

Permission granted to use for non-commercial, educational purposes. "21st Century Kid" © 2009, Peter H. Reynolds. For more info, visit www.toddvision.com and www.thinkkid.org

Planning Rich Learning Tasks

Deakin University
June 9th 2014

Dr Adrian Bertolini



Introduction





Intentions of this session

- To **create the mindset** you could think and plan from as you develop your units
- To continue **improving your practice of planning and developing** engaging, authentic learning tasks and units that prepares students for an ever changing world
- To have begun to **create the spine** of the plan for a unit



What **YOUR** job is today

Be **open**, **honest** and **participate**



As the range of
viewpoints and ideas
are presented

Try them on,
Think about them,
Discuss them &
Learn what you Learn!



Today's workshop



Powerful Learning – The Power of Habits

Powerful Learning – Intrinsic Motivation

Planning Process for Powerful Learning and Performance

Planning



Performance



Think about the skills, attitudes, and habits you (or others) display when you successfully deliver on a task / project / etc in any area (sport, family life, work, ...)

What are the key elements that allowed you to **succeed?**

What if you had to produce a result **beyond** what you thought you could do? Anything additional?



Powerful Learning



What are the habits and attitudes of a powerful learner?



Our job is thus to plan for and create an environment in which the students can develop the knowledge and skills to perform in life.



Some things to think about



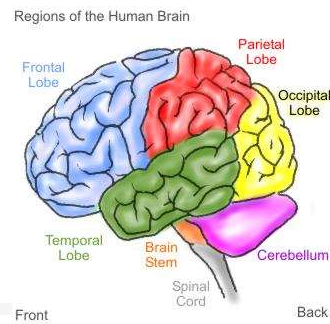
You are **ALWAYS** building learning

- Some times it is **intentional**, mostly it is **unconscious**
- It is in the **language** you use,
 - the **structures** you have in place,
 - the **habitual practices**,
 - the way **you relate** to each other,
 - the **type of complaints** you have,
 - the way you **organise** yourself (or not),
 - the things **you love doing** and the things you **avoid**.



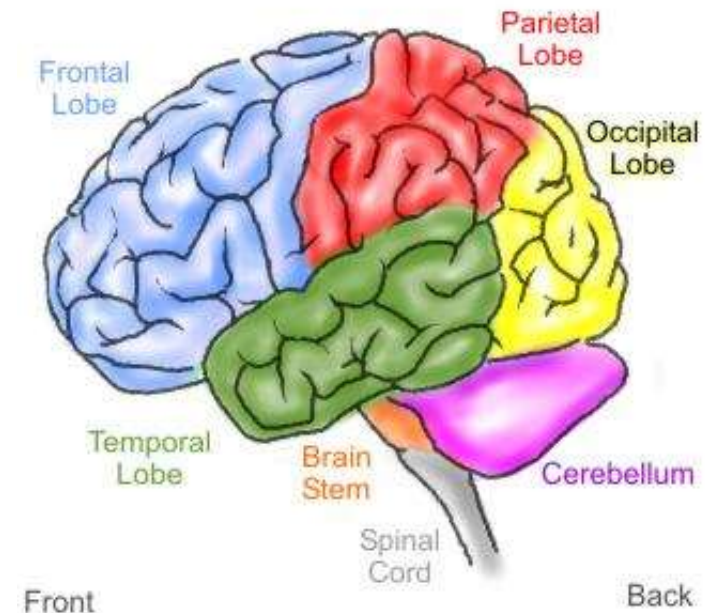
None of this is bad or wrong.

Design of Brain

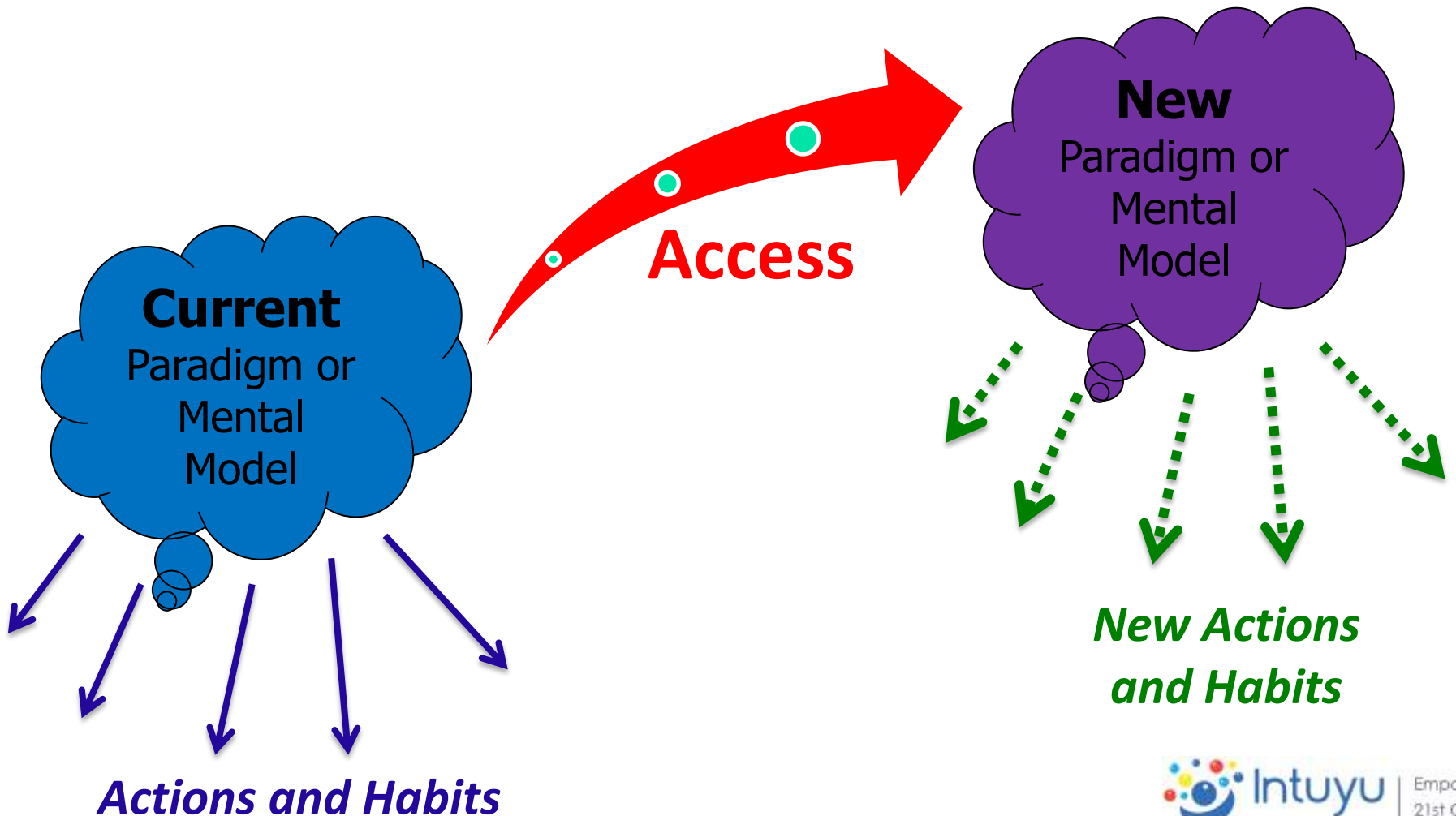


- To ensure the survival of the body
- To take shortcuts to save energy usage
- **To make what is conscious – unconscious**
- To only keep that which is used (rituals embed knowledge and abilities). **Use it or lose it.**

Regions of the Human Brain



Learning in its Essence





What this points to

- Whatever we **systemically ritualise** – we embed deeply
- To **shift an ingrained mental habit /belief /practice** we need to first become conscious about it, challenge it and ritualise the behaviour / practice / thinking we want.
- Consider that **schools are always** developing habits, practices and, thinking. However, some are **intentional** but most are **unconscious**.



