Susan Williams

QUALITY PRACTICE

A MUSICIAN'S GUIDE

Susan Williams

QUALITY PRACTICE

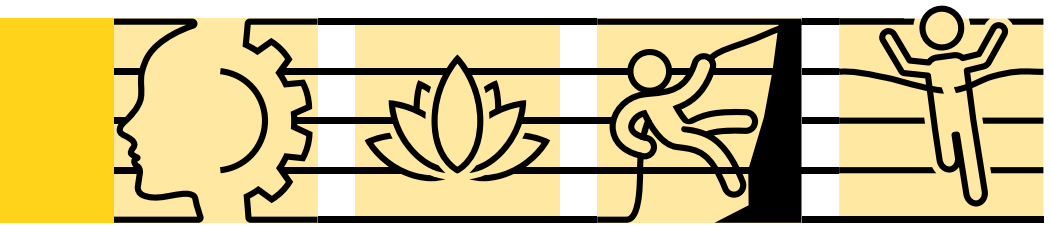
A MUSICIAN'S GUIDE

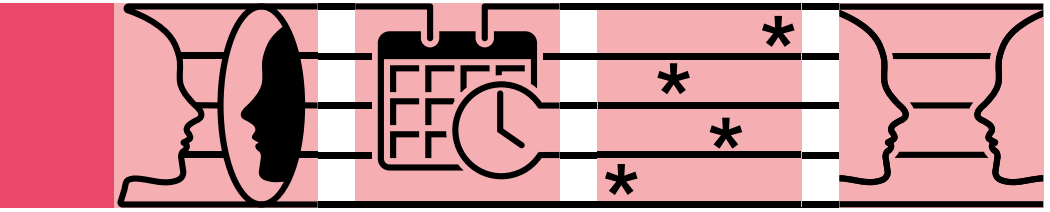
Royal Conservatoire The Hague

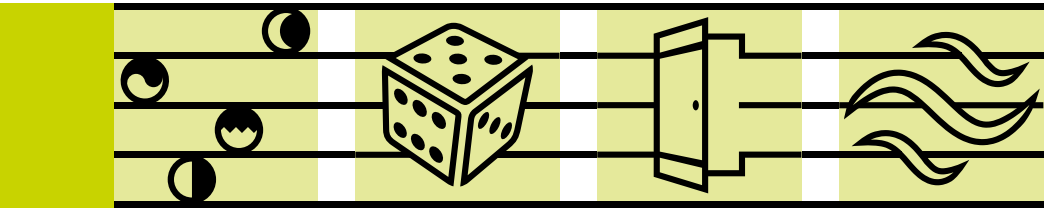
Netzwerk Musikhochschulen
Qualitätsmanagement und Lehrentwicklung

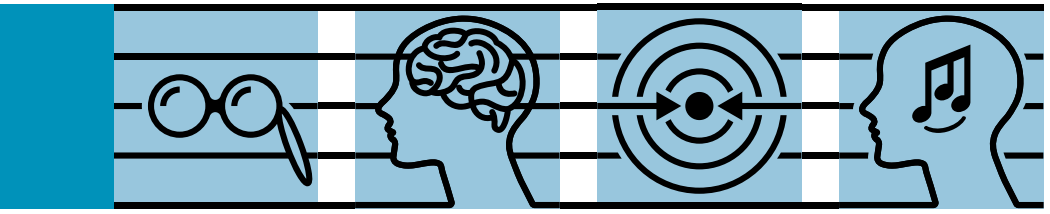
GEFÖRDERT VOM
Bundesministerium für Bildung und Forschung

The development and realization of this guide was supported by the Netzwerk Musikhochschulen (Network of Music Conservatoires), Germany, the German Federal Ministry for Education and Research and the Royal Conservatoire The Hague.









Quality Practice: A musician's guide is a resource for musicians and those who train musicians. The information and tools provided are grounded on current knowledge from the fields of psychology, neuroscience and pedagogy, and applied to the teaching and self-teaching of performing musicians.

This publication is meant as a workbook – to be used in the practice room and in the lesson in order to enhance creative learning processes and stimulate ***quality practice***.

"What is Quality Practice? This musician's guide brings up and discusses all aspects relevant to the subject of practice in a competent, constructive and accessible way. This book is a treasure trove for all enthusiastic practitioners and learners of music! I hope it enjoys a broad dissemination!"

Prof. Dr. Eckart Altenmüller

CONTENTS

ACKNOWLEDGEMENTS

This book is dedicated to all those musicians who enjoy spending their lives learning and exploring and is a result of over three decades of experience, observation and research. It was inspired by the wonderful students and colleagues I have had the pleasure and privilege to work with – too many to name. My special thanks go to Prof. Dr. Adina Mornell for her support and to the members of the 'Potential to Performance' team for their inspiring collaboration.

I am grateful for the many years of support I received from the Royal Conservatoire of The Hague as well as for the funding from the Royal Conservatoire, the »Netzwerk Musikhochschulen« and the German Federal Ministry of Education and Research.

Thank you to Robert Schenck for allowing me to share his Performer's Loop, to Liz Lerman and John Borstel for the permission to include their Critical Response Process and to Gabriele Wulf and Rebecca Lewthwaite for letting me use their model of the 'OPTIMAL Theory of Motor Learning'.

The finished product is the outcome of the engaged and creative collaboration I shared with the brilliant graphic designer Andreas Wilhelm and expert editors Matthias Jäger and Wayne Williams. Thank you all!

Susan Williams

FOREWORD

What is *Quality Practice*? This musician's guide brings up and discusses all aspects relevant to the subject of practice in a competent, constructive and accessible way.

The latest scientific studies reveal what is perhaps one of the most important secrets to successful practicing: experimenting. Exploration, attention, self-organization, motivation, autonomy and the love of music are the ingredients. This, too, is covered in Susan Williams' book: Many applications and worksheets provided in the book help the readers to explore their practicing. Creative practice methods are offered to encourage musicians to keep on developing their own approach and ability to experiment.

The experienced pedagogue will also find new insights. How should feedback be given and received, how can teachers facilitate their students' development and balance demands, potentials and reality; and most importantly – when is it better to say nothing and just listen!

This book is a treasure trove for all enthusiastic practitioners and learners of music! I hope it enjoys a broad dissemination!

Prof. Dr. Eckart Altenmüller

Vice president of the Hanover University of Music, Drama and Media
Director of the Institute of Music Physiology and Musicians' Medicine

INTRODUCTION

THE PURPOSE OF THIS GUIDE

"What we need is an institutional responsibility and policy to disseminate, discuss and try out practicing alternatives. Why are there hardly any courses on practicing in institutions that depend entirely on this activity? Is it beneficial for the development of institutional quality to act as if all students are expert practitioners?"

Harald Jørgensen

The purpose of this guide is to provide musicians with guidelines to tools, methods and knowledge about practice. In the last few decades the fields of psychology, neuroscience and pedagogy have made discoveries that can both enhance and challenge the way we teach, learn and practice. The information given here is not meant to be comprehensive or definitive, but rather to give an idea of the current knowledge on learning to play at a high level, and is based on empirical scientific research. The goal is to provide practical information to students and teachers, to help musicians to become self-training, and to encourage performers to continue to look for new ways to practice.

QUALITY PRACTICE

What is practice?

Most musicians have been advised that the important thing about practice is the quality of practice rather than quantity. But what makes practice effective and efficient? Playing through exercises and pieces for a few hours is not necessarily practicing. Practicing has two pre-requisites. Firstly, that the player has a clear goal and is directing attention to the task and secondly, that the player's intention is to improve something. There is nothing wrong with playing through repertoire without focusing on improving it or reflecting on the process, but that doesn't constitute practice. Intensive practice is tiring for both body and brain. For this reason it is not only sufficient – but also optimal – to limit practice to around 3 to 4 *quality* hours a day.

Practice methods and strategies

What methods and strategies are important for practicing? One of the characteristics of the most successful people is that they use a variety of methods, and rigorously check what works and what doesn't work. You need to be explorative and inventive when determining how to improve something, and then be able to see if it is actually working. This means continual observation, trial, reflection and readjustment.

Explorative and self-reflective practice is very intensive and very rewarding – though not always right away. Improving performance during the practice session doesn't always mean that the practicing is effective, even though it may feel satisfying. The goal is that the material or skill is actually learned – i.e. that there has been improvement over time. It is important to distinguish between what enhances performance in the lesson or in the practice room, and what stimulates actual learning that can be recalled and relied upon on stage. We naturally want to be able to see immediate improvement and use methods that facilitate a 'quick fix'. Both the player, who can repeat a phrase until it works, or a teacher who too quickly gives helpful feedback before the student has had time to register and reflect on the problem, can fall into the trap of thinking learning has taken place.

The methods and techniques presented in this guide are tools to use, try out and refine for your own needs. Don't be afraid to use several different methods to approach a particular task – the important thing is to explore and notice; to let go of judgment and the fear of making mistakes. Develop curiosity to find out what works and what doesn't work for you – not just for now; but to be able to check whether something shows improvement over time.

INTRODUCTION

HOW TO USE THIS GUIDE

This guide is not meant as a theoretical text – although it provides some theoretical background, as well as a brief summary of each topic, and suggestions for further reading for those who want to understand more about the theory and processes behind mastering a musical instrument. To know more about the specific topics on each page, refer to the references at the end of the book. Some pages refer to an exercise or work form (provided in section VI). Some of the exercises have examples or case studies that give more insight into how to use them.

It is not necessary to read the guide from top to bottom; go to the sections that are most relevant or interesting for you. Just following instructions does not lead to mastery. Mastery is a path rather than a destination, and requires you to develop the ability to explore, experiment, notice and reflect.

Playing music well is not about knowing, but about doing. That is why we practice. Some of the information and suggestions may be unfamiliar or even counter-intuitive. Please try them out before judging them.

This workbook came from the field of training musicians and is meant for use in the field: as a handbook and toolbox for musicians to use, explore and adapt. Your feedback, experiences and critical comments are welcome in order to continue the on-going work presented in this publication.

Susan Williams | Contact: info@quality-practice.com

SUMMARY OF THE SECTIONS

I. The theory of practicing
describes a holistic approach to practice as well as theories that underlie the material in this guide.

II. The art of practicing
is the section that is the heart of this guide. It contains topics and methods relevant to optimal training and links to practical examples to try out.

III. Practice cards
are provided here offering instructions for exercises that you can put on your music stand and play with. Experiment to find the best methods for your purpose.

IV. Managing stress
is a short discourse that gives information about what kind of practice helps to reduce anxiety and why.

V. Applications
explains how to use the material in this guide in the practice room and in the lesson.

VI. Worksheets
is a compilation of exercises for developing your practice.
You can print them out for your own use or to use in lessons.

VII. References
are provided for each section and topic, as well as general references and suggestions for further reading.

I THE THEORY OF PRACTICING

This publication is based on a holistic approach to music-making as well as the latest theories and findings on the learning of complex motor skills and practice strategies. The theories presented in this guide are only briefly outlined. For more detailed theoretical information, there is a reference list at the end of the book.

A HOLISTIC APPROACH TO MUSIC-MAKING

Since the 19th century, the tendency to approach music and music making in a technical way has become more and more pervasive. This approach is in contrast to how music was taught and learned in the previous centuries, when the master-apprenticeship system involved aural learning and often an understanding of rhetoric and the 'affects' – the meaning and emotions within the music, and devices to convey them. All of this was in the service of moving the listener.

Today, in the 21st century, modern science and pedagogy has come to some realizations that challenge our technical way of thinking. Our need to understand, analyze and control sometimes gets in the way of effective and efficient learning and performance. What is needed is a more holistic approach – both to the music and to the musician.

Music as a language

> *"New methods, or methods similar to those used over two hundred years ago – must be used to train musicians. Rather than teaching music as a language, our academies drill only techniques of performance. This focus is, however, merely the lifeless skeleton of technocracy."*
>
> Nikolaus Harnoncourt, 1982

Mastering instrumental playing means mastering the ear and depends on musical literacy. Harnoncourt was concerned that both audiences and musicians themselves were becoming less musically literate. New directions in music pedagogy are emphasizing the importance of a child first learning to hear and sing and develop not only their inner ear, but also a perception of music as patterns conveying meaning and expression.

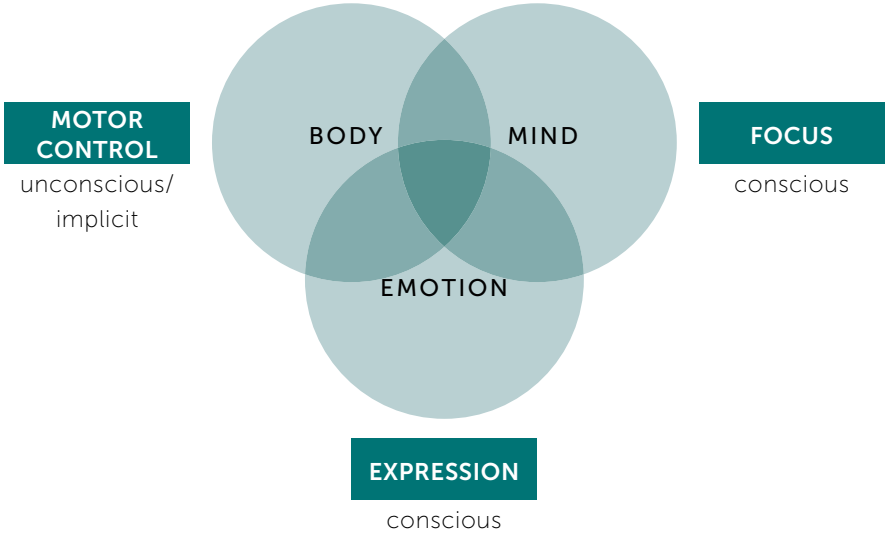
Musician as instrument

> *"Performing music at a professional level is probably the most demanding of human accomplishments. Playing a musical instrument requires highly refined motor skills that are acquired over many years of extensive training, and that have to be stored and maintained as a result of further regular practice."*
>
> Eckard Altenmüller, 2008

Playing music requires complex motor skills. Recent research on motor learning and attentional focus has revealed that learning such skills is largely unconscious. Trying to consciously analyze and steer this process often results in degrading it. Knowing how to use and train the conscious mind – to focus on musical intention and observe without too much judgment and analysis, will allow optimal learning and performance to take place, and help a musician to realize his/her potential.

