

# Learning to Learn – Myth Busters

## Myth 3: “We learn best when listening to music”

### The Truth

We have two types of memory; working memory and long-term memory. Our working memory, the part of the memory that processes information, is limited and susceptible to overload. Our long-term memory has a far greater capacity as it requires information to come to it via the working memory. Two things can prevent information being transferred from the working memory and into the long term memory: attention and cognitive overload:

- **Attention:** if there are too many distractions preventing us from focusing our attention on the information to be learnt, the core knowledge will be forgotten: “We learn what we think about, and what we think about is determined by what we attend to.” Schwegle and Rummel
- **Cognitive overload:** the working memory can only hold 3-7 items at any one time. When the working memory is taxed beyond this, information will not transfer through correctly to the long-term memory regardless of teaching ability or subject knowledge.

It is essential that our teachers are aware of these factors if students are to achieve their potential. At The Four Stones MAT, we continually look for ways to “eliminate redundant information and distractions in the environment. These include social distractions, environmental distractions, activity distractions or internal distractions.” (Peps McCrea) After eliminating distractions, we reduce cognitive overload by identifying what students will need as a support to aid their processing of information and practice. If students are presented with too much information in one go, they will be unable to process it leading to misconceptions and frustration. Our teachers break down the material into smaller chunks which are then taught and mastered by students before introducing the next chunk of material.

**To focus attention and avoid cognitive overload we:** have reduced display boards; use PowerPoint slides that do not overload students’ working memory capacity; reduce text and diagrams to as few as necessary; provide paper resources; use images support complex ideas; eliminate unnecessary activities to ensure that students can process the key knowledge that they need to retain; present material in small steps; seat students in rows.

### Did you know?

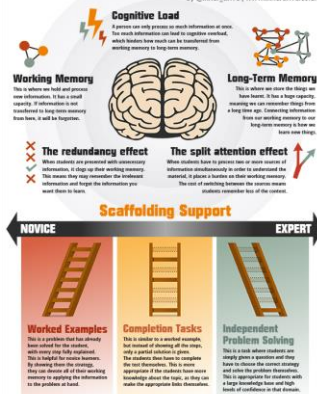
Nick Perham and Harriet Currie from Cardiff MET university researched whether having music playing whilst revising helps you to learn. Participants were asked to prepare for a test and split into 4 groups: Group 1 revised in silence. Group 2 revising whilst listening to music with no lyrics. Group 3 listening to music that had lyrics they enjoyed, and Group 4 had to listen to music that had lyrics they didn’t like. The worst performing groups were those who revised whilst listening to music with lyrics that they liked (37% test score) and lyrics they didn’t like (38%). Those who revised whilst listening to music without lyrics did better (55%), but those who revised in silence performed the best on their final test (61%).

### Further info

Click the images below for more information.

#### COGNITIVE LOAD THEORY: KEY TERMS

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#### DON'T GET SO DISTRACTED 8 Hacks to Improve Your Focus

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