In Your Groups

Divide a page into 3 columns and title the columns

Habit

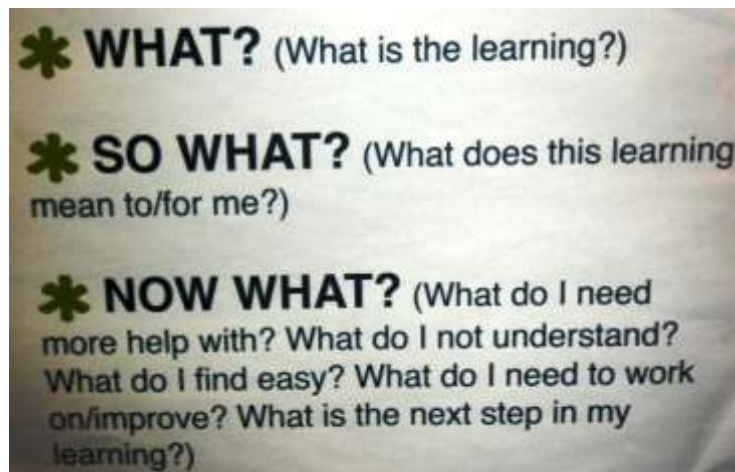
What it builds

Intentional/Unconscious?

- **Honestly** look at your habits
 - How you **begin, run and end** your classrooms,
 - How you **plan and design** your sessions,
 - The **language** you use,
 - The **types of activities and assessments**,
 - **The visual structures** in your classrooms,
... **everything**.



Some Habitual Frameworks



- Bloom's Taxonomy
- Krathwohl's Affective Taxonomy
- Gamification of Learning
- Habits of the Mind
- Formative Rubrics
- Routines



Point #1 – Habits and Rituals



Powerful learning is built upon rituals and habitual practices that develops people to think, view and interpret the world in particular ways



