

# Tomorrow's Leaders for Sustainability evaluation report

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## 1.0 Executive summary

This report documents the findings of an evaluation of two aspects of the **Tomorrow's Leaders for Sustainability (TLfS)** program implemented in the Wimmera region of Victoria: a student forum held during November, 2009, and a learning network model in local schools.

Although the forum is seen as an integral component of the TLfS program, only a few of the students who attended had completed the school based component of the program. In this report, then, the two activities – school based programs and the forum – are treated as related but independent events and the analysis is presented separately.

The Forum was conducted over 3 days and involved students working in teams to role play and learn about the region, especially the water distribution system. They had the opportunity to learn about the region through guest speakers and a field trip. On the final day, the teams presented their views on how the water saved by the new pipeline was to be distributed. They also participated in preparing a declaration and commitments to action.

The forum was a great success. One teacher believed that *"It would have taken us a term back at school to do what was done in the last few days."* Another added, *"And to a greater depth. I felt they learnt a lot."* The pre and post student tests supported these views and indicated student understanding of the Horsham region and the water distribution system in the region grew significantly during the forum. There was strong evidence that it was highly successful in fostering student leadership potential through the group activities and was effective in increasing the students' understanding of the key sustainability issues in the Wimmera. Locals talking about local issues, whether as guest speakers or as part of the field trips, were integral in personalising and humanising the students' learning experiences.

The TLfS program in schools offers teacher workshops and provides extensive course materials as teacher and student manuals. These include activities to support learning, projects and leadership in school programs. Sustainability youth forums are an important component in linking schools to community groups. The conceptual model underpinning the program is based on the notion that young people are more interested in developing leadership within their groups than in individual leadership. The focus, then, is on students actively and successfully working in groups to achieve sustainability outcomes. Of the four schools that participated in the Wimmera workshops, two implemented programs during 2009. These two schools illustrate the flexibility of

the program. At Goroke P-12 College, the program developed as a whole-school scientific project that is ongoing and long term, while at Horsham SC it took the shape of shorter, enterprise projects.

An important component of the program is to link schools with community groups to support student activities. Teachers from Goroke P-12 school were introduced, through the TLfS program, to Adam Blake from the Trust for Nature and this led directly to their ongoing research project. Other community members were effectively used as speakers at the forum. The TLfS program also led to increased student involvement in the community. At Goroke P-12, the students are actively participating with naturalists in a land restoration program, while at Horsham SC the students have actively sought out people in the community to work with them in completing their projects.

TLfS is in the early stages and is still emerging as an accepted educational program, and it faces the difficulty of breaking into an already crowded curriculum. Importantly, the workshops for teachers and local community educators play an important and vital role in its promotion and implementation into schools.

This evaluation was limited and was unable to determine the extent to which the program is influencing students' attitudes towards sustainability. There was good evidence, however, that the students were successfully learning and establishing community-based action through the group projects.

## **2.0 Background**

Tomorrow's Leaders for Sustainability (TLfS) is a key initiative that helps young people understand and appreciate the key principles and issues of sustainability, while gaining the knowledge and skills to become leaders in their chosen career.

The Wimmera region has been the focus of one of the first TLfS initiatives. The developers of the program have made extensive efforts to build rapport with schools in the region and non-school groups. The principal at Edenhope P-12 College, Ms Lynden Fielding, played an important role in promoting the value of the program to school and community groups. Two workshops were conducted in late 2008 and early 2009 for teachers from four schools in the Horsham region. In addition, meetings were held and networks developed with local community groups such as the Trust for Nature, Greening Australia, Grampians Waste Management Group and the Wimmera Southern Mallee Local Learning Employment Network (LLEN). In partnership with the LLEN, the program was successful in gaining funds from the Department of Agriculture, Fisheries and Forestry. Of the four schools that participated in the workshops, two - Horsham Secondary College and Goroke P-12 College - implemented programs during 2009. A third is still hoping to introduce the program as part of VCAL in 2010.

In November 2009 a forum was held with the aim of bringing together a diverse group of students to discuss, debate and negotiate positions on sustainability within the context of climate change and its impact on rural and urban communities.

### 3.0 Expected outcomes of the evaluation

1. To evaluate the effectiveness of the Forum to be held on 25-27 November, 2009 in fostering student leadership potential and understanding of key sustainability issues (water, biodiversity, agriculture and climate change) as they relate to the Wimmera, and involvement by stakeholders.
2. To evaluate the learning network model of the TLfS program in the Wimmera region, in particular –
  - the outcomes of the TLfS program in the three schools in the Wimmera (especially changes in student skills, knowledge, understandings and behaviour and their influence on the sustainability behaviour of friends and family)
  - the contribution of various non-school partners in the student projects of the TLfS program
  - involvement of other stakeholders, including teachers, involved in TLfS
  - case studies of schools
  - the range and impact of student projects
  - the key success factors and key learnings for the TLfS Learning Network model in the Wimmera

### 4.0 Methodology

The evaluation of both the TLfS forum and the developments in the schools required a broad approach involving both qualitative and quantitative methods. The researcher attended the three days of the forum and had the opportunity to observe forum sessions as well as conduct impromptu interviews with teachers, students, presenters and organisers. In addition, students completed pre and post tests and a final survey. To explore developments in schools, teachers were interviewed via telephone.

### 5.0 The forum

“Leading the Way” forum in the Wimmera involved 76 students and 10 teachers from both country schools (Horsham SC, Goroke P-12 College, St Bridgid’s College and Edenhope P-12 College) and city schools (Brentwood SC, Eltham SC and Westernport SC). The aim of the forum was to bring together a diverse group of students to discuss, debate and negotiate positions on sustainability within the context of climate change and its impact on rural and urban communities. The forum topic students were to consider was “How to distribute the water saved as a result of the new Wimmera-Mallee pipeline in the region”.

The program was spread over three days and involved students working in forum teams to learn about the Horsham region and, in particular, the water distribution system in the region. Each team was given a particular role to play - for instance business, community, farming, conservation, indigenous – and it was from this perspective they were to consider the forum topic. The teams consisted of students randomly assigned from the different schools. To help them jell as a team, they participated in team building activities on the first day.

On the second day, students then had the opportunity to hear about the region by selecting to attend seven different presentations made by people from the local community. The students then participated in field trips. Two were conducted, one around Horsham and the other to Dimboola.

On the final day, the forum teams gave presentations and presented their views on how the water saved by the new pipeline was to be distributed. They also participated in preparing a “declaration and commitments to action.”

The forum was the culmination of a great deal of work by Pat Armstrong and Jane Stewart, developers of the Tomorrow’s Leaders for Sustainability program. They had spent time making connections with community groups and schools in the Wimmera area (see section 6 TLfS in schools). They had prepared Teacher and Student booklets outlining the program and the roles and responsibilities. They organised guest speakers, the tours and the activities. Andrew Cormack from LLENS had played a major role in arranging the field trips.

The program was tightly scripted but flexible. A number of times the program was readjusted when circumstances required it. Some of the major changes were allowing more time for the forum groups to spend time discussing the forum topic and preparing their presentations, and giving more direction to the teachers as to their role during the forum.

