# Consolidation Guidelines

## Table of Contents

- Definition of Consolidation .................................................. 2
- Consolidation overview ....................................................... 2
- Minimum expectations ......................................................... 2
- What is consolidation? ......................................................... 2
- What consolidation is not ..................................................... 3
- Why we need consolidation sessions ....................................... 3
- Characteristics of an effective consolidation session ................. 4
- Content and planning .......................................................... 4
- Routines .............................................................. 4
- Brisk pace ........................................................................ 5
- Frequency and number of repetitions ..................................... 5
- Gradual introduction of new material .................................... 5
- 30:40:30 A strategy for differentiation ............................... 5
- Key components of an effective consolidation session ............. 6
- Presentation and response modes .......................................... 7
- Checking for understanding in consolidation session .............. 8
- Feedback in consolidation sessions ....................................... 8
- How should teachers provide feedback in a consolidation session? 8
- Ineffective consolidation activities ....................................... 8
- Highly accomplished teachers of consolidation ...................... 9
- Consolidation: session planner ............................................. 10
- Consolidation: feedback sheet .............................................. 11
- Self-reflection .............................................................. 12
- Contacts and References ................................................... 13
Consolidation is a fast paced session prior to every learning episode in which previously explicitly taught essential concepts and skills are recited, recalled and applied to ensure that they are:

1. moved from short to long term memory, and
2. automatised

CONSOLIDATION OVERVIEW

Consolidation sessions:

1. can be from five to twenty minutes in length or longer if appropriate
2. are separate from the explicit teaching lesson
3. are not the same as activation of prior knowledge or prerequisite learning
4. only include new elements after the content, concepts and skills have been explicitly taught
5. constantly change in response to student needs – top up, take away and revisit
6. are delivered using a variety of presentation and response types
7. are quality assured and moderated at a school level

MINIMUM EXPECTATIONS

Primary

- Delivered in literacy and numeracy blocks – every teacher, every day
- Are strongly recommended for all other learning areas

Secondary

- Five to ten minutes every lesson for English, Mathematics, Science, SOSE, (History and Geography in years 8 to 10).
- Are strongly recommended for all other subject areas and year levels.

WHAT IS CONSOLIDATION?

Once students have learned and can apply core knowledge and skills (the ‘you do’ part of an explicit teaching lesson) they need practice to review, remember and master the new learning. This mastery is attained through the consolidation session which develops the basic knowledge and skills to levels of automaticity and errorless performance.

Consolidation sessions need to be planned and updated regularly. This is best done by continually assessing student success to determine when to remove well known elements, when to re-introduce any elements that have been forgotten or if content needs to be re-taught. The same skills should be focused on and repeated until the knowledge has moved from a student’s short term memory to their long term memory.
WHAT CONSOLIDATION IS NOT

<table>
<thead>
<tr>
<th>Consolidations Warm-ups</th>
<th>Activation of Prior Knowledge and Skills (APK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occurs outside the structure of an explicit teaching lesson</td>
<td>Occurs inside the structure of an explicit teaching lesson</td>
</tr>
<tr>
<td>Purpose is to move knowledge and skills from short term memory into long term memory</td>
<td>Purpose is to provide a connection between what a student already knows and the new content they are about to learn</td>
</tr>
<tr>
<td>Includes recite, recall and apply elements</td>
<td>Includes universal experience and sub-skill review</td>
</tr>
<tr>
<td>Includes critical content not necessarily directly related to the Learning Intention of the lesson. (Elemental/Foundational content as well as content from the current unit)</td>
<td>Only includes critical content directly related to the lesson</td>
</tr>
<tr>
<td>Can be lengthy</td>
<td>Usually brief</td>
</tr>
</tbody>
</table>

WHY WE NEED CONSOLIDATION SESSIONS

1. Moves skills, knowledge and concepts from short term to long term memory i.e. forms stronger connections in the brain.

Short Term Memory (Working Memory) - Selective attention determines what information moves from sensory memory to short-term memory. Short term memory has limited capacity which may retain up to about seven pieces of independent information for between three and twenty seconds.