Today's workshop



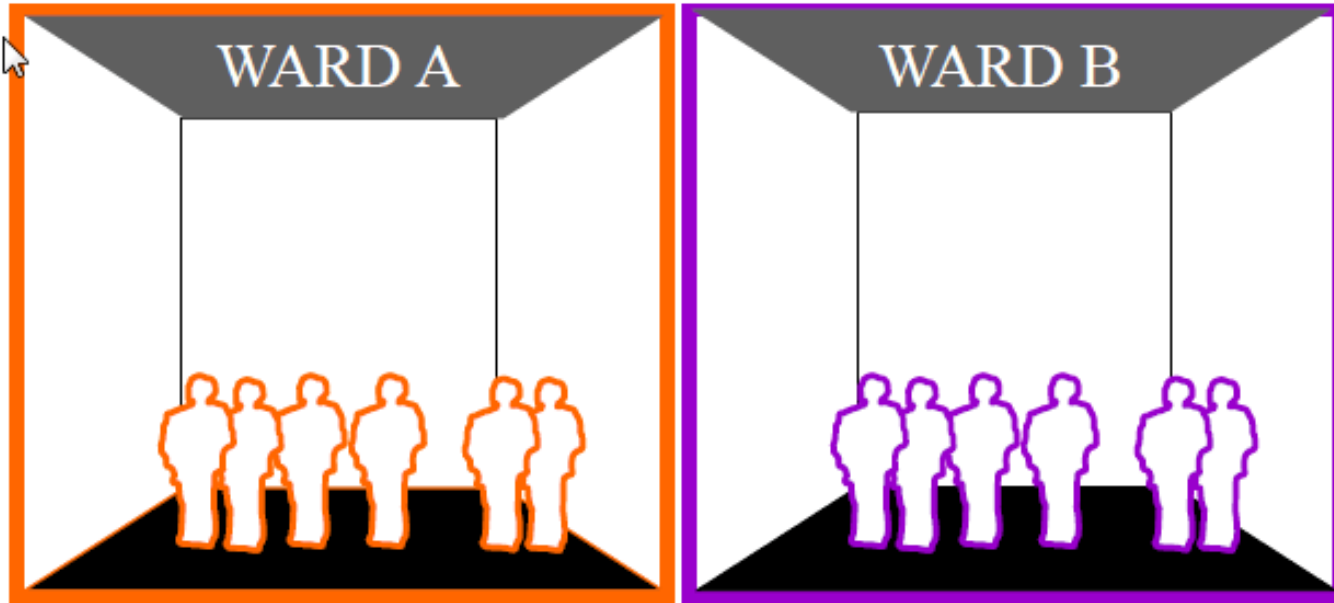
Powerful Learning – The Power of Habits

Powerful Learning – Intrinsic Motivation

Planning Process for Powerful Learning and Performance

Planning

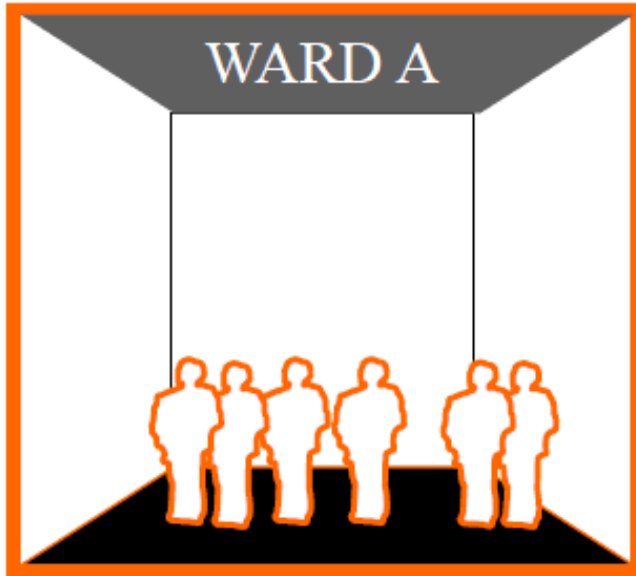
Importance of Choice and Responsibility



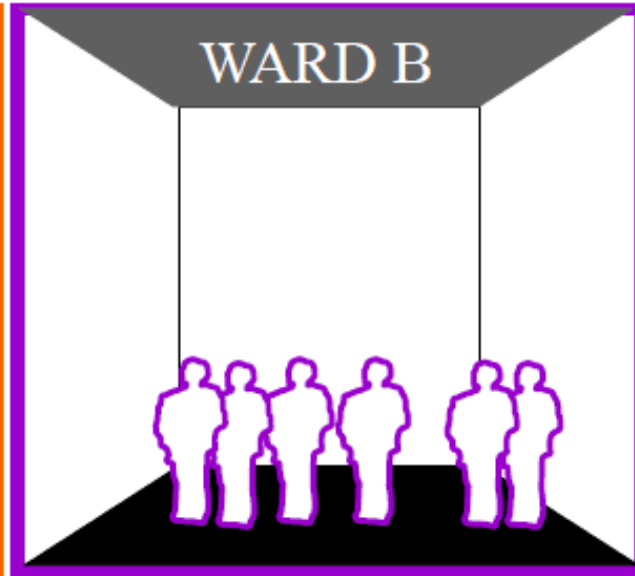
*NO CHOICE
NO RESPONSIBILITY*

*CHOICE &
RESPONSIBILITY*

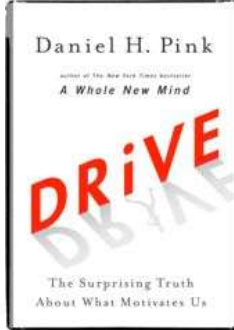
Importance of Choice and Responsibility



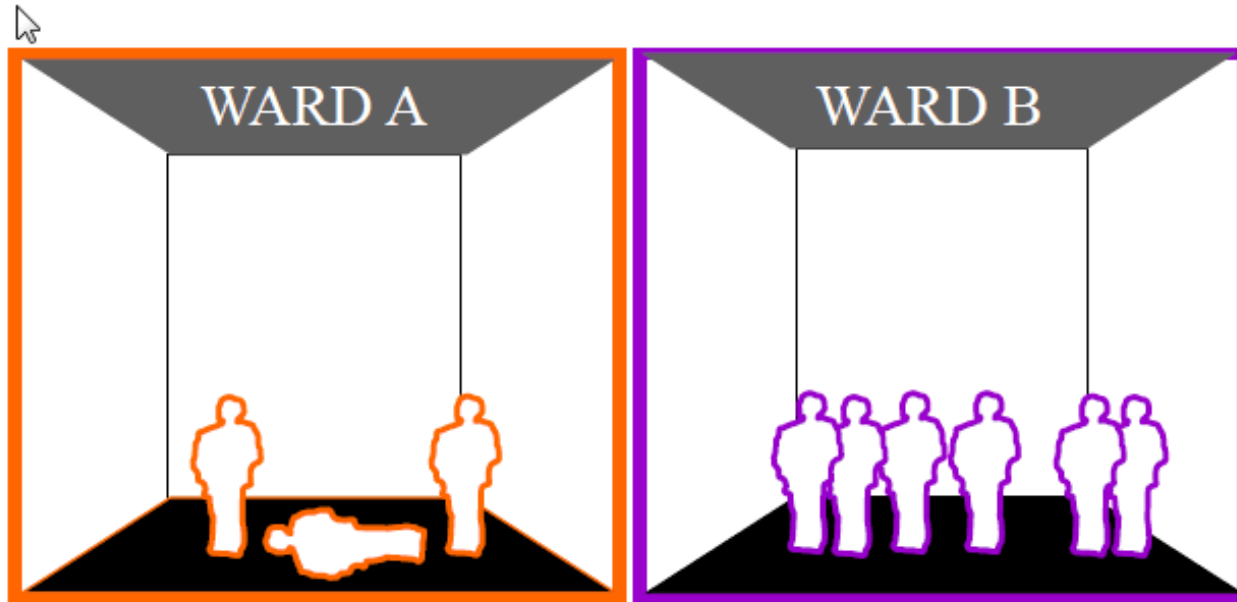
FIXED EGG DIET PLAN
FIXED MOVIE TITLE & DATE
FIXED PLANT TYPE & POSITION
SYSTEM DECIDES & PROVIDES



CHOOSE EGG DIET PLAN
CHOOSE MOVIE TITLE & DATE
CHOOSE PLANT TYPE & POSITION
PATIENT DECIDES AND MANAGES

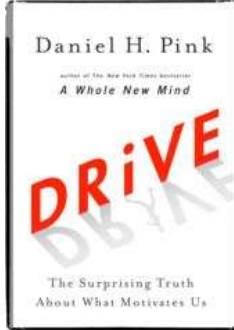


Importance of Choice and Responsibility



PASSIVE
WEAK
SICK
UNHAPPY
RESIGNED

ACTIVE
STRONG
HEALTHY
HAPPY
SELF MOTIVATED



Point #2 – Intrinsic Motivation



Powerful learning requires us to design learning that provides, choice, responsibility and purpose





Today's workshop



Powerful Learning – The Power of Habits

Powerful Learning – Intrinsic Motivation

Planning Process for Powerful Learning and Performance

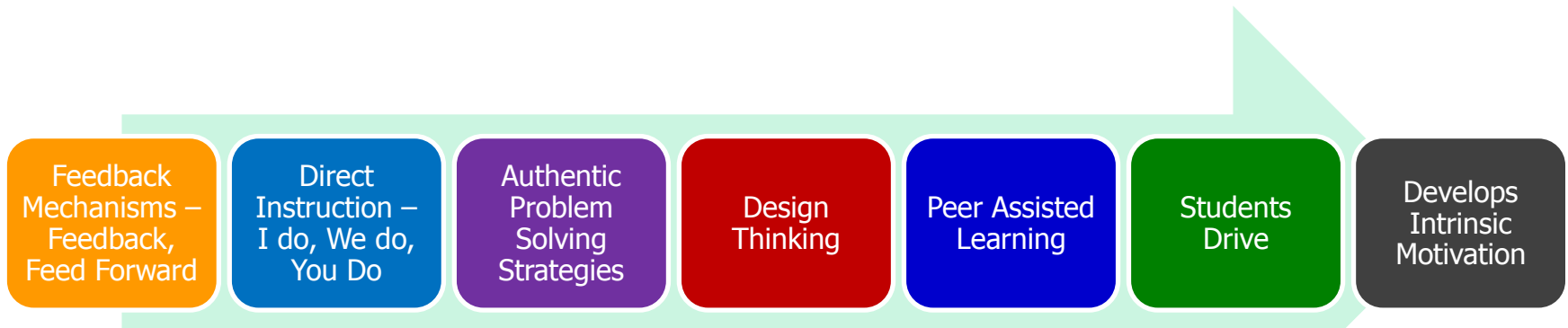
Planning



Planning for Powerful Learning



- #1: Built upon rituals and habitual practices
- #2: Requires them to drive to the destination we set
- #3: Develops a growth mindset (intrinsic motivation)
- #4: Design learning that provides choice, responsibility and purpose





Planning for Performance



Planning for Performance requires you to address 4 elements

- WHAT –** the goal, the destination
understandings, skills and knowledge
- HOW –** the process, activities, and the learning
strategies
- WHY –** the purpose, the context for learning
- OBSTACLES –** the barriers, student misconceptions,
student mindset

Flow of Planning



Identify
Desired
Results

Determine
Acceptable
Evidence

Plan Learning
Experiences
and Instruction

**Where are
we going?**

**How do I
know we have
arrived?**

**How are we
getting there?
The MAP**

How will we get them there?

