

# Successful Memor

## Jenny Macmillan



There are many advantages to memorising music. Knowing a piece really well allows a musician to concentrate on the performance, and an intense familiarity enhances the

performer's ability to communicate the music to the audience. Indeed, according to research by Aaron Williamson, audiences prefer memorised performances. Playing from memory enables the performer to concentrate on the sound and to understand the whole composition more readily – the music transfers more fluently from conception to performance with no intermediate score. For the amateur there is the bonus of giving impromptu performances to family and friends. However, there can also be disadvantages to performing from memory. The ability to play from memory varies, and a nervous performer may break down completely with no music. Early errors in learning the score may become reinforced and a particular interpretation may become fixed.

On balance, I believe all instrumentalists, particularly young ones, benefit from memorising some or all of their pieces. Though musicians differ in the apparent ease with which they can memorise music, my aim here is to show that memorising is a skill that can be learned. I identify several methods for teaching memorisation systematically. I also discuss whether good memorisers are naturally poor sight-readers, and good sight-readers poor memorisers.

Human memory has been studied extensively

Jenny Macmillan underlines the advantages of memorising music and explains how the process of memorising can be achieved.

by psychologists and much has been written about it. Memory can be classified in several ways. There is memory of the senses, including those of hearing, sight, movement, touch, smell, and taste. There is also long-term memory (we can remember things from many years ago), short-term memory (which operates over one to 30 seconds), and sensory memory (the very short-lived memory of a fleeting sense). All the information we assimilate starts in short-term or sensory memory. In order for material to be retained, this information must be rehearsed – in the way, for example, we may mutter a telephone number in the period between looking up the number and dialling it. To transfer it to long-term memory, it must be integrated into the existing memory structure. This involves understanding the information and organising it into existing memory frameworks for long-term storage. When we wish to access material held in long-term memory (as when we perform music from memory), the brain must know how to locate and reactivate the relevant stored material.

Security of performing from memory seems to come from memorising in several different ways. I have outlined ten different approaches to memorising. Adopting as many methods as possible should lead to greater success.

### 10 points for successful memorising:

1. Start memorising as soon as you begin to learn the piece

# ising

2. Analyse the structure of the piece
3. Focus on the musical patterns
4. Break down difficult passages
5. Rehearse in your mind without playing – mental rehearsal
6. Once piece is known – correct from memory not the music
7. Practise starting from anywhere in the piece
8. Play the piece frequently and regularly
9. Listen to master performances
10. The more you memorise, the easier it becomes

## **Start memorising as soon as you begin to learn the piece.**

Do not learn the piece first, and then decide to commit it to memory. After playing through the piece a couple of times to get the gist of it, memorising should begin immediately, according to Edwin Hughes in D.A. Norman's book *Memory and Attention*.

At an early stage of learning a piece, the pianist Gabriella Imreh, in a study conducted by Roger Chaffin, selects and practises certain features of the music which will help her remember the next section. She says she needs to concentrate on repeats of the theme which are 'the same but different'.

## **Analyse the structure of the piece**

Pure repetition is an inefficient way of memorising. If music is memorised with no conscious effort, it can be retrieved only in the same way. If the performer tries to think about the music, the memory becomes unavailable. Researchers agree that it is essential to support memory of the sounds, movements and sight with analysis of the forms and harmonies of the music. In this way, material to be remembered is related to other relevant information. Gabriella Imreh

talks about developing a map of the piece in her mind. This involves thinking more about the structure of the music, and leads to its being permanently stored and immediately accessible.

Interestingly, a study by Michiko Nuki shows composition students to be significantly better than performance students at memorising, suggesting that an understanding of musical structure is indeed an important factor in successful memorisation.

## **Focus on the musical patterns**

It seems to be more important to concentrate on the *musical* aspects of a piece than the *technical* aspects when memorising. And the memory is improved, according to research by Norman Segalowitz and his colleagues, by looking at *several* musical aspects. These aspects might include identifying phrase shapes, climaxes and the emotional colour of the music. The more links there are between the different musical aspects, the more likely they are to be remembered.