Long Term Memory – Long term memory provides the framework to which we attach new knowledge. It contrasts with short-term memory in that information can be stored for extended periods of time. The limits of its capacity are not known.

2. Builds confidence in the students due to the element of success.
3. Acts as a necessary base from which to springboard to higher order thinking tasks.
4. Automatises the elemental skills so that students can efficiently tackle complex and creative tasks. For example: Imagine trying to find the volume of a 3D object without the knowledge of times tables and the relevant formula.
5. Revises a foundational of knowledge; consequently less time is spent re-teaching the necessary prior learning.
6. Reduces problems associated with student absenteeism as students are repeatedly exposed to concepts they missed when absent.
CHARACTERISTICS OF EFFECTIVE CONSOLIDATION SESSIONS

- Content is taught first and planned
- An established routine
- Practised daily
- Brisk paced
- Many repetitions over time
- Gradual introduction of new material
- Address differentiation (30:40:30)
- Recite, recall and apply components
- Variety of presentation methods
- All students engaged
- All students required to respond
- Teacher checks for understanding
- Immediate corrective feedback

CONTENT AND PLANNING

- Only include critical content. Ask yourself, ‘Does this need to be moved into long term memory?’
- Keep definitions concise, accurate and student friendly.
- Is the content accurate? Have you had it reviewed or quality assured by a peer?
- Concept knowledge must be unambiguous - peer review.
- Non-examples must be changed frequently. There is a danger of moving incorrect responses into long term memory.
- Application examples must be changed frequently. If they are repeated they become recall rather than application.

ROUTINES

A consistent approach to managing the routines of Consolidation Sessions is critical. It takes time for students to learn the routine. In fact, they need to be explicitly taught. Keep the same set of routines even when the content changes, as the learning of new routines uses up valuable working memory. Routines will allow the pace to remain brisk and ensure continued student engagement.
BRISK PACE

For *Basic facts* learned to automaticity, the pace should be rapid.

For *Extended facts or newly introduced facts*, students should be given longer to calculate an answer; pace should be steady.

For *Revision*, work should be brisk enough that the flow of the session is maintained, students remain engaged and a larger quantity of content is covered. (*Explicit Instruction: Effective and Efficient Teaching* by Anita L. Archer and Charles A. Hughes, 2011)

FREQUENCY AND NUMBER OF REPETITIONS

The best way to retain information is to continually refresh the memory. Without this review, most learning will be lost. Within the school context this translates to the teacher repeating and reviewing new information many times within the explicit teaching lessons. The elements taught are then moved into consolidation sessions and revisited every day for at least 5 weeks, every week for at least 5 weeks and then revisited monthly. If, at the monthly interval the students have forgotten information, the interval of repetition must be increased. This ensures that optimal memorisation takes place.

GRADUAL INTRODUCTION OF NEW MATERIAL

When students demonstrate sustained success and mastery of core knowledge and skills to levels of automaticity and errorless performance, the consolidation needs to be updated. Once core knowledge, processes and skills have been taught explicitly, this new content is added. Gradually embed these new elements within a body of familiar content so pace remains brisk and success rate high.

30:40:30 A STRATEGY FOR DIFFERENTIATION

Imagine the student make-up of an average classroom, where students fall into three broad groups. Group one are those students who take longer to learn or need additional recite or lower order questions, group two is a larger group to whom the base level of explicit instruction is targeted and are able to recall and apply the foundational knowledge, the third group learn quickly and are capable of quickly applying and answering more complex questions.

In the 30:40:30 strategy; questions of different levels of complexity are specifically targeted to meet the needs of these three groups. The consolidation items are NOT chunked into 30:40:30. Items of different levels of difficulty are mixed to ensure that all students are engaged throughout the entire session.

Using this strategy; 30 percent of the consolidation session is delivered by planning items that can be answered confidently by the entire class, but are specifically included to provide the opportunity for group one to achieve success and remain engaged. These questions are delivered quickly, as the brisk pace ensures the engagement of all students.