A holistic approach involves an understanding of how body, mind and emotions function and work together in order to learn and perform music. Many people use the mind to try to understand and analyze how sound and music are produced during playing, only to notice the playing is not as fluent. "Has it ever frightened you to play, and watch your fingers moving, and not know who it is that is making them move?" (Vladimir Ashkenazy). Research on motor learning has discovered that the kinds of complex motor movements needed for making music are best learned unconsciously or implicitly (see below). The mind can help this process by focusing on the intention ("How do I want this to sound? What do I want to express?"). The centres of the brain concerned with motor control (which are not consciously controlled) will 'search for the solution'. The connection between mind and emotion is important for this process, as musical intention is connected to conveying emotion. Having an idea of what the music is saying is essential to a good result.

A holistic model of music-making processes



When body, conscious mind and emotions are working together efficient learning and optimal performance can take place. 'Body' refers to the combination between the physical body and the parts of the brain that control and regulate it – processes that are unconscious. The conscious, thinking mind can help this process by focusing on the intention or goal – for instance, imagining vividly an intended sound or phrase, or focusing on the meaning and emotion within the music.

An approach that is prominent in today's teaching is that the development of technical aspects of music-making should occur before focusing on musical expression.

What the research on implicit motor learning and attentional focus is suggesting is that focusing on 'music' can help enhance and develop a musician's technical skills.

The role of emotion in music-making

One of the primary functions of music is to convey emotion – to move the listener. In order to do this, a musician needs to be able to identify with the feelings portrayed within the music and have a sense of what emotions the composer wanted to express. Without this dimension, a performance is merely a technical exercise. Focusing on musical intention in the form of the inherent emotional messages is an even more sophisticated and effective form of focus than focusing on the sound or shape of a phrase.

IMPLICIT MOTOR LEARNING THEORY [1]

> *"You have learned your skills, and of course you have accumulated knowledge, but it's knowledge that you are not aware of. It's implicit."*
>
> Robert Masters

The extensive research of Robert Masters in a variety of disciplines has revealed that complex motor movements are learned most effectively when the person is not trying to consciously control or understand them. Accumulating knowledge in the form of rules or facts actually disturbs efficient motor learning, which is best learned implicitly – a procedure that takes place in the unconscious regions of the mind and uses non-verbal processes. Implicit motor learning has been found to be more effective and efficient, as well as more reliable under pressure, than explicit learning.

1 Robert Masters; see also references on p. 112

Masters discovered several ways to access implicit motor learning:

Using secondary tasks
The learner is thinking about something unrelated to the movement, thus using up a large proportion of the working memory (e.g. counting backwards from 1000).

Errorless learning
The task is designed in such a way that the learner doesn't make mistakes (e.g. by starting on a very easy level and gradually getting harder).

Analogy learning
Instead of giving verbal explanations, presenting a mental model of a new concept that is familiar to the learner (e.g. imagine the phrase cascading like a waterfall).

Marginal perception
The information is presented to the learner so quickly that he/she doesn't consciously notice it, and yet it influences the behaviour (for instance, changes in movements or posture without the learner being aware of learning).

Change blindness
This is another form of marginal perception, where the task is made different (e.g. more difficult) very gradually without the learner realizing.

With regard to musicians, research on implicit motor learning suggests that they need to rely less on analyzing and directing their movements during learning (even in early stages), and certainly during performance. Understanding how and where to direct conscious attention is the key to enabling implicit learning and achieving the desired results (see pp. 54 – 63).

FORMAL PRACTICE

The amount of practice is no guarantee to musical achievement. What is important is the quality of the practice. In 2015, Arielle Bonneville-Roussy and Thérèse Bouffard combined the already existing theories of deliberate practice and self-regulation into a central concept called 'formal practice'. They found that deliberate practice and self-regulated practice were only really successful when used together.

Deliberate practice [1]

> *"The commonly held but empirically unsupported notion that some uniquely 'talented' individuals can attain superior performance in a given domain without much practice appears to be a destructive myth that could discourage people from investing the necessary efforts to reach expert levels of performance."*
>
> **Anders Ericsson**

According to Anders Ericsson, learning and skill acquisition requires deliberate practice. He states that what is needed is a well-defined task with the right difficulty level for the individual, informative feedback and opportunities for repetition and correction of errors. It is therefore important to balance practice with useful feedback from teachers. Studies revealed that expert musicians had done at least 10,000 hours of accumulated deliberate practice. This purposeful work has three defining factors:

1. That it's a specific type of work
2. Use of strategy
3. Involves goal setting

Followers of Ericsson's 'expertise theory' believe that deliberate practice is more important on the road to mastery than innate ability.

Self-regulated practice [2]

Self-regulation means actively arranging thoughts, feelings and actions in order to reach goals; involving being able to organize, understand one's own strengths and weaknesses, and knowing when and where to seek help. There are three important components to self-regulated practice:

1. Forethought and planning before playing
2. Self-control and self-awareness during playing
3. Reflection and evaluation after playing

Formal practice [3]

Formal practice combines the concepts of deliberate practice and self-regulated practice, and involves choosing activities (methods and exercises) according to specific learning goals, and during those activities, staying mentally focused on what you are doing. Informal practice is playing without goals or focus on what you're doing. Bonneville-Roussy and Bouffard's studies show the positive correlation between using formal practice and musical achievement. Formal practice consists of:

1. Goal direction
2. Focused attention
3. Self-regulation strategies
4. Deliberate practice strategies

1 Anders Ericsson; see also references on p. 113

2 Barry Zimmerman, Gary McPherson & John McCormick; see also references on p. 113

3 Arielle Bonneville-Roussy & Thérèse Bouffard; see also references on p. 113

THE OPTIMAL THEORY OF MOTOR LEARNING[1]

In 2016, Gabriele Wulf and Rebecca Lewthwaite published an article about the OPTIMAL theory of motor learning. (OPTIMAL stands for *Optimizing Performance through Intrinsic Motivation and Attention for Learning*.) This theory explains how the combination of attention and intrinsic motivation can enhance learning and performance. The insights and research contained in this article have huge importance, relevance and implications for teaching performing musicians. The main concepts are outlined here and applied to musicians.

There are three conditions of practice that promote learning and performance:

1. **Autonomy**
   This means that the student should have choices. Rather than passively receive instructions, a student needs to develop a sense of agency. Even small or incidental choices (e.g. what piece would you like to start with?) have a positive effect on learning.

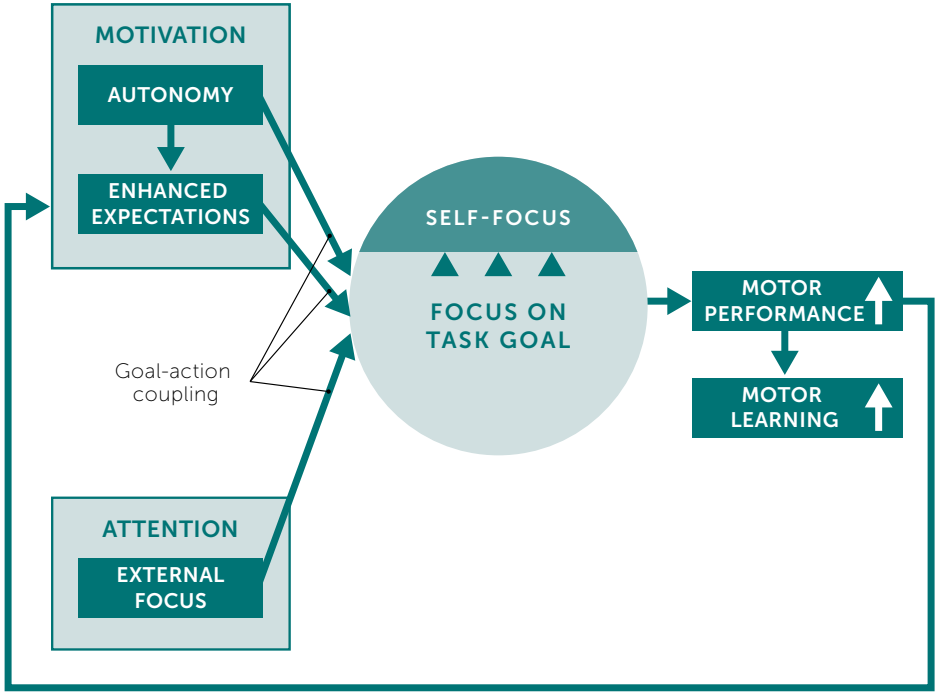
2. **Enhanced expectancies**
   A musician's own beliefs and expectancies should be positive in order to learn or perform well. Things that influence expectancies in a positive way include an open mindset and high self-efficacy, as well as success with challenge and positive feedback.

3. **External focus**
   Instructions and feedback need to focus attention on the desired effect of the movements (involving musical intentions) rather than on steering, controlling or analyzing the individual movements of the body. This involves focusing on *what* rather than on *how*.

1 Reference: Wulf, G., & Lewthwaite, R. (2016). Optimizing Performance through Intrinsic Motivation and Attention for Learning: The OPTIMAL theory of motor learning. Psychonomic Bulletin & Review, 23, 1382 – 1414.

Each of the above conditions is beneficial and a combination of the three even more so. When a musician is intrinsically motivated, confident and is able to focus on the goal of the task (i.e. expression and making music) there is less focus on the self. The result is enhanced learning and enhanced performance.

Schematic of the OPTIMAL theory



II THE ART OF PRACTICING

"The path is the goal."

"Satisfaction lies in the effort, not in the attainment. Full effort is full victory."

Mahatma Gandhi

If the path is the goal and you want to develop yourself as an artist, then your practice needs to be an art. And as an art, it should come from an inner necessity and be creative, inspired and engaged. Practicing is not about achieving perfection or avoiding mistakes but about getting to know your repertoire, your instrument and yourself.

This section – **The Art of Practicing** – is the heart of this guidebook. The 16 themes represent some of the most important aspects relevant to musicians today. You are invited to use, adapt and develop any material here to fit your own needs and way of practice.

Good luck on your path – and if you wish to send a postcard along the way that may inspire or help others, contact info@quality-practice.com

1. FOUNDATIONS

Each theme in The Art of Practicing explains one of the aspects, methods or approaches important for practicing. You will recognize some and be unfamiliar with others. Some aspects represent your strong points and others your weak points. Some are explicit – you work with them consciously – and others you work with unconsciously. Some may be totally unfamiliar. All of them are important, for everyone.

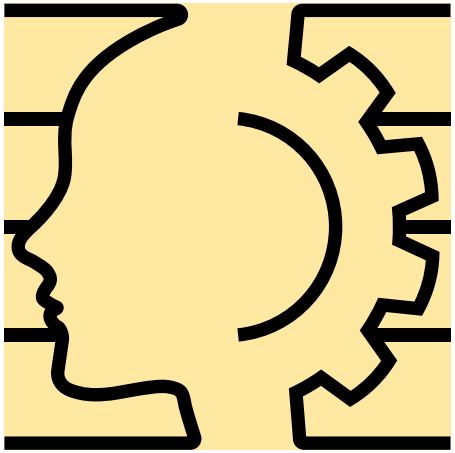
You are the instrument!

It is important to look after the instrument – you. Without physical, mental and psychological strength, learning and performance is difficult. Studies on professional musicians have revealed a disturbingly high rate of injury, depression and burnout. The following section addresses the foundations of strength and balance – the most important pre-requisites for optimal practice and performance.

Four prerequisites for optimal learning are:

1. Mindset and self-efficacy: skill and improvement are closely related to confidence, which is connected to your own belief system.
2. Taking care of wellness implies that you recognize that you are the instrument, and that you need to approach music-making holistically.
3. The type and level of motivation will determine both your energy level and satisfaction.
4. Working with goals is an essential part of good practice.

1.1 MINDSET AND SELF-EFFICACY



"An open mindset will allow a person to have a less stressful and more successful life."

Carol Dweck

Your beliefs about yourself and the world have a profound influence over your development. Studies on mindset and self-efficacy have confirmed that if you have an open mindset and high self-efficacy you are more likely to succeed. People with an open mindset believe that success is not dependant on innate talent but upon effort, and that ability and talent are not fixed. Self-efficacy is a term that refers to your belief about your ability to learn and accomplish new things.

An open mindset and high self-efficacy can be cultivated and strengthened even if you are not naturally confident and optimistic. Instead of reacting to a difficult task by thinking 'I can't', learn to think 'I can't *yet*'!

KEY CONCEPT

Believe in your ability to learn!

BENEFITS

An open mindset and high self-efficacy enhances

- learning.
- performance.
- intrinsic motivation.

APPLICATION

Which statements do you identify with?

