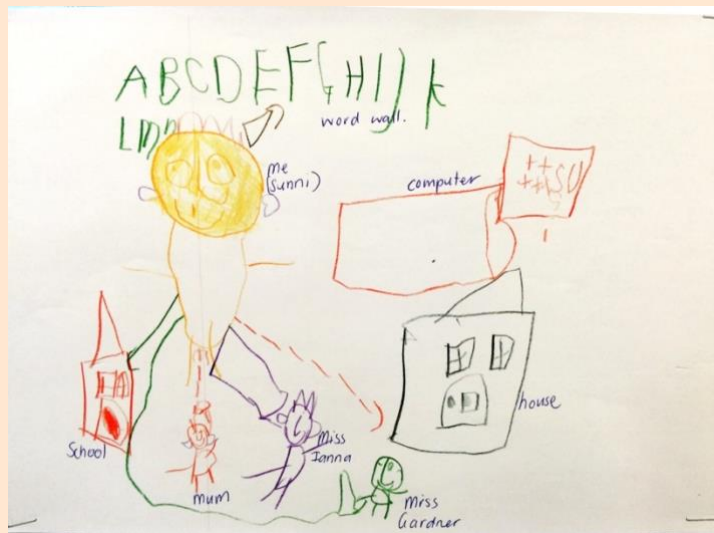


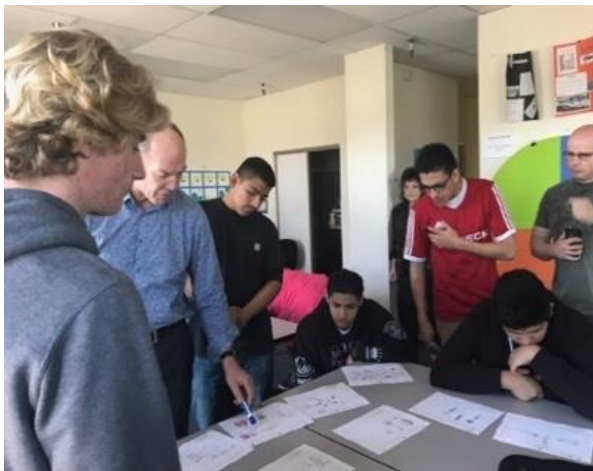
Learning-How-To-Learn

‘Infinity Learning Maps’

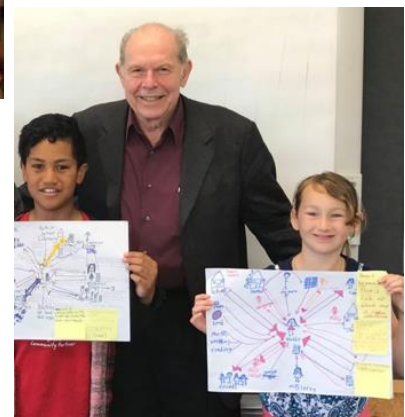


Brian Annan & Mary Wootton
Infinity: where the learning never ends

Two organisations providing foundation support for young people to thrive in their learning and living in our modern world.



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About the Authors

Dr Brian Annan is based in Auckland and works with schools and communities across New Zealand, Australia and USA. Brian originally developed a version of learning maps as a school principal to support boys with significant behavioural challenges. In recent years, Brian with co-director Mary Wootton alongside Mel Kaplan and Sharon Tucker from the Harry Singer Foundation, has developed the concept considerably. One significant development is supporting students to link their personalised learning data with global competencies for learning and living now and into the future.

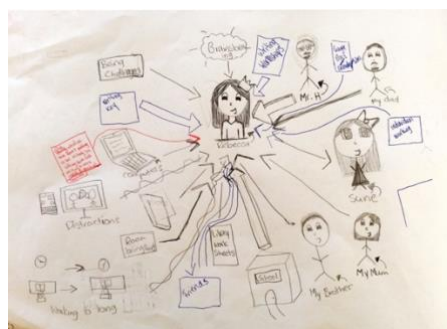
Mary Wootton, who resides in Wellington, the capital city of New Zealand, is a renowned teacher and professional development (PD) provider. She has considerable expertise in assessment, literacy and teacher practice. Those attributes, combined with Mary's masters research findings (1st class honours) about school leaders and PD providers transferring ideas effectively to teachers, positioned Mary to become an outstanding lead facilitator of the Infinity Learning Maps approach. Mary's deep knowledge and engaging facilitation is successfully creating more balanced arrangements in student learning responsibilities, teacher practice improvement and parent support.

Acknowledgements

Students and young adults. We admire Te Awhitu, Joenah, Caitlin, Sunni, Rodrigo, Ariana, Diego and the many other students who have found value in the Infinity Learning Maps approach and taken steps to improve their learning situations. Every child and young adult has a learning success story in them and the capability to build on that story.

Teachers, school leaders and parents. A big thank you to our NZ colleagues for support and critical feedback, in particular Glenda Stewart, Rata Street School, Kelly Layton, Konini Primary School, Marsha Wilcox and teachers, Tolaga Bay Area School, John Wootton and the teachers at Adventure School. We also acknowledge Australian leaders for supporting the approach; Peter and Merran Campbell, Gary Carter and Henry and Deborah Grossek and teachers. Also the determination of Chris Devers and the teams of teachers to improve Alternative Education and Corrections programmes in Monterey County, California USA, is impressive.

System leaders. Many outstanding leaders around the world are adjusting learning systems to ensure our children and young adults prosper now and well into the future. We have been positively influenced by some of those leaders and want to thank them for the impact they have had on our thinking and actions: Jean Annan from Positively Psychology; David Epston and Michael White from family counselling; Etienne Wenger and Albert-Laszio Barabasi respectively from the fields of communities of practice and networking; and, Valerie Hannon, Charles Fadel and Michael Fullan in tracking global learning trends.



Introduction

Purpose: Learning how to learn

Teacher note. This e-Guide has been written in language that is accessible to students. There are places in this e-Guide where we provide advice directly to teachers. Those places have shaded boxes in blue that are notes for teachers and leaders. We suggest teachers read the entire e-Guide and watch all the videos to gain an overview of the activities before you support your students to get started.

The purpose of mapping is to reflect on your learning and living and make some improvements for a positive future.

We engaged with many schools and alternative education sites across New Zealand, into New South Wales and Victoria and in Monterey County, USA over the past few years to introduce the Infinity Learning Maps ideas.

The mapping exercises discovered learning trends among the students in each region, some context-specific and others general across most settings. A general trend for example, is that some students wanted to move from being shy to being confident in their learning.

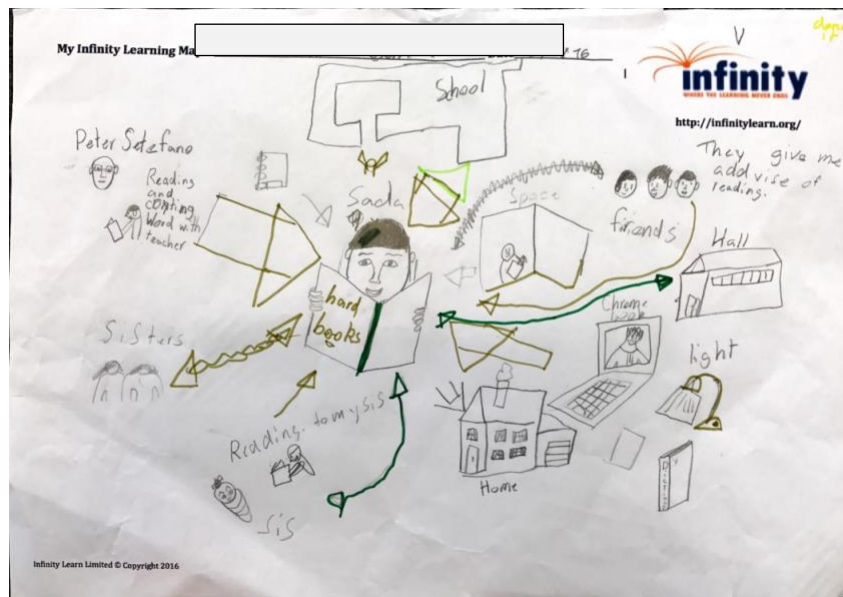
Listen to a student from Salinas, California, a student from NZ and two junior students talking about their learning , comment about the process of the Infinity Learning Maps

<http://bit.ly/DeigoComments>

<http://bit.ly/RebeccaChange>

<http://bit.ly/6yearoldsmapsandchange>

We have three expectations of you as a student as you ‘learn how to learn’



- **Be active** Avoid being a passive student, waiting to be told what to do and when to do it. Make it happen!
- **Ask for support** when you need it. If you do not understand something, ask a friend or your teacher to explain things until you do understand.
- **Believe in yourself** from the beginning. See yourself as a capable learner.