Another 40 percent of questions are targeted to and can be answered by the middle and higher groups confidently, but are also essential for the lower group as this is where they get the opportunity to imitate the behaviour of more successful students and slowly and safely build their competence and confidence.

The final 30 percent of questions are designed to challenge everyone, but are specifically targeted to the upper group of students. These provide opportunities to apply and answer extended, increasingly complex or higher order questions.
Recite – students repeat information either with the teacher or as an echo. This aids student learning and gives the teacher an opportunity to correct and repeat.

Recall – students answer questions or fill in gaps about information that have been covered during the recite phase. This is done to the level of automaticity.

“Automaticity indicates that the student can utilize the information quickly and without needing to pause to recall it.” Glossary of Education [http://www.education.com/definition/mastery-and-automaticity/](http://www.education.com/definition/mastery-and-automaticity/)

Apply – students demonstrate understanding by applying to other contexts. ‘Information learned and processed through higher-order thinking processes is remembered longer and more clearly’ (Brophy, Jere. “Probing the Subtleties of Subject-Matter Teaching.” Educational Leadership (April 1992).

Related and extended facts – students make links to previous knowledge. They should be grouped with the related basic facts when introduced as this helps students add them to their existing “schema” and fast tracks the acquisition of the new knowledge. These concepts should be presented sequentially.

All consolidation sessions require a recite, recall and application component. These are not necessarily chunked in groups of recite items; recall and apply questions. As the session evolves there might be recite components of new items and only recall and apply components for more familiar items.
It has been said that we retain a small amount of what we see; more of what we see and hear; and a great deal of what we see, hear, and do.

The most effective consolidation items are presented using a combination of all three. For example a teacher might ask students to look and read, then listen and repeat as well as showing with actions or on their whiteboards.

Using a variety of presentation and response modes also enhances student engagement.

**PRESENTATION M Modes**

**Visual** – Teacher shows and displays written work, charts, diagrams, pictures etc.

**Auditory** – Teacher talks, reads plays audio clips

**Kinaesthetic** – Teacher demonstrates actions and movements

**STUDENT RESPONSE TYPES INCLUDE BUT ARE NOT LIMITED TO:**

<table>
<thead>
<tr>
<th>Oral</th>
<th>Written</th>
<th>Kinaesthetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students echo the teacher, say the answer or chant facts.</td>
<td>Students write the answer down.</td>
<td>Students are required to respond using movement or actions, or may manipulate hands-on material</td>
</tr>
</tbody>
</table>

**Examples:**
- Choral chants
- Singing
- Think-pair-share

<table>
<thead>
<tr>
<th>Written</th>
<th>Kinaesthetic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples:</td>
<td>Examples:</td>
</tr>
<tr>
<td>• Mini whiteboards</td>
<td>• Pointing</td>
</tr>
<tr>
<td>• Response cards</td>
<td>• Making a particular symbol or shape</td>
</tr>
<tr>
<td></td>
<td>• Acting out</td>
</tr>
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<td></td>
<td>• Sign language</td>
</tr>
</tbody>
</table>

Many presentation modes and response types are obviously linked because they mirror the actions of the teacher

E.g. *I say, you say; I do you do*

For some response types however, the connection must be taught as part of a routine.

E.g. *I point, you say; I say, you write*

Choosing the ideal response type will ensure that a brisk pace is maintained for the majority of the consolidation session, but careful crafting of questions can address all levels of understanding. Whole class responses, whether choral or written, should make up the majority of the consolidation session.
CHECKING FOR UNDERSTANDING IN CONSOLIDATION SESSIONS

Teachers need to continually verify students’ answers are correct. It is done throughout the session, not just at the end.

- EVERY student
- EVERY question
- EVERY time

Checking for understanding is done by continually scanning, reading and listening to all responses. For the majority of consolidations it is desirable for the whole class to respond. However there may be times to include individual responses.