Experienced performers are very flexible about solving minor memory problems, while inexperienced performers may lose overall musical control because they are struggling to solve immediate local problems, says music psychologist John Sloboda. This suggests that novice performers should play music that is both musically and technically well within their grasp. They should then be able to give fine performances. One successful memorised performance increases confidence so the task becomes less demanding next time.

## **Break down difficult passages**

Effective practice requires breaking down and repeating passages that are causing difficulty. To

prevent errors, practising slowly and then gradually bringing the piece up to full speed is often required. Particularly troublesome passages can be played slowly in different keys, suggest Paul Harris and Richard Crozier in *The Music Teacher's Companion*.

A pianist studied by Kacper Miklaszewski divided a piece of music by Debussy into fragments in which the more difficult the section, the shorter the fragments. The pianist often alternated fast practice with slow remedial work. As the piece improved, the fragments became longer and less time was spent practising each one. According to Farnsworth (quoted by Alf Gabriellson in *The Performance of Music*), musicians need to work with as large a section of the music as they can manage, so less capable musicians will work in smaller sections and more capable ones in larger sections, in order to benefit from the musical value of thinking in larger units.

### **Rehearse in your mind without playing – mental rehearsal**

Leimer, teacher of Gieseking, goes to extremes when he suggests the need to know the score by heart before practising on one's instrument (again, quoted by Alf Gabriellson). Those who are more able to visualise the score and hear it with their 'inner ear' are quicker and more accurate to memorise the music, claims Michiko Nuki. However, Don Coffman's research found that the less advanced the musician, and the more difficult the music, the more important motor practice is over mental rehearsal.

### **Once piece is known – correct from memory not the music**

If mistakes are made when practising from memory, it is important to listen and correct the errors by ear, rather than refer to the music, in order to develop aural awareness and security, according to the pianist William Fong. He advises placing the score next to the instrument, where it can be referred to after finishing playing, rather than on the music stand where it may be glanced at during playing.

### **Practise starting from anywhere in the piece**

A memory of the physical movements – kinaesthetic memory – will develop as a piece is practised repeatedly. One problem with kinaesthetic memorising is that if something does go wrong in performance, it may be very difficult to re-establish the musical thought and continue the performance. Paul Harris and Richard Crozier emphasise the importance of identifying certain strategic points in the music and practising from each of them.

### **Play the piece frequently and regularly**

Practising a piece several times during the day offers repeated opportunities for the music to transfer from short-term to long-term memory. Grace Rubin-Rabson found it to be of especial value to less able learners. This links to research by C.J. Adcock which shows clearly the benefits of distributing the memorising over a period of time. In this research, one group read through material to be memorised sixteen times in one day; the other group read it through once a day for sixteen days. When tested a fortnight after completion of learning, the first group remembered 9% of the material while the second group remembered 79%.

### **Listen to master performances**

Knowledge about musical structure takes time to acquire, whether through explicit learning or implicitly through listening to music. Shinichi Suzuki recommended students should listen extensively to master performances of the music they are learning, as well as to other classical music. This makes playing from memory very easy, for pupils' 'inner ears' are well developed. When performing, the music continues in students' heads, whatever the fingers do. Odd slips are not distracting because performers have the larger picture in their minds.

### **The more you memorise, the easier it becomes**

Many teachers recommend that musicians practise performing to others in all sorts of situations, in order to build confidence. Jennifer Mishra believes that memory lapses will occur more frequently when performances are in settings which differ from the learning environment. She says that when music is initially memorised, various aspects of the environment are memorised along with the music. These environmental features later serve as reminders. It may be important, especially for younger and less experienced musicians, to rehearse in a variety of environments.

Music researcher Andreas Lehmann suggests that the ability to memorise music could depend on how much has already been memorised, and on how much the memory is used for other activities.

### **Sight-reading and memorising**

Sight-reading and memorising are different processes. The good sight-reader rapidly and effectively reads chunks of music using short-term memory. Conversely, when memorising, the performer works slowly with awareness and control of each note until the procedures to a

large extent become automatic and stored in long-term memory. But there is no reason to believe one ability excludes the other. Research by Michiko Nuki found positive correlation between sight-reading ability and memorising ability.