*“I knew that they (the students) didn't have enough time and I took it on board,” explained Pat during a debriefing following the forum. “I rearranged the program. And we didn't involve the teachers enough from the beginning. We needed 10 minutes on the first day that may have helped. The first day was very hectic. We had done a lot of organisation but had difficulties with the registration. We lost sight of the program. Someone else could have looked after the registration and then we could have had a chance to bring the teachers together to be part of the team. The more we could get them together the better they became part of the team. That's what happened on the last day of the program: the teachers ran the program.”*

Below are some of the researcher’s observations as well as comments made by teachers and students about different aspects of the forum:

### ***Team building: the challenges***

On the first evening of the forum, students were broken up into groups, encouraged to introduce themselves and then provided with five challenges to complete. These challenges involved solving problems using different skills – some were practical, others language and perceptual. The aims of this session were for students to get to know students from other schools and team building.

The group dynamics were most interesting. One group observed by the researcher began hesitantly at the start, roles were not clear and there was a lack of understanding by individuals of the abilities of the others. As they became involved in the tasks, they began to listen to each other and began to work together. There was much talking and the individuals became enthusiastic about completing the tasks.

After the group sessions some of the students went back to the school groups but others stayed with their newly found friends. The session was clearly successful in team building. One student described

it this way: *"It was great. I loved it. It was a really good way to get to know each other. We know each other a lot better now."* While one teacher believed "there was good energy".

Day 1 was a full day and it was clear that, despite the success of the challenges, the students were tired. At this stage a number of the teachers believed that the program was too rushed and students were feeling frustrated. *"The students are a bit irritable. I am a bit irritable. I think it is too busy and we are being pushed from one thing to another thing,"* commented one teacher. *"There is a balance between keeping them busy and keeping them too busy."*

### **The task**

On the second day the students formed groups and were asked to consider what to do with the extra water provided by the new pipeline. They were provided with a particular role – such as business, farming, conservation, indigenous – and asked to prepare a presentation to the forum from this perspective. To help them, the groups were provided with information packs, internet access and were able to attend presentations made by local community guest speakers.

The researcher followed the development of one team, the Indigenous group. *"The students took a while to get their heads around how Koories related to water. After drifting around the topic they began to come up with a range of points, but it took them a while to establish an indigenous mindset. They simply didn't have enough time to reflect and discuss the issues involved (notes taken)."*

A number of teachers were also concerned about the time available for students to do some "deep thinking". They realised that the task was larger, and their role in supporting students more important than they had realised before the forum. There was, however, general agreement that the task was appropriate.

Two teachers agreed that their groups did not utilise the information packs during the first session but relied on the collective knowledge of the group to frame their viewpoint. The Indigenous group looked at the resources but dismissed them. One commented *"there isn't anything here to help us."* One teacher thought that the information pack was too much for the age group.

On the following day, students were provided with extra time to consider the forum topic. This proved valuable and the resources were used more by the students to help frame their ideas. The extra time also enabled them to practise and refine their presentations.

One teacher described the development of the group in the following way: *"When we first got together yesterday for the team-building it was quite laboured. We started on the straw task and that was challenging because they were shy and there was no clear leader in the group. Although we got a tower in the end we hadn't jelled as a group. Today we got together again and we had to go through the same process, but this time students were more articulate. Some leadership started to emerge. Everyone made a contribution about fleshing out the topic. Our topic was conservation and we spent a lot of time talking about what it meant. Students didn't know a great deal about current or past conservation issues. They were on a real learning curve and to their credit they really put in the effort and began to construct a good argument."*

### ***The guest speakers***

One of the most interesting aspects of the forum was the involvement of people from the local community. On Day 2, eight representatives gave a series of talks that highlighted the different points of view around the question of water allocation in the region. These talks were, on the whole, well received by both students and teachers.

### ***Presentations and declarations***

On the final day, the student groups were asked to make a presentation to the forum. All of the teachers agreed that it was a successful session. All of the groups presented their case in a positive and well informed manner. There was not one group who didn't "get their act together".

The groups were asked to decide on the pattern of water allocation. The vastly different pattern of allocation provided by the groups (who were role playing a particular interest group) illustrated to everyone at the forum how difficult it is going to be to gain a consensus within the community.

It was clear that putting the students under pressure, asking them to do things outside their comfort zone, really paid off at this forum. When interviewed later, no student feel too pressured and there was strong support for the experiences they gained: Learning how to work in teams, researching a topic and putting it together into a final presentation.

A few student comments:

- *The program was really good. It was not full on. There was always something to do. It was really fun. We got breaks, which was good. The presentation is probably the most difficult part. It is a real challenge, but I'm sure it will be the best result in the end. It will be the part I will remember. We are glad we came.*
- *I liked it. It was really interesting. I've learnt new things and met new people I would never have known if I hadn't come. I learnt a lot about the area, that it is different from Melbourne. I was surprised to see how big the lakes were and how there was little water in them. Reading the statistics and 80 or 90% of the water didn't reach here from where it was coming from was amazing.*
- *This task is good to get your thinking, to get your brain going. We have had a big discussion. We are not nervous about the presentation.*

The teachers were most complementary about the task, how students worked in teams and the presentations. *"It is a very good rich task of this age group. It is a brilliant task. Where is the water going to go? It is a great question,"* commented one teacher. Another believed that *"It would have taken us a term back at school to do what was done in the last few days."* Another added, *"And to a greater depth. I felt they learnt a lot."*

One teacher, summarising the presentations to the students, said *"I have students who struggle to take on an issue as big as this and come up with valuable ideas as you have done. I have been really impressed with you guys from Melbourne. You have taken on an issue that doesn't matter to you and you have presented a great of information about it. The topic doesn't really matter to you in the long run. I have been impressed with your ability to take on an issue. And I would love to see what you would do if you took on an issue in your local area, one that would matter to you. Well done."*

During the debriefing session, Pat was not surprised at the level of commitment shown by the students and the strong outcomes of the forum: *"I wanted them to learn the skills of the others in the group. I wanted them to feel proud of what they had achieved and confident they had solved the problem. It went as exactly as I hoped it would go. I have done this many times. I get the same reaction every time. It is a dead set winner. We put kids in a team, you give them faith and trust, a clear task to do within the timeframe. You find that they organise themselves very well they don't fiddle around because there is pressure on them. The intensity is quite phenomenal. There were one or two kids who were not with it, and that is why we have the adult mentors. The teacher's role as mentor is very important."*

On the other hand, Andrew Cormack from the Wimmera Southern Mallee LLEN was surprised: *"I had no idea what they were like. I was expecting them to be just an ordinary run-of-the-mill group of students in year nine, probably not yet totally engaged, and coming to terms with what education is all about. Without any exceptions I would have to say my impressions going around to all these groups listening to the amount of efforts that they put into their preparations has been quite fantastic listening to some of the rehearsals."*

As a final act of the forum, each student was asked to make one commitment to action in the community, at home and at school for a more sustainable world. The student statements were compiled and three posters were produced. These posters were distributed to the participating schools and used to promote the outcomes of the forum to the wider community.

### **The tours**

During the afternoon of the second day, two field trips were conducted. One was a tour of the Horsham region involving a trip to Taylor's Lake, a water channel, Horsham wetlands, Grains Innovation Park, a dairy and a Bed-and-Breakfast. The other tour was to Dimboola taking in Snape's Reserve, the Little Desert National Park, Wail Nursery and Taylor's Lake. On both tours, a tour guide provided stories, information and jokes along the way.

An important aspect of the trips was students hearing the human stories from the community. This was achieved at a number of the sites during the tours. Both the teachers and students commented on the value of these experiences.

