

Design options for building knowledge

A suggestion for implementing the strategy
'Design multiple means of Representation'
from the Guide: [Universal Design for Learning](#)

Includes:

Why this matters

Connect prior knowledge to new learning

Highlight and explore patterns, critical features, big ideas, and relationships

Cultivate multiple ways of knowing and making meaning

Maximise transfer and generalisation

Useful resources

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From

Guide: [Universal Design for Learning](#)

Strategy: [Design multiple means of Representation](#)

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Why this matters

Learners differ in their prior knowledge, ways of thinking, and approaches to building knowledge.

By incorporating multiple representations and scaffolded supports, educators can ensure all learners have access to meaningful ways to build knowledge ([CAST, 2024](#)).

Design options for building knowledge prompts us to consider learner variability at the outset and offer options to:

- [connect prior knowledge to new learning](#)
- [highlight and explore patterns, critical features, big ideas, and relationships](#)
- [cultivate multiple ways of knowing and making meaning](#)
- [maximise transfer and generalisation](#).

This guideline also reminds us to consider:

- How will these options support learners in reaching their goals?
- Could any of these options create barriers or unnecessary challenges?
- Will all learners have fair and equal access to high-quality choices?
- How do these options reflect and respond to learner variability?

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Connect prior knowledge to new learning

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Representation

- Activate relevant prior knowledge using visual imagery, concept maps, KWL methods, ideas wall, bingo, story telling.
- Pre-teach critical prerequisite ideas through demonstration or models.
- Make explicit cross-curricular connections (e.g., teaching literacy strategies in social studies).

Adapted with permission: UDL Guidelines 3.0, CAST (2024)

Source:

[UDL Guidelines 3.0 | CAST \(2024\)](#)

<https://udlguidelines.cast.org/representation/building-knowledge/prior-knowledge/>

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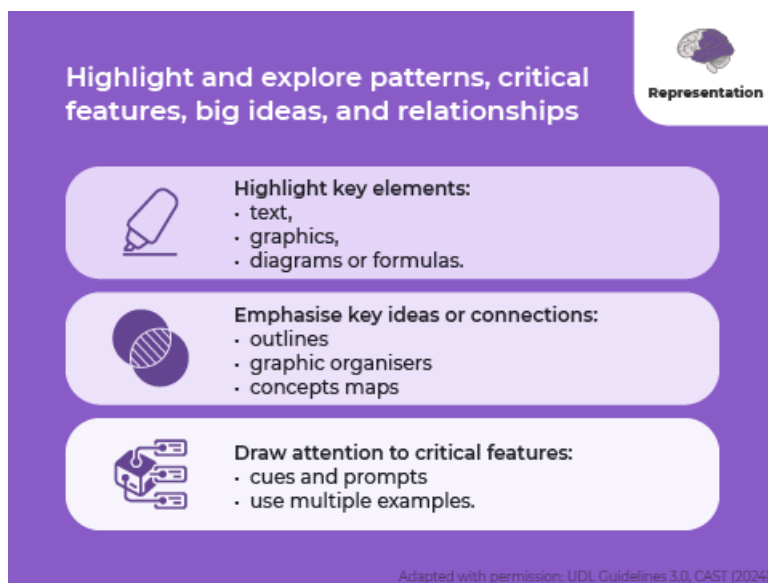
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Highlight and explore patterns, critical features, big ideas, and relationships



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Representation

- Highlight key elements:**
 - text,
 - graphics,
 - diagrams or formulas.
- Emphasise key ideas or connections:**
 - outlines
 - graphic organisers
 - concepts maps
- Draw attention to critical features:**
 - cues and prompts
 - use multiple examples.

Adapted with permission: UDL Guidelines 3.0, CAST (2024)

Source:

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<https://udlguidelines.cast.org/representation/building-knowledge/patterns-features/>

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Cultivate multiple ways of knowing and making meaning

Provide multiple ways to make meaning, supported by models, scaffolds, and feedback ([CAST, 2024](#)).

Give learners chances to practice different strategies so they can apply them independently when needed:

- Introduce learners to different ways cultures and communities build and share knowledge in Aotearoa and the wider Pacific region (wānanga, talanoa, storytelling).
- Use clear, step-by-step prompts to help learners build knowledge sequentially.
- Offer different tools (for example, tables, algorithms) to support making connections between information.
- Use interactive models that support exploration and deeper understanding.
- Provide multiple entry points and flexible learning pathways through content (for example, through drama, literature, film, or media).
- Break information into manageable chunks to reduce cognitive overload.
- Release information gradually (for example, with sequential highlighting) to support focus.

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Maximise transfer and generalisation

Learners vary in the amount of scaffolding they need to transfer their prior learning to new ideas, concepts and contexts ([CAST, 2024](#)).

- ✓ Checklists, organisers, sticky notes, and electronic reminders.
- ✓ Mnemonic strategies, visual imagery, or paraphrasing strategies.
- ✓ Explicit opportunities for the review and practice of new concepts or skills, including social skills.
- ✓ Templates, graphic organisers, and concept maps to support note-taking.
- ✓ Scaffolds that connect new information to prior knowledge (for example, word webs, half-full concept maps).
- ✓ Embed new ideas in familiar ideas and contexts (for example, use of analogy, metaphor, drama, music, film, etc).
- ✓ Generalise learning to new situations (for example, using algebra to calculate the cost of materials for a new school bench).
- ✓ Regularly revisit key ideas and linkages between ideas.

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Useful resources



Design options for building knowledge (UDL Guideline)

This UDL guideline helps educators support learners to recognise and manage emotions and behaviours, and empathise with others. As learners will vary in their emotional capacity, offering a range of support options is recommended.

This guideline supports the UDL Engagement principle.

Publisher: CAST (2024)

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