INDIVIDUAL CHECKING FOR UNDERSTANDING MUST BE PURPOSEFUL

Including individual student responses as part of consolidation sessions allows:

1. Differentiation of questioning to challenge students at their level
2. Accurate checking of automatic recall for targeted students
3. Teacher to target students who are less engaged

FEEDBACK IN CONSOLIDATION SESSIONS

The feedback needs to be immediate, concise and precise in order to keep the flow and pace of the session. It is not the time for teaching and if more than 10% of students don’t know the material it should be re-taught in an explicit teaching lesson.

HOW SHOULD TEACHERS PROVIDE FEEDBACK IN A CONSOLIDATION SESSION?

If the students responses are tentative or incorrect

- teacher provides the correct answer
- whole class repeats correct answer

*The last thing students hear and say is the correct answer.*

For targeted individuals where the response is incorrect or if the student offers no response

- ask another student
- ask the original student to repeat the answer.
- ask the whole class to repeat it

*N.B Feedback must not impede the brisk pace of the consolidation.*

*Remember: The last thing a student hears and says is the correct answer*

INEFFECTIVE CONSOLIDATION ACTIVITIES

Any task which provides multiple opportunities for students to repeat the same mistake without immediate correction or feedback may transfer incorrect information to long term memory and should be avoided.
HIGHERY ACCOMPLISHED TEACHERS OF CONSOLIDATION

Demonstrate mastery in creating and delivering effective consolidations and use a full range of consolidation techniques to move student learning from short to long term memory with automaticity. Specifically they:

- Select content previously taught using the explicit teaching structure
- Logically sequence concepts in order of complexity.
- Tailor content to groups of students in response to their level of automaticity
- Use clear, concise, student friendly language
- Include bullet proof definitions
- Present content which is simple, precise, visually appealing and uncrowded
- Constantly scan to ensure full student participation
- Require students to rapidly recall concepts, facts or processes in unison and individually
- Skillfully select the most appropriate response type from a range of options
- Provide opportunities for students to apply concepts to basic, related or extended facts and real life examples
- Deliver consolidation at a brisk pace with a large amount of content covered in a short time
- Intervene when pace decreases by modelling response rate

