Assessment for Learning
Strategies for Improved Student Learning

Contents

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The Support Document

This support document endeavours to provide practical support to teachers to implement effective 'Assessment for Learning' strategies to improve student learning.

Rationale

In 2008 the NSW Department of Education and Training released '*The Principles of Assessment and Reporting in NSW Public schools'*. This document outlines the key principles of assessment which include:

1. Assessment should be relevant.
2. Assessment should be appropriate.
3. Assessment should be fair.
4. Assessment should be accurate.
5. Assessment should provide useful information.
6. Assessment should be integrated into the teaching and learning cycle.
7. Assessment should draw on a wide range of evidence.
8. Assessment should be manageable.

This document is supported be the '*Curriculum Planning, Programming, Assessing and Reporting to Parents'* website. This website outlines the core features of Assessment for Learning and provides support for teachers and schools to implement assessment for learning practices. According to the NSW Department of Education and Communities Assessment for Learning -
"… acknowledges that assessment should occur as a regular part of teaching and learning and that the information gained from assessment activities can be used to shape the teaching and learning process.
In summary, assessment for learning:

- is an essential and integrated part of teaching and learning
- reflects a belief that all students can improve
- involves setting learning goals with students
- helps students know and recognise the standards they are aiming for
- may involve students in self-assessment and peer assessment
- provides feedback that helps students understand the next steps in learning and plan how to achieve them
- involves teachers, students and parents reflecting on assessment data

The Principles of Assessment for Learning

- emphasises the interactions between learning and manageable assessment strategies that promote learning
- clearly expresses for the student and teacher the goals of the teaching/learning
- reflects a view of learning in which assessment helps students learn better, rather than just achieve a better mark
- provides ways for students to use feedback from assessment
- helps students take responsibility for their own learning
- is inclusive of all learners"

Curriculum planning and programming, assessing and reporting to parents K-12 released in December 2008.

The Research

The importance of Assessment for Learning is supported by the research that has been undertaken by Black and Wiliam (1998, 1999) and the metanalysis performed by Hattie.

In their research Black and Wiliam have identified the following strategies as ones which, when implemented in the classroom in a consistent manner, can lead to improved student performance.

1. *The sharing of learning intentions and success criteria*

This strategy asks teachers to tell students what it is they are expected to learn (the learning intention) and to share with them the criteria that will, if met by the students, demonstrate that learning has taken place.

2. *Strategic questioning*

This refers to the careful and deliberate use of questioning in order to elicit information from students about what it is that they know and can do, and the formative use of that information to shape future teaching and learning.

3. *Effective feedback*

Feedback which is effective is based on learning intentions and success criteria and provides students with information not only about what they have done well and where they need to improve, but also information about how they can improve their performance. Effective feedback avoids comparison with other students' performances, and can come not only from the teacher, but also from peers.

4. *Student self-assessment*

This focuses on encouraging students to take responsibility for their own learning, to identify their strengths and weaknesses, to be aware of how they learn, to set learning targets, to act on feedback and to be able to make judgments about the quality of their work in relation to success criteria.

5. *Making formative use of summative assessment*

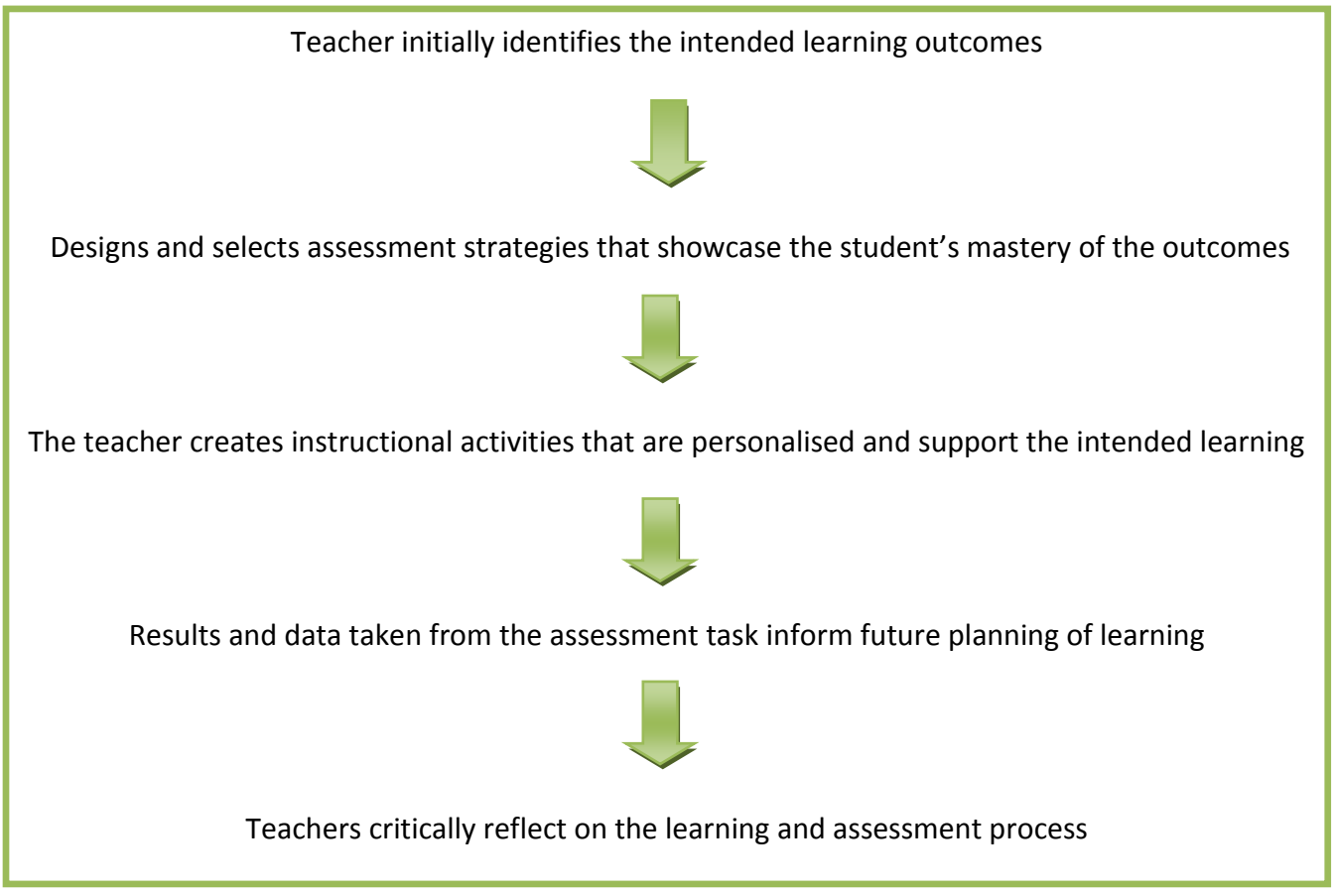
Summative assessment activities or tasks not only provide evaluative information about the student but can also provide information that can be used in a formative way. This strategy encourages teachers to be aware of the formative possibilities of summative assessment – before, after and during the assessment event.

Improving Student Achievement: A practical guide to Assessment for Learning, *by Toni Glasson, published by Curriculum Corporation, 2008.*

Theory

Backward mapping can be used as a tool in providing information on student achievement and progress, whilst setting the direction for ongoing teaching and learning. According to Hayes (2003) backward mapping allows the teacher to align assessment, with curriculum pedagogy, and recognises that assessment can be used as a significant indicator of student learning. When teachers utilise backward mapping they undergo a considerate change in the planning progress, instead of asking the questions, what to teach or how to teach it, the teacher must also consider the question, how do I know if the students have learnt anything. (Loughland and Parkes, 2004)

Backward mapping defined by Loughland, and Reid (2003) involves the teacher beginning at the end, identifying the intended student outcomes, and then working backwards to create a plan in which students seek to achieve these outcomes. Its practical application in the classroom consists of:



The central aspects in backward mapping for assessment

1. *Identify & analyse the desired outcomes*

- The teacher must have a deep knowledge of the subject's learning outcomes and indicators
- Identify key features of the subject which will give students a deep understanding of the substantive concepts, skills and ideas of the topic
- Make sure the learning outcomes can be made relevant and significant to students

2. *Design/select an assessment*

- By designing assessments early in the planning process, teachers can be sure that students are being provided with all the lessons they will need in order to do well on the assessment
- Think about how students can demonstrate mastery over the learning outcomes
- What type of assessment will be best suited to demonstrate what the students know?
- Does the assessment task provide quality evidence, and allow the student to display the full range of their skills?
- What are the specific characteristics that the teacher needs to see in a high quality response to this assessment?
- Develop quality specific criteria
- What are the time restraints and resources needed to administer the assessment task?