Everyone can draw an Infinity Learning Map – every map is a right map!

Terminology

First off, we will explain two terms; *Infinity Learning Maps*.

- **'Infinity'** represents a place where the learning never ends. You are free to explore learning in any direction. As you explore, find your interests in learning, follow them and make connections with other areas of learning. As you grow your confidence in learning, new windows of opportunity will open.
- A **'Learning Map'** is a drawing that you will complete. Your Learning Map will show the interactive web surrounding your learning: the people, the tools, the places and the interactions that help you to learn. You and your teachers will use your map in several different ways as you go through the process. You will step back and spend time talking with your peers, friends, family and teachers about your map. You will then reflect on your interactive web and identify an area of your learning that you would like to improve. You will then make that improvement and learn to adjust, adapt or change the way you are learning.

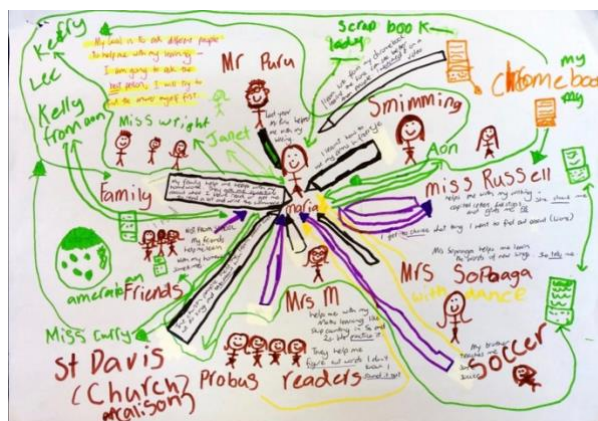


Why 'learn how you learn'?

Our strong focus on learning is because learning will help you live a vibrant and healthy life in the modern world.

If you reflect on how you are learning and living and make little adjustments along the way, you will develop positive ways to go beyond **survival and thrive** as you move into the future.

Infinity Learning Maps support you to figure out those little adjustments and take positive steps forward. The aim is to create new habits of reflecting on and adjusting your learning in ways that have a positive influence on your life.



Steps to improve your learning

The whole way of thinking, is about **you** improving the way **you** learn.

When you first start the process, you will focus on your current learning and what learning is most important to you now. The activities are a careful mix of creative and structured inquiry. The **creative** part is to draw a Learning Map and identify an area for improvement. The **structured** part is to monitor your success in making that improvement. These activities are designed to build your confidence in reflecting on and adjusting your learning to make positive things happen for you.



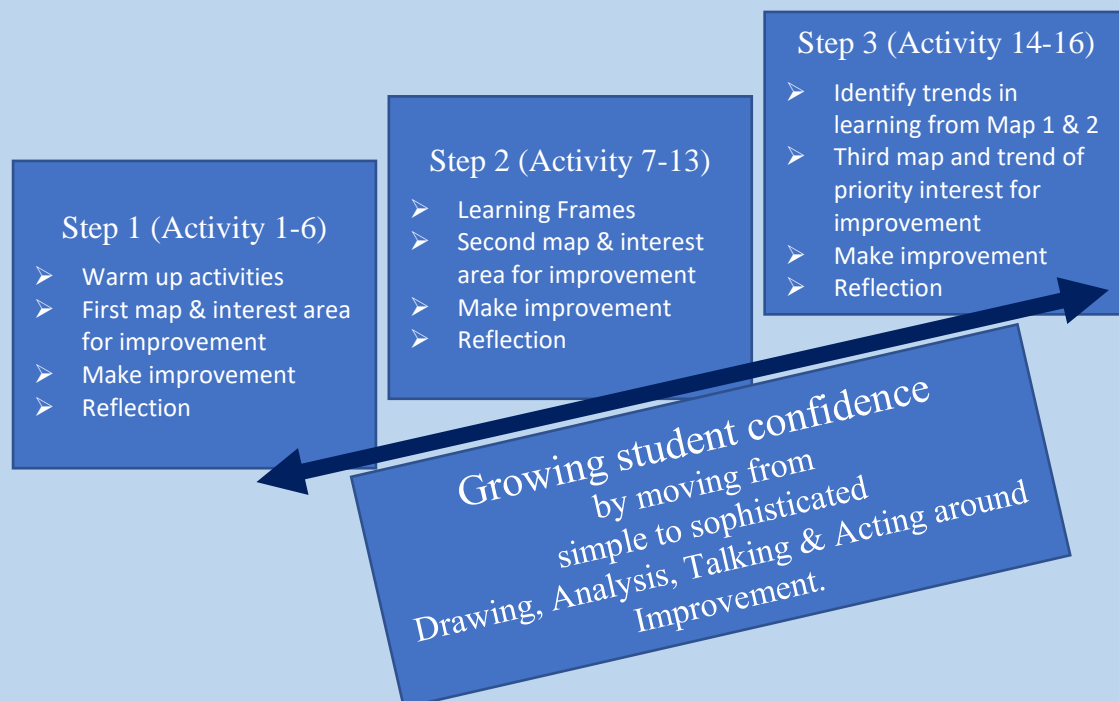
As you move on you will continue to discover how you learn. You will be encouraged to do some deep learning about your area of interest. Your teacher will help you with this deep learning. We suggest you use a mix of teacher support, talking with your classmates and your own efforts to learn more about your interest areas. You will then be introduced to some learning frameworks that will help you draw a second Infinity Learning Map

Later on, you will spend time analysing all the ideas that you have gathered in this Learning-How-To-Learn guide. You will use those ideas to identify what learning trends are most relevant to you to concentrate on next. You will then review this learning-how-to-learn process for its value in improving your learning. Our hope is that you take your new understandings about learning-how-to-learn into your everyday life and create a positive future for yourself and your loved ones.

Listen to other students talk about their maps

- Brian and Mary's earlier trip to Salinas <http://bit.ly/InfinityinSalinas2017>
- Other students talk about their maps
 - <http://bit.ly/JahkayaMap> A secondary school student NZ
 - <http://bit.ly/SunniMap> 5-year-old student Australian student
 - <http://bit.ly/GalileaMap> 18-year-old American student

Teacher note. The diagram below shows how the activities in this e-Guide are arranged from easy activities at the start to sophisticated activities at the end. The idea is to step things up in a bright and breezy way. The aim is to ensure that students feel in control to freely express the way they learn and how they think they can improve their learning. Step 1 is about leaving the students to their own devices as much as possible so they can see for themselves their thinking about their own learning. Then, Step 2 and 3 introduce some deliberate acts of teaching and strategic support to stretch the student's thinking about their learning and how they go about improving areas that need attention.



Activity 1: Your Learning

We suggest you do a warm-up activity about your learning before you draw your first learning map.

Teacher note. This activity is to ensure your students are thinking about learning. There are two examples. You know your students. Select the activity that best suits your students or design an activity of your own. Each activity in this e-Guide has a Template. There are links to a template for each activity for you to use if you wish <http://bit.ly/PDFtemplatesLMTS>. The templates are standard, but feel free to adapt them if you need to make them fit-for-purpose for your students. Activity 2 is more in-depth, allow time for your students to learn about the different types of learning.

Choose one of two examples for your warm-up activity.

Example 1. (No template required)

Think about something you have learned recently. It could be at school or outside of school. Think about how you learned it and why you learned it. Find a buddy. Tell that person these three things; what you learned, how you learned it and why you learned it. Teacher captures some of the learning on the whiteboard.

Example 2. Link to templates <http://bit.ly/PDFtemplatesLMTS>

Look at the Learning Frame below, which shows 14 different ways of learning – from “visual learning” on the left to “learning in networks” on the right.

Talk to a classmate about the different types of learning. Ask your teacher to explain the types of learning that you do not understand. This is not a complete list, you may wish to add some other types of learning and talk to someone about your thinking.