Also need to address:

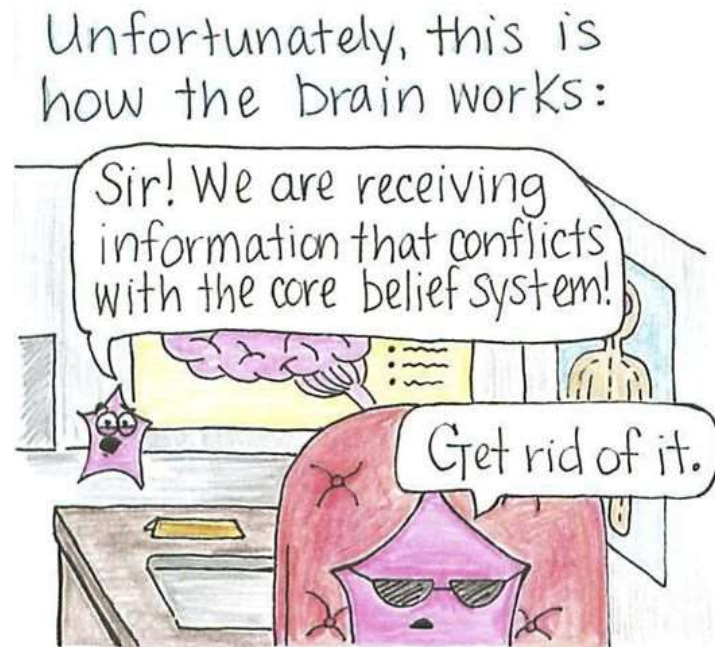
Student Misconceptions

Practicing Skills

Feedback

Engaging them

Mindset





Planning Authentic Rich Learning Units

“Inquiry is a ***systematic investigation or study*** into a worthy question, issue, problem or idea.”

www.galileo.org/inquiry-what.html

Authentic Learning is ...

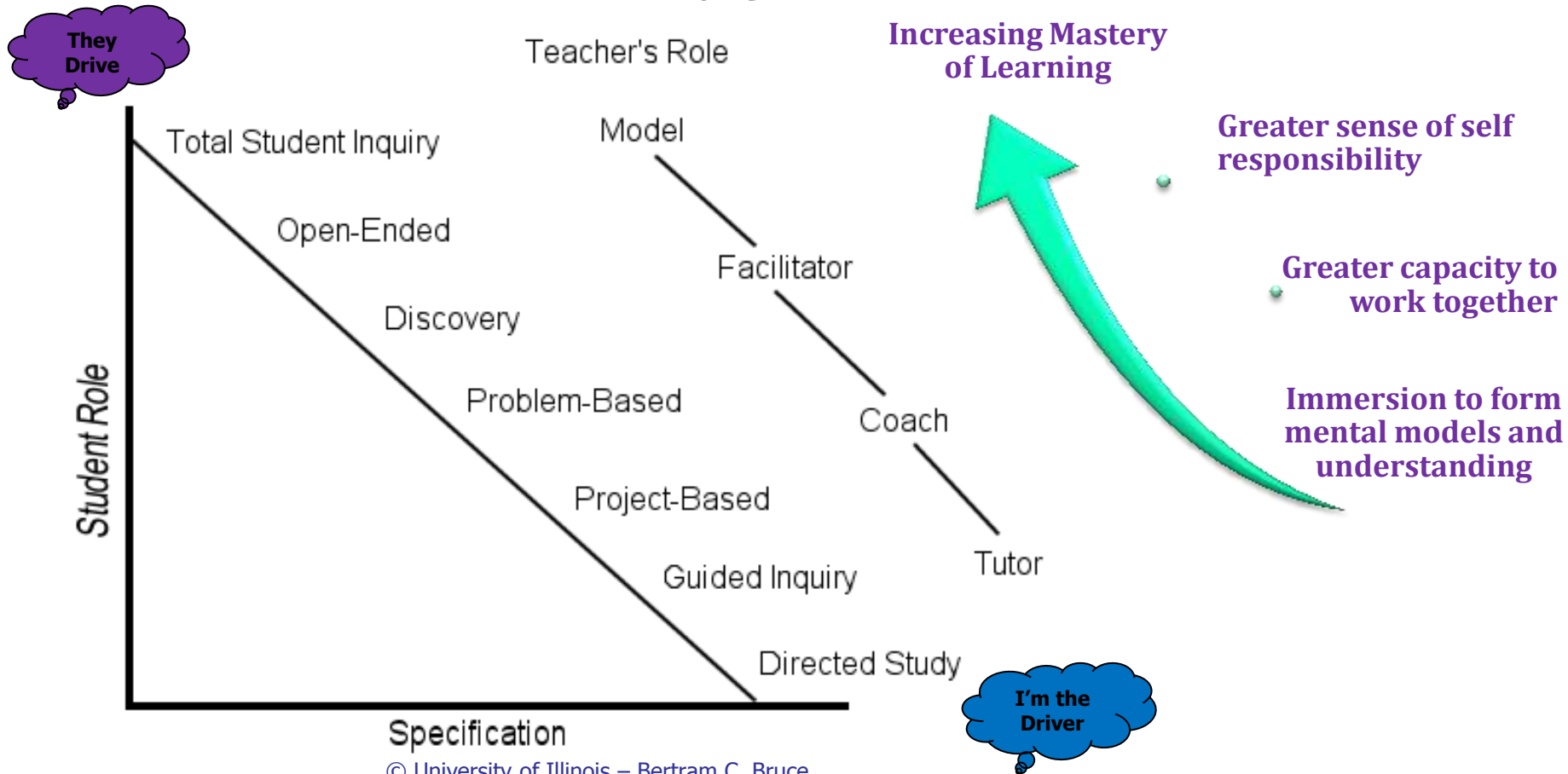
“Construction of knowledge, through disciplined inquiry, to **produce discourse, products and performances and that have meaning beyond success in school.**”