3. *Plan and deliver lessons*

- Plan and deliver lessons with opportunities to develop a key understanding of the content and the specific skills set students need to know to perform well on the assessment
- Make sure in your planning that students are given informal opportunities to refine these skills
- Do your teaching strategies engage students to use higher order thinking and knowledge integration to overcome problematic questions?
- Do your teaching strategies cater for multiple learning styles?
- What informal assessments can be used to measure student progress?

4. *Administer assessment task*

- Give students prior warning of the assessment task making sure they have a clear understanding of the instructions and what is expected of them
- Make and record results as efficiently as possible

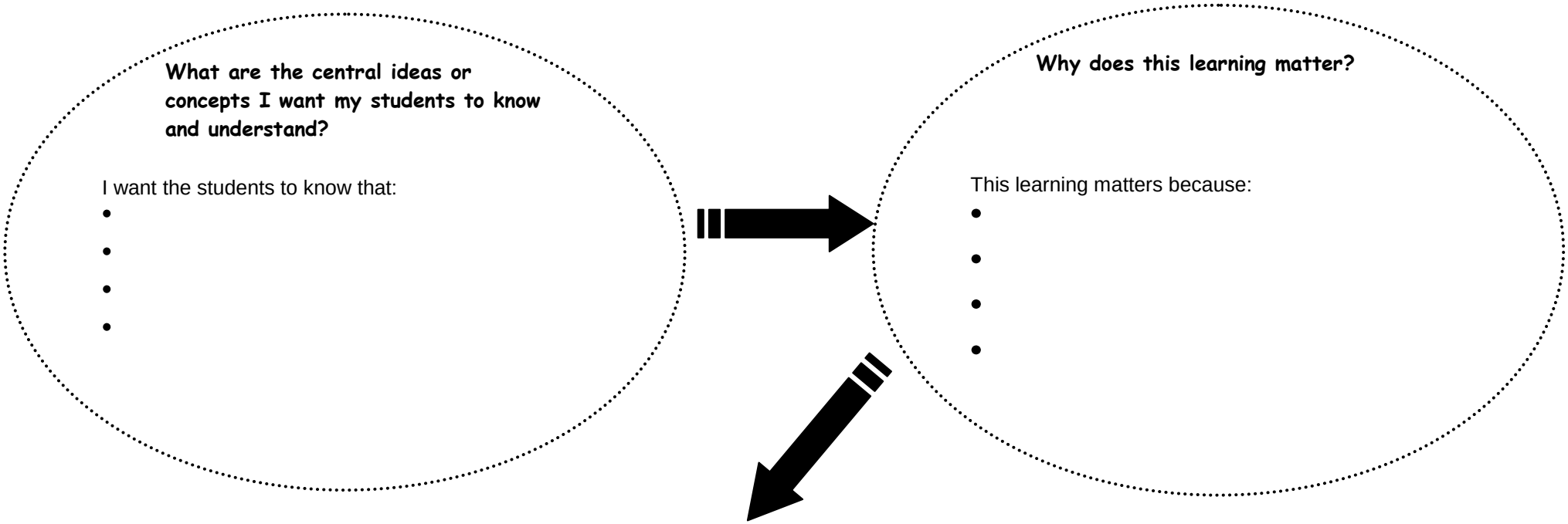
5. *Feedback and self evaluation*

- Decide what type, and how students should receive feedback on their performance
- Use the data generated to inform students on aspects where they have excelled, and areas where they can improve
- Analyse overall possible reasons why students are performing or not performing to the standard
- Use generated data to reflect on both teaching practices and assessment administration
- Was the evidence produced by the students in line with your expectations?
- How will the results from this assessment task inform your teaching practice for the future?

Backward Mapping: Planning for teaching and learning

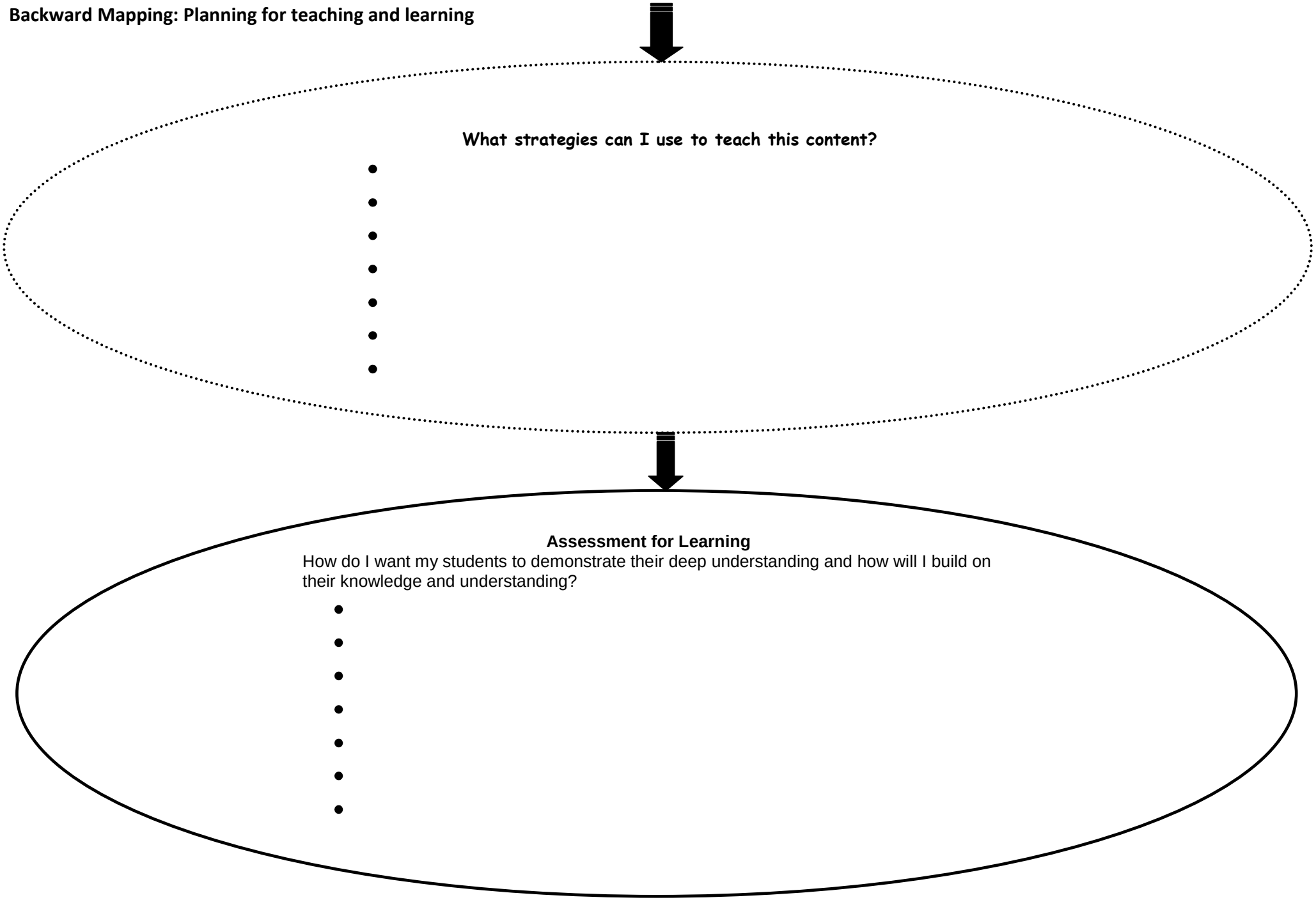
KLA:	Stage:	Unit:	Topic:

Deep knowledge *focuses on the central ideas or key concepts of a subject and their relationships.*
Deep understanding *focuses on how students demonstrate a profound and meaningful understanding of the central ideas or concepts.*



Key Outcomes:	Links to syllabus content:

Backward Mapping: Planning for teaching and learning



BACKWARD MAPPING TEMPLATE			
KLA:	Stage:	Unit:	Topic:
Quality Teaching Framework • Intellectual quality • Quality learning environment • Significance			
UNIT OBJECTIVES			
What are the main concepts, skills and ideas you wish students to learn?		What are the core values and attitudes you wish students to develop?	
What essential prior knowledge will students need? e.g. metalanguage		How will cross-curriculum content be included?	