The Dimboola tour gained mixed reviews. One participant commented about the stop at Snape's Reserve: *"I loved listening to the two iconic Australians. They both gave simple stories which the kids understood."* Unfortunately due to the rain the group was unable to drive into the Little Desert NP. Instead of an emotional experience of walking in the bush, it became an intellectual one where the guide described the area from the park entrance. The students were on the bus for a long time. The trip was at least 20 minutes too long and they became restless towards the end.

The Horsham trip was better balanced and there were good stories provided by the students about the Wetlands, the innovation park and the bed-and-breakfast. *"I enjoyed learning about what is going on in our local community,"* explained one student on the Horsham tour. *"It was good to see how country people live differently from us,"* commented a student from Melbourne. *"I had no idea what it was like."* *"I liked the tours,"* explained another student. *"I took some good pictures."*

The field trips were seen by both the teachers and the organisers as a valuable part of the program, although the teachers felt students were sitting on the bus for too long. One suggested that the tours be of shorter duration and focus on only one or two sites. The other difficulty was that students, for legal reasons, travelled in their school groups with their teachers. It would have been better if they were able to travel in their forum teams.

## 6.0 Outcomes of the forum

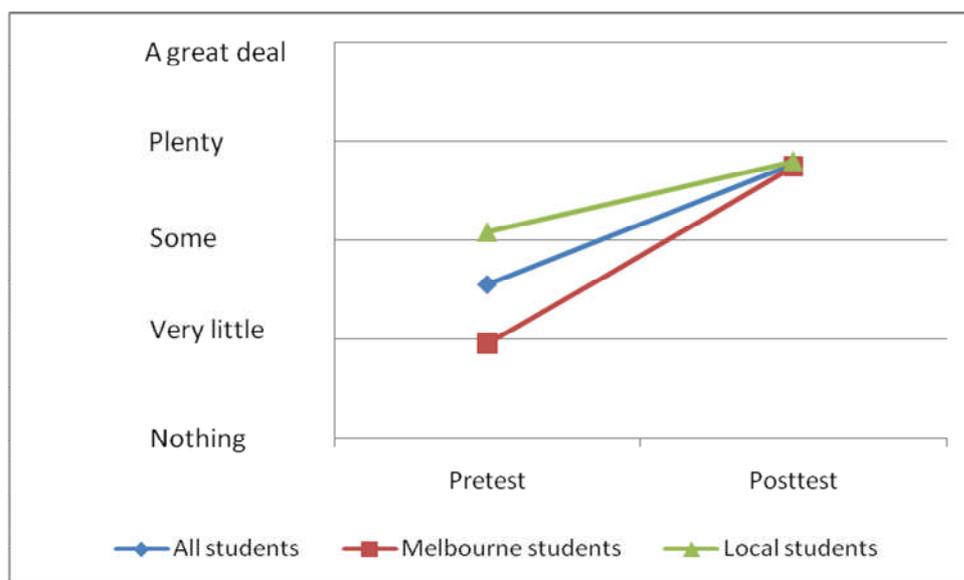
In this section, the outcomes of the forum are discussed under three headings: student learning, sustainability and student leadership. The student surveys, including the pre and post testing, are the major sources of data, although the interviews with teachers and students provide supportive evidence.

### 6.1 Student learning

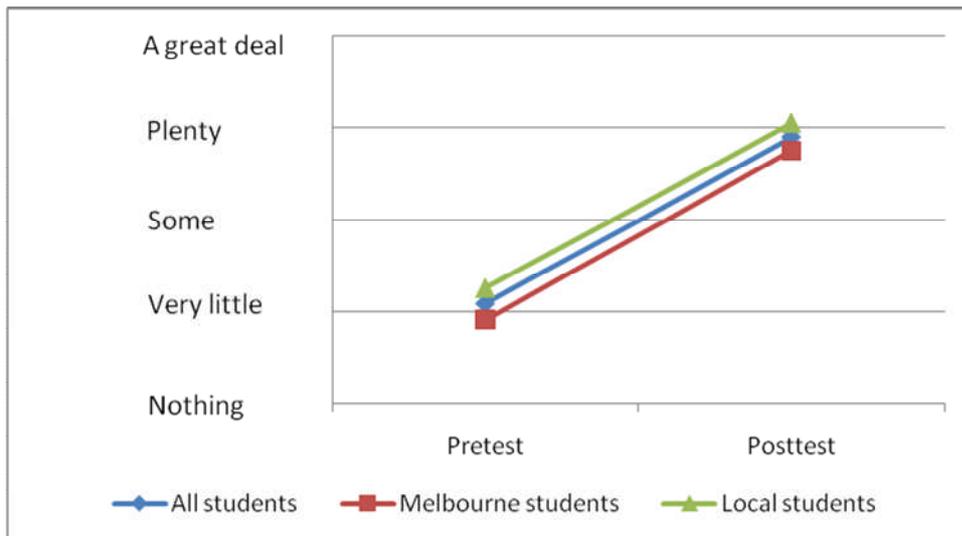
Students were asked to complete a short survey prior to the forum and then repeat the survey at the end of the forum (Appendix 1). This survey asked students to rate their understanding of the Horsham region and the water distribution system in the region. In total, 44 students completed both pre and post surveys.

As illustrated in Figures 1 and 2, students' understanding of the Horsham region and the water distribution system in the region grew significantly as a result of the forum. Not surprisingly, the understanding of the students from Melbourne about the Horsham region was less than the local students prior to the forum. By the end of the forum, both groups of students expressed a similar level of understanding about Horsham (Figure 1).

Prior to the forum, most students (including local students) knew very little about the water system in the region. The understanding of Melbourne students and local students of the water system in the region showed a similar pattern of growth (Figure 2).



**Figure 1 Student understanding of the Horsham region, before and after the forum (n = 44)**

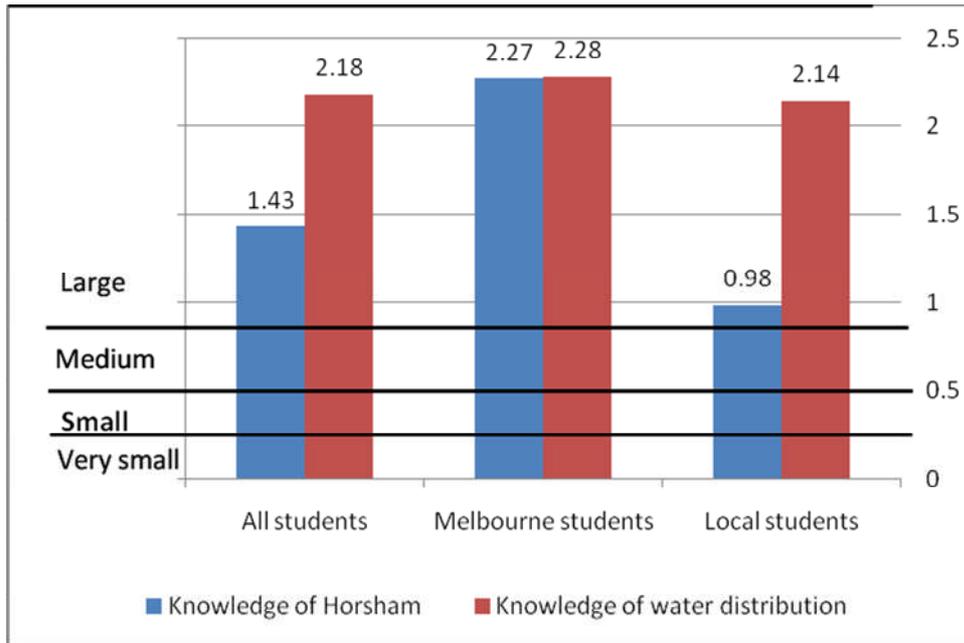


**Figure 2 Student understanding of the water distribution system in the Horsham region, before and after the forum (n = 44)**

### Effect size

The effect size measures the strength of the change in student understanding as measured on the pre and post tests. The effect size is best understood as falling within four bands– very small, small, medium and large.