Wehlage, Newman & Secada

Care of www.inquiringmind.co.nz

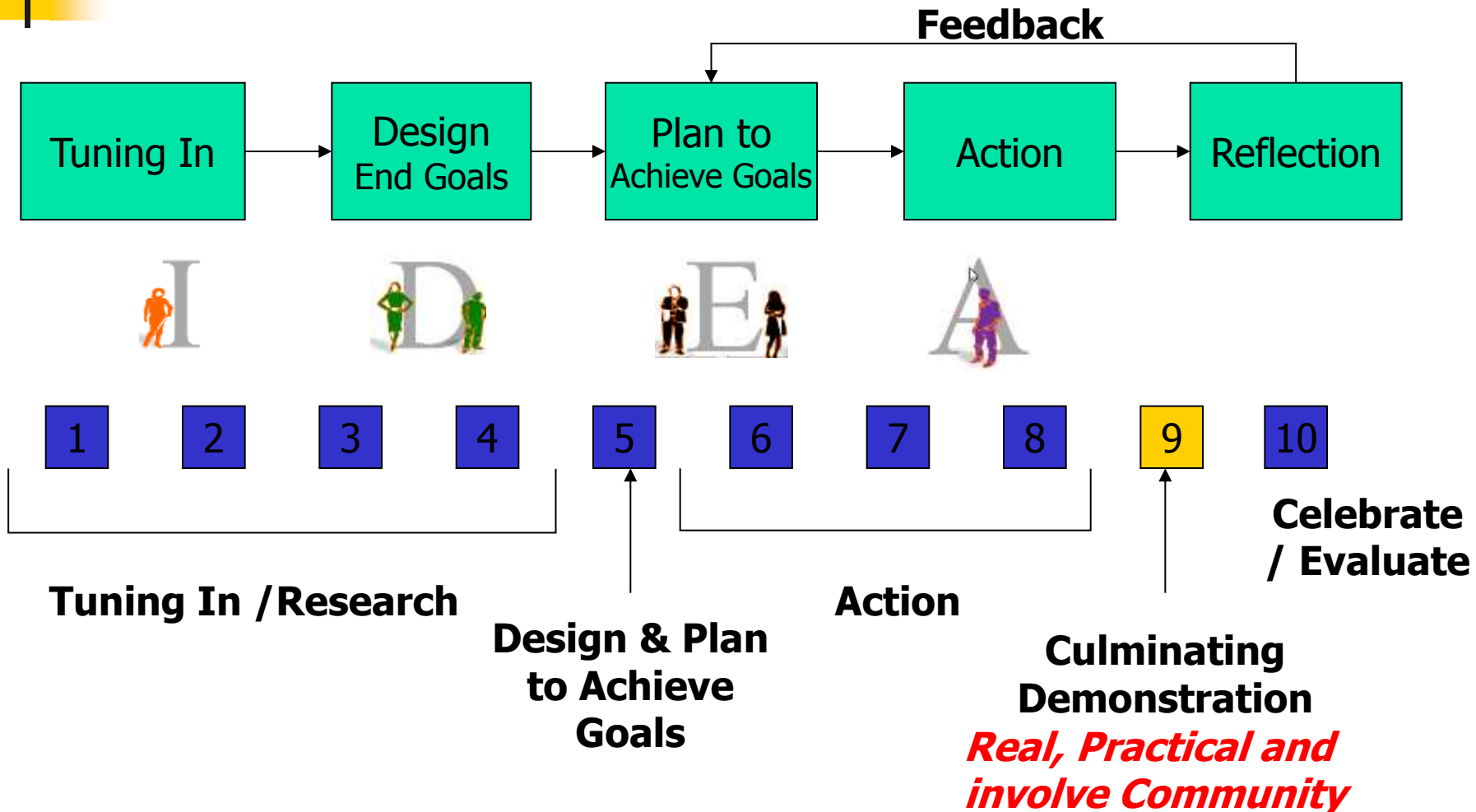
Spectrum of Rich Learning Tasks

The Path Towards Student Inquiry

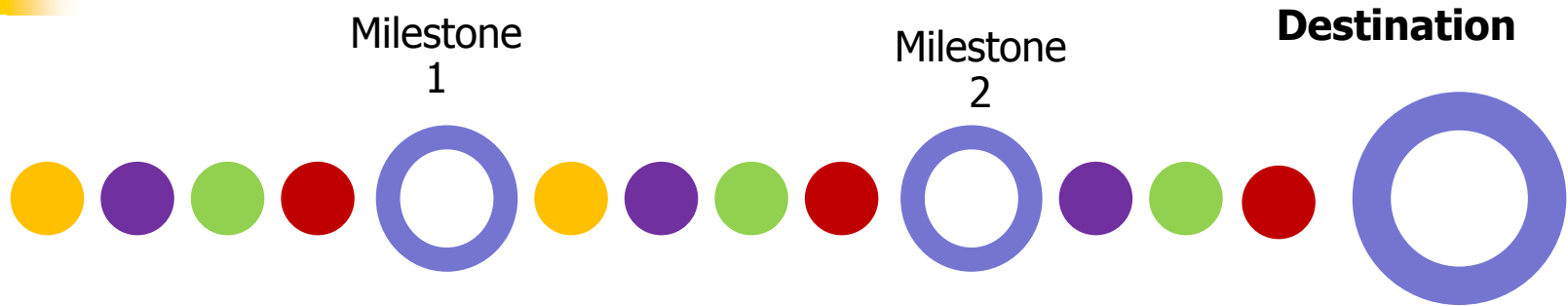


© University of Illinois – Bertram C. Bruce

A Structure for Rich Learning Tasks



Process of Planning



1. Extract Skills & Learning Focus / Elaborations from AUSVELs
2. Identify what you want students to **know** and be **able to do** by the end
3. Create a logical sequence of key **understandings**
4. Design a **Project** in which the students will authentically demonstrate their skills and understanding (assessable)
5. Identify the steps (**checklist**) to achieve the goals of the project (unpacks the thinking – links to learning activities)
6. Create a **Formative Rubric** (unpack what the skills look like at different stages – links to learning activities)



Today's workshop



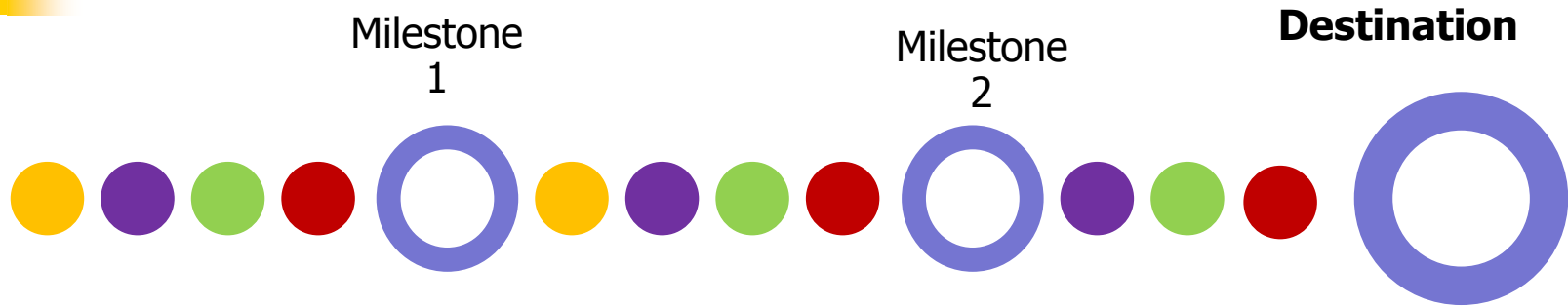
Powerful Learning – The Power of Habits

Powerful Learning – Intrinsic Motivation

Planning Process for Powerful Learning and Performance

Planning

Process of Planning



Defining the Destination (Where are they going)