TEACHING/LEARNING STRATEGIES	
Syllabus Outcomes	
Students will develop knowledge and understanding about …	Students will develop the skills to …
Instructional Activities to achieve student syllabus outcomes	
Link learning to prior knowledge; stage of development; student identity and cultural perspectives	
Resources	

EVIDENCE OF STUDENT LEARNING	
Summative Assessment Strategies	
Formative Assessment Strategies to Inform Teaching	
Student Self-Assessment	Teacher Reflection to Inform Future Planning

Research

"... feedback can be defined as any form of response by a teacher to a student's performance, attitude or behaviour, at least where attitude and behaviour impinges upon performance."

Synergy Vol 6, Number 2, Prof. Professor Stephen Dinham

"Feedback is information provided by an agent (e.g. teacher, peer, book, parent, self, experiences) regarding aspects of one's performance or understanding."

Review of Educational Research2007; 77; 81, The Power of Feedback, John Hattie and Helen Timperley

Research conducted by Black and Wiliam (1998) has convincingly demonstrated the learning gains that can be achieved through well focused teacher-based formative assessment. In a study of major influences on educational achievement Hattie (2009) found that formative assessment, in particular self-assessment and feedback had the highest effect sizes (impact on student learning) out of more than 100 different instructional and contextual factors. The average size was 0.79, twice the average effect, in contrast to other influences such as acceleration (0.47), socioeconomic influences (0.44), homework (0.41), the use of calculators (0.24), reducing class size (0.12).

A Model of Feedback to Enhance Learning

Purpose
To reduce discrepancies between current understandings/performance and a desired goal.

The discrepancy can be reduced by:
Students
- Increased effort and employment of more effective strategies OR
- Abandoning, blurring or lowering the goals

Teachers
- Providing appropriate, challenging and specific goals
- Assisting students to attain goals through effective learning strategies and feedback

Effective feedback answers three questions:

Where am I going? (the goals)	Feed up
How am I going?	Feed back
Where to next?	Feed forward

Each feedback question operates at four levels:

Task level
How well tasks are understood and performed

Process level
The main process needed to understand/perform tasks

Self-regulation level
Self-monitoring, directing, and regulating of actions

Self level
Personal evaluations and affect (usually positive) about the learner

EFFECTIVE FEEDBACK

The Qualities of Effective Feedback

Effective feedback is based on the belief that all students are able to learn. It has a clear purpose which is directly linked to learning intentions. Quality feedback sees the teacher in the role of facilitator or activator, not judge. It is:-

- criteria based
- based on shared understanding and a common language
- timely and regular
- goal orientated and sets targets for improvement
- focused on success and provides alternative strategies for improvement
- descriptive, not judgemental
- related to learning intentions which have been shared with the class
- based on a professional assessment of what students can do and what they need to improve
- embedded in the teaching/learning cycle
- achievable and realistic, based on the stage of development and experiences of the students
- inclusive of self-assessment and peer assessment and encourages student self-reflection
- used to inform future planning and teaching and learning
- consistent across the school
- seen by students to be positive and motivates students to become more engagement in the learning process

Best practice

- Check prior knowledge and teach the skills and metalanguage necessary for successful completion of the task/performance
- Model exemplars
- Create marking criteria together to increase student understanding of the task
- Include peer assessment such as peer checking against agreed criteria
- Provide verbal feedback as students perform the task
- Include self-assessment and provide scaffolds and prompts to support self-checking of work
- Provide the opportunity for students to redo the task and respond to the feedback
- Set medals and missions so that students are rewarded for their work, but also set targets for the next piece of work
- Provide assessment proformas
- Provide explicit instruction, e.g. of the learning goals
- Clarify issues

Avoid:

- judgemental feedback
- grades and marks
- using ticks and crosses alone

EFFECTIVE FEEDBACK

The Three Key Questions

Where am I going? (the goals)	**Feed up**	Set appropriate, challenging learning goals which are explicitly taught and shared with the students. Link learning goals to syllabus outcomes. Identify levels of attainment or success based on explicit marking criteria.
How am I going?	**Feed back**	Provide information about student progress in relation to the task or performance goals. Include concrete examples/evidence.
Where to next?	**Feed forward**	This should not just be more of the same. Set new goals and challenging tasks which include self-regulation and provide for improved student understanding. Include more or new strategies to support students' growth.

Types of Feedback

Written Feedback	Oral Feedback	Technology
Advantages		
• Can be referred to frequently • Is recorded • Is a more deliberate response because it is not spontaneous • Some students prefer written responses they can refer back to	• Is spontaneous • Can promote and facilitate dialogue between teacher and student • Some students prefer oral feedback	• Often instantaneous results and feedback • Often a record of the feedback is kept over time, and is beneficial when wanting to show student improvement over the course • Feedback can be delivered in a number of engaging and interactive ways
Disadvantages		
• Handwriting may be difficult to read • Can take longer to deliver • Students may not understand or misinterpret the feedback	• The feedback is easy to forget • There is no record of it • Students may not understand or misinterpret the feedback	• Some classrooms, teachers or students may not have access to the technology and this makes it difficult to access

Suggested strategies

Written Feedback	
Report Cards	Although almost all report cards are used as a form of summative feedback, the same template can be used to provide students with formative style feedback whilst they are completing an assessment task. To help you with this strategy, you may want to build a work/phrase bank which can be used later. This will help you deliver faster feedback and make the process easier for you in the future. Remember to make the reports card individual and focus on student improvement. Questions and sections that could be included in your report card are: 1. The standard or standard goal 2. Possible errors, misconceptions or lack of understanding, linked back to the outcomes 3. Several suggestions or remediation for those common errors/misconceptions
Comments	One of the easiest ways to deliver feedback is through comments. This could be provided when a student has provided you with a draft copy of their task and/or when the task has been completed and marked. Comments should highlight what the student has done right, what needs more improvement and practical suggestions on how the student can improve and achieve their goal. This form of feedback needs to be personalised and provided in a timely manner. Focused comments on 'closing the gap' may include: • A reminder prompt (e.g. what else could you say here?) • A scaffolded prompt (e.g. what was the dog's tail doing?', ''The dog was angry so he ...) • An example prompt (e.g. 'Choose one of these two examples.')
Secretarial features	Correct spelling, punctuation, grammar etc, should not be asked for in every piece of writing as they have difficulty focusing on too many things. Only give feedback on those things you have asked them to pay attention to.
Oral Feedback	
Walk around the class	While students are completing a task, use the opportunity to create a one-on-one feedback dialogue. The conversation could centre around:- • The processes the student is using to complete the task • Any difficulties the student is experiencing with any stage of the task • Constructive feedback to help students improve their learning. • Recognition of the students' achievements
Conferences	Ask for students to meet with you either individually or in a group. This will provide students and teachers with the opportunity to create a dialogue for feedback purposes. To make it as effective as possible, ask students to bring in the work they have done and any questions or comments which they have. This is an excellent opportunity for teachers to spend quality time with students as it is not rushed and therefore feedback can be made more meaningful.