As shown in Figure 3, the effect size between the pre and post tests for both Melbourne and local students is large. That is, overall the students in both groups made strong gains in their understanding of the Horsham region and the water distribution system. Melbourne students, however, made stronger gains than local students in both their understanding of the Horsham region and the water distribution system. This is not surprising given their overall lower prior understanding of these two areas.



**Figure 3 The effect size of student understanding of the Horsham region and the water distribution system, by student place of residence.**

As described earlier, the teachers were in agreement that a great deal of learning had occurred. *“It is a very good rich task of this age group. It is a brilliant task. Where is the water going to go? It is a great question,”* commented one teacher. One believed that *“It would have taken us a term back at school to do what was done in the last few days.”* Another added, *“And to a greater depth. I felt they learnt a lot.”*

## **6.2 Sustainability**

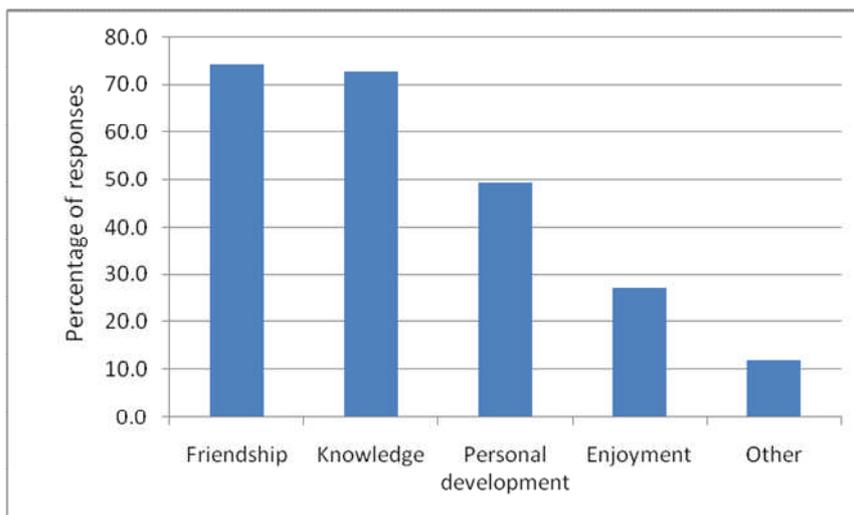
Two questions on the student survey provide information about what students learnt about sustainability at the forum.

The first question on the survey asked student to *‘Write down three things that you have learnt about the about water issues in the Wimmera Mallee region’*. As summarised in Table 1, the most common response from students were statements about the pipeline such as its length and parts. However, 65 per cent of the responses listed in Table 1 are sustainability issues – various aspects of saving and wasting water, our dependency on water, distribution of water, ponds for wildlife, catchment areas and indigenous involvement.

**Table 1 Student response to the question ‘Write down three things that you have learnt about the about water issues in the Wimmera Mallee region’ (N = 59)**

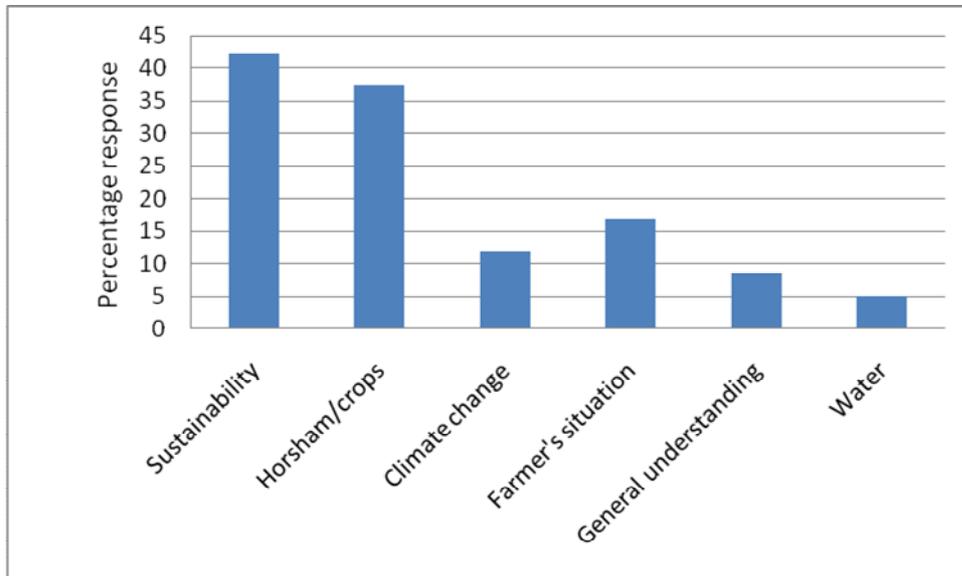
Item	No	%
The pipe line project	35	59.3
Ways of saving water/importance of saving water/wasting water	20	33.9
Value of water/dependency on water	20	33.9
Influence of climate/rain affects the crops	17	28.8
Water in Taylor’s lake	12	20.3
Channels waste water	10	16.9
Pipeline saves water	9	15.3
Tourists and water: use more water/ has a large effect on area	4	6.8
Water is flowing into rivers and some lakes, but not others	5	8.5
It is a big issue	3	5.1
Ponds for wildlife	2	3.4
Difficulty of distributing/sharing water	2	3.4
10 year drought	4	6.8
Grampians is the main catchment	1	1.7
Indigenous involvement	1	1.7
What to do with channels?	1	1.7
Learnt about team work	2	3.4
Poor quality of water from channels	1	1.7
Taking water for granted in city	2	3.4

The second source of information about student learning about sustainability issues comes from the third question, which asked, ‘*What are three things that you have gained from attending the Forum?*’ As shown in Figure 4, student responses can be categorised broadly into five main areas – friendship, knowledge, personal development, enjoyment and other.



**Figure 4 A categorisation of student responses to the question ‘What are three things that you have gained from attending the forum?’ (n = 59)**

A breakdown of the knowledge category (Figure 5) into six sub-categories indicated that 62.5 per cent of students believed they had gained knowledge about sustainability issues by attending the forum (students mentioned sustainability, climate change and/or water issues). This is a very similar outcome, and supports, the data from question one describe previously.