1. Extract Skills & Learning Focus / Elaborations from AUSVELS
2. Identify what you want students to **know** and be **able to do** by the end

Outcome

A CAN-DO List for the students in student language

Example Grade 6 Skills - History

- Sequence historical people and events (ACHHS117)
- Use historical terms and concepts (ACHHS118)
- Identify questions to inform an historical inquiry (ACHHS119)
- Identify and locate a range of relevant sources (ACHHS120)
- Locate information related to inquiry q'ns in a range of sources (ACHHS121)
- Compare information from a range of sources (ACHHS122)
- Identify points of view in the past and present (ACHHS123)
- Develop texts, particularly narratives and descriptions, which incorporate source materials (ACHHS124)
- Use a range of communication forms (oral, graphic, written) and digital technologies (ACHHS125)
- Develop skill in dialectical thinking skills (being able to see two points of view at the same time)
- Work cooperatively in a group towards mutually agreed goals
- Deliver speeches and presentations that are appropriate for the given audience and purpose

Example Year 7 Science

Knowledge

Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques

- recognising the differences between pure substances and mixtures and identifying examples of each
- identifying the solvent and solute in solutions
- investigating and using a range of physical separation techniques such as filtration, decantation, evaporation, crystallisation, chromatography and distillation
- exploring and comparing separation methods used in the home



Example Year 7 Science

Skill – Questioning and Predicting

Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge

- working collaboratively to identify a problem to investigate
- recognising that the solution of some questions and problems requires consideration of social, cultural, economic or moral aspects rather than or as well as scientific investigation
- using information and knowledge from previous investigations to predict the expected results from an investigation

Can-Do List Year 7 Science

I can:

- List the differences between pure substances and mixtures
- Identify examples of pure substances and mixtures
- Identify the solvent and solute in solutions
- Compare separation methods used in the home
- Identify questions that can be investigated scientifically
- Write predictions based on scientific knowledge
- Use information and knowledge from previous investigations to predict the expected results from an investigation

Unit: _____

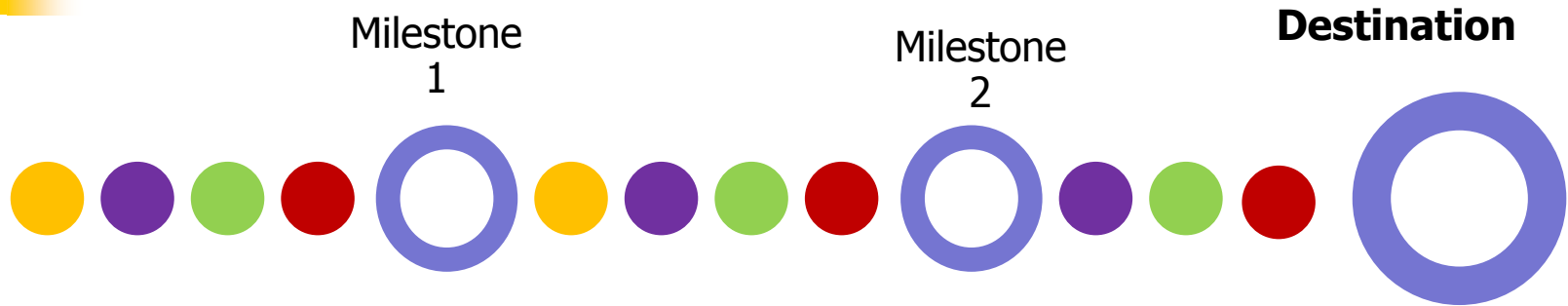
I can:

yu | Empowering
ilting | 21st Century
Learning

Can-Do List Grade 3

I have heard of this	I can do this with help	I can do this on my own	I CAN List Item
			<u>Investigating and designing:</u> <ul style="list-style-type: none"> <input type="checkbox"/> I can read a simple design brief. <input type="checkbox"/> I can plan and sketch my ideas. <input type="checkbox"/> I can label my design. <input type="checkbox"/> I can order steps taken to create a model. <input type="checkbox"/> I can identify characteristics of different fabric.
			<u>Producing:</u> <ul style="list-style-type: none"> <input type="checkbox"/> I can follow and use a list of steps and methods to choose my materials for my product. <input type="checkbox"/> I can use a combination of fabrics to make my product. <input type="checkbox"/> I can use a variety of tools to make my product. <input type="checkbox"/> I can put together components to make my product and simple systems that have moving parts. <input type="checkbox"/> I can fix my mistakes and redesign / modify my product.
			<u>Analysing and evaluating:</u> <ul style="list-style-type: none"> <input type="checkbox"/> I can list the similarities and differences between my product and the design brief. <input type="checkbox"/> I can use a PMI chart to evaluate my product <input type="checkbox"/> I can list at least two ways to improve my product.

Process of Planning



1. Extract Skills & Learning Focus / Elaborations from AUSVELS
2. Identify what you want students to **know** and be **able to do** by the end
3. Create a logical sequence of key **understandings**

Defining the Destination

Using your Can-Do List and the AUSVELs

- ✦ What are the **actual key understandings** you want the students to achieve by the end of the unit?
- ✦ This involves creating an **overall goal understanding** that you want the students to achieve from completing this unit. This will frame it into a bigger picture of WHY this topic is important.
- ✦ The next step is to **unpack this understanding** into a sequence of supporting understandings that logically lead to the key understanding.



Example Grade 4 History

1. The movement of people around the world occurs for a range of reasons
2. The movement impacts on the existing culture, identity and society
3. The settling of Europeans in Australia had an enormous impact on the Aboriginal and Torres Strait Islanders
4. Understanding Australia's social origins and cultural history allows us to understand and have empathy for the Aboriginal and Torres Strait Islander people.

Example Year 7 Science

1. Everything is a mixture of different substances and some are useful and some are not.
2. The value (or usefulness) of these different substances depends on their use and value to others
3. To make use of these substances we need to be able to extract and isolate them.
4. Our society relies upon extracting valuable resources for living.

