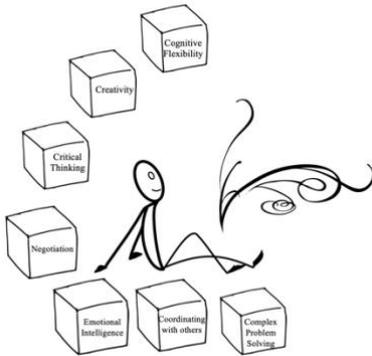


Scaffolding with Information Wheels (University)

Donna Lee Fields, Ph.D.



theory behind scaffold...

Using information wheels in lessons is a wonderful way of honouring our students who need to learn through kinesthetic interaction. With information wheels, your students will use deductive reasoning, negotiate meaning, activate long-term memory, and learn new subject matter, all at the same time. Because they will be interacting with information with their hands, they'll benefit from the essential transition from social-to-exploratory-to dialogic-to presentational-and...finally...to [meta learning](#).*

Working with information wheels is a way of giving students a venue in which they can take chances by verbalising their suppositions about new information. They'll discover different perspectives by seeing ideas linguistically, shaped in different ways than their own. Repetition - a strong proponent in the CLIL approach to learning - is embedded in the dynamic and so the information goes deeper, which means our students are more likely to store the knowledge in long-term memory. By interacting with material gradually - in chunks - we compensate for the [cognitive load](#), and so the anxiety level that often arises in the face of new information, is reduced significantly. All of this with the finality of helping our students to build a strong foundation of academic language and so more confidence in verbal communication.

Above all, with this activity, students process information through [positive transfer](#). This happens when the learner uses past experiences to affect learning and performance in a new situation - a person transfers knowledge from one place to another. You'll see that the dynamic of the Information Wheel is to hide and reveal information at specific points in the activity, with different terms removed each time. This creates the necessity for students to remember, negotiate, infer, and use dialogue, to be able to fill in the missing words that to the best of their ability.

These types of activities give students the opportunity to develop a multitude of skills simultaneously and so augment [self-efficacy](#), which, according to John Hattie's studies, is one of *the* highest influences on learning.

We use here an example from an engineering class focused on construction materials. You'll see how easily you can adapt the activity to whatever unit you are about to begin.

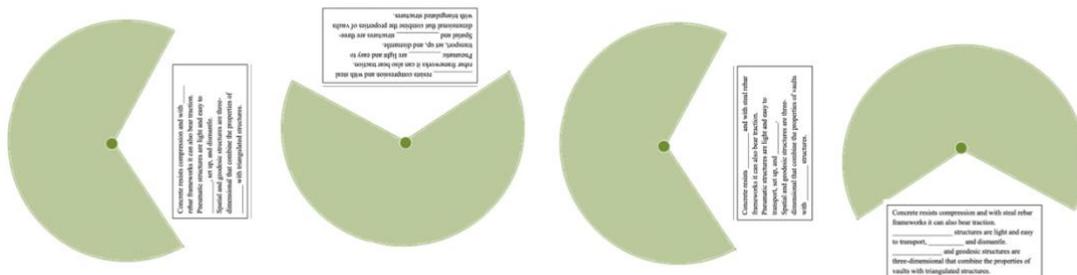
[\(Mercer, 2008\)](#)

step by step...

1. Choose 5-10 extracts of a text from the lesson you're about to begin (lab instructions, transcript of a video or podcast, rules of a sport, score from a musical composition, etc.).
2. Separate the text into chunks and copy each chunk four times in a text box.
3. In each set of four text boxes, eliminate different words and phrases, in other words each extract will have different missing words or phrases. (See example below for this unit on construction materials.)

<p>Concrete resists compression and with steel rebar frameworks it can also bear traction.</p> <p>_____ structures are light and easy to transport, _____ and dismantle.</p> <p>_____ and geodesic structures are three-dimensional that combine the properties of vaults with triangulated structures.</p>	<p>Concrete resists compression and with _____ rebar frameworks it can also bear traction.</p> <p>Pneumatic structures are light and easy to _____, set up, and dismantle.</p> <p>Spatial and geodesic structures are three-dimensional that combine the properties of _____ with triangulated structures.</p>
<p>Concrete resists _____ and with steel rebar frameworks it can also bear traction.</p> <p>Pneumatic structures are light and easy to transport, set up, and _____.</p> <p>Spatial and geodesic structures are three-dimensional that combine the properties of vaults with _____ structures.</p>	<p>_____ resists compression and with steel rebar frameworks it can also bear traction.</p> <p>Pneumatic _____ are light and easy to transport, set up, and dismantle.</p> <p>Spatial and _____ structures are three-dimensional that combine the properties of vaults with triangulated structures.</p>

4. Use this [template](#) to make Information Wheels - one for each pair of students. Copy and paste one set of chunked text into the apertures of the wheels - one set for each wheel. (See example below.)
5. Paste the sets of text boxes into the apertures of the wheels - one set for each wheel. (See example below.)



6. Give one wheel to each pair of students and they work together in the following manner:
 - They read the extract in one aperture aloud and guess what the missing words could be.
 - They turn the wheel so that the extract in the next aperture is visible.
 - They read this extract (now with different words missing) and recall or guess the missing words.
 - They continue this dynamic until they can read each of the text blocks with ease.

Note: If they don't remember the missing words, we want to encourage them to discuss, negotiate, infer, etc., but we want to discourage them from turning the wheel backwards.

7. On your signal, students exchange their Information Wheels with another pair and proceed with the same dynamic as before with the new wheel.
8. *Formative Assessment:* Show an image from the Body of the Lesson (in this case the video on comets.) Groups take turns describing the image, using the academic language and information from the wheel activity.
9. *Reflection:* Students write the answers to the following questions from the Question Continuum. (Remember, some questions reflect content and others reflect methodology thus augmenting even further [self-efficacy](#).)