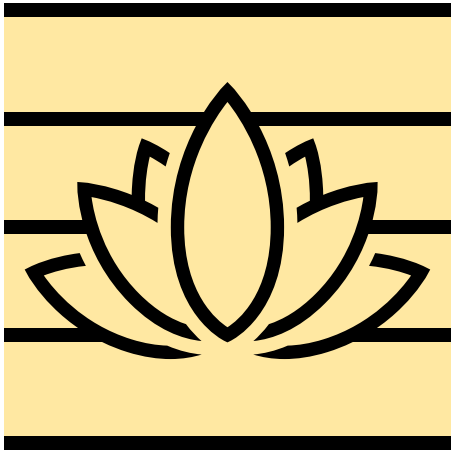
Closed mindset
"I cannot deal with failure."
"I don't learn from mistakes."
"I avoid challenge."
"I worry about what others are thinking."
"I believe having to use effort means I don't have talent."

Open mindset
"I learn from failure."
"I enjoy challenge."
"I don't worry much about what others are thinking of me."
"I believe that skill and success are based on effort."

EXTRA

Developing an open mindset and high self-efficacy depends on accumulating mastery experiences: experiences of choosing and accomplishing goals. This can be done by a clever selection of goals – ones that are challenging but attainable. Over time the accumulation of mastery experiences can change how people view themselves and their potential.

1.2 WELLNESS



"Never practice more than three or four hours a day. No one can concentrate longer than that, and you must spend the rest of your time learning about life and love and art and all the other wonderful things in the world. If a young person sits in the practice room all day, what can he possibly have to express in his music?"

Arthur Rubinstein

You are the instrument – this applies not only to singers but also to instrumentalists. Looking after one's self belongs to training. This means creating a healthy and positive environment, getting enough sleep, eating well and being able to relax and to have fun. An important key factor is physical fitness. Both body and mind benefit from movement throughout the day – not only for fitness and strength but also for good integration between the hemispheres of the brain. In order to see how balanced your lifestyle is and how you can change it, you can apply the Balance Wheel exercise for practicing **(→ see Worksheet 2)** to your lifestyle and general wellbeing **(see application box on the next page)**.

KEY CONCEPT

Cultivate physical, mental and psychological strength and balance.

BENEFITS

Taking care of yourself

- boosts motivation and energy levels.
- helps to avoid injury and depression.

APPLICATION

The Balance Wheel for wellness

Make a list of the most important aspects of your wellbeing and lifestyle and do the balance wheel exercise (→ see Worksheet 2).

Important aspects to wellness could include things like:

- Health
- Home environment
- Partnership and family
- Social life
- Organization and time
- General happiness
- Work and colleagues
- Leisure

1.3 MOTIVATION

"Motivation is an integral part of learning that assists students to acquire the range of behaviours that will provide them with the best chance of reaching their full potential."

Susan O'Neil & Gary McPherson

Your motivation determines how hard you are willing to persist in order to obtain something. It is important not only to be highly motivated, but intrinsically motivated – to be motivated from within. Playing music becomes its own reward. Musicians can also be extrinsically motivated – for instance by the satisfaction from playing well, receiving attention, praise or applause, or by passing an exam, winning a competition, or earning money. Motivation is linked to how enjoyable it is to play, how important playing well is and what it will bring, as well as what it will cost. Giving deep consideration to questions like "What moves me?" "Why do I play music?" and "What is my message?" helps when you need to find motivation during difficult times.

The main influences to intrinsic motivation are: your attitude towards yourself, your beliefs about your ability to learn, your expectations and your autonomy: the feeling that you are the agent of your own success. (➔ See also Mindset and self-efficacy)

KEY CONCEPT

Find and support the things that move you to succeed.

BENEFITS

Being strongly motivated enhances

- your commitment, your dedication and your discipline.
- your willingness to find solutions.
- your learning capacity and performance.

APPLICATION

Tips to motivate you and your practice:

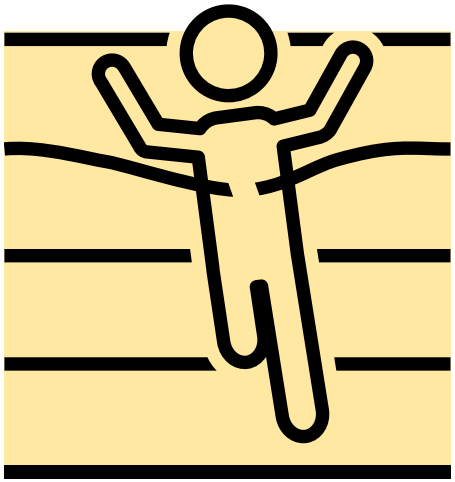
- Listen to successful recordings of yourself.
- Start with an enjoyable piece of repertoire.
- Work with challenging but achievable goals.
- Find practice methods that keep you engaged, alert and in the moment.
- Build rituals and habits for starting the day that help you to feel centred, focused and connected to your reasons for playing music.
- Make sure you have choices in your repertoire and practice.
- Reward yourself when you achieve something.
- Work with affirmations (➔ see Worksheet 7)

EXTRA

Autonomy

Studies have shown that intrinsic motivation is enhanced by autonomy. Giving a learner choices (including ones that are not important to the task) results in their sense of agency and of being in control. People succeed better when they are autonomous – even when it involves more effort.
(➔ See Wulf & Lewthwaite's OPTIMAL theory)

1.4 GOALS



"At the beginning of the session, formulate some of your overall intentions for the practice session as clearly as possible. What do you specifically want to develop? To master?"

Harald Jørgensen

Deliberate practice depends on intelligent goal setting. Goals are also an essential ingredient to experiencing flow. Take time to make long, medium and short-term goals. Establish clear intentions at the beginning of each practice session, as well as for each performance.

The most effective goals are specific, meaningful, achievable, realistic and time-related (SMART). In addition, making sure that your goals are challenging (just out of your reach) ensures that you are engaged and motivated, and not bored. When making long-term goals, first attain a meditative and centred state, free of stress and immediate concerns **(→ See Worksheet 3)**.

KEY CONCEPT

Be specific about what you want to achieve.

BENEFITS

Working with clear goals

- provides a starting point for planning and strategy.
- promotes efficient and directed practice.
- makes it possible to know when something is achieved (evaluation).
- promotes focus and concentration.

APPLICATION

Goals need to be SMART as well as challenging

- **S pecific** Clear and detailed
- **M eaningful** Relevant and important to you
- **A chievable** Based on what you can already do
- **R ealistic** Achievable given the conditions (e.g. time and resources)
- **T ime-based** Know by when you want to achieve your goal

2. SELF-REGULATION

"Teachers need strategies with which to teach students how to work effectively on their own [...] to invest effort and creative energy in their practice."

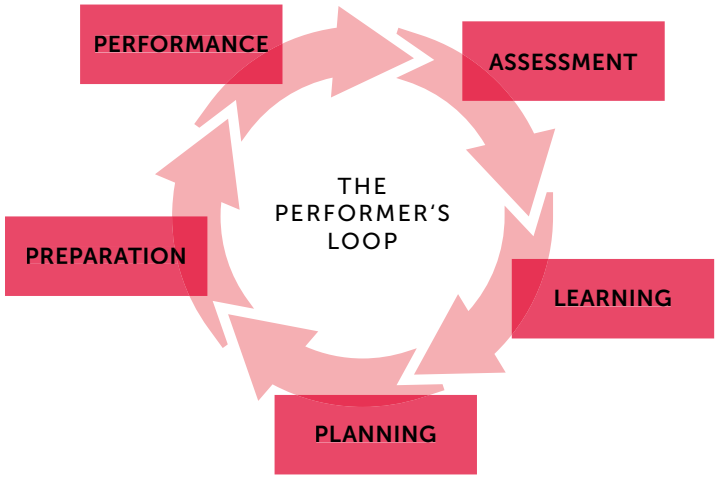
Gabriele Wulf & Adina Mornell

Most of your practice time is spent alone and without your teacher. One of the most important aspects for successful learning and for success in general is cultivating autonomy and being able to train yourself. Many students rely too heavily on the instructions of their teacher(s), and do not develop the ability to monitor and reflect on their process and to steer their own development.

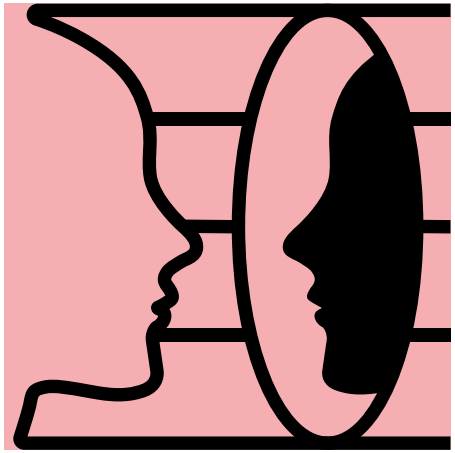
This chapter maps out ways to assess your own strengths and weaknesses, to plan your practice, to document progress and to assess the results. Advice on how to give and receive feedback in a respectful and effective way concludes the chapter.

Learning how to perform music involves a spiral of learning that consists of preparation, performing, reflection and then preparation for the next performance. Each performance provides valuable information for the next one and the process never ends...

The Performer's Loop



2.1 SELF-ASSESSMENT



"We can't improve what we can't assess."

Michael Hyatt

In order to improve and develop, it is important to have a clear picture of where you are now in an objective and non-judgemental way. Getting a clear and objective view of your own strengths and weaknesses is necessary before making a practice plan. This can be done alone, or together with a teacher.

You will naturally compare yourself to your ideal image, to others and to your own and outside expectations. Nevertheless only by being able to accept where you are now makes it possible to grow and improve. Having the idea that you need to catch up, or that you should be better or different immediately, will only slow down progress. Even when starting the day, be able to assess your energy/concentration level and motivation before deciding what to work on and how. When you are highly energized, fit and motivated – tackle those difficult tasks, and when you are not in top form start with something less challenging. This often results in raising your energy and concentration levels, and saves you from unnecessary frustration. When you are physically or emotionally or mentally exhausted, accept it and take a break. Get into the habit of being able to assess where you are right now.

KEY CONCEPT

Assess your present level: strengths and weaknesses.

BENEFITS

Being able to assess your skill levels and know your strengths and weaknesses

- helps you to gain an overall picture.
- provides clues as to what needs to be worked on and in what order.
- helps you to formulate specific goals.

APPLICATION

Where am I?

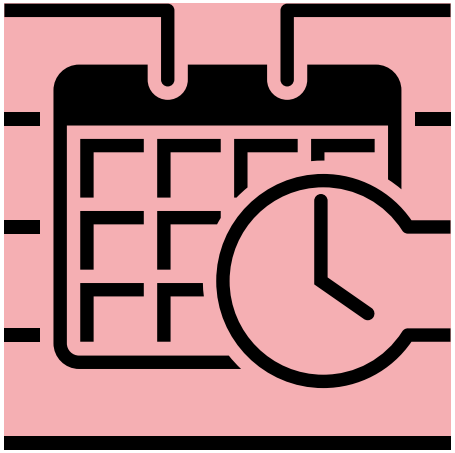
- Make a list of all the qualities and skills that are important in order to play and to perform. Include ones specific to your instrument.
- Rate your own level for each of them from 1-10, or make a mark on a 10 cm line.

Look at your list

- What do you notice?
- Are there certain skills/qualities that affect some of the others?
- Which items do you need to work on in the coming period?
- What do you need in order to improve these items?

(→ See Worksheet 1)

2.2 PLANNING PRACTICE



"A goal without a plan is just a wish."

Antoine de Saint-Exupéry

Practice is the main activity of a musician and needs to have priority. Planning practice involves time management and strategy, knowing where you are, and what you want. Take into account long, medium and short-term goals. Planned practice allows for later assessment of learning, and whether goals and expectations are met, or are realistic. Strategies for learning and preparing concerts need to be continually revised and refined, though relying on a good practice plan or routine helps especially on low motivation days. In order to assess how things are going, keep track of practice goals, behaviours and outcomes.

Reflection does not come easily to everyone, but can be learned. A useful tool for this is a practice and performance logbook in which you record your process. The most useful things to note down are how much practice has taken place, what type of practice you did and what effect it had. Reflecting on detailed entries can give valuable insights into how you learn. Controlling your own practice helps you to become more autonomous.

KEY CONCEPT

Be able to organize your practice content and time, and to reflect on the process.

BENEFITS

Careful Planning

- helps you to be able to assess your progress.
- enables you to set goals and to check whether your intentions are carried out.
- aids discipline.

APPLICATION

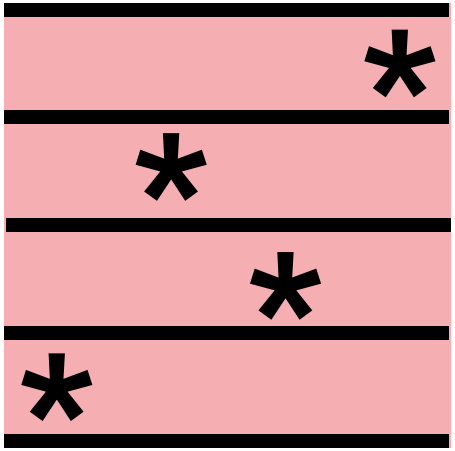
Planning tips

- Two weeks is a manageable period to plan for.
- Make clear goals and intentions for the whole period as well as for each practice session **(➔ see SMART goals)**.
- Plan in breaks.
- Stay flexible: be able to adapt and change the plan when necessary.
- Include mental as well as physical practice.
- Design and use a practice and performance logbook **(➔ see Worksheet 4)**

EXTRA

Important information from lessons should always be written down.
We forget around 80 per cent of what we hear!