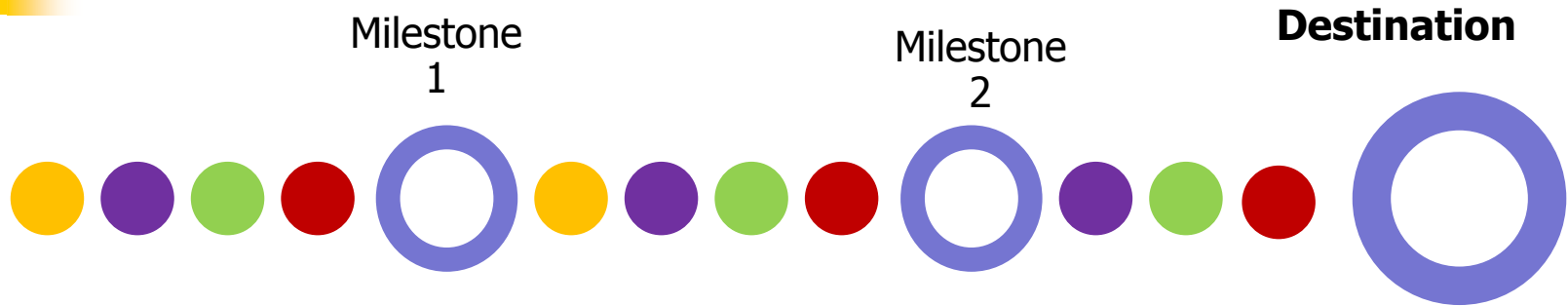
Defining the Destination

Using your Can-Do List and Understandings

- + What could be **inquiry questions** you could now ask associated with each of the understandings?
- + What could be an **overall essential question** you could have that would guide the entire unit?

As you do this you must consider the real-life practical applications of the topic being covered. Make this as real-life as possible.

Process of Planning



1. Extract Skills & Learning Focus / Elaborations from AUSVELS
2. Identify what you want students to **know** and be **able to do** by the end
3. Create a logical sequence of key **understandings**
4. Design a **Project** in which the students will authentically demonstrate their skills and understanding (assessable)

Design a Project

As a team brainstorm a possible culminating project (end product, performance, event) that would allow the students to demonstrate their understandings.



Grade 4 History Unit

Early Australian History An Afternoon from the Past Integrated Unit, Heany Park PS Grade 4, Term 2

Throughout Term Two you will be historians investigating early Australian history and how our society began. You will be working to develop your abilities to research, collect, analyse and draw conclusions from historical data. You will be exploring the impact of European settlement on Aboriginal and Torres Strait Islander Peoples so as to understand and have empathy for their points of view.

Culminating Task – Assessment Requirements

Part A

To demonstrate your understanding of the nature and consequences of the settlement of Australia you will individually be researching and writing a text from the perspective of an explorer, or settler, or convict, or soldier of the First Fleet, or an Aboriginal / Torres Strait Islander of what life was like before and after settlement. Your written text could be a letter, diary, annotated photo album or newspaper article that explains how life has changed and/or stayed the same.

Part B

The culminating task will have you working together in groups of 5-7 to design a presentation that explores the differing perspectives that draw upon the research that you have completed individually and in the classroom. Your presentation could take the form of a role play, quiz show, interviews, puppet show, skits, which will be videoed live.

Prior to classroom presentation date you will hand in a folder that contains the following items:

- A document that describes the characters, settings and plot of the intended scenario
- A script of the presentation
- Storyboard for the presentation
- List of props / costumes
- Roles and tasks completed by the individuals within the group
- Short biography / overview of each of the characters

Year 9 Science Unit - Biology

Year 9 Science Part 1: Biology

For the Year 9 Science you will be developing your science knowledge and skills by being scientists involved in a multi-year scientific study of the Wodonga's Urban Waterways. By the end of the year you will produce a scientific report for the Wodonga Urban Landcare Network that will make recommendations for the upkeep and sustainability of the ecosystems.

In term 1 you will be monitoring, assessing, and analysing environmental factors to make an assessment of the biodiversity and health of specific Wodonga waterways. Your task will be to prepare an environmental assessment report that will be the first section in the final report you will present at the end of the year to the WULN.

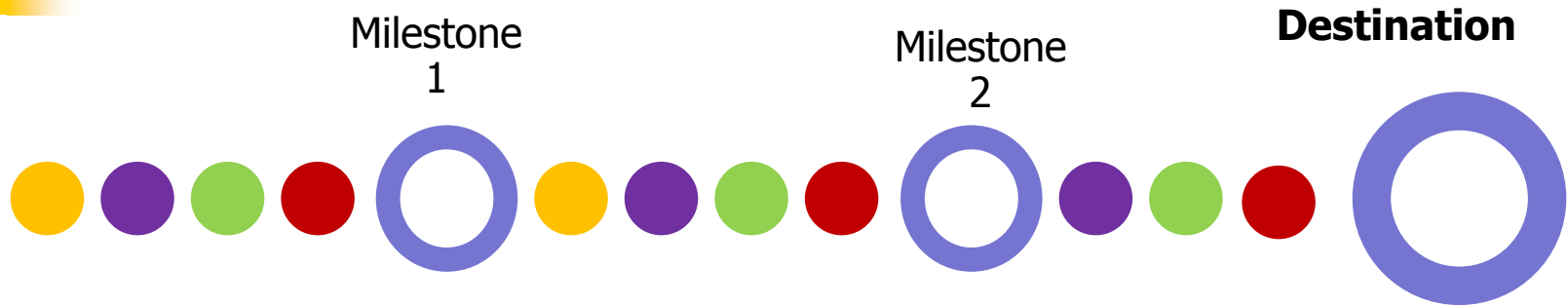
Culminating Task – Assessment Requirements

To demonstrate your knowledge and understanding, you will be working in groups of 2 or 3 and will be required to create an environmental assessment report. Each class will have a specific area to examine and report upon. Your report will be making an assessment of the current biodiversity and health of the specific area and make recommendations for improvements.

Your report must include the following:

- Introduction – addressing the questions you created from reading the WULN report
- Map and transect of the area being studied, drawn to scale and with key features indicated.
- Description of area (topography, biotic and abiotic features, local flora and fauna)
- Construct a food web of the waterway area
- Testing Procedures and Process used. Include:
 - Any safety precautions taken
 - Any improvements of processes or procedures for future investigators
- A representation of the data you have collected (tabulated or graph as appropriate)
- Analysis and discussion of the patterns, trends, indicators and relationships your data indicates as

Process of Planning



1. Extract Skills & Learning Focus / Elaborations from AUSVELS
2. Identify what you want students to **know** and be **able to do** by the end
3. Create a logical sequence of key **understandings**
4. Design a **Project** in which the students will authentically demonstrate their skills and understanding (assessable)
5. Identify the steps (**checklist**) to achieve the goals of the project (unpacks the thinking – links to learning activities)
6. Create a **Formative Rubric** (unpack what the skills look like at different stages – links to learning activities)

Grade 1 Science and Humanities Unit

Paddock to the Plate

Integrated Unit, Heany Park PS, Grade 1 Term 2

CHECKLIST

TASK – <i>Steps you need to take to complete your Culminating Event Presentation</i>		Starting Date:	
		DATE TO BE COMPLETED	DONE (v)
1	Identify your favourite food made at home and get a copy of the recipe [Put in Homework sheet]		
2	Choose one of the main ingredients used to make your favourite food [Done in class]		
3	Prepare a list of questions about the ingredient you want to know more about. [Activity: Work with students to formulate questions]		
4	With your parents help, find information that can be used to answer your questions. Use the T chart provided to organise your questions and information. [Have guide for parents – model it in class]		
5	Ask your parents / grandparents about what is different about how they got their food when they were children. [Homework task – Venn diagram (do refresher)]		
6	Show your T Chart to your teacher and get it approved before moving on. [Mini-conference with student about understanding of T Chart]		
7	Identify the important steps for your ingredient to get from the paddock to the plate. Highlight them on your T-Chart. [Done in conference, Model organising information with students]		
8	Sequence the important steps into order from paddock to the plate. Add any interesting facts in each of the steps.		