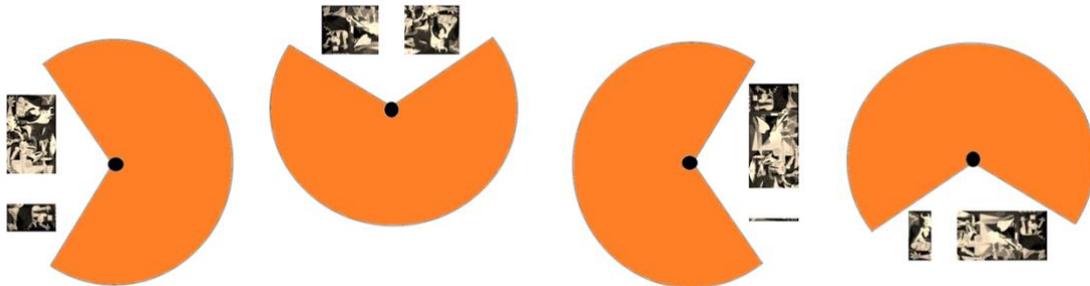
- Can concrete resist compression?
- Which materials are the easiest to recycle?
- Who do you know doesn't recycle?
- When did recycling begin?
- Where can we leave materials to recycle?
- What does it mean to recycle?
- How does recycling benefit the planet?
- Why do we recycle materials?
- What if the government gave awards for the best recyclers in each neighbourhood. How would that change the number of people who were more active in recycling?

using images instead of text...

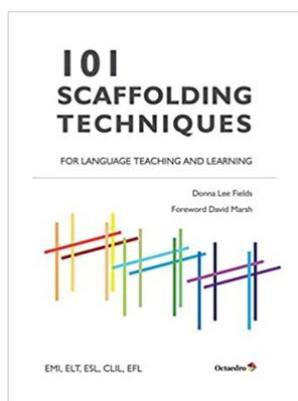
Information Wheels are ideal to introduce visual information - for instance, specific pieces of art. Students will be able to focus on the many symbols

included in Picasso's Guernica, for example, by blocking out parts of the masterpiece in each aperture. It would be beneficial to include academic language and/or a list of the images, symbols, objects, etc. that you most want them to notice and discuss.

Example:



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[SCAFFOLDINGMAGIC.COM](https://www.scaffoldingmagic.com)

transcript of video explanation of scaffold...

Hi, everyone I'm Donna Fields and welcome to CLIL Scaffolding 5. It's a series of webinars on how to implement scaffolding techniques you can use in your lessons. You can find these activities in my book 101 Scaffolding Techniques that's also been translated into Spanish.

Scaffolding we can say is an instructional technique used to help students to move toward stronger understanding of new material, with the goal of helping them to be more independent learners.

The objective for this lesson is to show how easy it is to adapt scaffolding technique #30 to a primary and a secondary lesson. Remember, according to studies, sharing objectives with our students helps to raise their engagement in their learning significantly.

Scaffolding technique #30 is called 'Round and Round it Goes'. This refers to a saying that probably started in carnivals, but is very common when talking about games of chance. When you spin a wheel, you chant: 'Round and round it goes, where it stops, nobody knows.'

This technique uses a wheel and each time you turn it, you see something different.

Let's start with a Secondary Technology lesson. Technology has a lot of terminology that students need to learn.

Here are three typical pages of a technology textbook. How can we introduce the terms - even before the students open the textbook - to help them feel supported and empowered at the same time? Well, we're going to use *positive transference*. They'll be forwarding the knowledge they gain in one window of the wheel to complete the next.

Once you see how to prepare this activity, you'll realise how easy and effective it is:

- 1) Take one page and choose 4-5 terms from it;
- 2) Write these terms in a text box.
- 3) Copy the text box four times.
- 4) In the first textbox, eliminate one word in each sentence.
- 5) In the other three text boxes, eliminate a different word in each sentence.
- 6) Paste the four text boxes on the bottom of the wheel so that when the top of the wheel is turned, you only see one text box at a time.

You prepare more wheels in this way with different information in each wheel. (You make as many wheels as there are pairs in your classes.) As one pair finishes working with one, they exchange it with another pair. The activity continues until all the students have worked with all the wheels.

You've scaffolded (supported your students in) content and language and your students will now be able to assimilate the chapter more easily when they open the textbook. And because you've presented an activity that is geared

towards so many different learning styles and intelligences, the information will go deeper into their long-term memory.

How can we use this in a primary class? Let's try it in a Social Science class. They need to read a book on Plastic: what it is and the problems plastic poses in society. Your students might already know something about recycling, but remember, they're going to be reading a text that is written in a language that is probably different from their home language, so this activity gives them both content and language support.

So, just as before, we take information from the book, in this case we'll probably take whole paragraphs, and type them into text boxes

- 3) eliminate a different word in each sentence in each of the four;
- 4) place one text box in each window of the wheel;
- 5) give one wheel to each pair of students;
- 6) they read the paragraph and as they turn the wheel, they transfer their knowledge from what they read in one paragraph to the missing words in the paragraph visible in another window.

Repeat the process for as many wheels as you have pairs in your class.

That's it! Another scaffolding technique to support your students' learning and you've created an activity that is geared towards many learning styles: some students need to SPEAK to be able to learn, some students need to TOUCH something to be able to learn, some students need to SEE the material to be able to learn and others need to HEAR it and we're doing all of those different intelligences here.

So, all you SUPER TEACHERS I hope to see you next time. Please send any comments you may have.

You can find me at these sites:

<https://scaffoldingmagic.com/>

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Meantime, have fun in your classes! Bye!