1. List the five ways of learning that you **have used** most in your life.



Explain to a classmate why you have used those ways of learning most of the time.

2. List three ways of learning that you **want to** use more in the future.



Explain to a classmate why you want to use those ways of learning.

3. List ways of learning that you think you **have to** use in the future to get ahead, whether or not you like those ways of learning.



Explain to a classmate why you think you have to learn in those ways.

Students need to learn-how-to-learn. Teachers, aides and leaders also need to keep learning to have successful lives in the modern world! Learning is now a part of everyday life.



Activity 2: Draw Infinity Learning Map 1

Teacher note. Here is a link to a video, which explains the prompts for students to draw their maps. Watch this video before introducing the maps to your students:

<http://bit.ly/InfinityLearningMapsTheProcess>

Draw an Infinity Learning Map of a current learning situation that you are engaging in and consider something to improve the way you are learning.

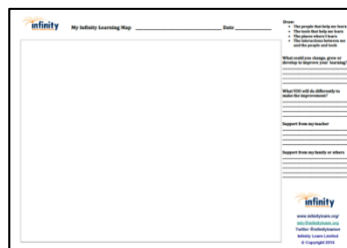
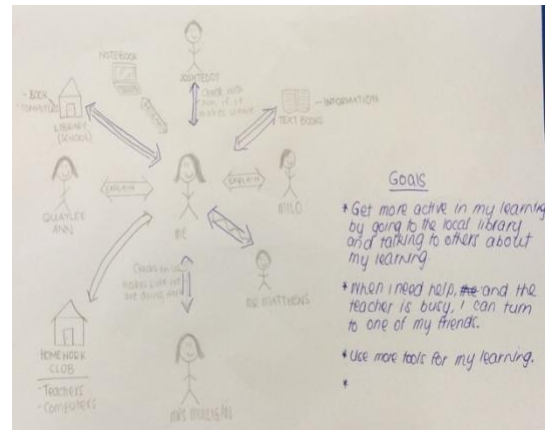
You could draw your map about the way you learn in general. Or you could choose an area of learning, that interests you or is challenging you, such as mathematics or writing or performing arts.

Go back to the warm up activity about your learning:

What do you want to learn,

What do you have to learn and

What is the most important area for you to learn?



One of those ideas might help you decide what to draw your learning map about

Here is the link for the A3 Learning Map Template

<http://bit.ly/PDFtemplatesLMTS>

- At the top of the page, write your name and date.
- Use felt pens, coloured pencils to draw your Infinity Learning Map

Overall tips for drawing your map

Infinity Learning Maps support you to draw the interactive web between the people, the modern-day tools and the places that surround your learning.

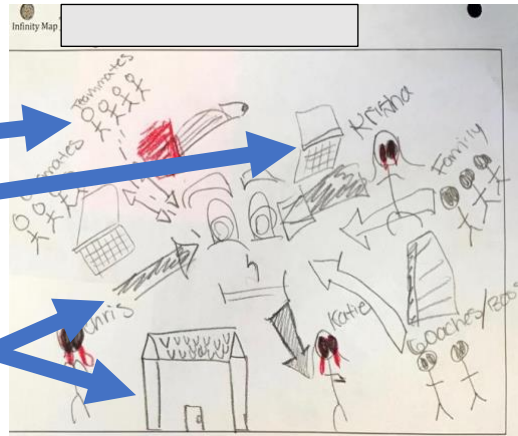
Teacher note. Re read the notes on page 3; why learn how to learn. This will support you to introduce the mapping to your students. How you introduce the mapping activity to the students is pivotal, the map is first and foremost for the students to help them understand their thinking about their learning.

- Make it clear to students that you are not going to judge or mark their Learning Maps.
- Every Infinity Learning Map is a right map!
- Creating a learning map is not an art competition.
- Simple stick figures of people, and sketches of tools and places or labels are fine.
- While students are drawing their maps, the teacher needs to resist the temptation to rove, prompt and/or comment. The teacher might want to draw their own map during this time.
- If students want to, they can colour and decorate later.

Here are the four prompts to help you draw your Infinity Learning Map.

Draw

1. The **people** who help you learn
2. The **tools** that help you learn
3. The **places** that help you learn
4. The **interactions** between you, the people, the tools and the places



- ### 3. The **places** that help you learn

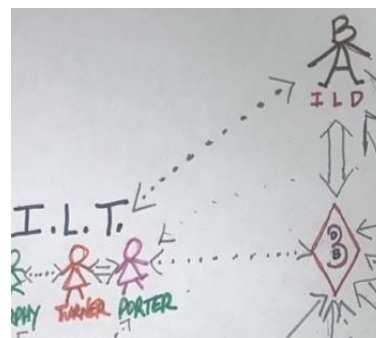
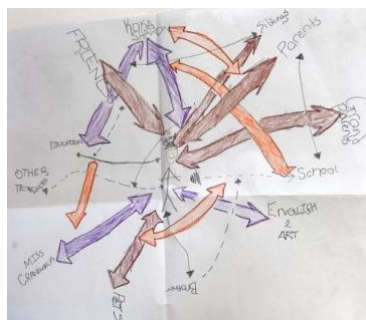
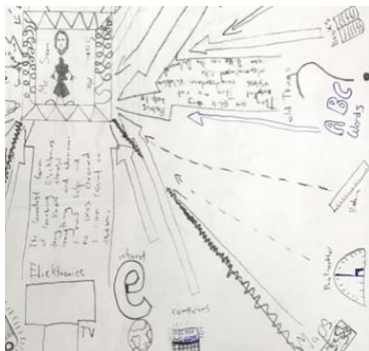
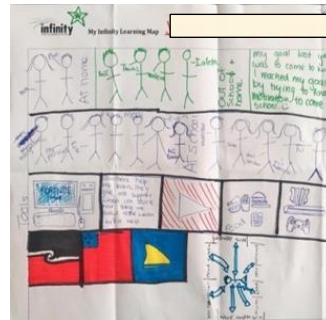
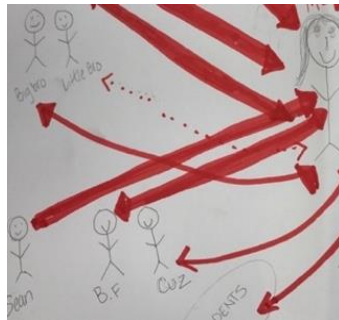
4. The **interactions** between you, the people, the tools and the places

Before you start drawing your map, the fourth prompt about interactions needs some more explanation.

Examples of interactive arrows

Arrows help show the **interactions and connections** between yourself and the **people, tools** and **places** in your Learning Map.








See below the range of arrows created in a few Learning Maps.



Examples of interactive arrows

Arrows help show the **interactions and connections** between yourself and the **people, tools** and **places** in your Learning Map. The table below explains the set of arrows that are used to create Infinity Learning Maps. Feel free to invent more arrows to show your interactions and connections. A copy of the table below for you to refer to while drawing maps

<http://bit.ly/PDFtemplatesLMTS>

A wide arrow	
A one-way wide arrow shows that the learning interaction or connection is very strong. The learning is going one way, from one person to another person. It is a directive learning connection.	
A two-way wide arrow shows that the learning interaction or connection is very strong. Learning goes both ways. This arrow represents ako (Indigenous Māori term) or a reciprocal learning connection.	
A thin arrow	
A one-way thin arrow shows a learning interaction or connection does exist and that learning is going one way from time to time.	
A two-way thin arrow shows a learning interaction or connection does exist and that the learning is going both ways from time to time.	
A dotted arrow	
A one-way dotted arrow shows the learning interaction or connection is going one way, not very often.	
A two-way dotted arrow shows that the learning interaction or connection is going both ways, not very often.	
No arrow	
No arrow indicates that there is no learning interaction or connection between you and the person/tool/place.	
A messy arrow	
A messy or challenging arrow shows the learning interaction or connection is not comfortable, possibly a negative relationship, but there is still learning happening.	

Go ahead and draw your Infinity Learning Map using the four prompts; the **people**, the **tools**, the **places** and the **interactions** that help you learn.

Remember Every Learning Map is right!

Enjoy!

Activity 3: Your area of improvement

Teacher note. Here is a 'Making the Change Video Scribe' for teachers and students to better understand the suggested student-led approach to improvement.