Technology-based Feedback	
Video	When a student is in the process of completing an assessment task, ask them to provide a 1-2 minutes reflection video on how they believe they are going. You may wish to give them a series of questions or prompts to guide their responses.
Blogs, Social Networking	Another effective way of delivering feedback is through a blog or social networking sites such as Edmodo. This is particularly useful if you need to deliver feedback to a group or a whole class. Students can also use blogs and social networking sites to deliver peer or group feedback. Students can put up a piece of work and have other students critique it and provide suggestions for improvement or highlight positive aspects of the work. You may ask students to answer a series of questions to provide extra direction for your feedback. This type of feedback is highly interactive and students can access these sites after school which is useful as this is the time that most students complete assessment tasks.
Group Structures	
Peer Assessment	When students are completing a group assignment, ask each group to submit a cumulative log to:- ▪ Show what the group has done each day by checking off those learning tasks they have done ▪ Show evidence of their having accomplished the standard-based learning tasks ▪ Share with the teacher any concerns or problems The teacher then reads the log, followed by a conference with the group in which constructive feedback is provided to the group so that they can progress in completing the task.

Why should we use peer assessment and self-assessment strategies in the classroom?

"The most important advantage of self-assessment and peer assessment is that it makes students realise that success or failure depends not on talent, luck or ability, but on practice, effort and using the right strategies. This is motivating and empowering (Petty 2009)."

Peer assessment and self-assessment strategies

- give further information in order to plan teaching and learning to meeting individual student needs
- enable the targeting of realistic outcomes for students
- provide an insight into the individual learning styles of students
- result in collaborative learning where the responsibility for assessment is being shared
- enable students to become more aware of their strengths, weaknesses and needs
- teaches students that mistakes are avoidable and that improvement is possible
- improve students ability to understand the nature of good work and how marks are gained and lost
- students become more aware of the learning goals and outcomes
- develop reflective learners who take responsibility for their learning and develop lifelong learning skills
- help students identify the gap between their present skills and their learning goals
- enhance the development of self esteem and a realistic perception of self worth
- encourages student autonomy and higher order thinking skills
- enable teachers to work collaboratively with their students toward appropriate and attainable outcomes
- students become more engaged in their learning
- gain information to evaluate teaching program
- Parents see the benefits of making assessment integral to learning and enable them to work collaboratively with their child toward achieving appropriate and attainable outcomes

When should we use peer assessment and self-assessment strategies?

Peer assessment and self-assessment strategies are an integral component of formative assessment. They should be ongoing and embedded in the teaching program. Strategies can be informal and respond to student response in class; or pre-planned and more formal in their nature.

Some ideas ...

1. At the beginning of a topic/unit to establish learning goals
2. To develop a deeper understanding of marking criteria
3. To check understanding of teacher explanation of a topic/concept
4. To improve writing and oral skills
5. To conclude a lesson and link to future learning
6. To link learning to prior knowledge and experience
7. To engage students and parents in more meaningful discussion of student learning at parent/teacher conferences
8. To reflect on group performances
9. To assess student performance or presentations, e.g. drama, sport
10. To develop student personal learning plan

How can you facilitate peer assessment and self-assessment in your classroom?

For peer assessment and self-assessment to be effective, you need to teach the skills first and provide the necessary tools.

- ✓ Ensure students know the outcomes being assessed
- ✓ Teach the marking criteria
- ✓ Model responses
- ✓ Begin with spoof assessment
- ✓ Allow time for reflection and to set new goals
- ✓ Involve students in the process, e.g. developing their own marking criteria
- ✓ Ensure students are aware of the rules for peer assessment
- ✓ Use appropriate language to create a non threatening environment and a culture of trust "I'm really pleased you've noticed you are stuck. I need to find out what you need and then you will be able to learn something new."

Preparing the Classroom Environment

- ✓ Display prompts in the classroom
- ✓ Use a class gallery to display student work samples
- ✓ Create a graffiti wall
- ✓ Consider seating arrangements to accommodate peer assessment
- ✓ Provide necessary tools and equipment, e.g. video camera
- ✓ Display an A – Z chart where students can add words during the lesson which are connected to the learning to show their understanding.

Training students to be self-evaluative during whole class sharing

1. Explain to the class the purpose of the self-evaluation sessions.
2. During the lesson reinforce the learning outcomes.
3. Display a range of self-evaluative questions or prompts for the end of the lesson.
4. To begin with, simply model possible answers to show students how to answer the question and that all students experience difficulties at times.
5. After the training period of modelling answers, choose one question for ends of lessons, and link it explicitly with the learning intention.
6. Allow a short period of thinking time (15 – 30 seconds) after giving students a self-evaluative question (heads down).
7. Use a variety of approaches: whole class responses, paired responses; group responses.
8. It is not necessary to get students to write their self-evaluations, as their thinking will be reduced to what is easiest to write.

Examples of self-evaluative questions ...

What did you find difficult when you were learning to ...
What helped you when something became difficult about learning to ...
What did you need more help with about learning to ...
What are you most pleased with about learning to ...
What have you learnt that is new about ...
How would you change this activity for another class/group who were learning to ...

Examples of prompts ...

I'm proud of this because ...
My strength today was ...
The skill I need to work on is ...
I think my biggest improvement has been ...
My next learning goal is ...
I need to find out more about ...

Developing protocols and rules for peer assessment

For peer assessment to be effective in your classroom, it is important that students are made aware of the rules for giving feedback to their peers. This will help to create a learning environment based on trust and mutual respect. You may wish to involve students in the process of creating the rules or devise your own set of rules. These should then be displayed prominently in the classroom.

Sample Peer Feedback Protocol

PEER FEEDBACK PROTOCOL	
Student	I want feedback most on ...
Peer Assessor (feedback sandwich)	(Good news) "You did well on ..." (bad news) "I think these parts need to be changed ... because ..." (Good news) "Some ways you can improve it are ..."
Student	"Can you explain a bit more what you mean about ..."
Peer assessor	[reply and clarify]
Student	"I also want feedback on ..."
Peer assessor	(Good news) "You did well on ..." (Bad news) "I think these parts need to be changed ... because ..." (Good news) "Some ways you can improve it are ..."

Best practice –Peer Assessment Strategies

Feedback Strips

Feedback strips are useful for oral presentations or demonstrations. They can be short and simple and more than one peer can provide the feedback. The name of the person being observed is written on the strip and the observer completes the prompts.

Name: .....

Today you did well on ...

One thing you could work on improving is ...

Next time you could try ...

PMI

The pluses, minuses and interesting tool can be used to help students evaluate a piece of writing or presentation. It encourages students to look at the strengths and weaknesses of the presentation and to think about the evidence for their decisions.

PLUS/MINUS/INTERESTING
P(+) plus
M(-) minus
I(?) Interesting

Peer Feedback for writing task/text type

1. Students complete a piece of written work individually and then move into small groups.
2. One student shares their work with the rest of the group who read it silently and take notes on key points. The teacher should supply appropriate marking criteria to support the students giving feedback.
3. The students then take turns to give warm feedback. Allow one minute per student.
4. The students then take turns to give cool feedback. Allow one minute per student.
5. The owner of the work is then allowed to respond to the feedback and ask questions for further clarification if necessary.
6. The process is repeated for each member of the group.

The degree of success of the activity is dependent upon explicitly teaching the text type and marking criteria first.

Graphing Student Progress

At regular intervals, ask students to chart their progress and learning. The graph could be constructed using data from class work, test results, assessment marks or mini class quizzes. Students can then share their charts with the class, in small groups or in pairs. Students may give each other reasons and suggestions on why they have improved and what goals they wish to achieve next. This task allows students to share with each other their successes, but also allows students to learn from one another through helpful suggestions and advice.

Spoof Assessment

This is a fun activity which you can be used to teach students how to spot mistakes and correct them. It familiarises them with the marking criteria and prepares them for evaluating their own and others' work. Simply pair students together and give them a spoof piece of writing with some common errors to begin with. The students work on their own to find what's wrong; why it is wrong; and how to do it right. Each student then explains the errors in their spoof work to their partner, followed by a discussion of why it's wrong.

Snowballing

This activity involves the students collaborating to produce a group answer.

1. Students are organised into small groups and are given questions or calculations to do which they initially work on individually.
2. Students then compare their answers - reasoning, methods, and answers. They discuss and try to agree on the best answer(s) and why they chose that response.
3. You can then give out model answers for comparison.