**Figure 5** A breakdown of the category ‘knowledge’ given by students to the question ‘*What are three things that you have gained from attending the forum?*’ (n = 59)

All of the teachers acknowledged the strong learning that occurred during the forum. One teacher was impressed by the way the groups took on the sustainability issue and made sense of it from the perspective given to them. Another believed the forum had a big impact on her students. Yet another teacher from a Melbourne school believed that ‘*my students have really been affected by the talk about the farmers’ crops being affected by the rain. It is the first time that they are saying don't rain rather than rain. Down at Hastings we always want it to rain.*’

Students certainly believed they had learnt a great deal about sustainability issues. Many of the comments made by students about the forum (see below) relate to their understanding of sustainability issues:

- *I learnt about the conditions that farmers are in and how much the drought has affected the rural community.*
- *The forum was a great opportunity. I learn so much about this area and climate change. It made me more aware of how we need to save water. I made some great friends and it was good to learn about how the Melbourne kids live.*
- *In the city, we don't really understand the problems*
- *Being able to see this amazing place and lifestyle*
- *Broader understanding about life*
- *From attending this forum I have gained a lot of friendships, and the understanding of the country life and how hard it is to manage a farm.*
- *Understanding of the farmers' situation*
- *I met great people that all had a great passion for the environment.*

- *Everyone's life experiences are different. For example one of the Melbourne guys said they were expecting us country ones to rock up in flannys and footy socks.*
- *It would be good to have more forums in the future all over the Wimmera/Mallee and even Victoria to make others aware about sustainability.*
- *It was a great camp where a lot of different people from a range of places got to know each other and learn about the Wimmera region.*
- *I have learned a lot more about the region and the region's water.*
- *The forum is a great idea but I have to say, if the government wants our views as teenagers, what happens to the views of everybody else? Why don't they create a survey to every member of the community about the water distribution?*

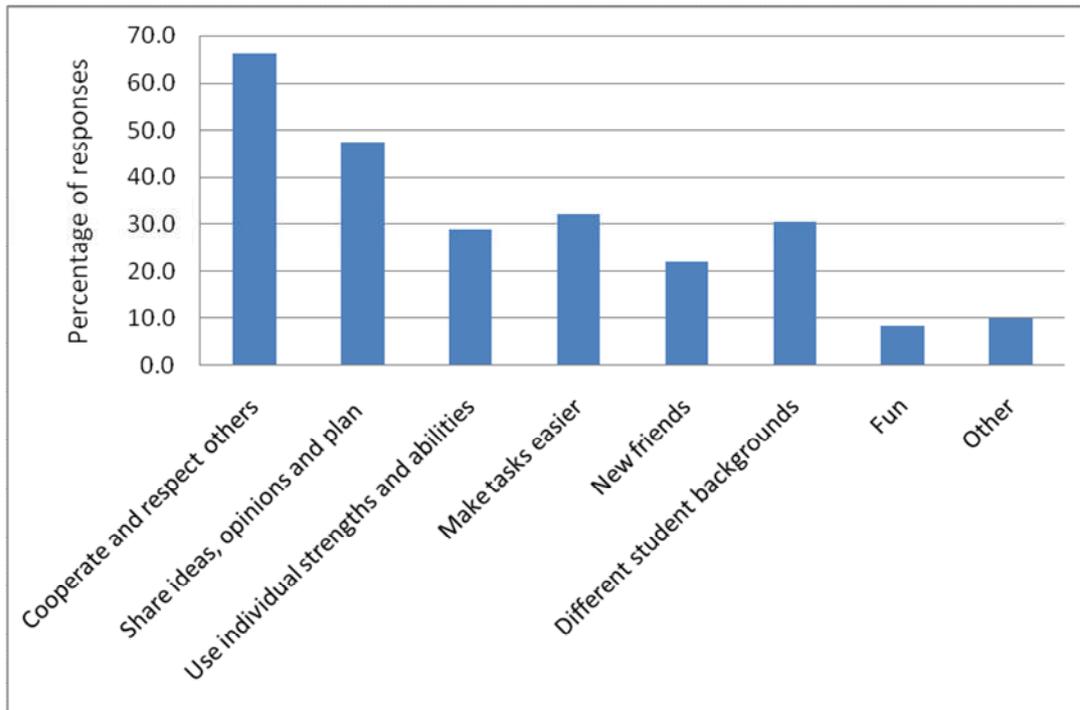
### **6.3 Youth Leadership**

The working definition of student leadership that underpins the project, “Tomorrow’s Leaders for Sustainability” was: *‘the ability to work within a group to influence them to work, in a particular situation, on an agreed course of action that will best serve the interest of the group’*

Youth leadership, then, is defined in terms of group dynamics and the interactions that occur within the groups. Two questions on the survey provide information about how students responded to the group experience.

When asked the question, ‘What are three things that you have gained from attending the forum?’, almost 50 percent of students indicated some form of personal development – be it leadership and team building skills; public speaking skills; a sense of accomplishment, being involved; helping people and having the power to change (Figure 4). All of which can be interpreted as characteristics of youth leadership.

When asked the question, ‘Write down three things that you have learnt about working in a team’, the most common comments centred around the broad notions of inclusiveness, respect, cooperation, sharing ideas, accepting differences and using individual strengths. Many understood that an effective group makes tasks easier (Figure 6). Again, these views can be interpreted as characteristics of youth leadership and illustrate the reflective thinking of these students about groups and leadership.



**Figure 6 A categorisation of student responses to the question, 'Write down three things that you have learnt about working in a team' (n = 59)**

Further evidence of the student understanding of groups and leadership come from their comments made about the forum. A number commented on aspects of working in groups, understanding and respecting others and gaining new friends.

- *Everyone has different strengths and weaknesses.*
- *Not everyone has the same opinion and thoughts, so we have to come to an agreement that suits everyone.*
- *Broader understanding about life*
- *How young people do have the power to change things*
- *Skills in team situations that have made me a better listener and helper*
- *From attending this forum I have gained a lot of friendships.*
- *I loved meeting new people. Thank you.*
- *This is a great forum and a great experience for all.*
- *I made some awesome new friends!*
- *This was a great camp, meeting new friends and learning about their lifestyle and how they live differently to us.*
- *It was a great camp where a lot of different people from a range of places got to know each other and learn about the Wimmera region. We could have had longer time to do activities and to make more friends. It was a great experience and should be done again.*
- *Everyone was great and it was very good to see that all people fitted in so well and had no trouble with it.*
- *This was a greatly challenging but rewarding experience.*

## ***Student and teacher opinions of the forum***

The student who attended the forum clearly enjoyed it as illustrated by the comments they made on the final survey (Appendix 3). A sample is provided below:

- *The forum was a great opportunity. I learn so much about this area and climate change. It made me more aware of how we need to save water. I made some great friends and it was good to learn about how the Melbourne kids live.*
- *This camp has been great, great friends, friendly people and really good respect.*
- *I love this camp. I gained a lot of close friendships. I would have liked a longer time on some activities.*
- *The forum is a great idea, but I have to say, if the government wants our views as teenagers, what happens to the views of everybody else? Why don't they create a survey to every member of the community about the water distribution?*

Emails sent by teachers to Pat and Jane following the forum were also most complementary about the forum and its outcomes (Appendix 4). A number of schools conducted de-briefing sessions with their students, which reinforced these views: *'We just had a camp debrief and the kids... They LOVED the camp!'* and *'My year 9 students and I have had a great debrief today about last week. The students all loved the forum and were very positive about all aspects of it. They really enjoyed mixing with the Melbourne students. It was great to see their eyes opened to the fact that they are just normal kids like them.'*

## **6.4 Lessons Learnt**

- ❖ The format of the forum, as measured by student opinions and their learning, was highly successful. The balance between information provision, group development, field trips and role playing provided variety and interest.
- ❖ The task set for the students, given the time allocated to them to discuss it and prepare their presentations, was demanding. Students were under pressure, but the outcomes indicated this is a successful approach.
- ❖ Programs need to be flexible. Having the ability to alter the program if required – to shorten or lengthen sessions – as was the case at certain times at this forum is important.
- ❖ Locals talking about local issues, whether as guest speakers or as part of the field trips, were integral to personalising and humanising the students' learning experiences.
- ❖ Teachers need to be briefed clearly about their role and be regularly updated about developments during the forum.
- ❖ Teachers can become more involved in the program if asked to take on other roles, such as a presenter, judge or mediator.
- ❖ The field trips during this forum were too long. Shorter, more focused ones trips may be more effective.
- ❖ The forum ended with the student groups (who were role playing a particular interest group) indicating how their group would distribute the water saved as a result of the new pipeline. This seemed to the researcher to be incomplete. Perhaps by extending the session and allowing students to vote on two or three proposals (debriefing them out of their group roles would be important) would have led to a neater conclusion.

