

*'Learning should not only
take us somewhere;
it should allow us later to go
further more easily.'*

(Bruner, J., 1960)

~ CHAPTER ~

SIX

Assets for life:

**HOW CAN INQUIRY NURTURE
SKILLS AND DISPOSITIONS
FOR LIFELONG LEARNING?**

INTRODUCTION

If there has been one stand-out shift in the way I work as an inquiry teacher, particularly in the last decade, it has been the emphasis I now place on inquiring into *how* learning is taking place alongside *what* we are learning. The digital revolution has meant that schools are no longer the place students need to go to find things out, nor are teachers the 'knowledge keepers' they once were. Information is available almost anywhere, any time. With the devices we more frequently carry in our pockets, we have 24-hour access to a vast and ever-changing body of information in the most unprecedented and exciting way. It is now commonly accepted that simply 'knowing' falls a long way short of a valid learning outcome. If I want to know something, I can so often simply Google it. Activities that focus only on gaining and regurgitating information are no longer valid in today's classrooms – they have little to do with real learning. Inquiry is about coming to understand and learning how to get there.

In what is often described as the information age, teachers now have a much greater responsibility to help students build a repertoire of skills and dispositions that enable them to more effectively locate, access, understand and critique ideas, as well as design, create and share their own. When teachers use an inquiry approach to designing learning experiences for students, they provide an excellent opportunity to develop those very skills and dispositions critical for 21st century living. These skills must be developed for students to be able to inquire independently. While the significance of skills needed for inquiry has long been acknowledged, it has often been relegated to simplistic checklists. Skills have not received sufficient, explicit attention in planning, teaching or assessment.

Contemporary system-level curricula in various countries highlight the increasingly important role of learning skills and dispositions. In New Zealand, the Key Competencies are central to the curriculum. At the time of writing, the Australian curriculum, still in development, featured a set of 'general capabilities' that highlighted such skills as critical and creative thinking, self-management and social skills. The International Baccalaureate Program has long recognised the importance of such elements. In the Primary Years Program (PYP), the 'transdisciplinary skills', learner profile and attitudes ensure that the teacher's attention is not only focused on what students are learning but on *how* they are learning – and the kind of learner they are becoming. These are described as 'approaches to learning' in the IB Middle Years program.

Several educators concerned with developing students' understanding of learning processes and of themselves as learners have heavily influenced my thinking about skills and dispositions for inquiry. The work of Guy Claxton, in particular,

reminds us that our ultimate goal as teachers is to help young people become better learners, both in and out of school:

'Today's schools need to be educating not just for exam results but for life-long learning. To thrive in the 21st century, it is not enough to leave school with a clutch of examination certificates. Pupils need to have learned to be tenacious and resourceful, imaginative and logical, self-disciplined and self-aware, collaborative and inquisitive.'

(Claxton, G. 2011: 2)

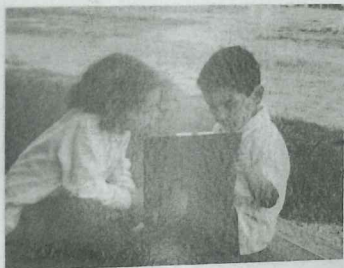
Claxton's work on 'building learning power' has taught us a lot about the need to focus very explicitly on what it means to 'do good learning'. I thoroughly commend his work for a detailed approach to helping students and teachers develop qualities for successful learning. Art Costa (2000) has been similarly influential in developing this emphasis on the learning process itself. His renowned 'Habits of Mind' provide a powerful framework of dispositions held by effective learners and he encourages us to, again, focus explicitly on these habits – to explore them and apply them across the curriculum. In more recent times, Carol Dweck's (2008) fascinating work has given us more insight into the impact our 'mindset' has on the way we learn. Her research reveals that people's beliefs about intelligence and about the nature of learning strongly influence the way they go about learning. Dweck's work with young people has shown that when we teach them *about* learning, especially about the ways in which our capacity to learn can be continuously strengthened rather than being 'fixed', their learning improves.

Helping students inquire into *how* they learn can require a significant change in teachers' priorities and a new way of thinking. Many of us have not given much explicit thought to this ourselves. Learning, ironically, has been a process rather taken for granted. What we know now is that spending time exploring such things as how we think, how we collaborate and how we self-manage helps us become more mindful, effective learners.

When we turn our attention to the 'how' and 'why' of learning (not simply the 'what'), something shifts in our teaching. We begin to pay attention and to notice the learning challenges and opportunities within tasks rather than focusing on the end-of-task outcome. The wonderful educator Elliot Eisner suggests that teachers can strengthen their work by adopting

Through thinking routines students are enculturated into thinking, developing both their ability and their inclination to think.

Ron Ritchhart



dispositions and ways of seeing aligned with the arts. He reminds us that 'form and content are inextricable – *how* something is said is part and parcel of *what* is said'. While this relationship of form and content is most vivid in the arts, it is something that the expert inquiry teacher notices and works with. In simple terms, this means we help students not only prepare an oral presentation but attend to the *form* of that presentation; not only listen to the story but consider how the story is *composed*; work on a collaborative project while simultaneously reflecting on how the *act* of collaboration itself is working.