Testing Learning

Students work in pairs or small groups to create their own questions or tests with a marking scale. The tests can then be shared with other students. Once completed the creator(s) can mark the test/quiz and give feedback on how responses could be improved. A number of online sites, including google docs, can be used by students to create multiple choice quizzes. Smart notebook software also has various interactive activities that can be used to assess learning, including multiple choice questions.

A fun version of this is to get students to create a board game where students have to answer questions correctly to move forward.

Alternatively students can create flashcards to test their partner's knowledge.

Graphic Organisers

Students create their own notes, concept map or other graphic organiser. They then compare their work with other students who will make suggestions on how it can be improved. These improvements can then be made.

Best practice –Self- Assessment Strategies

K-W-L-H - linking learning to prior knowledge

The K-W-L-H organiser provides students with a framework to explore their prior knowledge on a topic and consider what they would like to know and learn. This organiser can be used as an individual or group strategy but is most effective when students are given the opportunity to reflect individually before sharing with others.

K – Stands for helping students recall what they **KNOW** about the subject.
W – Stands for helping students determine what they **WANT** to learn.
L – Stands for helping students identify and reflect upon what they have **LEARNT** at the end of a topic or activity.
H – Stands for **HOW** did we learn it and aids metacognition by assisting students to reflect upon what they have learnt and how they have learnt it.

K-W-L-H			
What do I KNOW?	What do I WANT to find out?	What have I LEARNT?	HOW will I learn?

Traffic Lights

This formative assessment strategy can be used when a teacher is explaining a topic and wants to check student understanding. At several points during the explanation the teacher asks students to indicate their level of understanding using the colours of the traffic lights. Students may raise their hand; nod their head or hold up a coloured card.

Green for complete understanding
Amber for partial understanding
Red for little or no understanding

The teacher is now in a position to re-explain to some students and scaffold the learning in a different way. The student feels more empowered and is able to ask more questions of the teacher.

Feedback Sandwich

Good news	I did really well on ...
Bad news	I think these parts need to be changed because ...
Good news	Some ways I can improve it are ...

Show me

Thumbs up; thumbs horizontal; thumbs down.

60-second Think

You can use '60-second Think' spontaneously in your classroom at any time. Just ask students to stop, and have a 60 second think about how their learning is going right now. Make sure you time the 60 seconds accurately to allow quiet thinking time.

Student generated lists

Top ten things I need to find out about ...
Questions I have about my work ...
Strategies I can use to improve my work ...

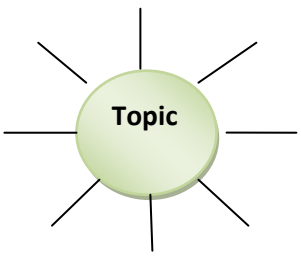
Portfolio

Simply by choosing which pieces of their work to include in their portfolio, students are already self-evaluating. This practice can be extended by asking students to respond to some questions like:

1. Arrange all your work from most to least effective.
2. After reflecting on your two best pieces of work, answer these questions.
    a. What makes this your best (second best) work?
    b. How did you go about it?
    c. What problems did you encounter?
    d. How did you solve them?
    e. What goals did you set for yourself?
    f. How did you go about meeting these goals?
3. What makes your best work different from your least effective work?
4. What are your future goals?

Concept Mapping

Concept maps are a very effective way of expressing relationships. The boundary of a concept is expressed in a circle or ellipse, and interrelations between concepts are expressed by labelled arrows.
They enable teachers to tell at a glance if students have a deep understanding or are struggling with the content and concepts being studied. Concept maps aid learning by explicitly integrating new and old knowledge and students can assess understanding or diagnose misunderstanding through drawing concept maps.



SWOT Analysis

This is a simple task that students can use to identify their Strengths (S), Weaknesses (W), Opportunities (O) and Threats (T). This can be applied during both class time when students are learning a new topic, or when a student is completing an assessment task.

- *Strengths*: Should focus on areas or skills that they best understand and do well at.
- *Weaknesses*: These are things which the student feels they are not good at or needs extra help with. This should be the area that the teacher most focuses on.
- *Opportunities*: These may refer to resources which the student can use to improve their learning and target areas in the Weaknesses section. For example, extra help from the teacher, resources and websites, peer support etc.
- *Threats:* These may refer to things which will be an obstacle between the student and their desired goal. Items such as time management, lack of motivation, lack of support may be included in this section.

SWOT

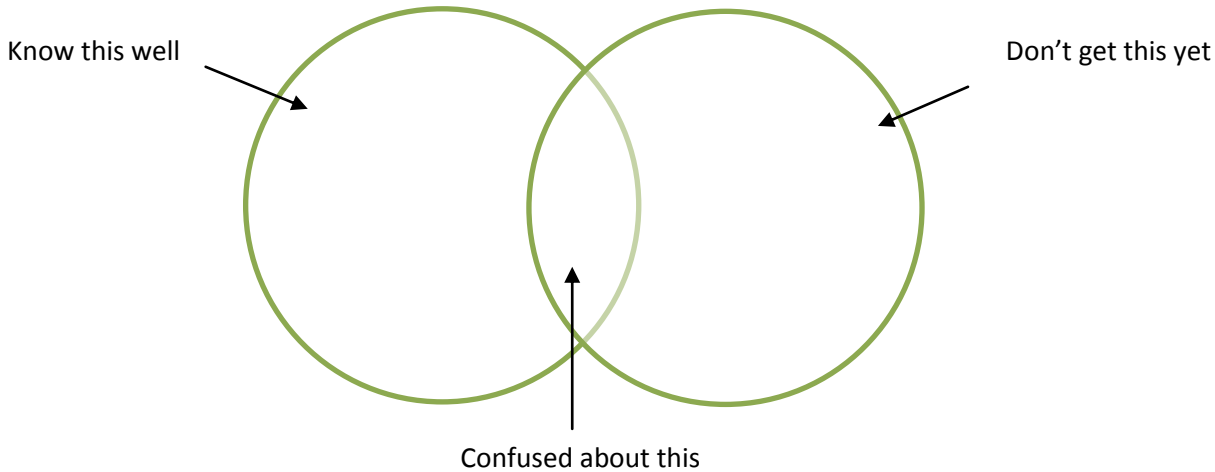
Strengths	**Weaknesses**
Opportunities	**Threats**

Before and After Chart

This strategy is to be used at the end of a task or topic. Students are given a comparison table in which they will need to identify the things they knew before the start and what they have learnt at the end. This is a great way for students to understand that they have improved and they have participated in active learning.

Venn Diagrams

An easy type of graphic organiser where one circle represents the 'know this' section, another circle represents the 'don't know' section and the overlapping section represents the 'confused about this' section. This activity is best done after completing a mini topic and before moving onto something else.



Learning Logs

You can use learning logs or reflective journals, and other simple devices for students to reflect on their recent work. Learning logs allow students to:

- maintain a record of the processes they go through with their learning
- reflect on what they have been doing
- identify what strategies they are using to support their learning
- identify how they can challenge themselves to deepen their knowledge and understanding.

Students can communicate their thinking, levels of understanding and skills through multiple representations e.g. pictorial, symbolic and written.

Some students find writing on a blank page 'daunting' so it may be useful to have some guiding questions to reflect on when writing in their learning logs. You may wish to use regular prompts for the students to respond to such as:

a. This week I have learned ...
b. For next week I am focusing on ...
c. I will know I am getting better when ...