## 6.0 Tomorrow's Leaders for Sustainability (TLfS) in schools

### 6.1 Background

The program, **Tomorrow's Leaders for Sustainability (TLfS)**, aims to help young people understand and appreciate the key principles and issues of sustainability, while also gaining the knowledge and skills to become leaders in their chosen career<sup>1</sup>. The conceptual model underpinning the program is based on the notion that young people are more interested in developing leadership within their groups than in individual leadership<sup>2</sup>. The focus, then, is on students actively and successfully working in groups to achieve sustainability outcomes. An important component is to link schools with community groups to support these student activities.

The program offers teacher workshops and provides extensive course materials in Teacher and Student manuals. These include activities to support learning, projects, and leadership in school programs. Sustainability youth forums are an important component in linking schools to community groups.

The Wimmera region has been the focus of one of the first TLfS initiatives. Of the four schools that participated in the workshops, two— Horsham Secondary College and Goroke P-12 College — implemented programs during 2009. These schools are completely different in structure— Horsham is a large, central rural school, Goroke is a very small community college. It is not surprising, then, that the schools utilised the TLfS program in totally different ways.

### 6.2 Case study Horsham Secondary College

Horsham Secondary College is a large rural school with a student population of around 1000.

Two teachers, Heather and Nellie, attended the first TLfS workshop. 'We thought it was a great concept,' explained Nellie, 'and we wanted to be part of it.'

The second workshop they attended provided an in-depth look at the program. 'We did a couple of the activities so we could get a taste of the program,' explained Nellie, 'and we did some of the activities on how to get the school on board with the concept.' The workshop also introduced them to representatives from some of the community groups who could offer their services to schools as part of the program.

Student project: Reuse & Recycle  
We decided to do our project on reusing old paper and making it into new paper. We collected old paper and soaked it. Some of the things we made included paper, bookmarks, envelopes, and plant-a-cards. Once we thought we had enough paper we made a price list and some posters and walked down to the Horsham Plaza and sold our paper. Our profit from selling our paper was \$43.00. This money will go to the Horsham Golf Club to help rebuild it after the fires that destroyed it.

<sup>1</sup> Stewart, J. & Armstrong, P. (2009) Tomorrow's Leaders For Sustainability. *Eingana*. Volume 32, No. 2.

<sup>2</sup> Ricketts, J.C. and Rudd, R.D. (2002). A Comprehensive Leadership Education Model to Train, Teach and Develop Leadership in Youth. *Journal of Career and Technical Education*, 19 (1) Fall.

Roach, A.A. Wyman, L.T., Brookes, H., Chavez, C., Brice Heath, S. and Valdes, G. (1999). Leadership Giftedness: Models Revisited. *Gifted Children Quarterly*, 43 (3,) Winter. pp 13- 26

The TLfS program arrived at an opportune time as the school was developing a new Year 9 program. 'As a result of the workshops we decided to focus on sustainability,' said Nellie. Two of the seven Year 9 classes participated. One class was taught by Heather and Nellie, the other by a teacher who hadn't attended the workshop. 'We have used some of the activities from the manual particularly with one group,' noted Nellie. 'Heather and I ran the program across the learning areas: English, science, maths and humanities. This group took to it well. The other group didn't do as much.' The program was run across a term and the tasks from the manual were provided within the different

learning areas. Most of the learning activities went into the humanities area.

**Student project: Cat Scratching Posts**

For our community project we made cat scratching posts out of sustainable materials. First of all we walked down to Carpet Choice and the lady at reception took us next door into a little shed and let us pick out a 5 metre roll of carpet offcuts to use to wrap around the posts for FREE! Next we had to find some wood and posts so we could start our project. We went to ask the school maintenance men and they managed to find us 3 tabletops which were just what we needed. We knew a local builder and he gave us some offcuts of old pergola posts and very kindly cut all our wood to size for us, so that was fantastic! We bought a 15 metre packet of wood from Mitre 10. In the end, we made 5 all together and were very proud. We are selling them for \$20 each and are giving the left over money to the RSPCA.

'We didn't use all the activities in the manual as there was a time constraint,' replied Nellie when asked to describe the program. 'We modified some of the activities to suit our students. They responded quite well to a lot of the activities. I also added in some activities. There weren't any hands-on activities in the science area. There was ecology theory but not hands-on experiments. So I added in some water testing components, some activities to do with bacteria and the environment. We created our own CSI Challenge<sup>3</sup> science investigation for environment. We invited one of the local groups to talk to students about water testing. Looking at macro invertebrates in the environment looking at what is in the water. It was an excellent unit'.

The culmination of the unit was completing a community project. The students were required to identify a problem in the community and consider ways they could help alleviate that problem. They were given a relatively free rein to visit organisations and work with the organisations. The projects were to be linked to sustainability. 'They were doing the project and, at the same time, were learning about leadership,' said Nellie. There were almost 50 students doing projects. They worked in groups of two or three.

'In the manual students have three choices of how to do their projects,' explained Nellie. 'The first option is to do a research task, second enterprise, and the third an employment related task. Because some of the students were just turning 15 years old we didn't consider the third option. They had a choice of the first two options and all the students chose the enterprise task. It was more attractive to the year 9 students.'

**Student project: Red Rosella**

At the start our project was supposed to be building a Go-Kart but the teacher did not approve it so we decide to change it to bird nesting boxes. First we got samples and designs from Ms. Warrick. Then we built our first prototype. After that we arranged the wood from different places and built as many boxes as we could. We got our wood from MITRE 10. We had to get our funding to buy the wood from our parents and teachers and we have returned half of the loan already. Now we are trying to sell them.

<sup>3</sup> CSI Challenge – Creative Sustainability Investigators – a resource provided in the TLfS program to promote leadership and team work through challenging outdoor activities

Two of the seven year 9 classes have completed their community projects based around sustainability. 'It gave them more direction,' said Nellie. 'They had to work harder, but the projects were better than the others. Most of the non-sustainability projects focused on raising money for an organisation. Sustainability has given them a stronger focus.'

At the end of the unit, the school held a presentation evening where the student groups presented their findings to the school and local community. 'The presentation evening went really well. It was a huge thing for the students to talk in front of 100 people,' reflected Nellie. 'They all did a good job, they took it seriously and no one backed down. It went really, really well. It was a great way of doing things.'