2.3 ASSESSING PERFORMANCE



"Life is short,
art is long,
opportunity fleeting,
experience deceiving,
and judgment difficult."

Hippokrates von Kos

The ability to assess and to reflect on one's own development is important for a performing musician. Hard work and talent are not effective without reflecting on what works and what doesn't work for you. Regularly reflecting on your progress highlights the importance of being in the process rather than putting too much pressure on a single performance.

Every performance carries information for the next ones – even (and especially) ones that do not go well. Recognizing errors as valuable information is a quality that the most successful people have. As important as noticing what wasn't optimal in a performance is noticing what went well. This is often neglected, in performance, in practice and in lessons.

KEY CONCEPT

Be able to assess how a performance went, reflect on how it was prepared and plan the preparation for the next performances.

BENEFITS

The systematic assessment of your own performance helps you to

- develop your ability to practice in a reflective way.
- make your practice and performance preparation more efficient.

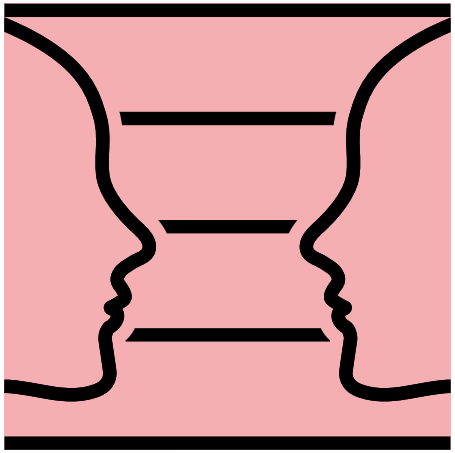
APPLICATION

After a performance

1. Note your emotional reactions: what did you feel directly afterwards?
2. Non-judgmental awareness: describe in detail what happened.
3. Looking ahead: plans and next steps (what can be learned from this?).
4. Choose two or three things you would change for next time.

→ **See Worksheet 5**

2.4 FEEDBACK



"Using feedback sparingly, and providing it only after the learner has had a chance to process his or her intrinsic feedback, could result in more effective learning."

Gabriele Wulf & Adina Mornell

Feedback can come in many forms: from recordings, feedback from teachers, peers, audience members, a jury or critics. Most important is your own intrinsic feedback. Often, feedback from outside interferes with this. Findings from research indicate that it is more effective if a teacher delays feedback rather than giving immediate correction. Students have a chance to form their own response first, and to ask questions, e.g. "how did that sound to you?"

Being judged or receiving feedback immediately after a performance can also hamper your intrinsic feedback and learning process. Negative feedback without recommendations is damaging. Furthermore, there is evidence that feedback is enhanced when it is controlled by the person receiving it. When left to the student, feedback tends to be less frequent and often takes the form of questions such as "is this right?" when performing new skills or repertoire rather than "was this wrong?" (generally students know when they played something wrong).

KEY CONCEPT

Broaden your self-assessment with an outside perspective.

BENEFITS

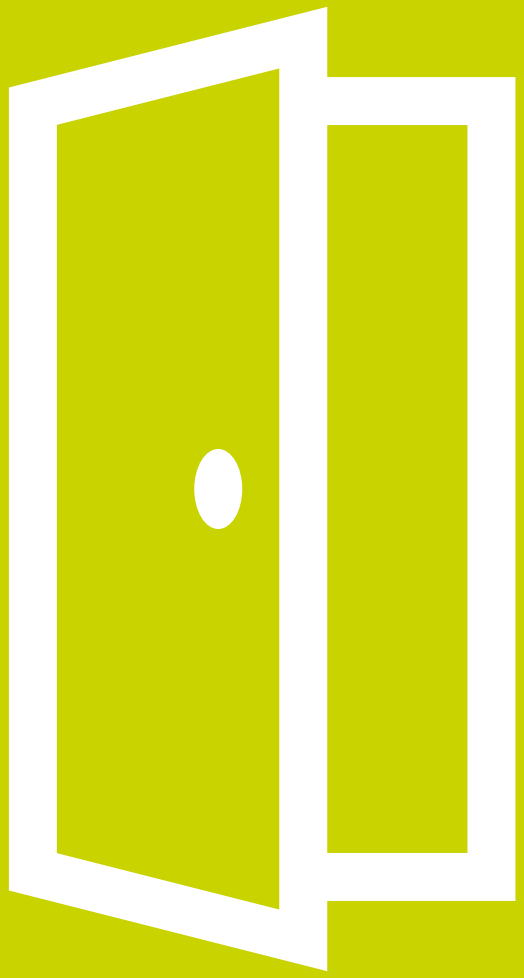
Feedback can

- provide you with information for and insight into your learning process.
- promote confidence and autonomy.

APPLICATION

Critical Response Process

Feedback is only helpful when it is appreciative and constructive. The Critical Response Process **(→ See Worksheet 6)** was developed by choreographer and pedagogue Liz Lerman, and describes a structured way of giving feedback that is both respectful and effective. It can be used in a group lesson or after a group performance session.



3. EXPLORATION

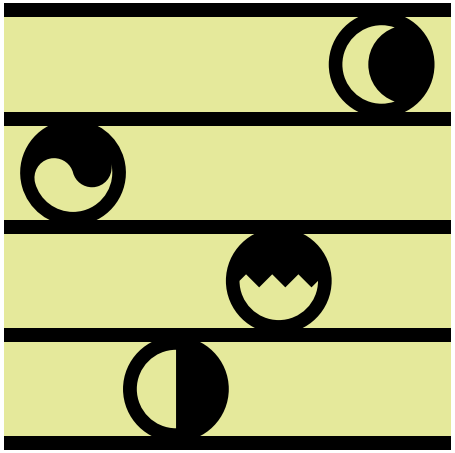
Practice needs to be exploratory rather than merely systematic. As long as you are clear about what you are actually trying to improve, there are many ways to reach your goals. Your body-brain mechanism needs the space in order to find the most efficient way to produce the sounds and the music that is in your imagination. Automaticity is a result of many hours of practice – but this does not imply mindless repetition.

The following section contains practice tools that enable you to explore repertoire and ways to make sound. Try them all, and often. Notice which tools help for a particular skill or particular repertoire, and fit the stage of learning and preparation that you are in.

Stages of learning and recommendations for practicing

Early stage	Practice short segments. Practice slowly. Always keep in mind what the 'ideal version' sounds like.
Middle stage	'Play around' with the music – use random and varied practice. Improvise and look for more and more ease in your playing. Focus on what you want to hear (external focus).
Later stage	Practice building concentration and stamina – playing through. Practice performing and get external feedback. Visualize the performance (mental practice).
Overlearning	Too much practice on one thing causes the skill/piece to get worse. Notice when this starts and practice similar pieces or variations.

3.1 VARIED PRACTICE



"Practice that's spaced out, interleaved with other learning, and varied produces better mastery, longer retention, and more versatility."

Peter C. Brown

Being able to play only one version of a piece of music does not lead to technical security or musical versatility. By practicing a piece or phrase in a variety of ways – even ways you would not dream of performing it – results in better learning and enhances confidence. Rather than only varying single aspects (e.g. tempo, rhythm, articulation, dynamics), it is better to vary the entire character of or emotion associated with a piece. For example play a segment as if it is a lullaby, a march, with a light dancing quality, or in a sombre introspective way, etc.

It is important to get to know the music rather than just be able to 'execute' it. By using varied practice you are not only stretching your technical and musical boundaries but also practicing using clear and vivid musical intention. When the 'desired version' is then played again (especially after a day or two) it is more secure – by exploring the forest around the path, the path gets clearer.

KEY CONCEPT

Play different versions of the same section of music.

BENEFITS

Varied practice

- increases your level of engagement and decreases boredom.
- enhances learning.
- helps develop your technical and musical capacities.

APPLICATION

Play different versions of a phrase – e.g.:

- Vary the character of the phrase.
- Try different articulations, colours, and effects.
- Play it in the 'opposite' way it is intended.
- Play it in a different key, or with different fingerings.

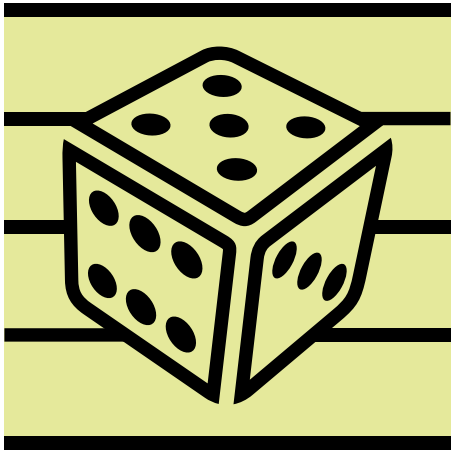
Goal: to broaden your technical repertoire and expressive range.

EXTRA

"We have a tendency to confuse the rate of acquisition – or how fast we improve during practice – with learning. A better measuring stick of learning is how much of that skill is retained an hour, day, or week after a practice session."

Noa Kageyama

3.2 RANDOM PRACTICE



"Early on in our musical training, we are taught the importance of repetition. How often have we been told to 'play each passage ten times perfectly before moving on'? The challenge with this well-intentioned advice is that it is not in line with the way our brains work. We are hardwired to pay attention to change, not repetition."

Christine Carter

Most people tend to practice repertoire by repeatedly playing it through. Although this can show improvement after a few repetitions, this method does not always ensure that the piece is better the next day – i.e. learned. During repetitive practice, the information stays in your short-term memory. Your brain does not recognize the necessity of getting it right the first time, and relies on playing everything several times. Random practice helps to retain the information in the long-term memory.

In order to keep the mind alert, it helps to frequently change the task (section of music). Although many repetitions are needed in order to learn something to the point where it is automatic, practice should not be repetitive. This means you can play the same amount of music and repetitions, but in a more random order. Results are not obvious immediately, but after one or several days.

This is a particularly useful way to practice orchestral excerpts when training for an audition.

KEY CONCEPT

Play sections of music in a random order.

BENEFITS

Random Practice

- promotes actual learning rather than short-term improvement during practice.
- enables you to learn faster.
- helps your mind to stay alert and engaged.

APPLICATION

Random Practice

- Play difficult fragments or phrases randomly.
- Play each fragment once and move to another.
- Repeat fragments but not directly (e.g. A B C B D A C, etc.).

Goal: staying alert and practicing getting it right the first time.

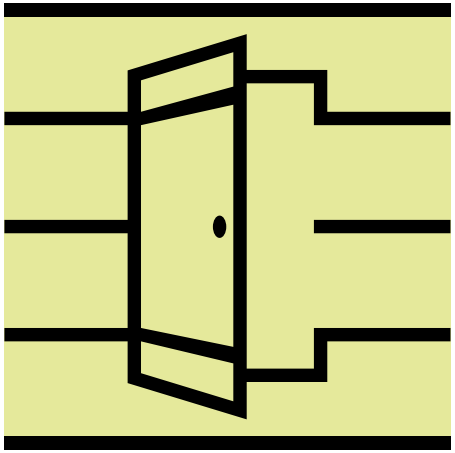
EXTRA

The brain 'likes' complexity and context!

Scientific explanations for the benefits of random practice suggest that in comparison to blocked (repetitive) practice, practicing randomly results in a more elaborate representation of the task in the player's memory. Breaking down a complex task into simple ones is not always beneficial. However, in the very first stages of learning, blocked practice is usually recommended.

Combining varied and random practice methods is even more effective than using just one.

3.3 IMPROVISATION



"Don't play what's there – play what's not there."

Miles Davis

Improvisation is no longer common amongst classical musicians. Yet those who do practice it report that it brings them a sense of freedom and confidence. The ability to improvise – whether stylistic or free – improves with practice and should be incorporated into the daily routine.

There are many types of improvisation and it is worth finding out which one(s) suits you. Many classical musicians are afraid to improvise. Start with simple concepts (see below), join an improvisation group or get instruction on improvisation.

KEY CONCEPT

Explore and deepen your expression and interpretation and your understanding of the repertoire.

BENEFITS

Improvising can

- help you to understand and internalize musical structures and patterns.
- improve your technical, aural and sight-reading skills.
- help you to find your own voice and to clarify musical intention.

APPLICATION

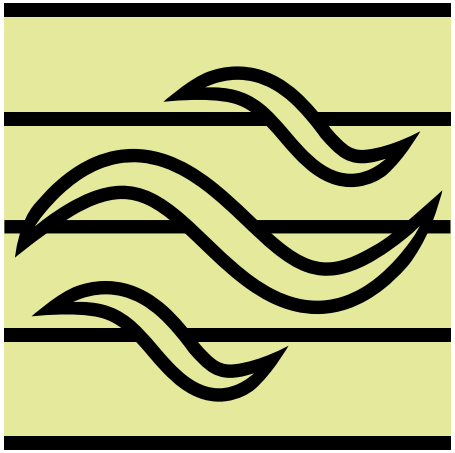
Learning to improvise

- Start with one or two notes.
- 'Play around' with simple patterns and stylistic devices.
- Imitate something that you heard.
- Try playing a phrase in different styles/keys/modes.

EXTRA

Results from brain scans suggest that improvising activates areas in the brain associated with intrinsic motivation and inhibits areas associated with analysis and judgment. Conscious control is thus inhibited, enabling freer, more spontaneous thoughts and actions.

3.4 FLOW



"... being completely involved in an activity for its own sake. The ego falls away. Time flies. Every action, movement and thought follows inevitably from the previous one. Your whole being is involved, and you're using your skills to the utmost."