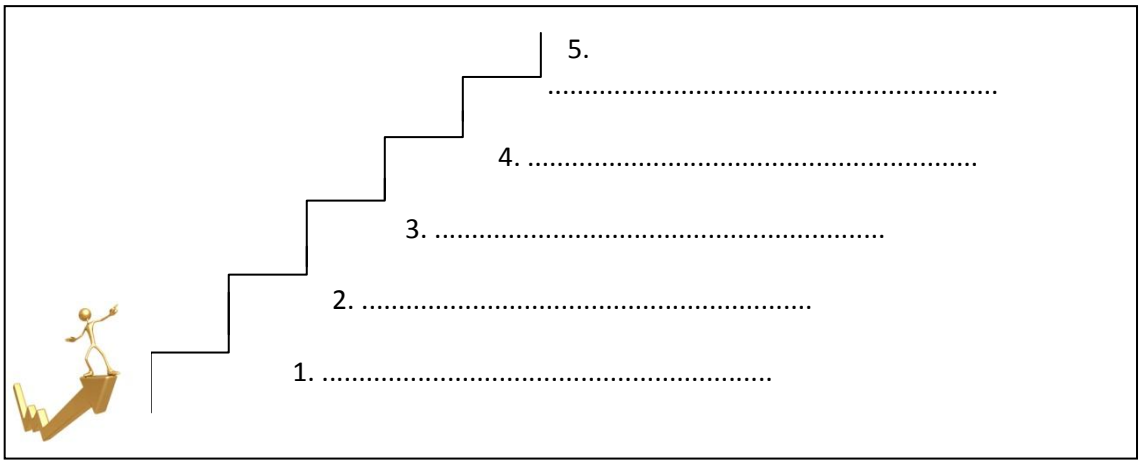
SWN

This is a very simple technique which can be used at any time to provide students with the opportunity to reflect on their learning.

S Strengths	
W Weaknesses (Areas needing improvement)	
N Next (Where to next)	

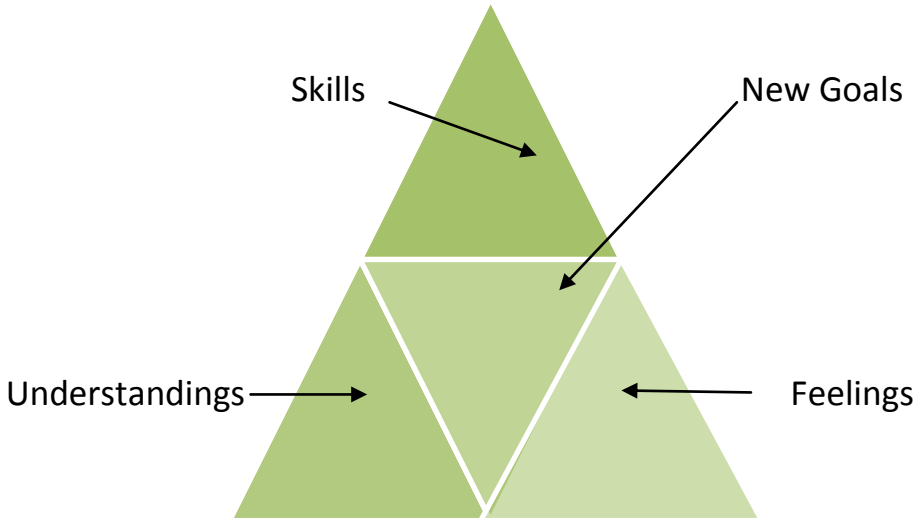
Learning Goals

Having students develop and monitor their own learning goals is an important part of self-assessment. These goals may be short term based on a topic or unit of work; or long term based on a longer period of time. Help the students to set manageable goals by providing prompts or scaffolding. For short term goals a simple scaffold could be used.



Graphic Organisers

Graphic organisers such as Venn diagrams, fishbone, ladder, KWHL table, and PMI table are effective self-assessment tools. Some of these will be dealt with individually.



Video Performances

This is especially effective for demonstrations or performances. Students record their performance and compare it to an exemplar model or assess its quality against a given set of criteria. They then set themselves learning targets for improvement. This can also be easily adapted to involve peer assessment.

Alternatively students can create an audio file to rehearse for an oral presentation.

Best practice – Developing Peer Assessment and Self-Assessment Strategies using ICT

There are many applications that lend themselves to peer assessment and self-evaluation.

Application	Possible Uses
Adobe Acrobat Pro	Use Adobe Acrobat Pro to create E Portfolios. An E portfolio is a collection of digital resources that reflects a student's progress.
Adobe Acrobat Pro – Sticky notes	Sticky notes can be added to PDFs to comment on student work
Audacity	By using this program students can create audio files to assess their learning and to share with their peers. It is very useful when students are rehearsing for an oral presentation. Audio files can also be shared with their peers.
Debut Video Capture software	Students can use video performances using the Laptop webcam. The video can then be used for self-assessment purposes or to provide feedback on group performances.
Edmodo	An excellent tool for peer assessment. Edmodo is an online educational social network site which is secure and easy to use. Students can upload written work to the site and their peers can add feedback in an online chat forum. Alternatively they can add comments to the work sample.
Freemind or Inspiration	These are mindmapping tools. Freemind is on the DER laptops.
Learning Essentials for Students (DER Laptops)	Writing templates; graphic organisers
Microsoft Word	Students can use the 'Track Changes' function to track all changes to a document including insertions, deletions, and formatting changes. This will help them to see where they have improved a piece of writing. By using 'Add Comment' students can comment on a peer's writing task to support their learning. Graphic organisers are a great way for students to test their understanding. This is made easier by using SmartArt graphics on Word.
One Note	Students can use One Note to develop E Portfolios to document their learning journey and share their work with others.
Google Docs	Use Google docs to create and send a quiz or self-evaluation survey via class email.
Smart Notebook	Smart Notebook has a variety of interactive options that may be used in peer assessment.
Turning Point	Create an interactive test to enable students to gauge their understanding of a topic.
Wikispaces	Students can upload their work and receive feedback from their peers.

Resources:

Clarke, Timperley, Hattie – *Unlocking Formative Assessment. Practical Strategies for Enhancing Students' Learning in a Primary and Intermediate Classroom* (2009)

Darling-Hammond, Hammond (Editors): *Preparing Teachers for a Changing World. What teachers should learn and be able to do* (2005)

Hattie: *Visible Learning – A Synthesis of over 800 Meta-Analyses Relating to Achievement* (2009)

NSW Department of Education and Communities: *Curriculum Programming, Assessing and Reporting to Parents K-12* (2007)

Petty: *Evidence-Based teaching. A Practical Approach* (2009)

NSW DEC *Assessment and reporting Issues 7-12*(1998)

NSW DEC Digital Education revolution

*Victorian Curriculum and Assessment Authority (*Victorian Essential Learning Standards)

Theory

The term *scaffolding* was built on by Vygotsky's 1978 work where he described scaffolding as the support given to a younger learner by an older, more experienced adult. A scaffold is temporary framework that is given for support and access to meaning and taken away as needed when the student secures control of success with a task.

Construction

- Like the scaffolding used to construct a building, scaffolding for assessment in education provides support to students when learning new content with the ideal goal of embedding deep knowledge. This deep understanding can then be used to provide high quality evidence in assessment tasks
- Scaffolding should be individualised to suit the student's learning needs

Deconstruction

- Continuing with the building analogy scaffolding in education is only temporary, and should be removed as the learner develops and refines skills. The gradual deconstruction of scaffolds will allow the student to be more self-regulated and directed

Benefits of Scaffolding

Scaffolding provides clear directions

- Step-by-step instructions are necessary to let students know what they need to accomplish to successfully meet the requirements of the task.

Scaffolding clarifies purpose

- The objective of the activity is made clear at the outset

Scaffolding keeps student on task

- The structure provided helps keep students from getting distracted

Scaffolding offers assessment to clarify expectations

- Rubrics and standards of performance are defined up front. This avoids confusion about what will be assessed at the end of an activity

Teachers Role

When scaffolding tasks because the teacher is largely responsible for initiating each new step of learning, it is critical that they set high expectations in the classroom, whist also having an in-depth knowledge of their students' needs and learning styles. This involves setting authentic and cognitively challenging learning tasks, that when dealing with problematic knowledge state explicit quality criteria.