When asked about the TLfS material, Nellie replied, 'A lot of the material was useful, but we modified a few. We thought some of the activities were a little bit too wordy for year 9 students. Some of the activities we turned into hands-on activities. We tended to do the activities as "one off".

Student project: Horsham College Compost  
The aim of project is to turn the large pile of straw into compost by collecting food scraps each week and when it is ready we are going to sell it and make money for the Horsham College Agricultural Yard. We collected vegetable and fruit scraps from the supermarket and left containers in the junior canteen, junior staff room, special school, senior canteen, home eco buildings and the senior staff room to make the teachers aware that we need the scraps. When the composting looked ready to sell we put them in large 50kg and 20 kg bags and we also rang up the Wimmera Mail Times and put an advertisement that will keep running until all the compost is eventually sold and we also put a advertisement in the Horsham College Newsletter.

Rather than giving students a manual we ran off the activities that we were using. We would do it better next time. I would like to run it again and incorporate more of the manual activities. I would certainly use aspects of the unit next year.

We had two or three meetings throughout the year with other schools to see how each one was going. The staff came together to see how they were going. None of the other schools were doing it the way we were doing it. We were the only ones doing the enterprise aspect of it. There was not a lot to learn from each other in terms of how the students have taken it on board. We didn't have time to network about how the materials worked. We should sit down with Pat and Jane and discuss how the materials can be improved. We see them as resources for ideas.'

And what impact did it have on the students? 'Working on the projects the students gained more confidence in dealing with people they did not know. Ringing people and making connections was a huge thing. My home group, who weren't so good at completing the materials in class, loved the concept of the project so much that they did a mini project last term. They all enjoyed the project work so much they wanted to do a second one. They really did enjoy the concept of doing something that made a difference in the community. That had a positive end result where they would raise money for a group who help others.'

When asked about community involvement as a result of the project, Nellie replied, 'People in the community are always very busy. We had one group who was highlighting pet adoption in the community and they had a number of the people working with them and they came and visited the school. We did bring more people from the community into the school but it wasn't to a great extent. It was more about students getting out into the community.'

Have you noticed any change in student behaviour? 'The odd minor one at the time of the unit, there was a lot of focus on switching off lights and such things. There has been very small growth, but I wouldn't say there was marked change. I'm not noticing marked change.'

### **6.3 Case study Goroke P-12 College**

Goroke is a small rural school with just over 100 students in classes from prep to year 12. In 2009 there were nine year 9 students. The Principal was strongly supportive of the TLfS project and attended TLfS meetings and workshops.

Jill, a teacher of year 9, attended a workshop with Pat and Jane where a number of community people spoke about their areas and how they could work with schools. 'The manual is terrific it sets out all the ideas and the leadership activities,' explained Jill, 'but I felt overwhelmed with it and how to go about doing it. And I must admit once we had the community speakers involved, I knew I wanted to join the project.'

One speaker was Adam Blake from the Trust for Nature who described a block of land called Minimay that was 20 minutes away from Goroke. 'We found out about Minimay at the meeting,' said Jill. 'I enjoyed Adam's exuberance and I asked him to come out and speak to the students, which he did. I had no idea that there was a block of land out there until Adam talked to us.'

Jill discussed the idea of a project at Minimay with her nine students and they agreed it was a good idea. 'The project was stimulated by my meeting with Pat and Jane,' explained Jill, 'otherwise I would never have thought about it.'

Minimay is a Trust for Nature site which consists of old growth and revegetated areas. Bulokes are an important species growing on the site and the area is frequented by the endangered red tailed black cockatoo.

Deciding how to use the site was a major hurdle at the beginning of the project. Adam suggested they set up a research activity based around the following two hypotheses:

1. That nesting boxes in the revegetated area will be used more by arboreal species such as gliders, bats and birds more frequently than in old-growth areas.
2. That the revegetation for biodiversity affects soil, moisture and chemistry and results in change to invertebrate density and composition.

The group based most of their work on the second hypothesis, and investigated the revegetated and old-growth areas: Students checked the soil moisture, pH and counted the bugs in the soil, although it was too early in the investigation to see any difference between the two areas. They also participated in tree planting and developed observation sheets. 'That was what we based most of our work on,' explained Jill. 'We haven't yet put in the nesting boxes, and we will do that next year.'

Much of the student learning was a result of visiting the site. 'We realised during this activity that the students knew very little about clouds and so we spent some time exploring their shapes and purpose, reflected Jill. 'We have used it as an outside classroom. We also invited out a naturalist, Harvey, and he showed us how to conduct habitat monitoring. How to set up another observation

sheet, how to estimate canopy cover and what were the dominant species of trees, shrubs and grasses.'

It is a year-long project and Jill ran it along side the SOSE program, although it crosses over the curriculum. There is quite a lot of science in the program, and she hopes to work with the science teacher in the future. 'We spent more time on it than I had expected,' explained Jill. 'We set up observation sheets and at least once a term we went out to the block to do our observations. We keep these in a folder and in 10 years time will be able to use the records to compare the biodiversity.'

The project is seen as long term and this year's students will introduce next year's year 9 students into the project at the start of 2010. The aim is to monitor the property over time.

Jill sees the potential of using the site in other ways. 'I can see great learning opportunities for Minimay as an outdoor classroom. We have VCAL students and there are lots of opportunities to work with the community groups.' Indeed another local school is investigating the possibility of also using this site in their curriculum.

How were the TLfS materials used at the school? 'I didn't use it as much as I should have,' lamented Jill. 'They are brilliant. I think the materials are fantastic. I love the way the leadership activities are set out. They are easy to follow. However, our students do Advance which is part of the Duke of Edinburgh award and they do a lot of leadership activities in that program. However, we will be using the activities more next year. I won't use all the activities because of Advance. We want to complement or supplement the Advance program. There is definitely a place in the curriculum for these materials.'

#### **6.4 Lessons Learnt**

- ❖ TLfS is in the early stages and is still emerging as an accepted educational program, and it faces the difficulty of breaking into an already crowded curriculum. One of the schools that attended the workshops, Edenhope P-12 College, was keen to implement the program but was unable to find a place for it in their curriculum. At Horsham SC the program had a tentative toehold in two of the seven classes. At Goroke P-12 the Minimay project is established and destined to continue, although the growth into leadership may be limited by the existence of another leadership program, Advance.
- ❖ In the light of the experiences over the past 12 months, the activities and materials provided by the program should be reviewed. They were well received although teachers 'cherry picked' from them: They reworked some of the activities and designed new ones to suit their programs.
- ❖ The two case studies illustrate the flexibility of the program. At Goroke P-12, it developed as a whole-school scientific project that is ongoing and long term, while at Horsham SC, it took the shape of shorter, enterprise projects.
- ❖ This evaluation was limited and was unable to determine the extent to which the program is influencing students' attitudes towards sustainability. There was good evidence, however,

that the students were successfully learning and establishing community-based action through the group projects.

- ❖ The TLfS projects have led to increased student involvement in the community. At Goroke P-12 the students are actively participating with naturalists in a land restoration program, while at Horsham SC the students have actively sought out people in the community to complete their projects.
- ❖ Linking schools with community is important. The TLfS team were instrumental in bringing together community groups and schools to discuss possible projects and developments. Teachers from Goroke P-12 school were introduced to Adam Blake from the Trust for Nature and this led directly to their ongoing research project. Other community members were effectively used as speakers at the forum.
- ❖ The workshops are vital for the promotion and implementation of the TLfS program into schools. This was highlighted at Horsham SC. The teachers who attended the workshops implemented the program in their classes, but only one other teacher implemented the program, albeit in a minor way.