Mihály Csíkszentmihályi

Flow – the psychology of optimal experience – is the ultimate goal of a performer. Research on flow describes the elements that are important in order to attain this state. One element is clever selection of goals and intentions for learning and performance; ensuring that they either match or are slightly above your skill level. People who enjoy challenge are more likely to experience flow. Focusing on the task itself is another important prerequisite, as well as being able to tell how it's going (immediate feedback).

Practicing being in the moment can help find the 'flow-state': begin by feeling the tactile experience of your instrument – the textures, contours and temperature of the instrument whilst playing simple tones. Then, become aware of the sound producing point (embouchure / where the hairs of the bow meet the string / fingertips / vocal chords...). After some time, shift focus to the resonance and the overtones of your sound in the room. Allow yourself to make sound with even more 'ease' and less resistance. Shift focus between these three things in order to become really present. Avoid judgment and instead enter a state of awareness and exploration. Improvising, or 'playing around' with a difficult passage whilst in this state can help make it more familiar and secure.

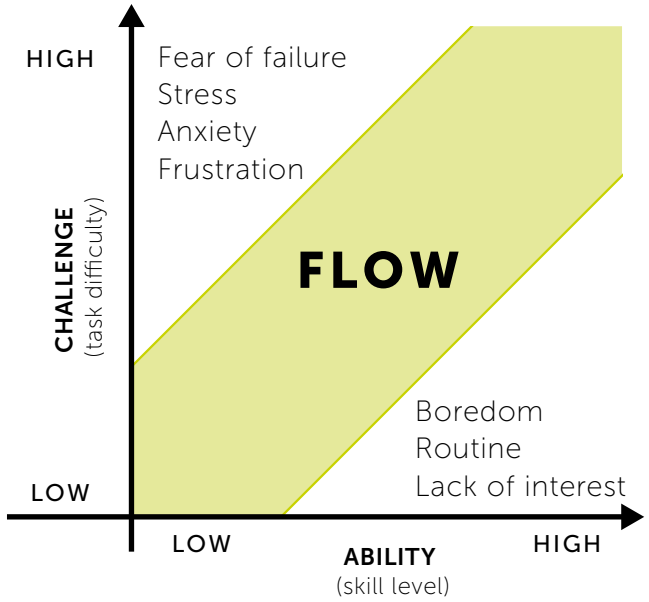
KEY CONCEPT

Being totally absorbed in your playing.

BENEFITS

Being in a state of flow enables

- enjoyment and intrinsic motivation.
- efficient learning.
- optimal performance.



EXTRA

Matching skills and challenge

When in flow, challenge and skills are balanced. Challenge refers to the perceived challenge: it is possible to lower the challenge by lowering the goal or one's expectations (e.g. practice the piece slower or only a section), or to raise the challenge by adding more difficulties and nuances. Look for what brings engagement.

4. ATTENTIONAL FOCUS

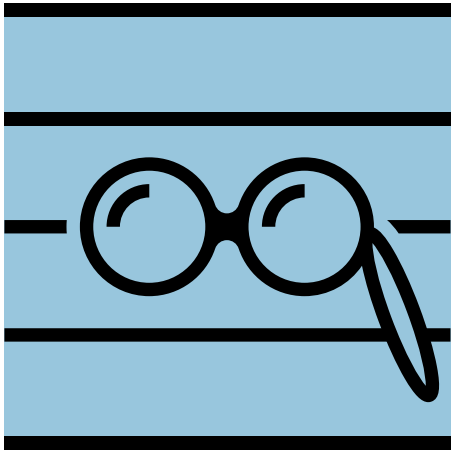
This section addresses what to do with your mind – with your conscious attention – whilst practicing. The mind can be busy with analysis, judgment, comparing yourself to others, wondering what others think of you, not making mistakes, or the outcome of your performance. None of these things helps you to improve your playing or to perform well. Being in a thinking and analysing mode disturbs attaining the smooth muscle control that you are looking for.

So what is the analytical mind good for? It is useful for planning, self-assessment (not during playing) and organizing. During playing the mind is best occupied by focusing on what it is you do want to hear. When the capacity to vividly imagine the desired result is strong, the body will organize itself **(→ see also Implicit Motor Learning Theory)**. Training the mind (mental training), like physical training, improves with practice.

Replace analysing, judging and comparing with objective awareness. Learn to focus on the ideal result and allow space for your body to find it for you. The patience needed for this will be rewarded with quicker results. Train an attitude of neutral awareness, regarding mistakes as valuable information rather than as 'wrong'. Notice what your mind is doing whilst practicing, whilst on stage and when you are under pressure. Bad habits – even in the way you think – can be changed. Take time to learn.

No one learns alone. Humans are social animals and depend and benefit from learning from each other and interacting. Studies have revealed the importance of observational practice as well as practicing and rehearsing with other musicians.

4.1 OBSERVATIONAL PRACTICE



"Observational practice is a part of every musician's biography. All musicians learn from listening to and watching each other."

Gabriele Wulf & Adina Mornell

Musicians learn by observing and listening to others – teachers, experts, students or even beginners in a lesson or in a master class – performing live or online. Demonstration explains complex movements through a visual and auditory 'picture', which is much richer and more effective than a verbal explanation. Watching is learning: watching someone else stimulates the same brain regions as when you perform the same thing yourself.

Although physical practice has been found to be the best way to practice, studies have found that a combination of physical and observational practice is even more effective. Observing other students helps you to be able to recognize both desirable qualities and errors. Practicing in pairs has been found to be even more beneficial than practicing alone as it can generate healthy competition, social comparison and motivation.

KEY CONCEPT

Observe someone else playing, performing or being taught.

BENEFITS

Observing other musicians

- brings you inspiration and insights.
- enhances your motivation.
- mirrors your own strengths and weaknesses.
- saves wear and tear on your muscles.

APPLICATION

Practice with a friend

One way to combine physical and observational practice is to practice in pairs:

- Alternate between playing and observing.
- Give (respectful) feedback.
- Exchange and discuss ideas, methods and strategies.

EXTRA

Observing provides the learner with an image and/or auditory image of the goal. Like metaphors, this kind of information is easily stored in the memory for later retrieval. This phenomenon is also known as 'chunking'.

4.2 MENTAL TRAINING

"The potency and worth of pursuing holistic body-mind training approaches for developing both physical and mental skills have been taken as self-evident by sports trainers and coaches. Clearly, the same argument can be made for musical performance."

Christopher Connolly & Aaron Williamon

Mental training involves training of and through the conscious mind, using techniques of focus and visualisation and comes in many forms (see Applications). Find the form that fits what you are learning. One of the most important aspects of mental training involves learning how to develop your ability to imagine how you want something to sound or feel with as much clarity, detail and nuance as possible.

Mental training enhances learning, motivation and the ability to focus on your goals. Although it is not a replacement for physical training, studies have shown that a combination of mental and physical training brings the best results. Good mental training means using the conscious mind in a way that supports, rather than hinders the development of complex motor skills. Mental training works best when you are in a state of 'relaxed alertness' (relaxation exercises are themselves a type of mental training). Since it is extremely intensive, it is advisable to practice mental training for short periods only.

KEY CONCEPT

Training that is done without your instrument is also practicing.

BENEFITS

Mental training

- develops your metacognitive skills (knowledge, regulation and control of strategies).
- prevents the overuse of muscles.
- improves your inner hearing.

APPLICATION

Mental training includes techniques for:

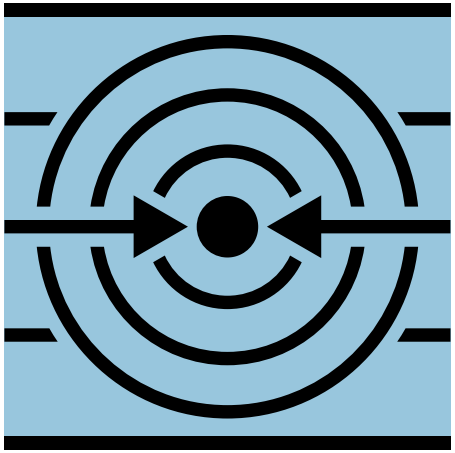
- relaxation **(→ see Worksheet 9)**.
- memorization of repertoire.
- imagery exercises to improve skills **(→ see Worksheet 8)**.
- improving concentration.
- increasing motivation (e.g. using affirmations and self-talk – **→ see Worksheet 7**).
- concert preparation **(→ see Worksheet 10)**.

EXTRA

How and why does mental training work?

Studies reveal that vividly imagining making a movement activates the same regions of the brain that are used when actually making the movement.

4.3 EXTERNAL FOCUS



"Fill your mind with sound. Use nuances. When you have controlled the sound, you will have controlled the body."

Arnold Jacobs

External focus refers to focusing on your intended goal or result – your desired sound, phrase or musical effect. Many players tend to focus on how they are using parts of their body and attempt to direct their physical movements consciously. If your conscious mind is focused on the sound you want to hear, and you can imagine it in vivid detail, then the part of your brain that is responsible for motor learning will find the right movements more quickly and more exactly. When performing or when under pressure the tendency is to think more about directing the body – resulting in a worse performance.

Keeping the focus on the imagined musical result means you are focusing on the music and not yourself – thus freeing your body to supply the most elegant and accurate movement. This reduces the risk of error and also the risk of performance anxiety. External focus is beneficial not only to experienced players but also to beginners, or when you are learning something new.

KEY CONCEPT

Focus on the intended musical result rather than on how it is achieved.

BENEFITS

Using external focus helps you to

- learn new skills and repertoire more easily and quickly.
- improve existing skills and repertoire.
- access your capacities during performance or when you are under pressure.

APPLICATION

Explore and strengthen your musical Intention:

Before you play

- imagine vividly the sound you want to hear.
- work with metaphors or create a story or narrative for the piece.
- imagine how easy it can feel to play a difficult section.
- imagine you are explaining something very important to a child.

EXTRA

Research on motor learning and attentional focus during the last 20 years has revealed that external focus of attention is important for optimal motor performance and learning. This applies to sports and dance, as well as playing and singing music.

4.4 AUDIATION

"If I don't hear it or conceptualize it in my brain, there is no way I'm going to get it."

A member of the brass section, Chicago Symphony Orchestra

"Listen to 'ideal music' while playing; don't listen to yourself."

Arnold Jacobs

Audiation is the ability to imagine music that one is not actually hearing. Edwin Gordon, who likened learning music to learning a language, coined the term in the 1970s. In order to audiate, a musician must be able to sing the intended phrase, gesture it with body movements and play variations of it. Audiation is not imitation, but the understanding of music as a means of communicating emotion.

When you are audiating you are not using the verbal cognitive region of your brain, but rather the parts that are associated with feeling and emotion. This frees the unconscious motor part of the brain to initiate more exact movements. Focusing on the meaning and emotion behind the music is an example of extreme (distal) external focus. The more expert you become, the more externally you need to focus.

KEY CONCEPT

Focus on what the music is saying.

BENEFITS

Focusing on audiation

- develops your inner ear and your understanding of the music.
- enables you to be more precise technically and musically.
- keeps your focus on the task.
- connects you directly to the goal of music-making: to express emotion and move the listener.

APPLICATION

Practicing with audiation

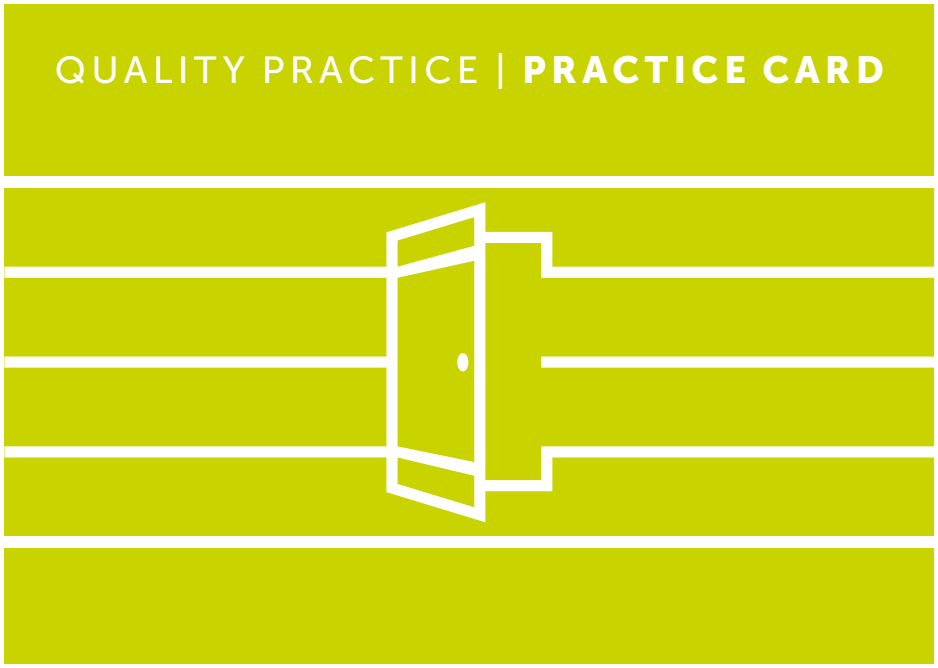
Choose a section of music, then

1. imagine vividly and with detail and nuance, the phrase or fragment you are about to play.
2. sing and gesture (with body movements) this phrase.
3. play the phrase.
4. play the phrase with even more exaggeration.

Repeat steps 1-4.