<http://bit.ly/InfinityLearningMapsMakingTheChange>

Here is the link to the Activity 3 Template <http://bit.ly/PDFtemplatesLMTS>



Now that you have drawn your Infinity Learning Map, you need to decide which area of learning you want to improve. You may find this challenging. It might be the first time that you have thought about improving your learning.

Follow these steps, they will help open up your mind to possibilities of improvement. As you follow these steps, you may want to add to your map. Go ahead and make additions to your map. Your added bits may become part of your area of improvement.

Step 1. Get together with a classmate and describe your learning maps to each other. Be careful to explain how your arrows show your learning interactions and connections. The other person should listen to understand your learning situation and ask questions when they are not sure what you are saying, to help them understand your map.

Step 2. Give yourself about 15 minutes to look at your map and think about areas that you would like to change. Go back to the Learning Frames in Activity One to remind yourself of areas that are of interest and importance to you. List two or three areas for change/growth/improvement that you are considering making.



Change/Growth/Improvement Area 1.

Change/Growth/Improvement Area 2.

Change/Growth/Improvement Area 3.

Teacher note for Step 3. Purpose- for students to share their areas of change/growth/improvement

These points are prompts you can use with your students.

- Each classmate has a turn to share his/her list of areas of improvement.
- Show the group your map and explain how you came up with those areas of improvement and why you want to focus on them.
- The other three classmates listen and provide feedback on which area of improvement they think is the best focus for you.
- As a group, take time to discuss trends and patterns that are common to the group. Now, spend a few minutes on your own thinking about the feedback from your classmates and decide about which area of improvement to focus on.

Step 3. Get into a group of 3-4 classmates

- Each one of you has a turn to share your list of areas of improvement.
- Show the group your map and explain how you came up with those areas of improvement and why you want to focus on them.
- The other three classmates listen and provide feedback on which area of improvement they think is the best focus for you.
- As a group, take time to discuss trends and patterns that are common to the group. Now, spend a few minutes on your own thinking about the feedback from your classmates and decide about which area of improvement to focus on.



Teacher note. These prompts might help your student's thinking

- Could I improve my relationship with one or some of the people in my map to improve my learning? If so, how could I improve the relationship?
- Are there other people that could support my learning that are not in my map? If so, who are they and how could they support me?
- Are there tools on my map that I could use in better ways?
- Are there other tools that could support my learning that are not on the map?
- Are the places where I learn the most useful for my learning?
- Could I start exploring new places to learn?
- Would it help to change some of the interactions/connections with the people, tools and places on my map?
- What could I do differently to create more positive interactions/connections?
- Is there anywhere on my map where I get stuck? If so, why do I get stuck? What could I do differently when I do get stuck or when my learning gets tricky or hard?

Ok, time to make a decision. Write your area for improvement here.



Step 4. Now think about what **YOU** will do differently to make the improvement. This is about you deciding what to do differently, not others making those decisions for you. Write here what you will do differently to make the improvement:

Step 5. Talk to your teacher about what you have decided to do differently. Agree on what the teacher can do to support you. Write here how your teacher can support you.



Step 6. Think about how your classmates, friends and family or someone else could support you to make your improvement. Note, you need to ask people for the right amount of support, not too much and not too little. Write here how others can support you.



Activity 4. Create your personal data set

Teacher note.

The students will take a digital photo of their map and create a video explaining their map. The students also complete a google form so students and teachers can look for trends and patterns about the learning webs and change/growth/development areas for improvement.

In preparation teachers/school need to

- decide where and how the data sets - digital image of their maps, explanatory videos will be stored, and
- go to this google link <http://bit.ly/StudentdatabaseLMTS>
- right click on *MAKE A COPY LMTS Map 1 2020 data base for your school*. **Do not open it**
- rename for your school, personalise it to your context and share the link with your students, by QR code or a simplified bit.ly link by email.

Link to student template for Activity 4 <http://bit.ly/PDFtemplatesLMTS>

You need to store your ideas so you can look back on what you improved about your learning and why. Follow these three steps to gather and store your ideas. You will need your teacher to tell you where to store your information.

Step 1. Take a digital photo of your Infinity Learning Map 1. Store the photo.

Step 2. In pairs, go somewhere quiet and make a short (around 2-minutes) video of your Learning Map.

➤ In the video,

- describe your Learning Map
- talk about the interactions in your Learning Map
- explain your area of improvement
- describe what you will do differently to make the improvement
- explain how your teacher, friends, family or other can support you with your improvement.



Note: the sound needs to be clear and easy to hear.

You can produce the video in many different ways, e.g.

- Stand and hold your map to one side and explain it with a classmate filming you,
 - If you do not want to be in the video, put your map on a desk and have a classmate or you video the map while you explain it, or
 - Screencastify.
- In future videos you might want to compare your most recent map with your other maps and talk about what has changed to improve your learning.

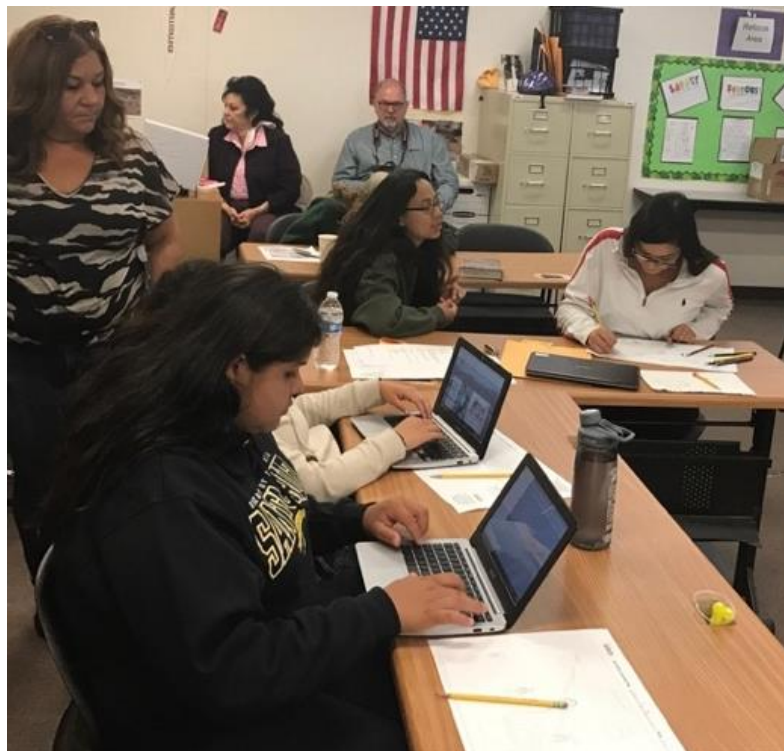
Step 3. Complete the google form to capture the data in your Infinity Learning Map. Ask your teacher for the link to the google form.

Teacher note. When your students have completed and stored their learning map, video and google form it is your opportunity to reflect on your students' thinking about their learning.

Go to this link to capture your analysis of Learning Trends that are emerging from your students' perspectives <http://bit.ly/LMTSTeacherdatabase2020> You will be adding to this google form overtime with future maps and analysis.

Some tips for your analysis:

- First, look at all your students' maps, watch the videos and analyse the google form data,
- Figure out if there are any trends in the students' maps, videos and google forms. The trends that you are looking for are;
 - The nature of the people, the tools, the places and the interactions (for instance, Mum might be prominent in all the maps or there may be very few two-way arrows). This might be whole school data. The next few questions will link specifically to the students you are working with. You can down load the responses to an excel spreadsheet and then filter the responses for a specific age level or class.
 - The nature/scope/depth of the areas of improvement, and
 - What students say they will do differently.
- Identifying any patterns in how the students have asked
 - You as a teacher to support them, and
 - Family and friends to support them.



Activity 5. Monitor your improvement

Teacher Note.

You can guide your students to monitor their improvement in at least two ways – and be creative if you would prefer another way, or ask the students to design a way. You may already have systems of reflection in place; for example a student blog, so where possible build on existing processes or integrate the students' learning reflections.

One way is to use a diary/journal – which will suit students who like to write. Another way is to add on to their maps – which will suit students who are more audio-visual. It is useful to set aside 20-30 minutes at the end of the week, or throughout the week for students to update their diary and/or their maps.

