

Teaching Tips

A Forum for discussion and tips for advancing teaching and learning at Mona

Centre for Excellence in Teaching and Learning, The UWI Mona



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Special points of interest:

- The Teaching Tips Newsletter is a publication of the Centre for Excellence in Teaching and Learning (CETL) at the UWI, Mona.
- The Newsletter is published once per month and provides tips for improving teaching and learning in higher education. It is available online (<http://myspot.mona.uwi.edu/CETL/>) as well as in the office of the CETL.
- If you have an area that you would like us to explore in this newsletter, do not hesitate to contact us at the CETL.

Using powerful mental techniques to improve learning: Chunking



Many times, our students come to classes and unfortunately do not learn a lot from what happens in the class. In fact, sometimes when they consult the lecture notes, the concepts that were taught seem very strange and do not make much sense to them. Of course, there are many reasons for this type of outcome. Chunking is an old approach applicable to studying that we might want to introduce to our students and help them understand and utilise it. It is one of those powerful mental techniques that might be used to improve learning.

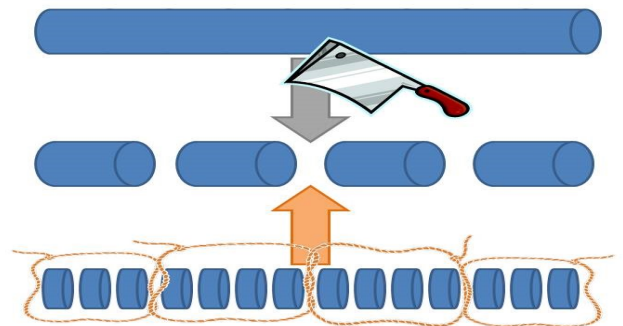
What is a chunking...what are chunks?

It is the breaking down of course content into smaller, bite-sized bits of easily digestible information. This will make it easy to comprehend, learn, and commit to memory. In fact, chunks might also be understood as compact packages of information and in this form, the mind will easily access them. By creating chunks, students are utilising a technique that enables them to unite bits of information through meaning. Once meaning is attached to the chunk, it makes it easier to fit it into the larger aspects of the course or content that needs to be learnt. Just memorizing facts without understanding or context isn't helpful at all. When it is known how the concept fits together with other concepts, then this will help students to learn better.

Content chunking is not a new approach to organising content for studying or for teaching and learning. It has been around since 1956 when George A. Miller, a Harvard

psychologist published an academic paper, in *Psychological Review*, titled "The Magical Number Seven, Plus or Minus Two, Some Limits on Our Capacity for Processing Information." He and his research colleagues had conducted a series of cognitive load experiments. They determined that people could handle between five and nine pieces of information and seven was considered the mean. Miller introduced this term called "chunking". He believed that people could store more information if they were able to chunk or combine some pieces of information.

2 Views of Chunking



Chunking: Developing more meaningful, memorable and retrievable content

Chunking has an honoured place in teaching and learning at all levels of the education system. It has been particularly useful for online teaching

So far, we have suggested that content that is not chunked tends to be harder to understand, assimilate, or retain. Our students should be taught about chunking as they think about advancing their learning since it is one of those techniques that has the potential to really improve learning.

Chunking: Developing more meaningful, memorable and retrievable content *Cont'd*

A phone number sequence of 8-7-6-8-2-0-6-0-3-9 is easily chunked into 876-820-6039. This makes the phone number much easier to remember. So that's the beauty of chunking, it allows you to take smaller bits of information and make them more meaningful and memorable. Another example is remembering a list of items that you need to purchase such as fish, lettuce, oranges, apples and tomatoes. It is easier for the purpose of remembering to create a word out of the first letters of the items (e.g. FLOAT). This is similar to using mnemonics as a way to chunk different segments of the course content or units of information. As one remembers the meaning of each letter, the connection to the item is made.

It is now generally accepted that short term memory cannot hold too many chunks of information. The exact number of chunks that can be held by short term memory is a source of continuing debate. If you use the lecture strategy in your teaching, you might want to think about presenting the information in bite-sized bits. Determine the points in the lecture where you will want to pause to enable the students to interact with each other about the content being learned. Active teaching and learning promotes learning. This strategy should also find expression in other areas of our pedagogy. While teaching, stop talking so that students might digest the information, whether this is a class in which demonstrations are being used, or a class in which exhibitions have been mounted, or other pedagogical arrangements such as the use of guest speakers invited to address the class or simply reading a textbook.

Classroom teaching has a huge part to play in assisting students to develop skills and competencies in chunking information. This might include breaking down information into more manageable pieces and we might even ask students to write these as "chunks" in their own words. Chunking should help students to identify key words and ideas and determine how they might make connections or linkages so that they will retain and retrieve them easily. This issue of organizing the content and synthesizing it to meaningful pieces is very important. Through this process, they will also gain assistance in developing their ability in paraphrasing.

Creating chunks– students

Chunking techniques will include grouping, finding patterns, and organizing. The chunking technique will

work best when there is a direct focus on the information that one wants to reduce to bite-sized bits. A first step is for the student to review the content and try to get an understanding of what it is about. Making connections to prior knowledge and understanding are always good.

Grouping information is a time honoured approach to chunking. Students may categorize or group information based on events, dates, influencing factors, etc. There might be lists of vocabulary words that need to be remembered and these might be accomplished by making associations that are easier to recall. Identifying groups of words that are similar or related to each other might also be useful. In fact, the brain has a natural tendency to seek patterns and group information. Creating groups of items or issues from the subject matter content that are linked to important concepts and concerns will also be helpful.

Students might also want to chunk by finding patterns in the information. This will allow them to remember the pattern and then retrieve the information associated with the pattern. This is demonstrated in the following example. In order to remember the sequence of the letters in the following list (ADGJMPSVY) one will need to pay attention to the pattern and realise that the letters are really every third letter of the alphabet. In this regard, the pattern should be remembered and then the actual content associated with the pattern identified.

There is also the possibility of chunking the information by organizing it based on its meaning or dividing a group of activities or related course content into various categories of meaning. For example, when learning a new language, it might make sense to learn nouns before moving on to learn verbs and adjectives.

Chunking is definitely not a cure for the student having memory issues but it can assist students in retaining and retrieving information. In that regard, chunking can become an effective tool in one's memory arsenal. Therefore, our students should be encouraged to practice chunking regularly and incorporate it into their study habits. It is definitely a powerful mental technique to improve learning.

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which features our monthly *Teaching Tips*,

The Mona Teacher, the Assessment Handbook and other resources.

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