EXTRA

William Trusheim did research on the audiation skills of brass players from the major orchestras in the USA in the 1990s and found that *"The responses of the brass artists suggest that their audiation processes go far beyond tonal and rhythm patterns. ...They hear a complete rendition of the passage in terms of tone colour, volume and nuance."*



Here is a collection of practice tools. These are provided at the back of this book in the form of cards that you can put on your music stand and play with. Only by experimenting with them will you get to know which ones work best for what purpose. Using several different tools and methods for a single task or section of music is more effective than using only one or two. The main thing is that you stay alert and engaged. Check after one or several days to see if and how the skill or piece of music has developed.

LIST OF TOOLS

1. Varied practice
2. Random practice
3. Desirable difficulties
4. Super slow
5. Exploring tonality
6. Grow a sound
7. Practicing in flow
8. Practicing with audiation
9. Metaphors

HOW TO USE THE TOOLS

1. **Intention:** Decide what skill/piece/segment you want to work on.
2. **Exploration:** Use one or more tools to explore the section, play with them.
3. **Engagement:** Notice if you are engaged, bored or stressed.
4. **Adjust:** Change the method or task accordingly.
5. **Make your own tools and cards,** and make cards out of tools suggested by your teacher.

CREATE YOUR OWN PRACTICE CARDS AND SHARE THEM!

The cards presented here are just a beginning. Create and design your own to build up a collection of tools to help you explore and learn your repertoire. Include tools that you learned from your teacher. Send your card ideas (include the author's name) to **info@quality-practice.com**

VARIED PRACTICE

Play different versions of a phrase – for example:

- Vary the character of the phrase.
- Try different articulations, colours and effects.
- Play it in the 'opposite' way it is intended.
- Play it in a different key, or with different fingerings.

GOAL

Broadening your technical and expressive range

DESIRABLE DIFFICULTIES

Make a section or piece even more difficult – for example:

- Play it faster.
- Exaggerate the dynamics.
- Play it higher/lower.
- Transpose it into a difficult key.
- Play it through twice (concentration).

GOAL

Pushing your technical, physical and mental boundaries

RANDOM PRACTICE

- Play difficult fragments or phrases randomly.
- Play each fragment once and move to another.
- Repeat fragments but not directly (e.g. A B C B D A C etc.).

GOAL

Staying alert and practicing getting it right the first time

SUPER SLOW

Play a section extremely slowly:

1. Bring awareness to each shift from one sound and movement to the next.
2. Take out the rhythm and savour each note.
3. Shift back and forward between difficult intervals, feeling the difference and the transition.

GOAL

To get to know a section of music – 'get it into your body'

EXPLORING TONALITY

In the mode/scale of a chosen phrase:

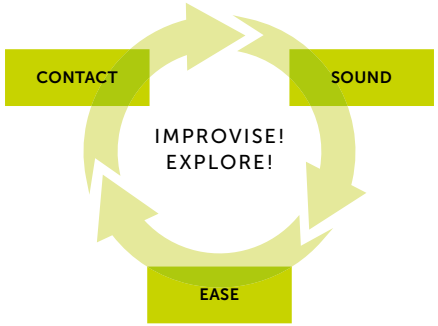
1. Start by slowly playing the scale up and down.
2. Explore it by varying speed, rhythm, colour and dynamics.
3. Take a minute of focused silence.
4. Develop an improvisation based your phrase.

GOAL

Getting more familiar with a particular tonality (an alternative to mindless repetition of scales)

PRACTICING IN FLOW

Shift your attention between contact (especially the contact point between your own body and where sound is produced), sound and ease (of playing) as you explore the section of music



GOAL

To be in the moment and open your sensory awareness

GROW A SOUND

1. Play a tone or short fragment.
2. Develop it slowly and gradually, step by step by adding and changing.
3. Experiment and explore, 'wander through sound landscapes', let the music flow ...
4. Finish by connecting to the beginning.

GOAL

Practicing improvisation and developing musical freedom

PRACTICING WITH AUDIATION

Choose a section of music, then

1. **Imagine** the phrase you are about to play with as much nuance as you can evoke (pitch, tone quality, volume, articulation, transition from one note to another...)
2. **Sing and gesture** the phrase dramatically
3. **Play** the phrase
4. Play **another version(s)** of the phrase

GOAL

Focusing on the meaning of the music: What you want to *say*

METAPHORS

Look for metaphors that fit the music you are working on – for example:

- An image.
- A story/narrative.
- A scenario.
- A sensation.

GOAL

Clarifying and exploring what you think the music is expressing

GOAL

GOAL

Practicing to avoid anxiety

"We get nervous because it matters.
Play as if nothing else does."

Jeff Nelson

There are hundreds of books and articles on the subjects of performance anxiety, stage fright and stress. There are many causes, as well as many strategies on how to manage stress and performance anxiety. All musicians experience performance anxiety from time to time and some people are more susceptible than others. What kind of practice helps to deal with performing under pressure?

Practice itself is the biggest determiner of how confident and competent a performance is – many people think they are suffering from performance anxiety when they are, in fact, suffering from not enough or inadequate preparation. For those who are genuinely experiencing performance anxiety, the main issue and problem is the focus on self rather than on the task. Practice approaches and methods that encourage task focus produce the best results.

APPLICATIONS

- **Practice brain integration exercises** to help integrate the two hemispheres of the brain before playing **(→ see Worksheet 10)**
- **Use a stress release exercise** directly before going to sleep – e.g. for a few nights before an important performance **(→ see Worksheet 10)**

Task-focus versus self-focus

According to Wulf and Lewthwaite's **'OPTIMAL Theory of Motor Learning' (see pp. 22 – 23)**, conditions that enhance autonomy, enhanced expectancies and external focus result in more focus on the task and less on the self, benefitting both performance and learning. Csíkszentmihályi's research on **'Flow' (see pp. 52 – 53)** reveals that when in a flow state, a person is not concerned with the self but is totally engaged and immersed in the task. The balancing of challenge and skill, and finding ways to be in the sensory and auditory sensations of playing are effective ways to create a flow state, also in the practice room.

Masters' **Implicit Motor Learning Theory (see pp. 18 – 19)** implies that the complex movements needed for playing music are best learned without too much conscious thinking and analysis. Movements that were learned implicitly suffer much less under stressful conditions than movements that are steered and controlled consciously. The conscious mind is better employed in external focus: focusing vividly on the intended effect of the body's movements – i.e. the sound, shape, expression and meaning of the music.

V APPLICATIONS

CREATING STIMULATING LEARNING ENVIRONMENTS

Practicing is all about achieving automaticity and being able to play expressively. Technical and musical mastery are the result of spending enough time and effort practicing under conditions that stimulate learning. Thinking about too many things at once overloads a person's working memory, thus blocking smooth reflexive movements. Focusing on the judgment of others, analysing whilst playing, thinking about avoiding mistakes – are counterproductive. Alternatively, making sure the practice task has just the right amount of difficulty to stimulate engagement enhances motivation and leads to improvement.

The goal when in the practice room is engagement; finding ways to be and stay engaged. Notice when engagement wanes, and either change the method or approach, take a break or a rest, or do something else. Respect the limitations of your body and mind. Continually ask questions like: "What am I practicing here? What do I want this to sound and feel like?" before playing a single note.

This guide has outlined, explained and described what makes practice both effective and efficient. With these things in mind, here are some tips for the practice room and for the lesson.

PRACTICE ROOM TIPS

- The main goal of practice is to be alert, interested and engaged. Notice when you're not.
- How much practice is enough? Take into calculation that the brain can focus intensely for around 3-4 hours a day.
- Pain is not okay – it is an alarm signal. Look for medical help early on.
- Many short sessions are better than one or two long ones.
- Formulate clear intentions for each session.
- Make sure you are able to practice in a positive environment whenever possible.
- Minimize distractions.

THE LESSON

At the centre of the Conservatoire system is the teacher-student relationship. This relationship is usually based on a master-apprentice model involving one-to-one lessons as well as master-classes. The relationship between teacher and student is vital to the student's development. Teachers vary from authoritarian types – who tell the student exactly what they should be doing and how – to teachers who employ more of a 'coaching' model, where the teacher is asking questions and encouraging ideas from the student. Sometimes a student needs to be told something or corrected, and sometimes it is appropriate to facilitate students to find out for themselves. It is tempting to find a quick solution so that the player sounds better immediately – we see this often also in a master-class situation – but this is not necessarily causing learning.

Tips for teachers and students

How can the information in this guide be used during the lesson, so that students can learn to train themselves? Referring back to the 'OPTIMAL Theory of Motor Learning', the main issues are concerned with motivation and attention – providing a student with conditions that promote autonomy, confidence and clear intentions.

→ See OPTIMAL Theory of Motor Learning

TIPS FOR THE TEACHER

- Check and observe how the student practices.
- Wait for the student to ask for feedback.
- Give the student choices.
- Ask the student questions rather than give the solution.
- Give external focus instructions (e.g. "hear the sound of the phrase you are about to play") rather than explain how various parts of the body should be controlled (internal focus instructions).
- Avoid overloading the student's working memory by giving too many instructions at once.
- Point out what the student is doing right.
- Ask the student what they learned from the lesson and what they will work on for the next one.

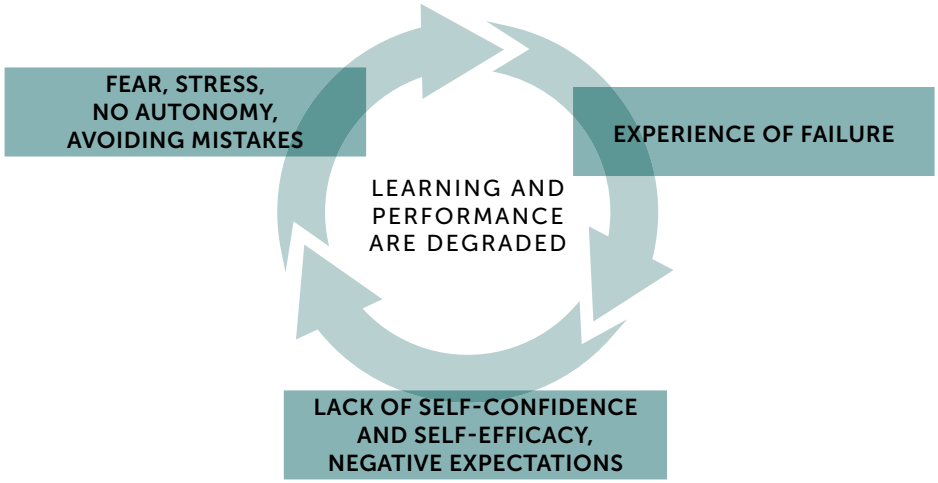
TIPS FOR THE STUDENT

- Bring your own ideas, repertoire and questions to the lesson.
- Remember you want to learn something and not just impress the teacher – bring things you are having problems with.
- Ask for feedback – especially when you do something for the first time, e.g. "Is this right? Is this what you mean?"
- Write down what you learned from the lesson (you will forget around 80% of what you heard!).
- Reflect on the lesson and formulate goals for the next one.

TWO SCENARIOS [1]

A negative scenario

A teacher is pointing out each mistake, giving immediate and various instructions for how to solve each problem. When something is played well, it is ignored and there is no comment until the next mistake occurs. The teacher chooses all repertoire. Interpretation of a piece must be exactly the way the teacher describes or performs it. This scenario creates a vicious circle.



A positive scenario

The teacher waits for the student to ask for feedback, and prods the student in the right direction by asking questions. When something works (especially for the first time) this is acknowledged. The student has choice about repertoire. The student is encouraged to look for different ways to play, to practice and to interpret music. This scenario creates a virtuous circle.

1 see also Wulf, G., & Lewthwaite, R. (2016)

VI WORKSHEETS

The following section contains worksheets and exercises connected to topics covered in this guide.

1. **Present level assessment form**
   Get a clearer picture of where you are now in your development
2. **The balance wheel**
   Get an insight into what is working well for you right now, what isn't and where your priorities are
3. **Goal setting**
   Work strategically with long-term, medium-term and short-term goals
4. **Log book**
   Keep track of your process
5. **The performer's loop**
   Keep track of your performance goals and process
6. **The critical response process**
   Learn a respectful and enriching way to receive and give feedback
7. **Working with affirmations**
   Recondition your belief system
8. **Mental training for developing skills**
   Learn to use visualization in order to learn
9. **Relaxation exercise**
   Practice physical and mental relaxation
10. **Brain integration and stress release**
    Connect your left and right brain hemispheres and lower your stress levels in preparation for performance

You can also download these worksheets:

www.quality-practice.com

WORKSHEET 1

PRESENT LEVEL ASSESSMENT FORM: WHERE AM I?

1. **Make a list of qualities and skills that you think are important for mastering your instrument and repertoire.**
2. **Rate yourself for each item by making a mark on the line.**

Quality or skill	Your level
1.	Very low — very high
2.	0 1 2 3 4 5 6 7 8 9 10
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	0 1 2 3 4 5 6 7 8 9 10

WORKSHEET 1

PRESENT LEVEL ASSESSMENT FORM: WHERE AM I?

Look at your list and answer the following questions:

1. What do you notice?
2. Are there certain skills or qualities that affect some of the others?
3. Which items do you need to work on in the coming period?
4. What do you need in order to improve these items?
5. Design a practice schedule or adjust your present schedule.

WORKSHEET 2

OPTIMISING YOUR OWN PRACTICE PROCESS: THE BALANCE WHEEL

Step 1:
List the important aspects for practicing (for you) and put them in the segments of the wheel (e.g. time, methods, concentration, motivation, repertoire, environment… – see example on the next page).

Step 2:
Rate each section according to ***how satisfied*** you are with it (not how important you think it is).