'The good teacher, like the good short order cook, has to pay attention to several operations simultaneously, and they do.'
(Eisner, 2002: 7)

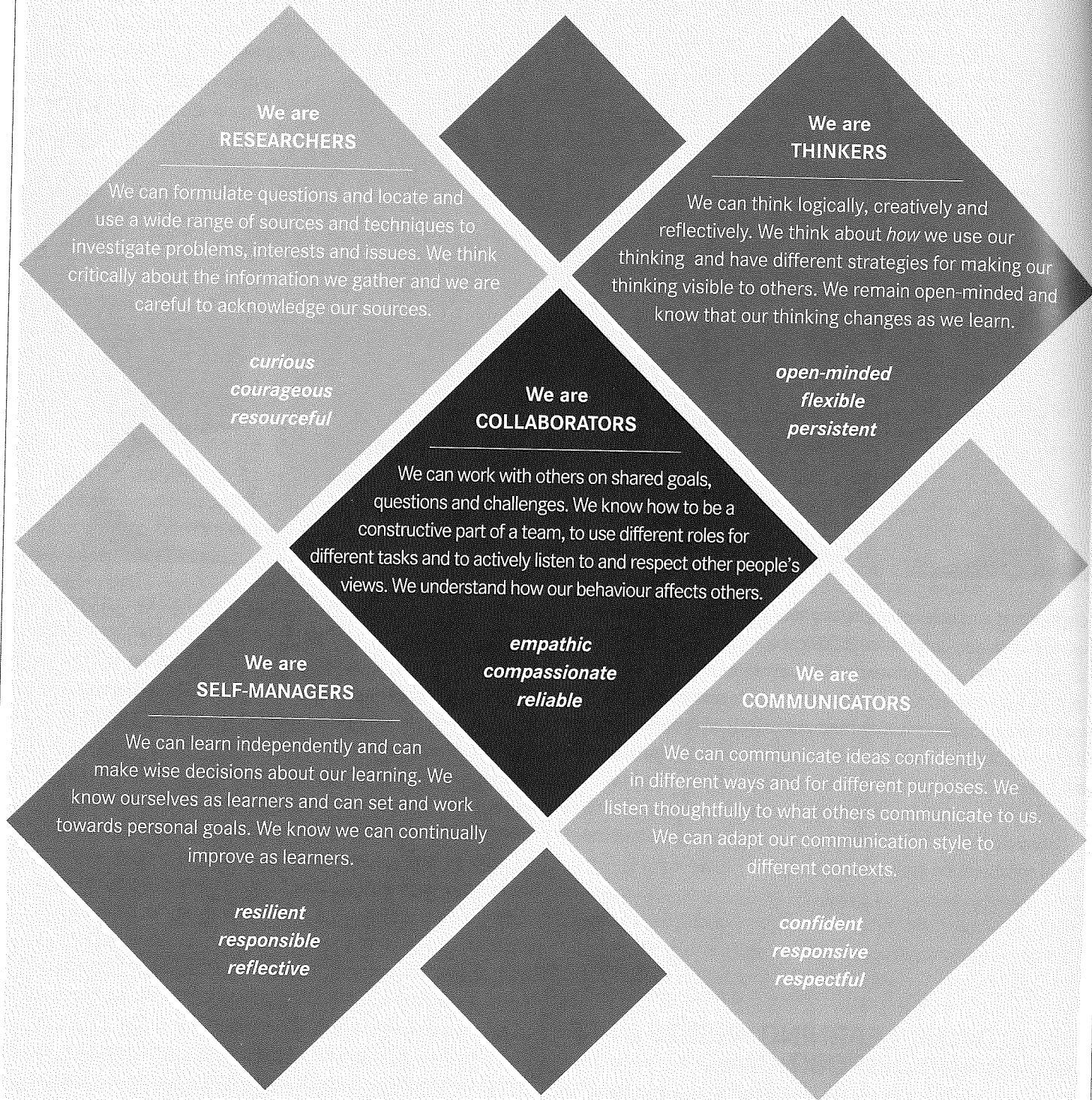
DEVELOPING LEARNING ASSETS – SKILLS AND DISPOSITIONS

When we consciously engage young people in inquiring into how they learn, we are developing skills and dispositions that act as important assets to them as learners – across the curriculum, in school and beyond. I have used this term 'assets' to describe the broad skill sets that are commonly required of the inquirer: thinking, collaborating, self-managing, researching and communicating. Each of these broad assets includes

multiple, specific skills. The metaphor of a tool kit is a useful one. If we think of each of the five assets as a compartment in the tool kit, the specific skills are contained within each of those compartments. Alongside the skills in this tool kit is what many describe as dispositions. The distinction between these terms is somewhat vexed and can be quite subtle, but it is important to consider. A simple way to conceptualize it is that skills are more about what the learner is 'doing' whereas dispositions are more about what the learner is 'being'. Dispositions can be seen as having a 'tendency' towards behaving in certain ways. Many argue that without dispositions, skills are carried out much less effectively. One can, for example, be skilled at formulating a rich question for inquiry, but without curiosity to want to find out, courage to go beyond the known and an open-minded attitude about the information gathered, then the skill of asking questions is of little real value.