## Appendix 1 Pre and post student survey

Student Name: \_\_\_\_\_

School: \_\_\_\_\_

Tick one box for each question

	Nothing	Very little	Some	Plenty	A great deal
1. How much do you know about the Horsham region?	<input type="checkbox"/>				
	Nothing	Very little	Some	Plenty	A great deal
2. How much do you know about water distribution system in the Horsham region?	<input type="checkbox"/>				

Please hand this form to the teacher travelling with you to the forum.

## Appendix 2 Final student survey and summary of results

1. Write down three things that you have learnt about the about water issues in the Wimmera Mallee region

N = 59

Item	No	%
Details about the pipe line – pumps same, length	35	59.3
Ways of saving water/importance of saving water/wasting water	20	33.9
Value of water/dependency on water	20	33.9
Influence of climate/rain affects the crops	17	28.8
Water in Taylor's lake	12	20.3
Channels waste water	10	16.9
Pipeline saves water	9	15.3
Tourists and water: use more water/ has a large effect on area	4	6.8
Water is flowing into rivers and some lakes, but not others	5	8.5
It is a big issue	3	5.1
Ponds for wildlife	2	3.4
Difficulty of distributing/sharing water	2	3.4
10 year drought	4	6.8
Grampians is the main catchment	1	1.7
Indigenous involvement	1	1.7
What to do with channels?	1	1.7
Learnt about team work	2	3.4
Poor quality of water from channels	1	1.7
Taking water for granted in city	2	3.4

2. Write down three things that you have learnt about working in a team.

N = 59

Item	No	%
Include everyone/ every one speak up/cooperate/respect/communicate	39	66.1
Share ideas and opinions/plan/contribute/say what you think	28	47.5
Different interests, views, strengths and abilities: use them	17	28.8
Makes tasks easier/anything is possible	19	32.2
Making new friends	13	22.0
Learn about different cultures/ life experiences/country-city divide	18	30.5
Have fun	5	8.5
Other	6	10.2
<i>New things</i>	2	
<i>People self conscious at first</i>	1	
<i>There doesn't need to be a teacher</i>	1	
<i>Write everything down</i>	1	
<i>Shy, quiet people are the best to work with</i>	1	

3. What are three things that you have gained from attending the Forum?

N = 59

Item	No	%
<b>Friends</b>		
Making new friends/closer friendship with school colleagues	44	74.6
<b>Knowledge</b>		
Knowledge about/passion for the environment and sustainability	25	42.4
Knowledge about Horsham/crops	22	37.3
Knowledge about climate/ climate change	7	11.9
Better understanding of farmer's situation	10	16.9
General understanding/information	5	8.5
Knowledge of water	3	5.1
<b>Personal development</b>		
Leadership and team building skills	13	22.0
Public speaking skills	8	13.6
Sense of accomplishment/life time experience	7	11.9
Be involved; People want to help; power to change	5	8.5
<b>Enjoyment</b>		
New dance	7	11.9
Fun and laughter	6	10.2
Free food	3	5.1
<b>Other</b>		
The Longerenong College	4	6.8
Milk farm smells	2	3.4
Ideas for school improvement	1	1.7

## Appendix 3 Student comments

- *In the city, we don't really understand the problems*
- *Being able to see this amazing place and lifestyle*
- *Broader understanding about life*
- *How young people do have the power to change things*
- *Skills in team situations that have made me a better listener and helper*
- *Understanding of the farmers' situation*
- *From attending this forum I have gained a lot of friendships, and the understanding of the country life and how hard it is to manage a farm.*
- *I met great people that all had a great passion for the environment.*
- *Everyone has different strengths and weaknesses.*
- *Not everyone has the same opinion and thoughts, so we have to come to an agreement that suits everyone.*
- *Everyone's life experiences are different. For example one of the Melbourne guys said they were expecting us country ones to rock up in flannys and footy socks.*
- *I learnt about the conditions that farmers are in and how much the drought has affected the rural community.*
- *Thanks to everything*
- *I wish we could come back and the same people could be heard.*
- *Thanks heaps. It was a very good experience to be had. I would gladly come back.*
- *I loved meeting new people. Thank you.*
- *Lovely experience!!*
- *Thanks.*
- *Thank you.*
- *Thank you.*
- *It was awesome.*
- *Thank you.*
- *It was good.*
- *Get better beds!*
- *Very enjoyable.*
- *This is a great forum and a great experience for all.*
- *The forum was a great opportunity. I learnt so much about this area and climate change. It made me more aware of how we need to save water. I made some great friends and it was good to learn about how the Melbourne kids live.*
- *The food was good but this snitzel's weren't that great.*
- *It would be good to have more forums in the future all over the Wimmera/Mallee and even Victoria to make other use is aware about sustainability.*
- *I made some awesome new friends!*
- *It was fun!*
- *Yummy food.*
- *This was a great camp, meeting new friends and learning about their lifestyle and how they live differently to us. I would have liked longer time in some activities as some didn't have much time.*
- *It was a great camp where a lot of different people from a range of places got to know each other and learn about the Wimmera region. We could have had longer time to do activities and to make more friends. It was a great experience and should be done again.*

- *It was a great experience.*
- *I had a great time.*
- *This camp has been great, great friends, friendly people and really good respect.*
- *I love this camp. I gained a lot of close friendships, everyone was great and it was very good to see that all people fitted in so well and had no trouble with it.*
- *It was a great camp and are you going to do it next year? P.S. keep up the good work.*
- *I had fun and it was well organised.*
- *I have learned a lot more about the region and the region's water.*
- *It was a good time.*
- *The forum is a great idea but I have to say, if the government wants our views as teenagers, what happens to the views of everybody else? Why don't they create a survey to every member of the community about the water distribution?*
- *This was a greatly challenging but rewarding experience.*

## Appendix 4 Comments taken from teacher and presenter emails

- Thank you for bringing such an outstanding event to the Wimmera.
- I hope you had a chance to have a restful weekend after all your hard work! The forum had a big impact on our kids and they got so much out of it, as did I. Many thanks for all your effort and hard work
- We just had a camp debrief and the kids... They LOVED the camp!
- The kids were telling me today that there is a Facebook Group for the camp called 'Collective Passion' and all the kids have put their photos on it and still stay in contact! How fantastic! Well done. It was a huge success!
- Feedback from our students about the conference was all positive (crammed but positive).
- My year 9 students and I have had a great debrief today about last week. The students all loved the forum and were very positive about all aspects of it. They really enjoyed mixing with the Melbourne students. It was great to see their eyes opened to the fact that they are just normal kids like them. One student commented on how speaking to a big group like they did last week helped her feel much more confident about speaking in public or to a group. Thanks again for all the work you, Jane and Andrew put into last week.
- Thanks so much again for the wonderful opportunity to attend the forum. I had a great time, learnt so much and really enjoyed the time away with my students during this very busy time of year. I would be very interested in being involved further, so please send me any relevant information or be in touch if there are any other ways I can become involved.
- Thanks for the opportunity to discuss the region with our next generation of young adults. Last week whilst visiting the West Wimmera Shire I was told by some proud parents how well the program had run and that their children now happily debated the water issues around their kitchen table. Well done to the organisers.