Step 3:
Answer these questions:

1 When you look at the wheel as a whole, what strikes you?

2. What links do you see between the ways you have scored different segments?

3. How much energy do you have for change in the areas where you have given a low score for satisfaction?

4. Change in which area/s would have the biggest impact on the whole?

5. Where there is a low score, what would it take to make that a higher score? What possible steps could you take towards achieving this?

WORKSHEET 2

CASE STUDY: EXAMPLE OF A BALANCE WHEEL

Tim – a trumpet student in year 2 does the balance wheel exercise:

Tim's observations:

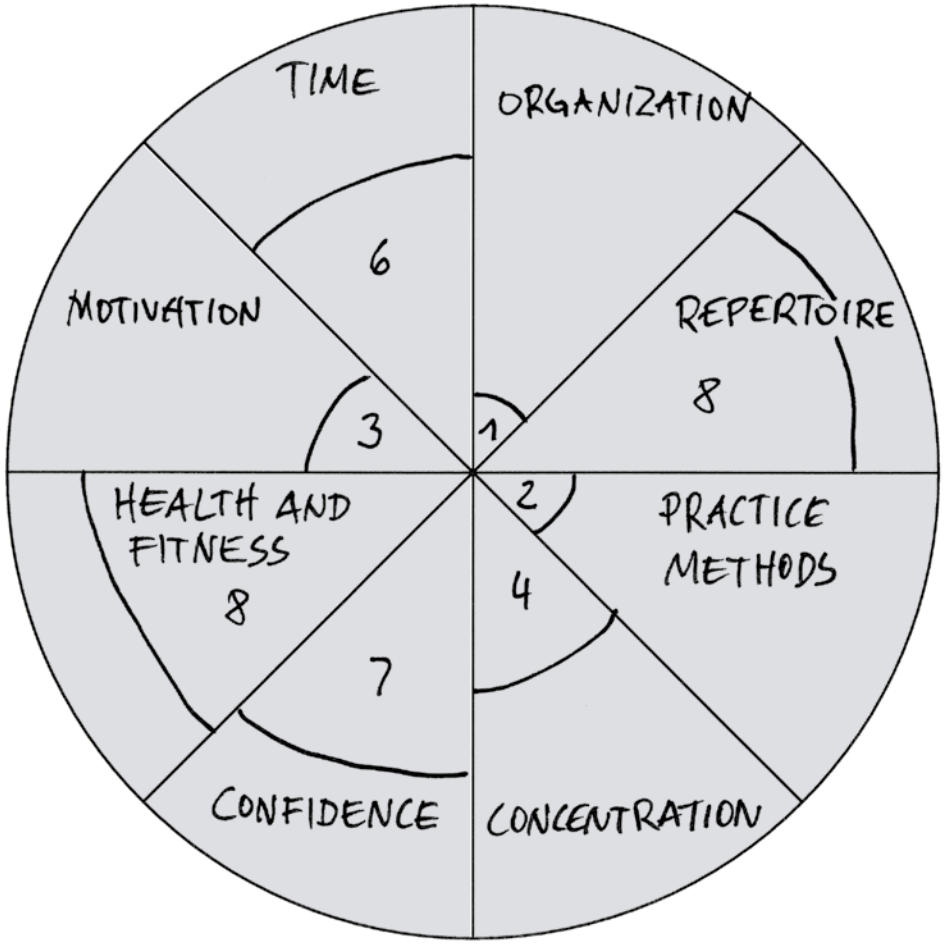
1. When you look at the wheel as a whole, what strikes you?
   I don't really enjoy practicing. Repeating things over & over is boring. I'm not happy with my ability to organize or my concentration level. I feel fit and I really think I could be good. I like the pieces I'm working on.

2. What links do you see between the ways you have scored different segments?
   I think the way I'm practicing isn't very interesting; I don't improve enough so I loose motivation. I have enough time but I'm not organizing it well.

3. How much energy do you have for change in the areas where you have given a low score for satisfaction?
   A lot – I really want to improve and I have a lot of energy – but I'm not always sure what to do.

4. Change in which area/s would have the biggest impact on the whole?
   Organization.

5. Where there is a low score, what would it take to make that a higher score? What possible steps could you take towards achieving this?
   If I could organize my practice routine better and find out about and use some effective methods that can bring noticeable improvement, I would feel more motivated to practice.



WORKSHEET 3

GOAL SETTING

To set long-term goals, it is important to be in a relaxed and meditative state of mind. Goals should not be based on fear but come from a wise part of yourself that can recognize what belongs to you: what fits with your capacities, aptitudes and desires. When you are in this calm state of mind, close your eyes and imagine the following:

STEP 1: LONG-TERM GOALS

Imagine you have travelled four years into the future.

You are playing a concert. During the last years, you have developed your technique enormously, as well as your confidence. You are imagining your 'optimal scenario', where you are playing wonderfully. Allow your imagination to explore this scenario.

Take notice of any detail; the surroundings, how you feel and how you sound. What are you playing? Who are you playing with? Notice the reaction of the audience.

Remember – this is your optimal scenario. You are playing to your own potential. You are experiencing how it is to play from your own self – authentically and brilliantly.

Spend the next few minutes exploring this experience. If any doubts come up, put them aside until after this exercise.

Come slowly back into this room and this time. Write down what you experienced in as much detail as possible.

STEP 2: MEDIUM-TERM GOALS

1. With your long-term scenario in mind, ask yourself "What is important for me to develop in the next 6-12 months?"
2. Draw a timeline for the next six months, or year, and mark in all your deadlines and events.
3. Define and list your goals for each one (use the SMART criteria – see below).

STEP 3: SHORT-TERM GOALS

Write down your goals for your next performance or lesson (use the SMART criteria).

Design a practice strategy according to your medium and short-term goals.

SMART GOALS

SMART goals are:

- **S pecific** Clear and detailed
- **M eaningful** Relevant and important to you
- **A chievable** Based on what you can already do
- **R ealistic** Achievable given the conditions (e.g. time and resources)
- **T ime-based** Know by when you want to achieve your goal.

WORKSHEET 4

LOGBOOK TEMPLATE

Use this formula to document your practice, either in a book or digital file.

Date: ..... Start time: ..... Finish time: .....

Intention/s for this practice session: .....

Which methods did I use? .....

Observations: .....

GUIDELINES:

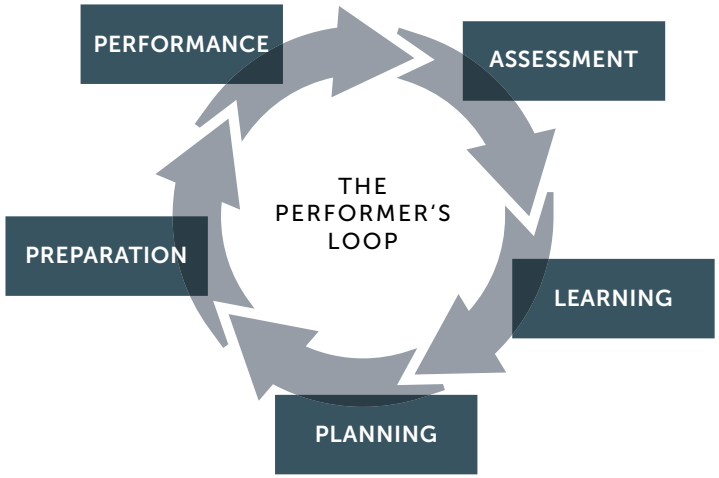
- Find ways to make the session engaging and challenging. Don't hesitate to use several methods to explore a difficult passage or aspect.
- Short and frequent sessions are better than one or two long ones.
- Stop when tired or bored or in pain.

WORKSHEET 5

USING PERFORMING AS A LEARNING PROCESS: THE PERFORMER'S LOOP

Devised by Robert Schenck

The Performer's Loop helps you to assess your performances, learn from them and be able to take new steps.
Any performance can be used to do this: in a group lesson, in a workgroup lesson, a class performance evening, a concert outside school or even your own lesson.



This model illustrates how learning to perform well is a circle – or a spiral – of never ending development. To activate this spiral, fill out the form below immediately after each performance.

Illustration of the loop

Take a look at the illustration to focus on the Loop itself before the first self-assessment. It can help to gain perspective and facilitate a healthier attitude in performance. Every performance contains valuable information for the next ones; both when it goes well and (especially!) when things don't go the way you wanted!

Completing the table

The chronology of steps in this form is important.

In **Step 1** write down the emotions you felt directly after performing. These emotions are important to acknowledge first since they can be strong, but often not very constructive for non-judgmental feedback and future planning.

In **Step 2** you describe what actually happened during the performance in a detailed and non-judgmental way – for example:

- I was sharp in the upper register.
- I played no wrong notes in the technical passages that I had practiced most.
- I was concentrated most of the time – but not in the second movement.
- I felt very lethargic at the beginning – I ate too much beforehand.
- I experienced the piece as a whole for the first time at the performance.
- When I focused vividly on hearing the phrase loudly in my head, it seemed easy.
- I became much more concentrated after the interval.
- As soon as I saw her in the audience I tensed up and stopped listening.
- During the performance the feeling of flow filled me with joy.

In **Step 3** describe the steps you want to take and your plans – for example:

- For my next audition, I will … (based on observations made in step 2).
- I won't have a heavy meal before the concert.
- I'll practice focusing on hearing the next phrase clearly and with nuance.

WORKSHEET 5

ASSESSMENT STEPS AFTER PERFORMANCE OR AUDITION

Step 1: Emotional reactions, feelings

Directly after the performance: Describe how you felt during and at the end of the performance.

Step 2: Non-judgemental awareness

Now that emotions are more 'out of the way', describe in detail what actually happened at the performance.

Step 3: Looking ahead & plans

Note what you learnt from this experience and your steps and plans for the next ones. Adjust your practice plan to incorporate what you have learnt.

WORKSHEET 6

GIVING AND RECEIVING FEEDBACK:

Choreographer and educator Liz Lerman created this method of giving and receiving useful feedback to any artist, maker, etc. At the core of it is that the artist is at the control of the feedback session and that the responders give good feedback; the kind of feedback that makes you want to go back to work!

The critical response process enables a group of people to uncover their various aesthetic and performance values and, by being patient, apply them to a creative work-in-progress in a way that pushes the artist's thinking forward.

There are 3 roles: The Artist/performer showing work, a group of Responders and a Facilitator.

The Artist/performer
The artist's contribution is essential. Artists have to be at a point where they can discuss their work in a somewhat public environment.
They also should be able to hear positive comments that are specific.

The Responders
Responders can be friends, public, peers or strangers, experts or novices.
It is important that they sincerely want the artist to produce excellent work.

The Facilitator
The facilitator keeps the process on track, initiating and managing each step.
The facilitator can have a variety of functions: translator, coaching the artist and/or policing the process.

The artist performs the piece that he/she wants feedback on. It can be long or short, and at any stage of development.

1 Lerman, L. & Borstel, J. (2003). Liz Lerman's Critical Response Process: A method for getting useful feedback on anything you make, from dance to dessert. Liz Lerman Dance exchange www.danceexchange.org. For further information about Critical Response Process, contact John Borstel at john@lizlerman.com)

THE CRITICAL RESPONSE PROCESS [1]

The steps of the feedback process

Step 1: Statements of meaning
Responders state what was exciting, meaningful, memorable, challenging, compelling, evoking, unique, different, surprising, striking or touching.
Meaning is at the heart of an artist's work and to start with meaning is to begin with the essence of the artistic act. It helps a lot to avoid starting your phrase with "I liked ..."

Step 2: Artist as questioner
This round is the first round of two rounds of questions and answers.
It is important that the artist is interested in developing or wants to learn something about how their performance is received. The artist asks questions to the responders. Very general questions (e.g. "Well, what did you think?") and very specific questions (e.g. "How did it look when I lifted my arm?") may not give the sought answers. It is better to ask open questions rather than closed questions, which require just yes/no answers. Responders give their honest answers, keeping to the rule from Step 1 and keeping to the topic of the question.

Step 3: Neutral questions
Responders ask neutral questions about the work. The artist responds. Questions are neutral when they do not have an opinion couched in them. The questions can be informational or factual. If the Responder has an opinion, he/she forms this opinion into a neutral question. For instance: instead of saying "It is too fast", you can say "What made you choose this tempo?" Or instead of saying "It was boring", say "What does this piece express, and to what extent do you think you achieved that?"

Step 4: Opinion Time
Responders state opinions, subject to permission from the artist. The usual form is: "I have an opinion about ... Would you like to hear it?" The artist has the option to say no.
In a last round, the artist can be asked where the steps 1 – 4 have brought him/her.

GIVING AND RECEIVING FEEDBACK: THE CRITICAL RESPONSE PROCESS [1]

A Note on Fix-its:

Sometimes responders will want to offer 'fix-its' (suggestions for changes) during Step 4. Whether fix-its are appropriate depends on many factors, including the relationship between the artist and the responders, how advanced the work is in its development, and the artist's own style and preference. To manage these variables, facilitators can take a couple of measures at the beginning of this Process:

- Allow artists to state whether they welcome fix-its. If an artist says no, the facilitator may need to intervene in Step 4, guiding the responder who may still want to pose fix-its to frame the opinion that underlies the suggestion. If an artist says yes, responders in Step 4 who have fix-its should say, "I have an opinion that includes a suggestion about…"
- Acknowledge that the desire to get involved in the process of shaping work is natural and creative, but that artists may gain more if they follow a path to their own solutions. Encourage responders who immediately jump to ideas for changes to use steps of the Process to get at the issue that their fix-it is intended to address. This means mentally backing up through the Process before taking part in it – first formulating the opinion underlying their fix-it, and then framing a neutral question addressing the focus of the opinion.