There is no definitive list of skills, qualities or dispositions but there are hundreds of examples available. The table on pages 102 and 103 offers one framework for skills and dispositions for the inquiry learner. It is deliberately simple in scope and is one I have used over the last few years with many schools with which I am associated. My intention is to make the framework manageable for teachers and accessible to students from K–6.

DEVELOPING LEARNING ASSETS IN THE INQUIRY CLASSROOM – A FRAMEWORK



STRENGTHENING LEARNING ASSETS IN THE INQUIRY CLASSROOM – STRATEGIES FOR SUCCESS

The **learning assets** are transdisciplinary and generic and, therefore, not the sole the responsibility of the generalist classroom teacher. All teachers can be involved in explicitly supporting the development of learning assets. The following strategies help ensure that the assets become more than a set of 'signs on the wall' and instead remain consciously embedded in the learning life of each student.

1. USE AND TEACH STUDENTS SPECIFIC LANGUAGE TO ACCOMPANY THE ASSETS

It has long been argued that the language we use in classrooms plays a significant role in mediating children's learning experiences and cognitive development (Feuerstein, 1980; Costa and Marzano, 1987). When children are able to 'label' the more specific processes they are using as learners, they develop a greater understanding of the nuanced differences between the skills and strategies required to achieve a task. When language is used in this way, a number of important instructional strategies such as providing feedback, self-assessment, peer assessment and goal setting become more effective, as teachers and learners can converse about the process with greater understanding. Terms like 'thinking' and 'cooperating' are used extensively in classrooms but too often our discourse is vague. The following table provides some of the terms that are useful to include in dialogue with students of all age groups:

Talking about COLLABORATING	Talking about SELF-MANAGEMENT	Talking about COMMUNICATION	Talking about THINKING	Talking about RESEARCH
take turns	plan	eye contact	analyze	proposal
share	organize	body language	synthesize	search
compromise	persist	audience	create	skim
negotiate	self-talk	message	innovate	scan
debate	control impulsivity	volume	question	key terms
team	consequence	tone	wonder	critique
respectfully disagree	reflect	product	imagine	resource
empathize	goal	explain	hypothesize	reference
role	responsibility	inform	evaluate	source
feedback	initiative	engage	reflect	primary data
agreement	independence	convince	sequence	secondary data
disagreement	choice	argue	connect	trustworthiness
protocol	self-assess	debate	empathize	judge
affirm	time management	props	compare	expert
encourage	persistence	visual	contrast	method
unite	risk taking	curate	strategy	fact
confer	resourceful	contribute	predict	opinion
moderate	leadership	dialogue	clarify	evidence
consensus	motivation	impact	contemplate	recording
consult	intention	declare	construct	information
equity	awareness	disclose	deconstruct	probe
participate	mindfulness	argue	evidence	permission
structure	conscious	digress	justify	scrutinize
collaborate	unconscious	counteract	fact	evaluate
	resilience	debate	opinion	author
	focus	text	infer	compose
		gesture	assume	edit
				publish

2. REVEAL YOUR PURPOSES: A) MAKE LEARNING INTENTIONS CLEAR

Learners tend to learn more effectively when they are clear about their purpose. Knowing where you are going does not mean having to have every task mapped out in detail but it does mean clarity of purpose. Recent research has confirmed the value of sharing learning intentions with students, focusing not on what they will be 'doing' but rather on the *learning* that is taking place through the doing (Hattie, 2012). Even when teachers share the learning intentions with students, they can be too specific to the task and lack important transferability. For example, the teacher might say:

'We are learning how to design questions to interview our visiting scientist.'

In fact, the learning intention would be better phrased as *'We are learning how to design questions for an interview'*. The context in which this intention is being met is the interview with a scientist, but it is the skill of designing questions that becomes the *transferable intention*.

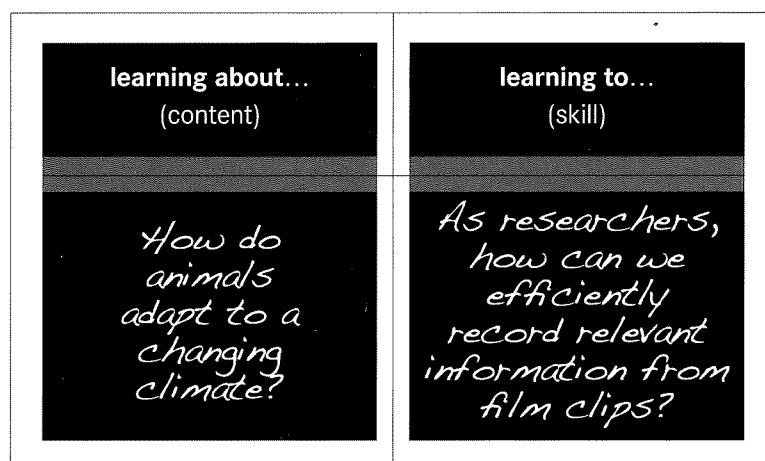
One effective strategy for sharing learning intentions, with the assets as the focus, is to adopt Claxton's 'split screen' teaching