We have created two templates for this activity.

- One is in word <http://bit.ly/Activity5Monitorimprovementword> – so you can download and share with your students and they can record on their computers.
- The other template is as a PDF if you want to print off a hardcopy for the students to write on <http://bit.ly/PDFtemplatesLMTS>

While your students are monitoring progress in their areas of improvement, you can continue your reflective analysis of the students' data sets and keep the Infinity Learning Maps alive by encouraging students to:

- Actively seek out support from their teachers and parents to make improvements,
- Connect with classmates and friends to discuss their improvement approaches, and
- Engage in chat times in class to talk about their improvement progress.

Now that you have decided on an area of improvement, you need to take positive steps to make the improvement. One way is to tell the story of the steps you take towards improving your area of improvement. Another way is to add to your map, or change things on your map as you make your improvements. This is your opportunity to tell the story of your improvement over the next month via a diary and/or via map updates. Spend about half an hour a week on your diary (five minutes a day). You might just make a quick note or alter your map on days where little happens in your area of improvement. On the days when you do make considerable change, record those changes in more detail. You could design your own way to tell your improvement story.

Story of you improving your learning: Week One		
Date	Where you made the change? E.g. in class, at home, with friends, at the mall	What happened
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Story of you improving your learning: Week Two		
Date	Where you made the change? E.g. in class, at home, with friends, at the mall	What happened
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Story of you improving your learning: Week Three		
Date	Where you made the change? E.g. in class, at home, with friends, at the mall	What happened
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Story of you improving your learning: Week Four		
Date	Where you made the change? E.g. in class, at home, with friends, at the mall	What happened
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Activity 6: Reflect on your improvement

Teacher note. If this is the student's first map, we suggest a reflection after approximately four weeks from starting the mapping activities is a good timeframe. This first reflection is an opportunity for the students to consider their progress from their first map. The reflection has two parts to it: the progress made in their improvement area and what influenced the students to make the improvement. There is a template for them to gather their data <http://bit.ly/PDFtemplatesLMTS>. Then the students transfer this to a google form.

- Go to this google link <http://bit.ly/LMTSMapreflection>
- right click on *Map 1 MAKE A COPY LMTS Map 1 Reflection 2020*. **Do not open it**
- rename for your school, personalise it to your context and share the link with your students, by QR code or a simplified bit.ly link by email.

The time between maps is a decision you need to think about. Some schools create a map once a term, others do them three weeks before learning conversations with parents, others wait for when individuals are ready.

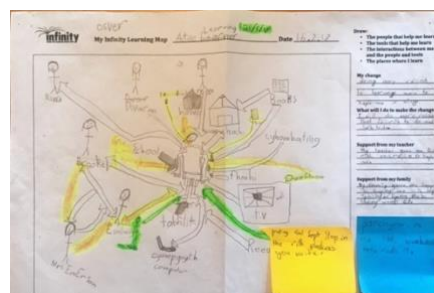
Now that you have spent some time working on your improvement area, it is time to reflect on your improvements.

You will need the following items for this reflective activity;

- your map with the improvement areas
- your video,
- and your improvement diary

Go ahead and record your reflective comments.

Step 1. Look at your map and video to remind yourself what area of learning you wanted to improve. Write your improvement area that you recorded in the google form before you started your diary/alterd your map and what you said YOU would do to make the change.



Step 2. Talk to a classmate about your progress in your improvement area. Choose one of the four ratings below to show your progress. Listen to your classmate's feedback before you rate yourself. Think about whether you are rating yourself too high or too low. Now tick the box to show your progress for improving your area of learning.

For my improvement area, I:

- Got started

☐

- Made a bit of progress

☐

- Almost got there

☐

- Made it

☐

Step 3. Explain why you rated yourself where you did.

Step 4. Explain what was most helpful for you to improve.

Activity 7: Learn more to draw Map 2

Teacher note.

In this section, you are going to expose students to a set of different learning frameworks. The purpose of looking at the frames is for the students to stretch their thinking about the most useful areas of learning. The intent is for those areas of learning to become the focus for their second Learning Map. Be selective about which frames you believe are best to share with your students. You might consider concentrating on one frame or several or using a different frame from elsewhere that you think will work best, a school frame or a local curriculum frame.

Your second map will be a step up from your first map. You now know a little more about the mapping and improvement activities than when you first started.

You may have some ideas about your next area for improvement that you want to focus on in drawing your second map. This section presents some frameworks that will help you explore a broader set of improvement possibilities. Our advice is for you to keep an open mind about your focus until the end of this activity.

Complete template Activity 7 to capture your thinking as you look at and talk about the frameworks. <http://bit.ly/PDFtemplatesLMTS>

Learning Framework 1. presents the learning areas in the New Zealand curriculum. These areas are what our government believe will be the most important learning areas to support you through life as a NZ citizen.

The New Zealand Curriculum



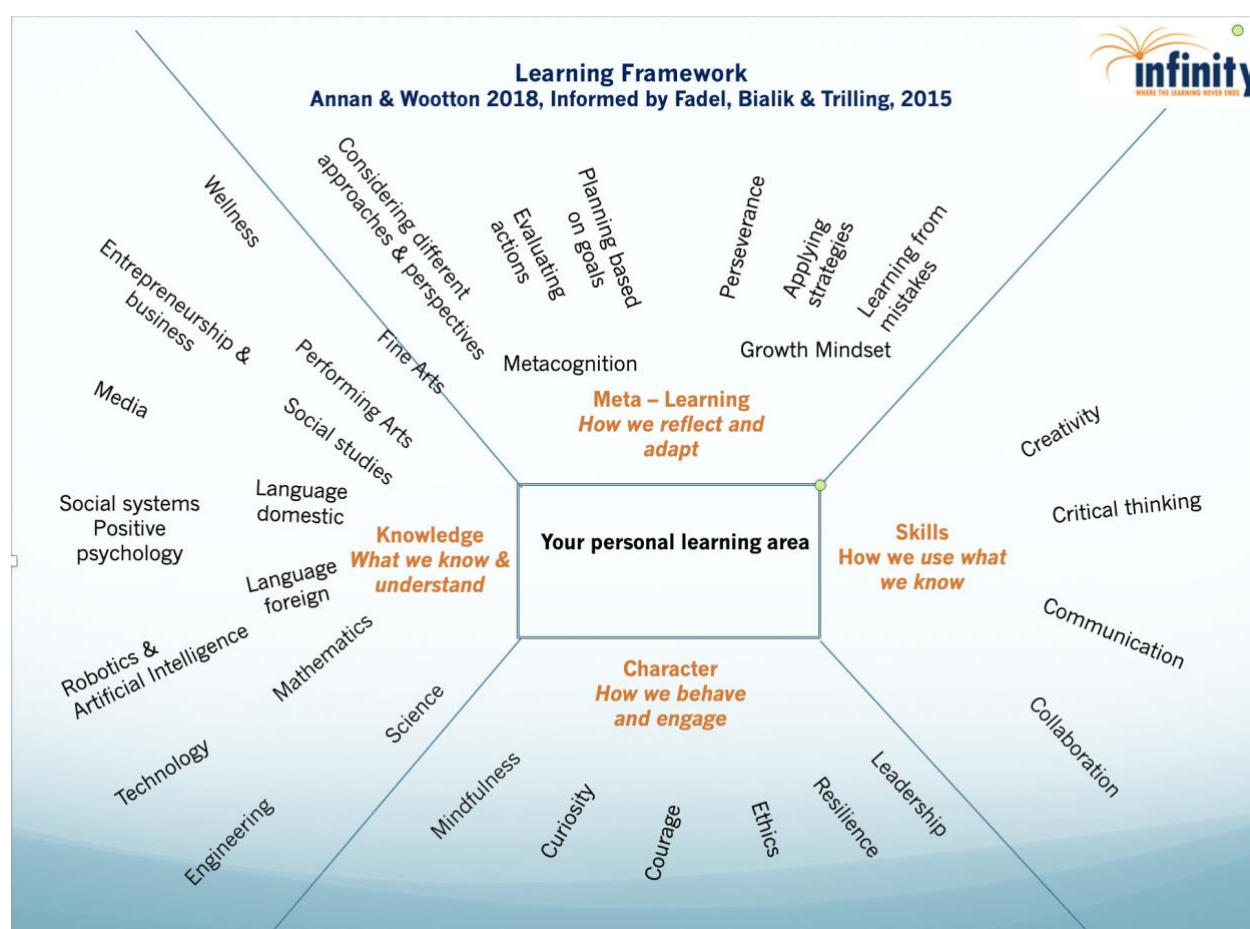
Discuss the learning areas in the NZ Curriculum Framework with another classmate. Ask your teacher to explain the learning ideas you do not understand. Use a felt-tip marker to circle the learning areas that you are most interested to improve.