Types of Scaffolding

According to Saye and Brush (2002) there are two levels of scaffolding for assessment:

Type	Description	Example
Soft Scaffolding	Instantaneous situation-specific aid provided by the teacher to help with the learning process. Requires teachers to continuously identify and analyse what the learner knows and provide timely, constructive feedback. This appears in a classroom setting where the teacher sets an activity, monitoring students' progress and intervenes when support or guidance is needed.	If students were struggling to indentify the differences between Athenian and Spartan society, the teacher could ask such questions as: ○ What are the contrasting views on government? ○ What are the different ideas each city-state possess about war and military service? Once students discover that differences exist, the teacher might refer them to other documents that could help them understand the origins of those differences.
Hard Scaffolding	Fixed supports that can be predicted and planned in advance based upon common student difficulties with a task. Allow the teacher to plan opportunities for students to utilise higher order thinking, self direct their own learning, and integrate past and present knowledge.	When students are learning the formula for Pythagorean Theorem in math class and are completing a work sheet, the teacher may suggest pre-planned hints or cues to help the student reach an even higher level of thinking. The main idea is the expert has thought about opportunities where they can implement supportive strategies into the lesson to scaffold learning.
Technical scaffolding	Created from the 21st century requirement of integrating ICT into learning Uses computers to replace the teachers as the experts and guides Increases student engagement with problem based tasks, while also embedding deep knowledge and understanding through instantaneous marking and feedback (Yelland and Masters, 2007).	Students can be directed through web links, online tutorials, YouTube, educational software, school created websites and online government based learning sites.

The Process for Scaffolding an Assessment Task

TASK DEFINITION

Explicitly explain the task and the marking criteria to the students. In your explanation focus on new vocabulary and directive words to ensure students understand how to respond to the question or task.

MODEL PERFORMANCE

Use exemplars to model good practice. Use spoof assessment to provide students with the opportunity to apply their understanding of the marking criteria.

SEQUENCING OF ACTIVITIES

Support student learning by breaking the task down into manageable components. Provide students with strategies to complete each stage of the task, modeling and scaffolding their responses.

PROMPTS, CURES, HINTS, LINKS, GUIDES AND STRUCTURES

Guide students through the process of completing the task. This may include providing additional sources of information such as websites; scaffolds or templates; feedback on their progress and strategies to improve their performance.

FADE WHEN APPROPRIATE

As students master each stage of the process, gradually decrease the amount of teacher focused scaffolding. At this stage you may wish to use peer assessment and self-assessment strategies to support student independent learning.

Suggested Strategies

- Activating prior knowledge
- Offering a motivational context to pique student interest or curiosity in the subject at hand
- Breaking a complex task into easier, more 'doable' steps to facilitate student achievement
- Showing students an example of the desired outcomes before they complete the task
- Modelling the thought process for students through 'think aloud' talk
- Offering hints or partial solutions to problems
- Using verbal cues to prompt student answers
- Teaching students chants or mnemonic devices to ease memorisation of key facts or procedures
- Facilitating student engagement and participation
- Displaying a historical timeline to offer a context for learning
- Using graphic organisers to offer a visual framework for assimilating new information
- Teaching key vocabulary terms before reading
- Guiding the students in making predictions for what they expect will occur in a story, experiment or other course of action.
- Asking questions while reading to encourage deeper investigation of concepts
- Suggesting possible strategies for the students to use during independent practice
- Modelling an activity for the students before they are asked to complete the same or similar activity
- Asking students to contribute their own experiences that relate to the subject at hand.

Theory

Strategic questioning is an authentic form of assessment, by which the teacher can assess student knowledge, understanding and skills. The information gathered then informs planning and selection of teaching and learning strategies created to facilitate students in reaching their intended outcomes. Questioning in the classroom is used to promote critical thinking in students according to Blooms Taxonomy, guiding them to integrate previous knowledge with what they are currently learning (Chin, 2006). It should also allow the student to use self direction and higher order thinking to come to their own conclusions. Strategic questioning can be modified and introduced into any lesson plans and will form the backbone for developing quality assessment.

Types of Strategic Questioning in accordance with Blooms Taxonomy

Types of Question	Objective and Process	Assessment	Example
Stimulating/ Analysing	The teacher asks questions to create debate and discussion in the classroom Synthesis questions challenge students to engage in creative and original thinking Analysis questions asks students to break down ideas into its component parts identifying reasons, causes, or motives and reach conclusions or generalisations	The use of these types of questions creates authentic and enriched assessment tasks, because students have a deep understanding of the topic, and the critical thinking skills to produce high quality evidence of learning	How would your life be different if you could breathe under water?" Are dogs better pets than cats? What are the most important skills in a leader?
Evaluating	Used to assess the levels of understanding students have reached Involve the student actively demonstrating their skills and expertise in answering factual, comprehension, and acquired knowledge based questions	Used to monitor student progress The information gained from these informal questions should play a significant role in planning future assessment tasks	Who knows the formula for Pythagoras Theorem? What were the key themes in the text? Does anyone know the purpose of osmosis? What were the consequences of Terra Nullius?

Leading	Similar to hard scaffolding The teacher guides students learning through specific questions in order for them to reach a certain idea or outcome The teacher prompts the students to consider new ideas, and must sometimes build on from answers	Help students embed key ideas that require clear articulation of the relationships between and among concepts The deep knowledge gained from these types of questions further adds to the richness of the assessment task	What generalisation can we make about Australia's attitude towards immigrants during the White Australia Policy? What are the key phases of mitosis? Why are physical and mental health important aspects in a young person's life?

Practical Strategies

Preparing key questions

- When planning lessons teachers identify the learning intention and create a number of key questions related to that learning intention. These are the questions that the teacher wants the students to be able to answer by the end of the lesson.
- Key questions give shape to a lesson by keeping the focus on the learning intention and assist teachers in their assessment of what students have learnt.
- These questions may also link the learning outcomes to students' prior knowledge and experiences.

Asking closed questions

- Closed questions are used in the classroom for very specific answers, for example, to remind students of prior learning and to establish knowledge of key content. Typical comprehension questions will begin with who, what, where and when.

Asking open questions

- Open questions promote thinking skills and provide the teacher with information about the student as a learner by requiring them to apply, analyse, synthesise and evaluate. These questions will stimulate interest.

Using wait time or thinking time

- Provide students with time to consider their responses to questions, especially open questions. This will increase the number of students who will think of the answer to the question.

Prompting students

- Prompts can help students better explain and clarify their answer and provide informal feedback on where the students are at developmentally.

STRATEGIC QUESTIONING

Random selection answering questions

- Strategic questioning only achieves maximum impact if questions are distributed around the classroom rather than directed to a few willing students. This can be easily achieved by:
    - drawing names from a hat
    - asking all students to write down the answer and then hold up their response
    - for yes/no responses or questions with only two possible answers, thumbs up or thumbs down is fun
    - traffic lights (where red, amber and green represent three different responses)

Scaffolding learning

- Strategic questioning provides teachers with the opportunity to provide support where there are gaps in knowledge, as well as identify the need for extension work for those students whose knowledge and skills base demand it (King, 1991).

Engaging students in asking strategic questions

- Ask students to write down questions for the class, at the end of the lesson. During next lesson, choose on a few of the questions and have students from the class answer them. Studies show that students learn from each other very well. Try and let students do the steering and help each other in coming up with solutions.
- Wonderings is a lesson strategy which requires students to self –strategic question themselves. It is especially useful when learning from a specific text. Students use previews from a text such as headings, pictures etc. They then pose an “I wonder…” style question. Students then keep reading and look for the answer to their questions.
- Paired questioning involves students working together to create and then answer each other’s questions.

Wonderings

Name: _____

- Step 1

Preview a text.
Read titles, sub-headings and the table of contents.
Look at the pictures or illustrations.
Read the first paragraph.

- Step 2

Think of an “I wonder” question. Write it down.

I wonder

_____

_____

_____

- Step 3

Read the text to answer the question.
Write the answer when you find it.

_____

_____

_____

- Step 4

Ask yourself another “I wonder” question.
Read the next section to find the answer.
I wonder

_____

_____

_____

- Step 5

Continue to read small segments – be sure to ask yourself a question before each section.

- Step 6

Write the most important ideas that you learned from reading the text:

_____

_____

_____

Wonderings	Name:
Title of Text:	
Step 1 Preview a text. Read titles, sub-headings and the table of contents. Look at the pictures or illustrations. Read the first paragraph. 	
Step 2 Think of an “I wonder” question. Write it down.	I wonder ...
Step 3 Read the text to answer the question. Write the answer when you find it.	
Step 4 Ask yourself another “I wonder” question. Read the next section to find the answer.	I wonder ...
Step 5 Continue to read small segments – be sure to ask yourself a question before each section.	
Step 6 Write the most important ideas that you learned from reading the text:	○ ○ ○ ○ ○

PAIRED QUESTIONING

Name:	Name:

1. Review the text by reading the title, sub-titles and looking closely at any images and graphics.
   Do not read the text at this stage.