approach. I often use this when facilitating inquiry workshops for students and find it a great way to help ensure we have shared clarity about the learning focus of the session. Creating a 'split screen' learning intention reminds us all that we are continually focusing on learning to learn while we are learning 'about' a concept or exploring a question. The 'split-screen' metaphor acknowledges learning as layered and complex.

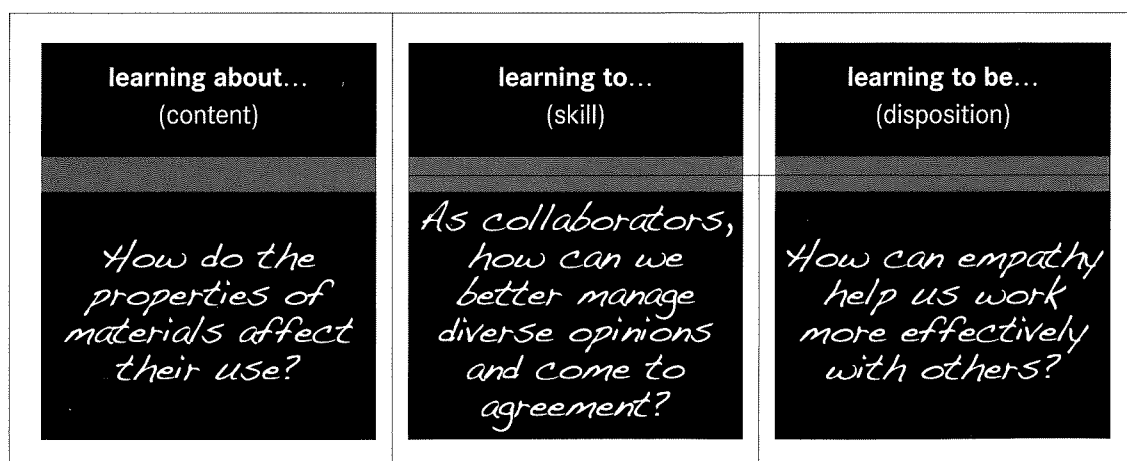
In keeping with an inquiry-based mindset, learning intentions can be formulated as questions rather than questions or statements. For example:

- instead of: *'We are learning how to disagree respectfully when working in teams.'*
try: *'How can we disagree more respectfully when we are working in teams?'*
- instead of: *'We are learning about the impact of early explorers on the Australian landscape.'*
try: *'How did the early explorers affect the Australian landscape?'*

The split screen idea can then look like this:



Or a triple split screen that identifies the 'content', skill and disposition central to the learning task, like this:



use different learning tools to find out about things

Efficient

Initial thinking about 'efficient'

- Robin & Eden - efficiency??

- Arabella - 'in one has put my learning goal on the learning wall, one

someone has been efficient in putting the learning goal on the learning

wall' - using the word in a sentence as an example

- Blanca - To be efficient is to do something

use our prior knowledge

2B) LEARNING INTENTIONS AS QUESTIONS

The intentions we have for students' learning should be clear. They are not teachers' secret business. However, instead of documenting an intention as an inevitability, ('We will learn'...) an inquiry teacher may pose the intention in the form of a question ('How might we?'...). In effect, the process of inquiry helps reveal the answer.

Students themselves can be involved in creating the learning intentions linked to a task. Using the language of the learning assets, ask the students to suggest what skills and dispositions they think will be needed/strengthened by the task.

As learning assets are explored and worked on over a year, more and more specific 'tools' are added to your students' inquiry repertoire. Keep a record of the skills you have focused on. Students may use these as checklists or menus for themselves. You may also devise some kind of digital bank of skills you have highlighted, create a booklet or other easy 'go to' resources or simply use a set of anchor charts to refer to on the wall.

However you choose to do this, it is important that students are aware of what they have learned to 'do' and 'be' and are able to refer this repertoire in subsequent inquiries. It is only

through practicing the skills and using them across contexts that mastery can be achieved.

Supporting students in selecting assets they want to build for their own tool kit means that we need to know them as people as well as learners. Through observation, conversation and consciously taking the time to reflect on the strengths and needs of each student, we can make useful suggestions about areas for improvement. Effective teachers know the students who need to strengthen their collaborative skills, who find it difficult to take risks or who need to work on organization and self-management. The following tables provide a menu of specific sub-skills for each of the learning assets. These menus can be:

- used to help formulate learning intentions for planning purposes
- used to help develop self-assessment checklists
- used by teachers and students to help shape personal learning goals and provide feedback
- compared with similar lists in system level curricula and adapted accordingly.