Year 7 Maths Checklist

TASK – <i>Steps you need to take to complete your Culminating Event Presentation</i>		Starting Date:	
		DATE TO BE COMPLETED	DONE (v)
1	Using the given map of the school, plus by walking around the school, <u>identify</u> 3 possible sites where you could place a Year 7 playground.		
2	<u>Measure</u> the length and width of each site and <u>calculate</u> the perimeter and available area for each site.		
3	For each site, use a PMI chart (or another graphic organiser) to <u>analyse</u> and list the plus, minuses and interesting elements and features of each site.		
4	<u>Construct</u> a survey to find out from students and staff what type of equipment and the best site for a Year 7 playground. You must <u>survey</u> at least 10 students and 3 staff (the more surveys the more accurate the planning)		
5	<u>Evaluate</u> the survey by <u>ranking</u> the results from most desired equipment to least. You can do this using the chart of Page X of the Playground Planning Handbook. Also, <u>identify</u> the most chosen site for the playground and write a paragraph <u>explaining</u> why people thought this site is the best option.		
6	Using the survey results, and the playground equipment list found in the Handbook (or your own researched list) <u>choose</u> at least 5 different types of equipment to include in your chosen site. You have a budget of \$25,000.		
7	Use the table on Page X of the Handbook to <u>calculate</u> the total cost of the equipment and areas in square metres for each item. Complete all the questions on Pages X and Y.		
8	Using the graph paper on pages X – Z and a ruler, <u>complete</u> the task shown on Page Q (donation of pine sleeper edging)		
	<u>Choose</u> 2 of the layouts (or design another if you wish). Create 2 different		

Formative Rubrics to develop skills

Grade 3 Term 2 Then and Now Victoria (updated 10th March 2013)

Skill	Essential	Developing	Capable	Evidence of Skill	Teacher Practices / Modelling / Graphic Organisers
				What evidence will demonstrate the development of skills?	What strategies and approaches will you use to develop these skills in your students?
Questioning - Relevancy - Question or not - Ability to respond to questions	<ul style="list-style-type: none"> Asks questions to get more information but sometimes may not be relevant. Makes comments with teacher prompting which may be off topic. 	<ul style="list-style-type: none"> Asks relevant questions to get more information of the task. Makes relevant comments with teacher prompting. 	<ul style="list-style-type: none"> Asks open ended questions Asks relevant questions to clarify understanding of the task Uses vocabulary of topic Makes relevant comments and concrete suggestions. 	<ul style="list-style-type: none"> Anecdotal student observations. Teacher Rubric 	<i>How are you going to develop the students in their abilities to question? What modelling, structures, graphic organisers, etc. will you use? Is there an approach you normally use here?</i>
Working cooperatively - Being on Task - Speaking - Listening	<ul style="list-style-type: none"> Stays in group during group time. Takes a turn to speak Listens most of the time as others speak. 	<ul style="list-style-type: none"> Stays on task in group time. Waits for turn to speak. Shares something related to the topic. Listens as others contribute. 	<ul style="list-style-type: none"> Helps others to stay on task in group time Shares something to expand the discussion. Listens attentively to others. Respects others' contributions. 	<ul style="list-style-type: none"> Teacher observations 	<ul style="list-style-type: none"> 'Circle Time' where only the person holding a choice object, may speak. Question time after a 'News' time from selected students, to encourage attentive listening. Play games which involve cooperation e.g. ???

Formative Rubrics to develop skills

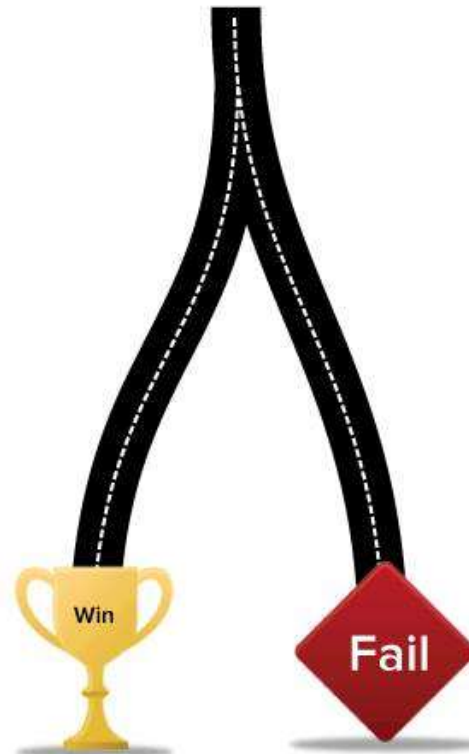
Skill	Beginning	Developing	Capable	Evidence of Skill
				What evidence will demonstrate the development of skills?
Questioning and predicting Formulate questions or hypotheses that can be investigated scientifically	Ask & formulate questions that are: <ul style="list-style-type: none"> • Open • Relevant to topic • Worthwhile finding out • Require scientific evidence to justify 	Plus... Develop hypotheses that: <ul style="list-style-type: none"> • Uses their existing knowledge of the specific area • Not testable (does not pass testability test) 	Develop hypotheses that <ul style="list-style-type: none"> • Uses their existing knowledge of the specific area • Clearly links variables • Is testable • Includes prior scientific knowledge or reasoning 	To be completed
Processing and analysing data and information Analyse patterns and trends in data, including describing relationships between variables and identifying inconsistencies Use knowledge of scientific concepts to draw conclusions that are consistent with evidence	<ul style="list-style-type: none"> • Able to tabulate data in an appropriate format including appropriate units • Is able to average data as required • Is able to use a graph to represent the data in a basic form • Their conclusion(s) refers to their initial question • Is able to use basic scientific language and terms in their conclusions 	Plus... <ul style="list-style-type: none"> • Is able to use the appropriate type of graph that illustrates the patterns & trends in the data • Is able to label the graph appropriately (title, axes labelled correctly with units, scaling of axes, key / legend) • Is able to identify patterns, trends and relationships in the data • Is able to <u>identify</u> anomalous data or inconsistencies 	Plus.... <ul style="list-style-type: none"> • Graphs includes a line of best fit • Is able to draw valid conclusions from the patterns, trends and relationships they identified in the data • Is able to explain patterns, trends & relationships in the data • Is able to <u>explain</u> anomalous data or inconsistencies 	

Shifting Teaching Practice Takes Time

www.intuyuconsulting.com.au

**Learning
Resources Page**

What Most
People Think



What Successful
People Know