List 3-5 learning areas that you circled in the Learning Framework above;

Learning area of interest	Reason why you are interested in that area
1.	
2.	
3.	
4.	
5.	

Learning Framework 2. presents learning options in four spaces that global researchers believe will be the most important learning areas that young people are going to need for the future (Fadel, Bailik & Trilling, 2015). The four areas are;

- **Learning-how-to-learn** at the top,
- **Knowledge-building** in the left space,
- **Skills-development** in the right space,
- **Character-growth** at the bottom.



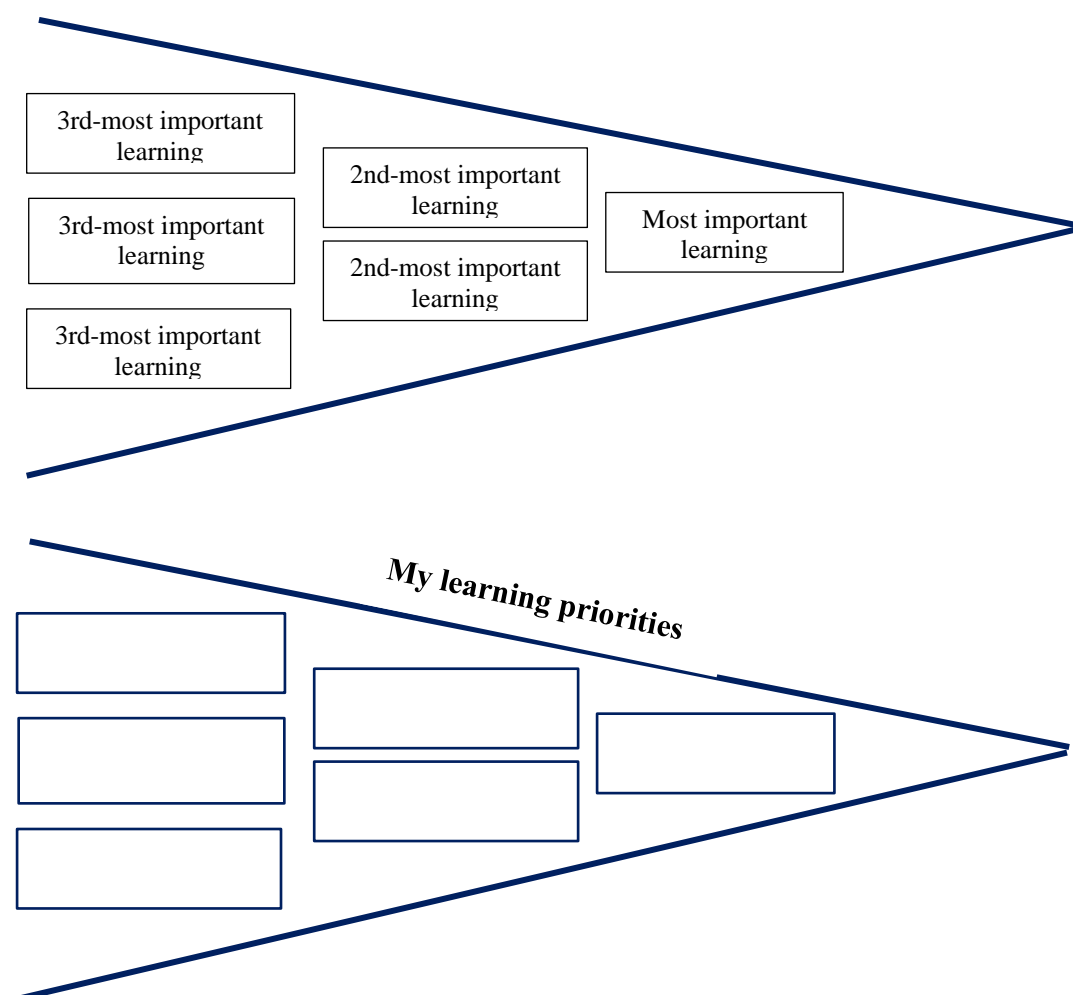
Discuss the learning areas in the framework with another classmate. Ask your teacher to explain the learning ideas you do not understand. Use a felt-tip marker to circle the learning areas that you are most interested to improve.

List 3-5 learning areas that you circled in the Learning Framework above;

Learning area of interest	Reason why you are interested in that area
1	
2	
3	
4	
5	

Now create a wedge graph to show the learning areas that you are most interested in improving. Go back and refresh your memory about your learning interests from your reflections from Map 1, from the NZ curriculum framework and the global learning framework;

- Place in the front box the **one** learning area that is of most interest to you right now,
- Place in the second boxes, the **two** next most interesting learning areas for you, and
- Place in the back row, the next **three** next most interesting learning areas.



- Discuss with classmates and your teacher why you prioritised those learning areas.

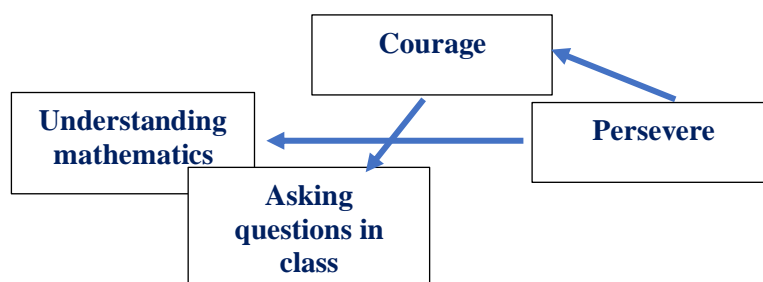
Activity 8. Fine-tune your focus for Map 2.

You are now going to prepare to draw your second Infinity Learning Map. The first thing you need to do is decide which learning area you are going to use to draw your second learning map. Use the template to guide you <http://bit.ly/PDFtemplatesLMTS>

After talking with your classmates and teachers about your wedge graph on the previous page, complete a table that shows how you think your ideas are linked. Only select 2, 3 or 4 ideas that you are most interested in improving. In other words, select the ideas that are going to engage you, interest you, excite you in your learning.

Example

This is an example of a student who wanted to ask more questions for understanding in mathematics classes. The student chose to focus on the idea of **perseverance** to improve her understanding in mathematics.



Write in the boxes below your most important learning ideas.

Be creative, arrange your ideas and use arrows to show the way they are linked together.

In one sentence, describe your learning area for improvement,

Activity 9: Draw your Infinity Learning Map 2.

Now it is time to draw your Infinity Learning Map 2. Follow these steps. A template can guide you <http://bit.ly/PDFtemplatesLMTS>

Step 1

Alter the four prompts to include your learning area.

See the original four prompts in the top left of the table below. On the right is an example of the prompts altered if **“Perseverance”** is your learning area.

Original prompts	Altered prompts for Active Learning
<ul style="list-style-type: none"> ➤ Draw the people who help you learn ➤ Draw the tools that help you learn ➤ Draw the places that help you learn. ➤ Draw the interactions that help you learn 	<ol style="list-style-type: none"> 1. Draw the people who help you persevere in your learning 2. Draw the tools that help you persevere in your learning 3. Draw the places where you persevere in your learning 4. Draw the interactions between the people and the tools that help you persevere in your learning
<p>Add in your idea to complete the four prompts for your Infinity Learning Map 2</p> <ul style="list-style-type: none"> ➤ Draw the people who help you _____ ➤ Draw the tools that help you _____ ➤ Draw the places that help you _____ ➤ Draw the interactions that help you _____ 	

Step 2

Use another A3 template to draw your second Infinity Learning Map.