LEARNING ASSETS FOR INQUIRY: (LOWER PRIMARY)

Collaboration	Self-management	Communication	Thinking	Research
<ul style="list-style-type: none"> • think and talk about our feelings with others • help each other in different ways • take turns • share our ideas with others • talk about how we can play/learn together • look after and share materials with others • look after the materials we use • listen respectfully to others • show others we are listening to them • use our manners when working and playing with others • record or retell what others have said • respect the rights, feelings and efforts of others • do our fair share when we are working in a group • learn and play with different people • do different jobs when we are in a group • share ideas about what our group could do • tell others about what our group has done/ is doing • think about what we can do to help our group do a great job • choose sensible places to learn/play together • use words to solve problems 	<ul style="list-style-type: none"> • think and talk about our feelings • come up with ideas for our own learning • think and talk about how we feel about our learning • make connections between what we know and new learning • stay focused on a task • express our new learning • use our mistakes to help us learn • ask questions to help us with our learning • get things done in time • set up and pack up for ourselves • think about and share what helped us learn best • think and plan before we start a task • think about the effect our thinking and behaviour is having on others • set ourselves a goal and work towards it • learn how to make a plan and follow it through • work things out for ourselves before we ask others • persist with our learning even when it is challenging • take responsibility for our things • listen to other people's feedback about our learning 	<ul style="list-style-type: none"> • use our body and face as well as words to communicate effectively • re-tell what someone has told us • ask questions of someone else • confidently share our thinking and feeling • speak to others in a way that helps them understand • use objects/props to help us communicate more effectively • create digital texts to communicate ideas • understand the difference between a question and a statement • understand what people 'say' with their faces and their bodies • communicate to people respectfully • use the right voice and language for different situations • listen carefully to what we are hearing and show others that we are listening • listen without interrupting • ask questions to help us understand • share our ideas in different ways 	<ul style="list-style-type: none"> • show and share our thinking in different ways • stay focused on our thinking • think of and share a question • think about and share how we have answered our questions • stay curious about what we are learning • reflect on what we feel and what we have learned • use visual organizers to show our thinking (e.g. Venn diagrams, spider diagrams) • find patterns • look for similarities and differences • make connections between ideas • think about and plan what we are going to do • talk about what we are thinking and share this with others • notice and explain how we are thinking and feeling • think about and explain how someone else might be thinking or feeling • talk about our thinking strategies • use our creative thinking to come up with new ideas and solve problems • challenge ourselves to take our thinking further 	<ul style="list-style-type: none"> • talk about or show what we already know about something • decide what we want to find out • use our senses to find out about something • ask a question to find out information • come up with ideas for how to find out answers to our questions • use the internet to get information we can understand • use the internet safely • ask an adult/expert questions to find out new information • use non-fiction books to get new information • use photos/pictures to get information • use stories/picture books to add to our thinking about different ideas/questions • use film clips/DVDs to get new information • observe things carefully to find out new information • share how our thinking has changed • record our new learning in words and pictures • find and contact people who can help us 'find out'

LEARNING ASSETS FOR INQUIRY: (UPPER PRIMARY)

Collaboration	Self-management	Communication	Thinking	Research
<ul style="list-style-type: none"> • share our ideas respectfully when we are working in a group • make wise choices when forming partnerships and teams • record or retell what others have said • respect the feelings and efforts of others • do our fair share when we are working in a group • compromise and negotiate when we don't get our way • give constructive feedback to others • encourage others to participate • devise an agreement before we begin a group task • use different roles when working in teams • seek and accept feedback from other team members • use strategies to deal with conflict when it arises in team work • be appropriately assertive and respectful when communicating with team members • manage time and stay organized as a team • understand and respect other points of view • question other people in a team to seek clarification, encourage participation and build cooperation • manage the influences that others have on us when we work in a team 	<ul style="list-style-type: none"> • listen to and act on feedback from others • take risks and challenge ourselves • set short-term goals and reflect on them • manage our impulses and think before we speak • support ourselves when we feel uncertain or challenged by a learning task • look back over our learning and set new goals • seek feedback to improve our learning • make a personal plan to ensure that a task is completed on time. • identify how and when we learn best • devise an action plan to help us work towards a goal • seek feedback from others to improve our learning 	<ul style="list-style-type: none"> • record the learning we gain from different kinds of communications • present our ideas and opinions to a range of audiences • evaluate the effectiveness of other presentations • express ourselves in new ways • design and use criteria to plan and assess our communication • select the right communication form for the purpose or context • persuade or convince an audience • keep an audience engaged when we are communicating our ideas • give appropriate feedback to others on their communication performances 	<ul style="list-style-type: none"> • think about and explain how someone else might be thinking or feeling • talk about our thinking strategies • give reasons or evidence to explain our thinking • be flexible and consider how our thinking can change as we gather more information and experiences • think about the potential consequences of actions • think back over our learning and identify ways to improve • transfer thinking strategies to different situations • consider how beliefs and culture can influence people's thinking • analyze information gathered from different sources and look for patterns and trends • think creatively to solve problems • think about how we are thinking and how we can use our thinking to respond to a challenge or complete a task • record our thinking in new ways • plan ahead and think through a task before we begin it 	<ul style="list-style-type: none"> • develop and refine questions to help us seek and gather information • seek and select the best source of information for the task • make a plan to systematically gather information • cite the sources of information we gather in appropriate ways • use both primary and secondary sources of information when investigating • record the information we gather in efficient and effective ways • be organized in our research • reflect on the information we gather • link the information we gather to the questions we have begun with • efficiently assess whether a text/source is right for us • judge the quality of information we gather using criteria • search the internet safely and protect ourselves • verify the source of the information we gather • understand the difference between fact and opinion • gather and use information ethically explain how and why our thinking has changed

