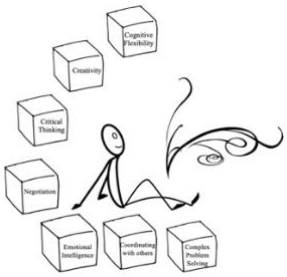


Scaffolding Academic Language with Intentional Errors (Higher Education)

Donna Lee Fields, Ph.D.

theory behind the scaffold…

> *The brain sparks and grows when we make mistakes - even if we are not aware of it - because it is a time of struggle: the brain is challenged, and this is the time when it develops the most.*
>
> Boaler, Jo
> *Mathematical Mindsets*

Errors need to be celebrated in our classroom and we need to help our students to embrace the effort they make in their studies and focus on the process - mistakes and successes alike - and not only the outcomes.

This scaffold puts a twist on the concept of celebrating mistakes. To truly show our students how errors are valuable for their own development, we create a whole activity around mistakes that we have intentionally embedded in the unit, lesson, or project they are about to begin. At the end of the activity, we further expand the dynamic by helping them to reflect on the steps of the activity - how they felt having the opportunity to consider different alternatives instead of receiving the information without any opportunity to collaborate or participate. Essentially, they'll be reflecting on how it feels to learn through an action!

As in best learning practices, this technique encourages students to use past knowledge to recognise inconsistencies in the information. Through critical thinking, they work together not only to read and understand the concepts, but they also look for content and grammatical errors and then make the appropriate adjustments (they suggest more accurate academic language).

To cater to even more learning styles and to adhere to the changes the OECD (through the PISA exams) encourages, this activity asks students to physically move throughout the classroom, and interact with the material and their classmates at the same time. The example we use here is from a unit on natural sciences, but you'll see how you can adapt it to your subject with ease.

Comments from teacher in Helsinki, Finland: 'I was at first very reluctant to use this scaffold because I thought my students would be overwhelmed with the difficulty of the task. What I found was that the activity is not only incredibly effective, but the students become very quickly engaged and interactive. Once we begin the unit, they realise how prepared they already are for the language they'll need to understand. Now I use this technique often and with pleasure!'

Errors can be seen used as jumping blocks for learning and are often undervalued in the process of advancing knowledge.* The mistakes students make can be used as formative assessment and as critical indicators for where teachers can focus more concentration on dedicated instruction.

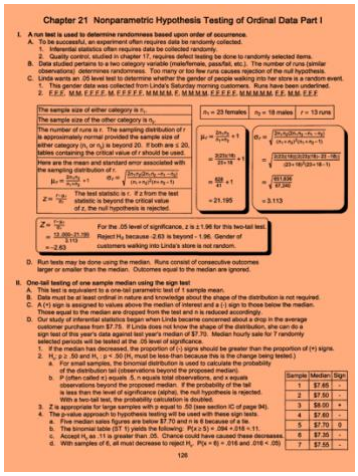
The scaffold below is tied to the theory of deductive reasoning: a person makes conclusions based on past knowledge and logic. Students use previous studies to find errors deliberately placed in texts taken from units they are about to begin. This helps them to make connections and to transition into the new material with more confidence.

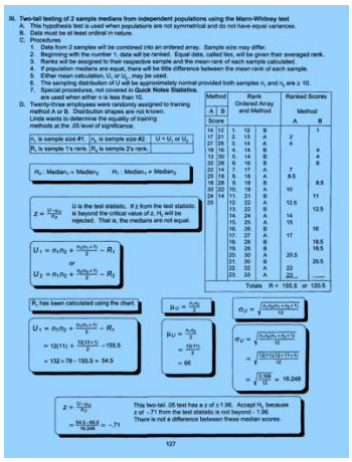
** Academic success 'is intricately linked to higher-order thinking processes developed by extensive modeling and scaffolding of classroom talk and accelerated by weaving direct teaching of its features while teaching content concepts.' (Zwiers, 2008).*

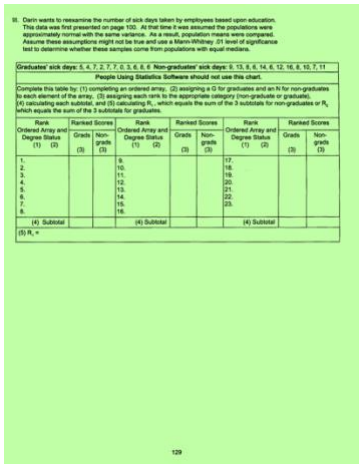
**Hunt, Morton (1982). *The Universe Within: A new science explores the human mind*. Simon and Schuster.