2. Write down a question to ask your partner about the title and sub-titles. E.g.

What do you think … means?
What predictions can you make about …?
What did you think about …?

3. Swap your question with your partner. Answer each other's question.

4. Read your partner's answer. Discuss each other's responses. E.g.

I agree with …
I'm not sure that …
Which word(s) suggested that …
Did you consider …

5. Now read the remainder of the text.

6. Write down questions about any sections of the text you are not sure about.

7. Swap your questions with your partner and try to answer each others' questions.

What is Reciprocal Teaching?

Reciprocal teaching is an interactive teaching strategy for supporting readers to develop comprehension strategies. It encourages students to think about their own thought process during reading and helps them learn to be actively involved and monitor their comprehension as they read. Students will also learn to ask questions during reading to make the text more comprehensible at the literal, inferential and evaluative levels.

The strategy involves students in small groups taking on different roles to explore a chosen text. These roles need to be modelled for the students over a number of teaching sessions before the students can be expected to adopt the roles. The four roles are Questioner, Clarifier, Predictor and Summariser. As the students enact these roles, they are practising the comprehension strategies of questioning, clarifying, predicting and summarising as they engage in a structured dialogue about the selected text. While the strategy is best suited to groups of approximately five students, it can be adapted to a whole class setting, creating a larger discussion between students.

The Benefits of Reciprocal Teaching

Reciprocal teaching:

- focuses on reading for meaning, supporting students to develop comprehension strategies in a supportive context
- engages students in meaningful dialogue about texts
- supports students to develop a language for talking about texts
- makes explicit what readers do – question, clarify, predict and summarise
- extends students' ability to talk about their interpretation of a text
- supports students in understanding complex texts
- develops students' content knowledge and topic vocabulary
- helps students to develop skills in locating, organising and recording information about a topic for writing

The Teacher's Role

Initially the teacher's role will be quite significant, but as the students develop the necessary skills the teacher will be able to step back from the activity and act more as an observer and facilitator. In this role the teacher will be able to provide effective feedback to the students on their progress.

The teacher's role in the initial few cycles of the activity includes leading the group and modeling the skills of reciprocal teaching. The teacher models the process of comprehending – predicting; clarifying; questioning and summarising by using sentence stems and questions. E.g. "The main point so far is that the goal of reciprocal teaching is to improve comprehension skills, so I suppose a good question would be…" Once the students are familiar with the roles and expectations, the teacher selects a text and provides a brief, focused introduction to prepare the students for reading the text.

Selecting the text

When selecting text for students, teachers should consider the following:

- Is the information in the text connected and organised?
- Is the language suitable for the students?
- Is there technical/subject specific vocabulary that may need to be explicitly taught first?
- Are words used that assume a specific cultural knowledge?
- Does the text include necessary information?
- Is there an acceptable amount of text per page?
- Do the headings, labels and illustrations relate to the content?

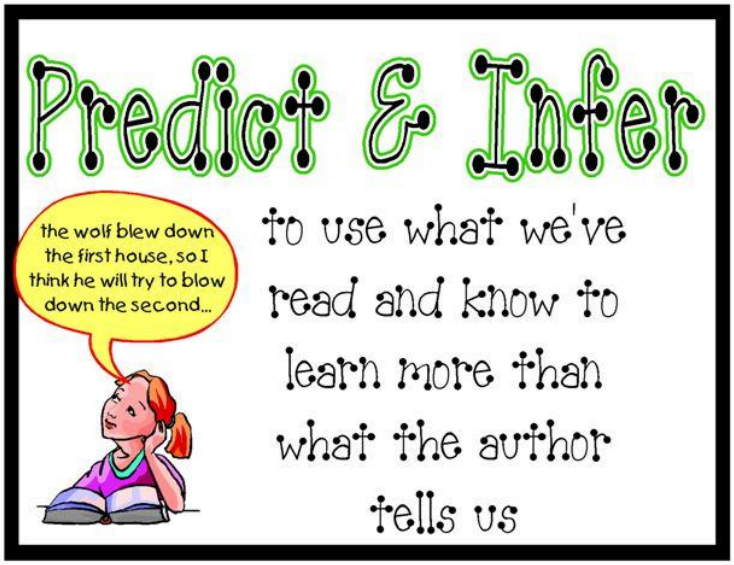
The Process

There are four distinct stages, each selected for the following purpose:

- Predicting (followed by reading of the text)
- Clarifying
- Questioning
- Summarising

1. Predicting

Predicting occurs when students hypothesise what the author will discuss next in the text. In order to do this successfully, students must use the relevant background knowledge that they already possess regarding the topic. The students are then able to link the new knowledge they will encounter in the text with their prior knowledge. The predicting strategy also facilitates use of text structure as students learn that headings, subheadings, images, and questions imbedded in the text are useful means of anticipating what might occur next.



2. Clarifying

Clarifying enables the students to make sense of the words they are reading. When the students are asked to clarify, their attention is called to the fact that there may be many reasons why text is difficult to understand such as new vocabulary and unfamiliar and perhaps difficult concepts. They are taught the strategies to overcome these difficulties such as rereading, asking for help, using a dictionary or thesaurus or using the context to 'guess' the meaning of text.

3. Questioning

Question generating reinforces the summarising strategy and carries the learner one more step along in the comprehension activity. When students generate questions, they first identify the kind of information that is significant enough to provide the substance for a question.

They then pose this information in question form and self-test to ascertain that they can indeed answer their own question. Question generating is a flexible strategy to the extent that students can be taught and encouraged to generate questions at many levels. For example, some school situations require that students master supporting detail information; others require that the students be able to infer or apply new information from text.

4. Summarising

Summarising provides the opportunity to identify and integrate the most important information in the text. Text can be summarised across sentences, across paragraphs, and across the passage as a whole. When the students first begin the Reciprocal Teaching procedure, their efforts are generally focused at the sentence and paragraph levels. As they become more proficient, they are able to integrate at the paragraph and passage levels.

Student Roles

- **Predictor**: makes some predictions about the content of the text.
- **Clarifier**: answers questions any member of the group might have, by going back to the text and rephrasing, explaining it in their own way and clarifying the part under question.
- **Questioner**: asks questions about the main ideas in the text in order to help others' understanding of the text.
- **Summariser**: then sums up the most important parts of the text in their own words.

The Leader (may be the teacher)

- selects the roles of other students in the group
- Instructs students on what to read
- invites each student to perform their role after reading each chunk
- checks that all students are contributing and joining in.

1. The Predictor

The main aim is for the student to use prior knowledge and text structure to make sense of the text and to maintain a purpose for the reading. The predictor:

- Uses what has been read or clues from the illustrations and text structure to predict what will happen next. This will encourage students to continue reading so that they can test out their predictions.
- Predictive sentences may start with:

I think the writer might …
I wonder if ...
I predict …
I think this text will be about …
I bet that ...

2. The Clarifier

The main aim is for the student to improve understanding, but can also be used to show others how to assign meaning or exemplify the process of clarifying a word/sentence

- Will be in charge of clarifying whenever the group or a student reads a word or sentence they don't understand.
- May give reason as to what they did to help them understand the text

3. The Questioner

The main aim is for the student to begin to isolate a key point, to self-check an understanding of this by creating an answer, and to check the understanding of the others in the group.

- Is in charge of asking the group questions which will help students better understand the text.
- Will need to think of questions as the group reads
- Questions could start with:

Who…?
What…?
Why…?
How…?
When…?
Where…?
What if ...

4. The Summariser

The main aim is for the student to identify and integrate the main points in the text in order to create meaning.

- gives a short recount of what has happened after a text has been read
- Sentences may start with the following:
  - The most important ideas are…
  - The main idea is…
  - This part was about…
  - First…, Next…,Then...

References

http://www.education.vic.gov.au/studentlearning/teachingresources/english/literacy/strategies/tslvl4reciprocal.htm#2

www.education.vic.gov.au/studentlearning/teachingresources/esl/

RECIPROCAL TEACHING