Notes:
## Consolidation: Session Planner

**Name______________________**

**Date______________________**

<table>
<thead>
<tr>
<th>Part of Consolidation/Warm-up/RRR</th>
<th>Example</th>
<th>Presentation (select)</th>
<th>Response Type (select)</th>
<th>Specific content to be included</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RECALL</strong></td>
<td>Rote learning elements. Repetition of facts and definitions (after taught in class)</td>
<td>When two letters make one sound it is called a digraph. (students to echo teacher) The formula for the area of a rectangle is length times width. (Students echo teacher) The latin root “ped” means foot. The Latin root ‘bi’ means two.</td>
<td>PowerPoint Flash Cards Oral Questioning Charts/diagrams/images Manipulatives Teacher Whiteboard Loop Cards Other</td>
<td>Oral</td>
</tr>
<tr>
<td><strong>RECALL</strong></td>
<td>Recall of definitions and facts (moving to automaticity and checking for understanding)</td>
<td>When 2 letters make one sound it is called a ____? (Students make choral response) Length times width is the formula for … ? (Students make choral response) What does the Latin root word ‘ped’ mean? What is the Latin root word for two?</td>
<td>PowerPoint Flash Cards Oral Questioning Charts/diagrams/images Manipulatives Teacher Whiteboard Loop Cards Other</td>
<td>Whiteboards Response Cards Oral Written in books Hand signals Other</td>
</tr>
<tr>
<td><strong>APPLY</strong></td>
<td>Application of facts and knowledge</td>
<td>Hold up one finger for a graph and 2 fingers for a digraph. Teacher says various sounds e.g. “sh” If I had a rectangle which is 5cm by 3cm what would the area be? I have a rectangle with the area of 20m² if the length is 5m what is the width? If we know the meaning of the roots of ‘ped’ and ‘bi’ what does the word ‘bipedal’ mean?</td>
<td>PowerPoint Flash Cards Oral Questioning Charts/diagrams/images Manipulatives Teacher Whiteboard Loop Cards Other</td>
<td>Whiteboards Response Cards Oral Written in books Hand signals Other</td>
</tr>
<tr>
<td>Evidence of continual checking for understanding and provision of immediate corrective feedback:</td>
<td>Critical content selected – that which should be learned to automaticity.</td>
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<tr>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
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<tr>
<td>Based on the content descriptions of the Australian Curriculum – appropriate to the year level.</td>
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<tr>
<td>Planned by the teacher based on content taught (using the explicit teaching model).</td>
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<tr>
<td>Variety of presentation methods to maintain interest e.g. ppt, flash cards, class charts, chants</td>
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<tr>
<td><strong>ALL</strong> students engaged and on task.</td>
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<tr>
<td>Brisk paced and fluent.</td>
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<tr>
<td>Instructional routines evident. Students know when and how to respond.</td>
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<tr>
<td><strong>Recite</strong>: Rote repetition of new facts including vocabulary, formulae and definitions.</td>
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<td></td>
<td></td>
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<tr>
<td><strong>Recall</strong>: Element skills and knowledge learned to automaticity.</td>
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</tr>
<tr>
<td><strong>Apply</strong>: basic, related or extended facts.</td>
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<tr>
<td>Links between concepts and to real life examples when possible – Numeracy and Literacy.</td>
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<tr>
<td>Sessions evolve in response to student needs – e.g. some elements repeated more often, some only touched upon and others dropped off as mastery is reached</td>
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<tr>
<td>Sequentially presented – simple to complex</td>
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<tr>
<td>Daily changes made to application questions and to non-examples.</td>
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<tr>
<td>Gradual introduction of new material</td>
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<tr>
<td>Accurate and unambiguous</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>What went well:</th>
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<table>
<thead>
<tr>
<th>Next steps/refinements:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Teacher will (when- date and time):</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Coach will (when-date and time):</th>
</tr>
</thead>
</table>
Teacher Self-Reflection - Consolidation

Content
Do I demonstrate a thorough understanding of the subject matter?
Am I covering year level/curriculum expectations?
Do I react to student response by making adjustments to the content?
Have I introduced new elements gradually and embedded them within familiar material?
Has all content been explicitly taught prior to the consolidation?
Do my sessions cover all elements e.g. reciting facts, recalling answers to questions, applying facts and recognising examples and non-examples?
Have I checked that my language/definitions are correct?

Preparation
Is this planned for my class?
Do I record student performance data during sessions and use this to plan subsequent sessions?
Have I taught students the routine of the consolidations?
Is the session between five and twenty-five minutes long?
Have I included extra repetitions of new work and removed elements that have already been moved to long term memory?
Have I planned to differentiate by having items of varying difficulty?

Presentation
Are the instructional materials the best for the job?
Am I maintaining the flow by avoiding frequent interruptions?
Do I need to vary the activities to maintain interest?
Are students on task most of the time?
Is the pace brisk? Do I need to increase or vary the pace?
Am I using verbal and physical prompts?
Have I created a class atmosphere that is motivational and conducive to learning?

Feedback and Questioning
Are all students prepared to respond to the questions?
Do I provide immediate feedback in the form of affirmations or corrections?
Do I have a bank of questions that can be reused or adapted for different concepts?
Have I included questions that require students to evaluate rather than recall? (true/false, yes/no and multiple choice so that students can discriminate between examples and non-examples)
Do I vary the questioning in order to differentiate?
Have I checked for understanding by requiring students to respond in a variety of ways e.g. chants, hand actions, response cards, written response, show me boards?
Contacts

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Nicole Douglas – nicole.douglas@dete.qld.gov.au
Barbara Tabulo – barbara.tabulo@dete.qld.gov.au

References


3. Pica, Rae “Literacy and Movement” Reprinted from *Young Children November 2010* National Association for the Education of Young Children Web. 30 July 2010