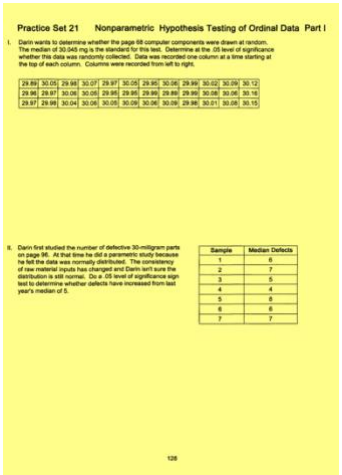
step by step...

1. From a unit you're about to begin, make two (2) copies of 8-10 of the pages (so that in the end you'll have more or less 20 copies to mount on the wall.)

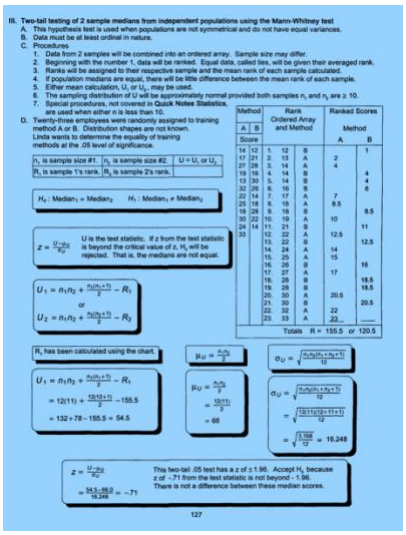

Chapter 21 Nonparametric Hypothesis Testing of Ordinal Data Part I






Practice Set 21 Nonparametric Hypothesis Testing of Ordinal Data Part I

2. Change 3-4 words on each page. (Don't worry if the words you change are obvious because of the font or colouring. This will show your students where the error is, but they still need to read to conceptualise an appropriate word to put in its place.) See example below.



$$z = \frac{U-\mu_U}{\sigma_U} = \frac{54.5-66.0}{16.248} = -.71$$

This two-tail .05 test has a z of ±1.96. Accept H_0 because z of -.71 from the test statistic is not beyond - 1.96.

There is significant difference between these two median scores.

$$z = \frac{U-\mu_U}{\sigma_U}$$

U is the test statistic. If z from the test statistic is beyond the critical value of z, H_0 will be rejected. That is, the medians are equal.

$$H = \frac{12}{15(15+1)}\left[\frac{(27.5)^2}{5} + \frac{(32)^2}{5} + \frac{(60.5)^2}{5}\right] - 3(N+1)$$

$$= .05[151.25 + 204.80 + 732.05] - 3(15+1)$$

$$= 54.405 - 48.000 = 6.405$$

Reject H_0 because $H_0 = 6.41 > 5.99$. Medians are equal

3. Mount the pages on the walls of the classroom (more or less 20 pages mounted around the classroom

4. Make a table to identify the pages, with one column to identify the inappropriate word and one column indicating what word would be more appropriate. (See below.)

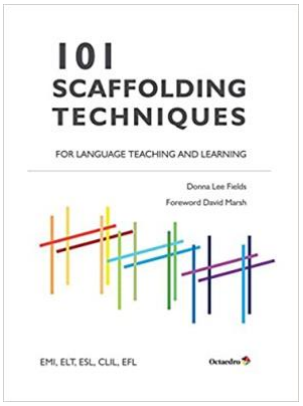
Page Number	Inappropriate word/phrase	More appropriate word with our justification
127	There is significant difference...	There is no significant difference According to the equations and the explanation, there is *no* significant difference between the median scores.
127	the medians are equal...	the medians are not equal Between the explanation and the equation shown, the medians are not equal.
127	the medians are equal...	the medians are not equal The same as above. Calculating the equation and the explanation, the medians are equal.

5. In pairs, students go around the room, read the paragraphs, and together decide which words are inappropriate, and what might be an appropriate word. (See example below.) As long as they write in a word they can justify, we can be satisfied. Later, they will read the word that the publishers have decided is the most appropriate. The goal here is critical thinking and drawing appropriate conclusions, not 100% accuracy.

6. *FormativeAssessment/Reflection:* Students write the answers to the following questions from the Question Continuum. (*Remember, some questions reflect content and others reflect methodology, thus augmenting self-efficacy.)*

- Yes/No — Does water evaporate when heated?
- Which — Which elements are constant in shape and volume?
- Who — Who studies the characteristics of particles and their changes?
- When — When are kinetic molecules compressed?
- Where — Where does most evaporation occur on the planet?
- What — What is the purpose of knowing the information in this unit?
- How — How are changes of state produced?
- Why — Why is the concept of fusion important when travelling by water in colder climates?
- What if — What if you discovered that man of the concepts in this unit were not proven as scientifically accurate. How would that change your concept of the world around you?

find more scaffolds here...