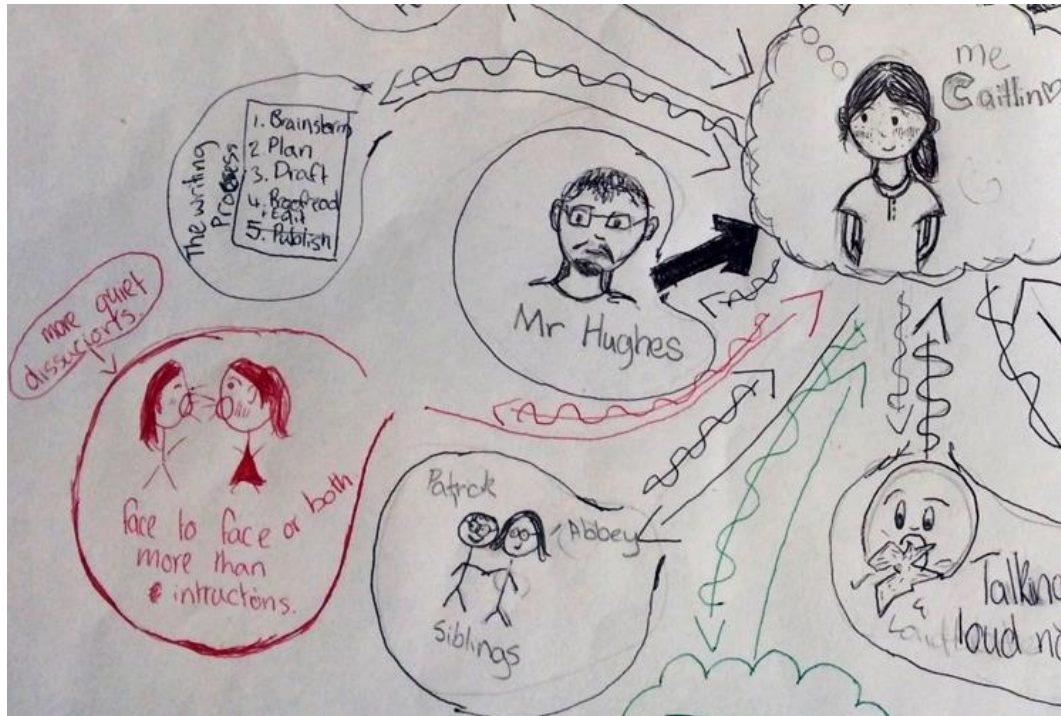
<http://bit.ly/A3maptemplate>

Draw your second map in two parts. Use one colour felt maker or pencil for the first part and a different colour for the second part.

The first part is about your current situation: Draw the people, the tools, the places and the interactions that are **currently** helping you to [persevere] in your learning.

The second part is about your aspirations (your desired or ideal situation): Draw the people, the tools, the places and the interactions that you believe will help you [persevere] in your learning.

Infinity Learning Map below shows the current situation in black felt marker and the aspirational part using a red marker.



This video link explains the red part of the map

<http://bit.ly/CaitlinChange>

Activity 10. Create your personal data set

Teacher note.

The students will take a digital photo of their map and create a video explaining their map. The students also complete a google form so students and teachers can look for trends and patterns about the learning webs and change/growth/development areas for improvement.

In preparation teachers/school need to

- decide where and how the data sets - digital image of their maps, explanatory videos will be stored, and
- go to this google link <http://bit.ly/StudentdatabaseLMTS>
- right click on *MAKE A COPY LMTS Map 2 2020 data base for your school*. **Do not open it**
- rename for your school, personalise it to your context and share the link with your students, by QR code or a simplified bit.ly link by email.

Now collect your data about your Infinity Learning Map 2. <http://bit.ly/PDFtemplatesLMTS>

- Take a digital photo of your map. Save the photo.
- In pairs, go somewhere quiet and make a short (2-minute) video to explain each other's maps.
 - In the video,
 - describe your Learning Map
 - talk about the interactions on your Learning Map
 - explain your area of improvement
 - describe what you will do differently to make the improvement
 - explain how your teacher, friends, family or other can support you with your improvement.
 - **Note:** the sound needs to be clear and easy to hear.
 - You can produce the video in many different ways, e.g.
 - Stand and hold your map to one side and explain it with a classmate filming you,
 - If you do not want to be in the video, put your map on a desk and have a classmate or you video the map while you explain it, or
 - Screencastify.
 - In future videos you might want to compare your most recent map with your other maps and talk about what has changed to improve your learning.
- Complete your google form. Ask your teacher for the link.



Activity 11. Improving your learning area of interest.

Teacher note. Here is the ‘Making the Change Video Scribe’ again – you may want to show this video to the students again.

<http://bit.ly/InfinityLearningMapsMakingTheChange>

Template to support Activity 11 <http://bit.ly/PDFtemplatesLMTS>

Now that you have drawn your second map and stored your data, you need to start thinking about how you are going to go about improving from your current state of learning to your preferred way of learning. We hope that your experience of improvement from your first map provides you with some confidence to take on this new challenge. Before you get started on monitoring your improvement, write a story about what you would like to do differently to improve your learning area.

My Learning Story

What I intend to do differently to improve in my learning area.

Activity 12. Monitor your improvement

Now go ahead and diary/journal the way you improve your area of learning, as you did in your first Infinity Learning Map. Spend about 30 minutes capturing your reflections; just a little note when things are quiet and more notes when you make considerable progress.

Design how you want to do this or use the template provided. <http://bit.ly/PDFtemplatesLMTS>

Teacher note. Teachers need to intensify their support to the students around the improvements after Map 2. Read the student's stories about what they want to do differently and provide some deliberate acts of teaching to support them into new and different learning practices. Take time to have one-on-one talks with students when they ask you for support. Additionally, keep the maps alive by encouraging your students to; seek support from their parents and create in-class chat times with peers and friends.

Story of you improving your learning: Week One		
Date	Where you made the change? E.g. in class, at home, with friends, at the mall	What happened
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Story of you improving your learning: Week Two		
Date	Where you made the change? E.g. in class, at home, with friends, at the mall	What happened
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Story of you improving your learning: Week Three		
Date	Where you made the change? E.g. in class, at home, with friends, at the mall	What happened
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Story of you improving your learning: Week Four		
Date	Where you made the change? E.g. in class, at home, with friends, at the mall	What happened
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Activity 13. Reflect on your progress

Now is the time to reflect on your improvements after completing Infinity Map 2.

<http://bit.ly/PDFtemplatesLMTS>

Retrieve your data sets for Infinity Learning Map's 1 and 2;

- Your pictures of your maps,
- Your videos describing your maps,
- Your two google form reports, and
- Your diary about your improvements.

Analyse the pictures, videos, google-data and your diary to identify the positive things (good, engaging, fun, successful) that are going on in your improvement attempts. By 'positive analysis', we mean follow these four steps:

Step 1. Review your data, that is;

- look at your maps,
- listen to your videos,
- read your google-data, and
- read your diary.

Step 2. to record positive patterns that you find in your data sets. A 'positive pattern' is something good/engaging/fun/successful that is happening. It could be

- some people that better support you to make small or large improvements,
- some tools that help you access the right sort of knowledge,
- a place that you have found where you can learn more easily, or be more challenged, or with more peace, or
- some interactions that help you address challenges that you struggled to overcome in the past

Step 3. Talk to your classmates, your teachers and your family about the patterns that you discovered. Your classmates, teachers and family might help you identify some patterns you did not see. Add those patterns to your template record.

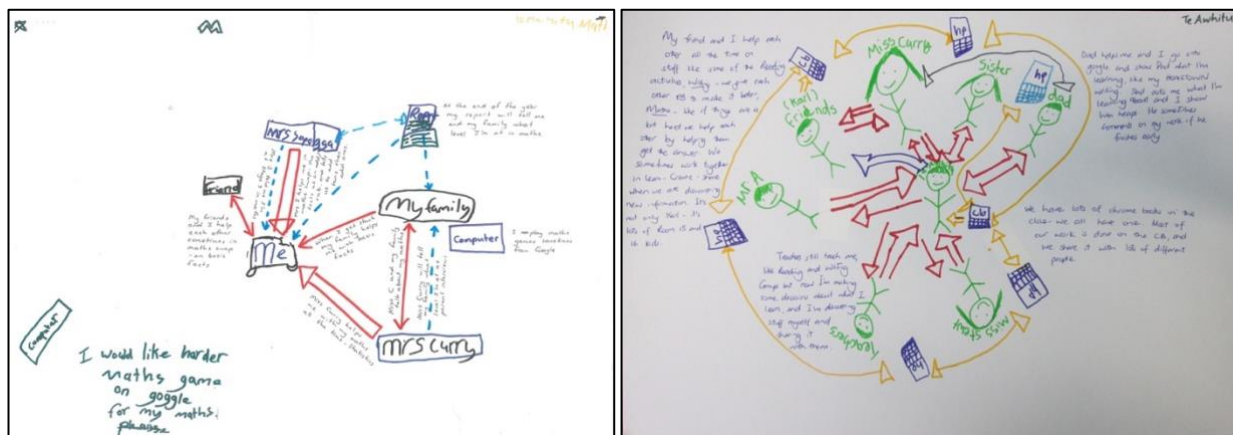
Step 4. Summarise two things

- the patterns that are helping you to improve.
- List the things that you have improved on in your learning.

