know you know something when you can explain it to someone else. The power of kids teaching kids.
 - Year 9/10 Lavender products
 - Year 7/8 Cows Create Careers on cow nutrition

- Year 5 students presenting their farm safety learning
- Year 9 Bilyana data re weights
- Year 9/10 Lavender oil distillation
- Year 8 Science Camembert in the classroom – separating milk
- VCAL fencing unit

23. Sharing the learning. We did not learn this in a vacuum & are happy to share our findings & curriculum resources. Staff, & especially students, have spoken at Conferences both locally & interstate & in 2016 the TAP is being included on the Edugate website about 'What's working in Victorian schools'. Dairy Australia, through WestVic Dairy, are going to fund the TAP in 2016 & we are developing a Farm Safety unit and curric resources to be shared on the DA website.
24. Landline 'Farm Studies'. We were fortunate that the ABC Landline episode on the TAP, filmed in October 2015, was aired in the first episode for 2016. The support & encouragement received was overwhelming. For you FB aficionados, there were 785 likes & 168 shares on the story. As we were filming it, the presenter said to me, "This isn't just a nice story, is it", I replied, "It's not just nice!" & in the way it was edited, it was obvious that she 'got it'!
25. Awards & Achievements. Very proud of the TAP & especially of the teachers who are the ones battling in the trenches every day engaging their students. This is the third year in a row it was nominated for an Education Excellence Award & our TAP into Farm Safety unit was awarded the 2015 WorkSafe OHS Achievement Award
26. In conclusion - 'Good teachers are just part of the equation for better results' Warrnambool Standard Opinion 2/4/16.
 "Beyond learning outcomes, local & international research highlights that school connectedness & identification enhances mental health & wellbeing & protects against behaviours that can put youth at risk.... It is glue that helps create a healthy, vibrant & resilient next generation.
 It is embedding quality teaching in the 'right' school climate that will lead to growth in student learning."
 -Professor Kate Reynolds, ANU Research School of Psychology
27. The TAP is a partnership between the school & the industry & the businesses around us. 280 people from outside the school have worked with us inside the school (and on lots of farms and other places) since the TAP started in mid 2012!
28. The TAP- "... a world class learning experience..." (Dr Sara Glover, Mitchell Institute)
 "... an emerging new education model for effecting cultural change." (Great South Coast Strategic plan, 2015)
29. For more information contact:
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Check out our blog & I'd like to formally invite you to TAP's On! 2016 on 10th November.
 Thank you for your time.

<http://timboonagproject.weebly.com/tap-blog.html>