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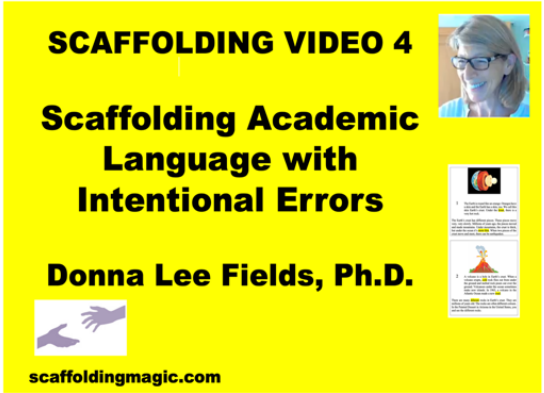
video explanation…



transcript of video explanation...

Hi, I'm Donna Fields and welcome to CLIL Scaffolding 4. This is series of webinars designed to give you quick, easy and adaptable scaffolding techniques. Scaffolding is an activity or technique that helps push students out of their zone of proximal development** to a more complex level of knowledge. (I use the image: giving a helping hand!)

Today, we're going to talk about how to use scaffolding technique #52, that you can find in my book *101 Scaffolding Techniques For Language Teaching And Learning* and has been translated into Spanish.

Today the objective for this session is show how easy it is to use scaffolding technique #52 in a primary and secondary lesson. You can also use it in adult classes, professional training, any classes you teach and in any language.

Scaffolding technique #52 is called 'Something's not right'. The idea is that you're going to present text that your students are responsible for learning with deliberate mistakes included. You're going to tell your students there are mistakes, and their job is to find them. By finding the mistakes they're going to have to read the text, consider the corresponding images, and use deductive reasoning and previous studies of language and content to locate where the 'something not right' is.

Let's begin with a secondary history class. These are the first few pages of a chapter on the middle ages. The images are nice and they're large, but there's a lot of written information that's not explained in the images and a lot of reading the students will have to do. This is a CLIL class, so the language of the text is different from the students' home language. They'll need to assimilate a lot of new concepts in a language that they may not be completely comfortable in. In other words, it's going to be overwhelming for most of them. So what can we do? I'll show you. it takes a bit of preparation, but it's worth it and you can use it year after year.

First, you make copies of several pages of the chapter with the images. (I usually make copies of 10-15 pages.) Type the information into text boxes. include 2-3 mistakes in each page (and if you want, you can identify the type of mistake you've included for instance 3 spelling mistakes, 3 grammar mistakes, and so on), paste the text boxes on top of the corresponding page, laminate the pages (if you want), and post them around the classroom walls. (I've highlighted the mistakes here so you can see them. Obviously that's not what I show the

students.) I also put numbers on each page. You'll see what the numbers are for.

Now, I make tables for the students. So now, in pairs, they go around the room, read the text of each of the pages on the wall, write down the number of the page, find the mistakes and write them in the table. They also discuss the mistakes and write down the what they think the correction is.

Here is a table partially filled out. The students found the three spelling mistakes in page #5. You'll see that they don't have to go in numerical order as long as, in the end, they fill in the entire table.

You've now helped scaffold (pre-teach) content and language for the unit and catered to physical intelligence - letting them move while learning.

Let's try this with material from a primary geography class. The students need to read: Incredible Earth. The font is nice and big, the vocabulary seems easy, but you need to remember that learning content in a language that is not your home language is stressful for most students. So, let's break it down into smaller pieces, introduce it to them in an interactive way and give them an opportunity to feel proud of themselves by letting them to make deductive conclusions about content and language.

We
- scan in the pages of the reader (again, I usually use 10-15 pages which in this case is the whole book!)
- type in the text in text boxes
- include 1-2 mistakes in each page
- tape the textboxes to the corresponding page
- number them (laminate the pages if you want to)
- post them on the classroom walls
- give each pair of students a table, and with their partner
- they go around the room (it doesn't matter the order as long as they read all of them in the end)
- they read
- find the mistakes using past knowledge of the language and deductive reasoning for content, and
- write in what the correction probably is.

That's it! You've built a bridge for your students to cross from their previous studies to what they're moving into and in a way that's different and engaging. Classroom management obviously is key, here, but you can find very effective classroom management tips in my CLIL Giving a Helping Hand Webinar Shorts #4 to help you with that.

So, all you SUPER TEACHER out there, thank you so much again for joining.

I look forward to seeing you next time. Please leave me any comments at:
You can find me at these sites:

https://scaffoldingmagic.com/

and

Linkedin
Pinterest
Facebook
Instagram
Tiktok (scaffoldingscaffolds)

and subscribe. There will be a lot more videos to come. Bye everyone!

**Zone Of Proximal Development: The zone of proximal development is the difference between what a learner can do without help.

Mount.)