3: BE EXPLICIT

As has already been suggested, the skills and dispositions needed for effective learning can make for engaging inquiry contexts in themselves. When we help students inquire into *how* they learn, we also have some great opportunities for explicit and specific teaching. A common misconception about inquiry learning is that simply exposing students to something or 'immersing' them in an experience will mean that they automatically 'discover' what we hope they will learn. Good inquiry teachers know that there is more to it than this. Yes, exposure and immersion are important; however, it is through quality questioning, deft 'noticing' and opportunities for reflection and feedback that deeper learning takes place. This is as true of skills and dispositions as it is of concepts.

If we want our students to, for example, develop their skills as collaborators, we need to do more than simply 'expose' them to experiences of working in a team. We need to layer the experience with explicit teaching that helps the learner uncover the techniques that work and don't work. This is true of all the assets.

Try the following techniques:

- **Model the behavior/skill yourself.** Ask students to reflect back what they noticed about the way you went about the task.
- **Break the skills down** and focus on specific 'micro' techniques for the students to practice. Instead of saying 'you need to manage your time better', inquire into the skill of time management and come up with some possible techniques to try out.
- **Provide strong and weak models.** For example show students what a powerful oral presentation can look/sound like and have them compare it to a poor one.
- **Invite students to talk to others** about their tips for successful collaboration/self-management/research etc. Ask older students, parents and experts in the field.
- **Identify particular students** who have strengths in certain skills. For example, there will be students who, as self-managers, are particularly organized and systematic. Ask those students to try to articulate what they do and how they do it.
- **Run short, focused teaching sessions** (or 'clinics') for students who recognize they need more support with particular skills.
- **Video students** for evidence of the skills in practice. Watch and analyze the films for self-assessment, feedback and peer teaching (particularly good for collaboration and communication).
- **Record conversations** and take notes, Apps such as AudioNote can be helpful for this.

4: USE THE LEARNING ASSETS AS THE BASIS FOR GOAL SETTING AND SELF-ASSESSMENT

When we invite students to set goals, we are giving them the message that they know something of their needs as learners and as people. We are respecting their self-knowledge at the same time as building it. Most importantly, we are giving our students one of the most useful gifts available to a human being, a sense of personal agency and control. Goal setting does not always have to be individualised. As a class, you can set a range of goals that build team spirit and cohesion and develop the language associated with effective learning. The learning assets are a useful platform from which students can design goals. Because the assets are cross disciplinary, they can be worked on across the day and in a range of subject areas. Students may select certain assets to work on as a result of feedback given to them by teachers, peers or parents. Assets may also be determined by the requirements of a task or project the student is working on. Interviewing students about themselves as learners can be a useful way to begin the process of personalising their goals – our job is to 'see' each of our students for who they are and to ask ourselves what we can do to help them become the best that they can be. This knowledge is gained in the way every teacher intuitively knows: through listening, observing, careful analysis of work samples and other data, stimulating talk and reflection and engaging with parents. The best goals are formed when we take time to confer with students one-to-one. Some questions that can assist this process include:

- What kind of learner are you?
- When do you like learning the most? When do you have the most fun?
- When do you find learning the least fun?
- What kinds of things challenge you as a learner?
- What do you think you are best at? What makes you say that?
- What is something you could teach others?
- What would you really love to be better at/know more about?
- Why? Tell me more about that.
- What do you think other people think you're good at?
- What is something you couldn't do in the past that you can do now? How did you learn to do that? What helped you?
- So, I can hear this is something you want to do/learn/be/get better at – how do you think that will make a difference to you? What do you think it will look/feel/sound like when you have reached your goal?
- What do you think might get in the way? Is there anything you are worried about?

- How do you think you might help yourself work towards this?
- How will you know when you have got there?
- Is there anything you will have to do or change to help you reach this goal?
- Would you like me to share some of my thinking about this with you?
- Would you like some ideas about how to help you work towards this?
- What can I do to help you?

5: MAKE THIS EVERYONE'S BUSINESS!