You may want to complete your summary by writing or by recording a brief video (no longer than 2 minutes). Below are a few examples of students reflecting on their learning.

The first example is Te Awhitu a 10-year-old student, completing a self-review. He set up a self-recording to present Infinity Map 1 and 2, shared it with his Dad for review, then created a recording based on his Dad's feedback. Te Awhitu's growing awareness of his learning environment and taking responsibility to change it, is a fabulous story of student agency in action. Link to video <http://bit.ly/map1andmap2> Link to Te Awhitu's school newsletter about his learning <http://bit.ly/Teawhitunewsletter>





The second example is two written reflections from students who completed two Infinity Learning Maps in 2018.

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Student Reflection

I am happy I have achieved my first learning priority, this was to improve my understanding of Area and Blocks in maths. I achieved this by setting up an appointment with my maths teacher. I asked him if there was a good time we could sit down and help me understand Block Area. Our Math teacher has now set up a Math tutorial and I attend these so I can get a better understanding. My next change priority is to listen to teacher instructions so that I know what I need to do to finish my work. I have started taking notes and I ask questions when I don't understand.

(NZ Indigenous Student, 2018)

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Student Reflection

My learning priority from the start of the year was to participate more in class discussions. It was hard at first because I was shy and sometimes I wasn't sure if I had the right answer. I decided I would put my hand up and have a say at least one or two times in a class. This became easier and now I am confident to speak up. My new change priority is to have a better attitude towards class topics. I will keep asking questions until I really understand, I can also ask my friends and I can do my own research on my topic.

(NZ Indigenous Student, 2018)

Now it is your turn. Reflect on how the Infinity Learning Maps have helped you. Talk to your teacher about the best way to record your reflections; a video, write your reflections or another way you would like to present your reflections. <http://bit.ly/PDFtemplatesLMTS>

Name _____

My reflection

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WHERE THE LEARNING NEVER ENDS

Activity 14. Learning trends.

Congratulations! You have completed two rounds of mapping and improvement in your learning. The series of activities that you completed fit with the science of meta-cognitive learning. Meta-cognitive learning is about stepping back, reflecting then adapting to improve your learning and/or living circumstances. We want you to engage in one more meta-cognitive learning activity before you branch out into a few other options.

Learning trends

This next activity is about identifying learning trends that are relevant to you. The idea is to identify the trends then learn more about them in order to make further improvements in your learning. <http://bit.ly/PDFtemplatesLMTS>

A learning trend is something that lives within the patterns attached to your learning. You identified trends in your learning in the previous reflective activity. Go back to those trends. Read through the trends again. Create some labels or headings that best capture the trends. Those labels or headings are your trends. Your teachers and the Infinity team will also look at your patterns and suggest some trends that are worthy of improvement.

Teacher note. Teachers should seek student permission to share their data (maps, videos, google-forms) with the Infinity team to identify broader learning trends across multiple contexts. Some of those trends are likely to be relevant to the students. Localised data sets are extremely important, but the exercise can become insular with a false sense of development without bigger picture data sets.

Below are two examples of trends that the Infinity team discovered from groups of schools that they supported who were trying to improve learning.

The first set of trends are from students in 350 schools that engaged in the Learning and Change Networks strategy and created Learning Maps data from 2013-2015. The data found that many students who were struggling with their learning were passive and isolated in their learning. Fix-it improvement strategies were in place, which treated the students as needy of knowing old-school foundation learning in reading, writing and mathematics. It was a work-harder, work-longer environment and student disengagement was the norm for students challenged with academic learning. The tide turned with high levels of engagement and significant lifts in academic learning when the students, with support from teachers and whānau, focused on active, connected learning. The strategising also shifted to appreciating student capability, taking risks to do things differently inside and outside of school.

Learning Trends
Annan, B., GELP, 2015



Passive to active

Individuals to connected

Needy to appreciative

Known to unknown

Schools to ecologies

Salinas, Monterey County, USA



Shy Confident

Avoidance **risk taking**

Time on your hands **value time to learn**

One-on-one with teacher **lateral learning with other students**

The second set of trends are attached to students who used learning maps in several different alternative education programmes in Salinas, Monterey County, USA. In this case, the trends were more about students breaking away from their shyness or bravado to explore possibilities in learning. As they made small successes in their learning, they started to value time to learn and saw value in learning from their peers.

So what are the trends attached to your learning. Work with your teacher/s to identify the learning trends that are most relevant to the learning in your context (could be your class, school, community, city, region).

Learning trends in our context

➤ Learning trend 1:

➤ Learning trend 2:

➤ Learning trend 3:

➤ Learning trend 4:

Activity 15. Next steps

You now have some choices in what you do next. You can continue to advance your knowledge, skills and experience in meta-cognitive learning or you can branch into career pathways. Alternatively, you are welcome to design your own next steps, if there is something else that is more relevant to your future learning and living. Discuss the best options with your teachers and whānau. <http://bit.ly/PDFtemplatesLMTS>

Teacher note. We suggest that the students as a group negotiate the next steps with their teachers. Please note, that if you negotiate no further activities, there is still a final review to complete in Activity 16. The final review is for students, teachers and family and whānau who participated in the Learning Maps activities.

Option 1. More mapping and improving learning areas.

If you choose to continue with the meta-cognitive learning, we suggest at least two activities. Invent others if you now have a thirst for reflecting and adapting your learning.

Activity 1. Select one of the learning trends and draw a third Infinity Learning Map about you in relation to that trend. Follow the same pattern used in the completing the last two maps, that is;

- Draw a learning map,
- Make an explanatory video,
- Complete a google-data set,
- Identify a learning area for improvement
- Make the improvement
- Reflect on your improvements.

Activity 2. Co-design with your teacher a set of lessons about the Learning Trends that have been identified. Learn more about the trends through some intentional acts of teaching. You could also follow on with some student-led inquiries into the Learning Trends. You may be able to link those inquiries to credit courses that you are completing.

Option 2. Career pathways

Explore career possibilities that link to the learning trends that most interest you. More detail will be added to this section in the near future.

Activity 16. Final review.

Teacher note. There are two final review activities to complete. The first activity is for the student to create a story for themselves as a positive learner. The second activity is a set of surveys for the students, teachers and whānau/family who participated in the activities. The survey information will assist the Infinity design team to find out how useful the learning maps were for participants engaging in the activities. The design team will use the information about what was helpful and what could be changed to make the process even better.

Task 1. Your task here is to script a story of yourself as a positive learner. Everyone holds a script inside their mind about themselves as a learner. Having a positive view of yourself will help you face the many ups and downs in learning and life as you go through life. It is important to script your story in a way that represents your identity as the person you are, and will become. Your script is something you might go back and read from time-to-time. Your peers, teachers and whānau might also want to read/watch your script. Feel free to write, video or map your script. Here is the link to template for a map or suggestion below you do not need to limit yourself to this format. <http://bit.ly/PDFtemplatesLMTS>

Task 2. Teachers to distribute the google surveys to the students, whānau/family and teachers who participated in the activities. These surveys will be collated, analysed and reported on by the Infinity design team. These surveys conclude the Infinity Learning Maps activities in this e-Guide.

Link to student survey: <http://bit.ly/studentsurveyLMTS>

Link to whānau/family: <http://bit.ly/parentsurveyLMTS>

Link to teacher/school staff survey: <http://bit.ly/teachersurveyLMTS>

*My script about my life;
Positive learning and living.*

Name _____