So good memorisers need not necessarily be poor sight-readers, nor vice versa, but it is easy to understand why the two skills tend to be mutually exclusive. Good memorisers rely on aural skills and may not need to develop such fluent reading skills, while good sight-readers rely on visual skills and find it frustrating to have to persevere with a score and practise repeatedly in order to memorise the music.

Sight-reading and memorising both rely on a knowledge of structure and both use memory. Sight-reading relies on short-term memory, while memorising relies on transferring material from short-term to long-term memory. Speed of musical sight-reading depends largely on the performer's knowledge of musical structures and patterns. Memorising, likewise, depends on theoretical and structural knowledge.

John Sloboda conducted extensive research into reading music in the 1970s and 1980s. He suggests it is important to develop musical sensitivity *before* learning to read. No-one would consider teaching a child to read at the very early stages of learning spoken language. Children are already fluent speakers before they learn to read; but most learn to read music *alongside* learning a new instrument. This double task is so burdensome that many children memorise each piece as soon as possible and therefore give themselves little practice at reading. It may be better to develop playing from memory from the earliest lessons, while reading music could be taught after musical awareness has been developed.

## Conclusion

I have often listened to students participating in piano competitions. My view is that those who perform from memory generally produce a better sound and are more sensitive to the music and, therefore, communicate the music more successfully to the audience than those who follow the score. Although the ability to memorise differs from person to person, there are good grounds for encouraging music students to memorise at least some of the pieces they learn and to perform from memory on occasion. It is as much a part of the skill of musicianship as playing an instrument.

*Jenny Macmillan (www.jennymacmillan.co.uk) is a Suzuki piano teacher in Cambridge. This article is based on part of her studies for her recently*

*completed MA in Psychology for Musicians at Sheffield University.*

## References

- Adcock, C.J. (1959/1990) *Fundamentals of Psychology*. London: Penguin.
- Chaffin, R. & Imreh, G. (2001) A comparison of practice and self-report as sources of information about the goals of expert practice. *Psychology of Music*, 29(1): 39-69.
- Coffman, D.C. (1990) Effects of mental practice, physical practice, and knowledge of results on piano performance. *Journal of Research in Music Education*, 38 (3): 187-196.
- Fong, W. (2001) Personal communication.
- Gabrielsson, A. (1982/1999) The performance of music. In D. Deutsch (Ed.) (2nd edn, 1999) *The Psychology of Music*. San Diego: Academic Press, 501-602.
- Harris, P. & Crozier, R. (2000) *The Music Teacher's Companion*. London: ABRSM.
- Lehmann, A.C. (2002) Trying to explain individual differences in memorisation among advanced pianists. *Investigating Music Performance*. Proceedings of SRPMME Conference, Royal College of Music, London.
- Miklaszewski, K. (1989) A case study of a pianist preparing a musical performance. *Psychology of Music*, 17: 95-109.
- Mishra, J. (2002) Context-dependent memory: implications for musical performance. *Investigating Music Performance*. Proceedings of SRPMME Conference, Royal College of Music, London.
- Norman, D.A. (1969/1976) *Memory and Attention*. New York: Wiley.
- Nuki, M. (1984) Memorization of piano music. *Psychologia*, 27: 157-163.
- Rubin-Rabson, G. (1939) Studies in the psychology of memorising piano music. I. A comparison of the unilateral and the co-ordinated approaches. *The Journal of Educational Psychology*, 30: 321-345.
- Segalowitz, N., Cohen, P., Chan, A., & Prieur, T. (2001) Musical memory recall: contributions of elaboration and depth of processing. *Psychology of Music*. 29 (2): 139-148.
- Sloboda, J.A. (1978) The psychology of music reading. *Psychology of Music*, 6 (2): 3-20.
- Sloboda, J.A. (1985/2000) *The Musical Mind*. USA: OUP.
- Suzuki, S. (1982) *Where Love is Deep*. New Albany, Indiana: World-Wide Press.
- Williamon, A. (1999) The value of performing from memory. *Psychology of Music*, 27 (1): 84-95.

*This is an edited version of an article from the September 2004 issue of 'Piano Professional' and appears with permission.*