In many primary schools, the role of the specialist or 'single subject' teacher remains somewhat removed or separated from the bulk of the students' daily learning experiences. It is still the case that students in most primary schools attend specialist classes (e.g. art, music, PE, library, languages) once a week. Attempts to integrate the learning that occurs in specialist and generalist classes have often been shallow and thematic, sharing a common 'topic'. We know now that concepts offer a much stronger way to help students develop deeper understanding through integration. But skills and dispositions can offer another powerful vehicle for quality integration. The learning assets outlined in this chapter are, in themselves, transdisciplinary. They belong neither to particular age groups nor to particular subject areas. They are about life-long and 'life-wide' learning. When specialist and generalist teachers work together to promote common skills and dispositions, students have the opportunity to practice these in different contexts. Inquiry teachers give careful thought to the exploration of learning skills and dispositions as they plan. Co-planning with specialists or single subject teachers is a powerful way to ensure that these transferrable skills are indeed transferred.

6: TAKE THE LEARNING ASSETS BEYOND SCHOOL

Not only are the learning assets transferable across subjects and from specialist to generalist classrooms, they are highly transferable to situations beyond school. Helping students to see the way they can use these skills in their lives outside the classroom is a significant step in consolidating the toolkit. Drawing the connection between home and school can have profound benefits that extend beyond this skill set. One effective technique is to put an 'asset' in the spotlight for a week/fortnight/term. For example, you might focus on self-management. Have the students compose something about this for parents in the newsletter, on the class blog or school website. Include articles about self-management for the parents. Have students brainstorm the circumstances when they can be great self-managers at home

and at weekend activities. Students can ask parents about the need for these skills and dispositions in their work place. Have students seek examples of people demonstrating the asset in the local community. Opportunities to strengthen learning assets beyond the classroom are plentiful. Have students work on an asset as a home learning task, as shown below.

STRENGTHENING MY LEARNING ASSETS AT HOME

Name: *Michael*

This week, I will focus on: *self-management*

I want to get better at: *managing my time*

Because: *I am always rushing and I don't get stuff done*

I plan to: *Write a plan for each day and allocate times for tasks*

Use my phone's alarm to time how long things take

Get out of bed 30 minutes earlier to do my chores

Signed by: PARENT _____ STUDENT *Michael*

Reflection:

FURTHER STRATEGIES TO HELP STUDENTS INQUIRE INTO LEARNING

INTENTION STARTERS

Provide students with sentence starters to help them formulate intentions for themselves as learners prior to a task, a day or a week by articulating what they hope they will remember to do or be as a learner. This encourages a mindful disposition and also gives the student something to reflect back on at the end of the session. The template on page 107 can be used to make a set of cards from which students can select. They may state their intention orally or record the remainder of the statement on a Post-it note, displaying it in their work area or on the wall.

WHAT'S YOUR STATE OF MIND?

Gather together a collection of images to present to students either on cards or on a screen. I often use photos of animals or scenes from nature. At any time during the day, ask students to choose the image that they believe best represents their state of mind. This can be a quick yet powerful way to gain insight into how a child is feeling and how 'learning ready' they are. Ask students to consider whether the state of mind they have identified is one that will lend itself well to learning, and if not, ask them to consider which image they aspire to.

REFLECTION STEMS

While they have been around for many years, reflection stems are very valuable in supporting students to think back over their learning and to articulate their thoughts more easily. Sample reflection stems are provided on page 106.

THINKING ABOUT YOUR STRENGTHS

ARE YOU...

CURIOUS?

Do you wonder about things? Do you want to find out more? Do you ask questions? Are you fascinated by things? Do you take time to observe the world around you?

COURAGEOUS?

Are you a risk taker? Are you willing to try new things? Do you challenge yourself?

OPEN-MINDED?

Do you allow your thinking to change? Do you consider other possibilities? Do you try to find out other points of view?

FLEXIBLE?

Are you willing to do things differently? Do you adapt to changing circumstances? Are you willing to compromise?

PERSISTENT?

Do you keep going even when you experience setbacks? Do you stay on task and focused? Do you try different ways to achieve a goal? Do you stick with things?

RESILIENT?

Do you bounce back? Can you accept critical feedback? Can you forgive or move on after a difficult experience? Do you try to see benefits as well as problems in challenging or confusing situations?

RESPONSIBLE?

Do you own what you say and do? Do you avoid blaming others? Do you stick to expected agreements and arrangements? Can you manage your own behavior?

REFLECTIVE?

Do you stop to think about what you do and say? Do you learn from mistakes? Are you self-aware? Do you take time to think? Do you ask questions and take time before making decisions?

EMPATHIC?

Can you stand in someone else's shoes? Do you consider how other people are feeling or experiencing something? Can you identify with other people's experiences and feelings?

COMPASSIONATE?

Do you care for others? Do you help other people even if it is sometimes at your own expense? Do you want to make a difference to the lives of others? Do you listen with your heart as well as your head?

RELIABLE?

Do you do what is asked or expected of you? Can others depend on you? Are you willing to lead others at times?

CONFIDENT?

Do you trust your own abilities? Can you describe your strengths? Are you aware of the things you need to improve? Are you comfortable sharing this with others?

RESPONSIVE?

Do you connect with others? Do you show and share how you feel and what you think? Do you contribute your ideas to a group? Do you give constructive feedback to others?

RESPECTFUL?

Do you listen well to others? Do you communicate in an appropriate and polite way? Do you acknowledge the achievements and positive qualities of others? Are you sensitive to cultural and other differences?

RESOURCEFUL?

Do you look for alternatives to help solve problems? Do you seek advice and ideas from different sources? Do you like the challenge of trying to figure things out? Do you recognise and make the most of your skills?

THINKING AHEAD

SWITCHING ON
TO LEARNING

I need
to avoid...

SWITCHING ON
TO LEARNING

I will
try to...

SWITCHING ON
TO LEARNING

I need
to focus
on...

SWITCHING ON
TO LEARNING

I can help
myself
by...

SWITCHING ON
TO LEARNING

I'll get
more out
of this
by...

SWITCHING ON
TO LEARNING

I hope
I can...

SWITCHING ON
TO LEARNING

One new
thing I
will try
is...

SWITCHING ON
TO LEARNING

I'd like
to be
more...
because
...

SWITCHING ON
TO LEARNING

I'm
looking
forward
to...

SWITCHING ON
TO LEARNING

A skill
I will
need to
use
is...

SWITCHING ON
TO LEARNING

I can
help
myself
by
thinking
more...

SWITCHING ON
TO LEARNING

I will
challenge
myself
by...

SKILLS NEEDED FOR EFFECTIVE RESEARCH USING DIFFERENT RESOURCES

Finding out by...	Sample skills required
reading non-fiction books and other printed texts (pamphlets, posters, charts, magazines, reference books etc.)	<ul style="list-style-type: none"> • selecting a relevant book/article • skimming and scanning text and selecting relevant information • using structural features of the texts – headings and subheadings, content and index • critically evaluating the trustworthiness of the source • note taking and making notes • interpreting/comprehending the text • comparing and contrasting to other forms of information • organizing and displaying information gathered (using, for example, appropriate visual organizers)
direct observation (of phenomena, a demonstration, an object, during an experiment)	<ul style="list-style-type: none"> • clarifying what is being looked for • staying focused and avoiding distraction • designing effective methods to record observations • recording information in a quick and efficient manner • describing observations to others • noticing detail • reviewing the experience – identifying discoveries and wonderings
accessing information via the internet	<ul style="list-style-type: none"> • using search engines – narrowing searches to find the most relevant information • evaluating the trustworthiness of the site by identifying the author/source/sponsor • locating evidence of accountability (where does the author get the information from?) • making connections between information from multiple digital sources • articulating and summarizing information in own words • using a variety of apps to access information
interviewing someone to gather information (one-to-one, small group, listening to guest speaker, talking to a buddy; may be face-to-face or virtual)	<ul style="list-style-type: none"> • formulating appropriate questions (open and closed) • using respectful body language and eye contact • actively listening without interrupting • using probing and clarifying questions • recording information gained in an efficient and concise way • using protocol for interviews (gaining permission to use material etc.)
sending a letter/email/tweet to seek information	<ul style="list-style-type: none"> • using conventions associated with (for example) emails, texts or tweets • accessing and responding to blog posts • understanding digital etiquette • framing appropriate questions suited to the focus of the investigation • comprehending material sent in response
designing and conducting surveys (digital or hard copy)	<ul style="list-style-type: none"> • identifying the information that needs to be gathered • designing, producing and evaluating a format that will enable efficient and effective gathering of relevant data • analyzing data and looking for patterns • drawing conclusions based on data received • refining the survey based on trials • gaining permission for data use

SKILLS NEEDED FOR EFFECTIVE RESEARCH USING DIFFERENT RESOURCES (CONT'D)

Finding out by...	Sample skills required
conducting experiments/ simulations	<ul style="list-style-type: none"> • using materials safely • hypothesizing/predicting possible outcomes • identifying variables and designing a fair test • recording information gathered systematically (as a scientific report, for example) • analyzing and concluding based on observations or data gathered
viewing infographics / videos/ DVDs/film clips/photos/images/ artworks	<ul style="list-style-type: none"> • selecting a relevant visual text • skimming and scanning text and selecting relevant information • critically evaluating the trustworthiness of the source • identifying the text features used to communicate and privilege information – colour, sound, animation, casting, music etc.) • interpreting/comprehending the text • comparing and contrasting to other forms of information • noticing and recording detail
using real objects and artefacts	<ul style="list-style-type: none"> • <i>(see direct observation)</i>
listening to audio files (music, songs, broadcasts, podcasts)	<ul style="list-style-type: none"> • active listening for relevant information • recording and summarizing information gained • skimming and revising the text to review information • critically evaluating the trustworthiness of the source and the 'agenda' of the composer/producer • note taking and making notes • analyzing and comprehending information
reading literature (fiction)	<ul style="list-style-type: none"> • selecting texts appropriate to the concepts/questions being explored • identifying themes and ideas • identifying fact vs fiction • making connections between texts

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