Optional further steps

What's Your Next Step?

After Step 4, artists talk about the next steps they are planning based on information gained through the Process.

Subject Matter Discussion

Sometimes a work will generate a vital discussion about an issue of social or aesthetic controversy. An added step to discuss the issue itself allows the artist to get additional useful information but avoids sidetracking the Process away from the art itself during the four core steps.

Working the Work

Sometimes a Critical Response session can move directly into 'labbing' (exploring) aspects of the work, with the participation of some or all of those participating in the Process.

1 Lerman, L. & Borstel, J. (2003). Liz Lerman's Critical Response Process: A method for getting useful feedback on anything you make, from dance to dessert. Liz Lerman. For further information about Critical Response Process, contact John Borstel at john@lizlerman.com

WORKSHEET 7

RECONDITIONING YOUR BELIEF SYSTEM:

The use of affirmations (which under the term 'positive self-talk' plays an important role in sports psychology) can help us reprogram or strengthen our belief systems as well as to reach our goals. What we believe about ourselves and about our capacity to grow and to succeed has a profound effect on what actually happens.

Exercise:

1. Decide upon the attribute or aspect of yourself or your practice that you want to change or improve. For this you can work with the self-assessment worksheet or the balance wheel. Choose something that would have the most impact on the aspects of your playing that you are working on and that needs to be dealt with now.
2. Formulate a positive statement about the attribute/aspect that you chose. Make your statement in a short clear form as if it is already a reality e.g. "I am confident" and not "I want to be confident" or "I will be confident".
3. Before every practice session repeat this sentence out loud to yourself.
4. Continue doing the affirmation for 30 days, or until you feel as if you really believe it. Don't worry if you don't believe the affirmation at first.

WORKING WITH AFFIRMATIONS

To make the exercise stronger, combine it with a brain integration exercise so that both hemispheres of your brain 'get the message'. With arms outstretched, start repeating your affirmation whilst slowly bringing your hands closer together. Clasp your hands together, take a deep breath and repeat your affirmation one last time.

Examples from case studies:

Frederick wants to improve his concentration as he notices that he is easily distracted whilst practicing and during performance, especially during difficult sections of a piece. His affirmation: ***"I am engaged!"***

Sonia has been told that her playing, although very good, is too mechanical. She realizes that in order to convince others of her musical expression, she needs to feel more convinced herself. Her affirmation: ***"I am convinced!"***

David is tense and nervous when he performs. His affirmation: ***"I play with ease and confidence!"***

WORKSHEET 8

MENTAL TRAINING FOR DEVELOPING SKILLS

You can practice a piece or a particular skill by using visualization techniques. This is not only useful if you want to avoid too much muscular strain or if you are not able to practice (e.g. if you are on a train), but can give you some new insights into your habits and way of playing. Like physical playing, the ability to visualize and audiate improves with practice.

The Exercise:

Choose a piece or fragment or exercise you want to work on.

Sit comfortably on a chair and take a few moments to relax and let go of any worries and thoughts.

Imagine yourself picking up your instrument. Feel the instrument – its texture, temperature, weight (if you have to hold it), and begin to play.

Notice the sound you are making – you are making your ideal sound; notice how that feels. Play a few notes (or chords) and enjoy the sensation of producing sound. Feel the resonance grow and hear the richness of the overtones.

Start to play the piece you have chosen. Hear it clearly in your mind with every nuance. Feel how easily you can play. When you come to an unclear fragment, allow yourself to linger over it, feeling and hearing every detail in its ideal form.

You are in total control and can produce ideal music.

As you play, imagine that you are standing some meters away looking at and listening to yourself. Take some moments to observe yourself and your playing from this perspective.

Now allow yourself to be once again in your body as you continue to play.

Continue to play for around five minutes.

After the exercise:

Answer the following questions:

What did you notice about yourself and your sound, the music and your feeling (both physical and emotional) whilst playing?

.....

.....

.....

.....

.....

How was it when you were inside your body, and when you imagined looking from a distance?

.....

.....

.....

.....

.....

WORKSHEET 9

RELAXATION EXERCISE

You learn better and perform better when you are alert, yet relaxed. Do a relaxation exercise before practice, before mental training or before a performance. There are many types and versions of relaxation techniques for dealing with stress or muscle tension. Here is an example of a general exercise for centering and relaxing.

The Exercise:

Make sure you are in a room free of distraction; that your clothes are loose, and take off your shoes.

Sit comfortably in a chair with your feet on the ground. Close your eyes.

Focus on your breathing. Breathe in through your nose and out through your mouth. Feel each breath as you breathe in and out. Allow your breathing to deepen.

Feel your feet and the contact with the floor; allow them to relax as you continue to breathe. Allow your toes to feel the floor.

Notice if there is any tension in your feet and ankles and as you breathe out allow them to relax.

Now feel your calves and knees – noticing and releasing any tension in them as you breathe. Imagine your feet and lower legs fill with light as you breathe. Slowly allow the light to travel up into your thighs, buttocks and belly. As you breathe in, draw the light up into your body from the floor, and up your spine.

Breathe into your back and chest. Feel the centre of your chest as you breathe in and out. Feel it swell, soften and imagine that it fills with light. As you breathe out, imagine the light radiating from you.

Imagine the light enter your shoulders and neck. Notice if there is any tension there and breathe into it.

As you breathe in, notice your jaw, and with your outbreath, relax it. Do this a few times. Feel your face – cheeks, eyes and brow; relax more with every breath.

With every in breath and outbreath feel the radiance in your body increase. Focus on the centre of your chest and on your throat. With every out breath release any tension you may be feeling. Imagine yourself becoming more present and more energized with every breath. Open your eyes and make one more deep inhalation and then exhale.

WORKSHEET 10

PREPARING A PERFORMANCE USING MENTAL TRAINING[1]

Positive visualization exercises like the one below have the best effects when you do them directly before going to sleep. Try this one for a few nights before an important performance to release fear and stress and to program positive expectations.

Step 1: The scenario that arises

Touching lightly each side of your forehead with the second and third finger of each hand, and also your temples - with the thumb of each hand touching the ring finger. Scan the entire piece or program. Read through the music and imagine playing it. Notice the stress that arises.

Step 2: The scenario that emerges

Repeat the procedure, this time imagining it as vividly as possible. Allow for any positive or negative details that arise. Imagine the whole situation – the people around you, how you feel, what it sounds like, the room, the reactions of people and your own reactions.

Step 3: The optimal scenario

Repeat once again, this time imagining exactly what you would love to occur. Imagine all the details – the optimal sounds, feelings and reactions.

1 ESR: Emotional Stress release exercise (from applied kinesiology)

BRAIN INTEGRATION EXERCISES

Good practice requires the two hemispheres of your brain to be communicating with one another via the corpus callosum. The best way to stimulate this is movement that involves both sides of your body (and both brain hemispheres) simultaneously. For this reason walking, running and swimming are not only good for your body, but for your brain. Cross crawling (see below) works well if you 'dance' to music. If you tap your foot whilst playing, try tapping with alternate feet.

Cross crawl

Whist standing, lift one leg and tap the knee with your opposite hand, and then the other. Continue for a few minutes rhythmically and energetically.

Variations

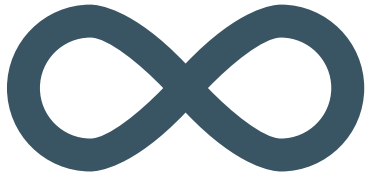
Tap the heel of your foot behind you with the opposite hand, then the other.

Kick one leg out and stretch out the opposite hand, then the other side.

Figure eight

With arms extended in front of you and palms together, make a movement in the shape of an eight on its side.

Make big movements with your whole body. When you cross the middle point, you are shifting from one hemisphere of your brain to the other.



VII REFERENCES AND SUGGESTED READING

REFERENCES BY TOPIC

A Holistic Approach

Gordon, E. (2001). *Preparatory Audiation, Audiation, and Music Learning Theory.* Chicago, USA: GIA Publications.

Juslin, P.N. (2001). Communicating emotion in music performance: A review and theoretic framework. In P.N. Juslin & J.A.Sloboda (Eds.), *Music and emotion: Theory and research* (pp. 309-37). Oxford: Oxford University Press.

Juslin, P.N., & Persson, R.S. (2002). Emotional communication. In R. Parncutt & G.E. McPherson (Eds.), *The science and psychology of music performance* (pp. 219 – 36). Oxford: Oxford University Press.

McPherson, G & Gabrielsson, A. (2002). From Sound to Sign. *The Science and Psychology of Music Performance*. New York, NY: Oxford University Press.

Harnoncourt, N. (1982). *Musik als Klangrede*. Salzburg und Wien: Residenz Verlag

Wulf, G. (2013). Attentional focus and motor learning: a review of 15 years. *International review of Sport Psychology*, 6 (1), 77 – 104.

Schmidt, R. and Wrisberg, C. (2008). *Motor Learning and Performance: A Situation-Based Learning Approach*. Champaign, IL: Human Kinetics.

Implicit Motor Learning Theory

Masters, R. S. (2012). Conscious and Unconscious Awareness in Learning and Performance. *The Oxford handbook of Sport and Performance* Psychology. Oxford University Press.

Masters, R. S. & Poolton, J.M. (2012). Advances in Implicit Motor Learning. In Hodges, N. J. & Williams, A.M. (Eds.), *Skill Acquisition in Sport.* London: Routledge

Formal Practice

Araújo, M. V. (2016). Measuring self-regulated practice behaviours in highly skilled musicians. *Psychology of Music,* 44(2), 278 – 292.

Bonneville-Roussy, A., & Bouffard, T. (2015). When quantity is not enough: Disentangling the roles of practice time, self-regulation and deliberate practice in musical achievement. *Psychology of Music,* 43(5), 686 – 704.

Ericsson, A., Krampe, R & Tesch-Römer, C. (1993). The Role of Deliberate Practice in the Acquisition of Expert Performance. *Psychological Review* 100 (3), 363 – 406.

Ericsson, K. A. (Ed.). *The Road to Excellence: The Acquisition of Expert Performance in the Arts and Sciences, Sports, and Games.* Mahwah, N.J.: Lawrence Erlbaum.

Ericsson, K. A. und Smith, J. (1991). Prospects and Limits of the Empirical Study of Expertise: An lntroduction. from. Ericsson, K. A. und Smith, J. (Eds.), *Toward a General Theory of Expertise.* Cambridge: Cambridge University Press. 1 – 37.

Ericsson, K. A. (2002). Attaining Excellence Through Deliberate Practice: lnsights From the Study of Performance. From: Ferrari, M. (Ed.), *The Pursuit of Excellence Through Education.* Mahwah, N.J.: Lawrence Erlbaum. 21 – 55.

Lehmann, A. C., & Ericsson, K. A. (1997). Research on expert performance and deliberate practice: Implications for the education of amateur musicians and music students. *Psychomusicology: A Journal of Research in Music Cognition,* 16 (1 – 2), 40.

McPherson, G. E., Nielsen, S., & Renwick, J. (2013). Self-regulation interventions and the development of music expertise. In H. Bembenutty, T., J. Cleary, & A. Kitsantas (Eds.), *Applications of self-regulated learning across diverse disciplines: A tribute to Barry J. Zimmerman,* (pp. 357 – 382). Charlotte, NC: IAP.

Van Ketel, J. E. (2017). The Art of Application: A Masters thesis in cognitive psychology on professional musical practice. *Leiden University.*

Zimmerman, B. J. (1998b). Developing self-fulfilling cycles of academic regulation: An analysis of exemplary instructional models. In Schunk, D. H., & Zimmerman, B. J. (Eds.), *Self-regulated learning: From teaching to self-reflective practice.* NY: Guilford Press.

REFERENCES AND SUGGESTED READING

Optimal Theory

Wulf, G. & Lewthwaite, R. (2016). Optimizing Performance through Intrinsic Motivation and Attention for Learning: The OPTIMAL Theory of Motor Learning. *Psychonomic Bulletin & Review*, 23, 1382–1414.

Masters, R. S. (2012). Conscious and Unconscious Awareness in Learning and Performance. *The Oxford handbook of Sport and Performance Psychology.* Oxford University Press.

Masters, R. S. & Poolton, J.M. (2012). Advances in Implicit Motor Learning. In Hodges, N. J. & Williams, A.M. (Eds.), *Skill Acquisition in Sport.* London: Routledge.

Mindset and self-efficacy

Bandura, A. (1997). *Self-efficacy: The Exercise of Control.* New York: Freeman.

Dweck, C. (2000). *Self-Theories: Their Role in Motivation, Personality, and Development (Essays in Social Psychology).* Philadelphia: Psychology Press.

Dweck, C. (2008). Mindset: *The new psychology of success.* New York: Random House. Mindset video: **https://www.youtube.com/watch?v=pN34FNbOKXc**

Goals and intentions

Jørgensen, H. (2009). *Research into Higher Music Education.* Oslo: Novus Press.

Williamon, A. (Ed.). (2004). *Musical Excellence. Strategies and techniques to enhance performance.* Oxford. Oxford University Press

Schmidt, R. and Wrisberg, C. (2008). *Motor Learning and Performance: A Situation-Based Learning Approach.* Champaign, IL: Human Kinetics.

Motivation

O'Niel, S. & McPherson, G. (2002). Motivation. *The Science and Psychology of Music Performance.* New York. Oxford University Press.

Parncutt, R. & McPherson, G. (Eds.). (2002). *The Science and Psychology of Music Performance.* Oxford University Press.

Self-regulation (Self-assessment, planning practice, assessing performance, feedback)

Altenmüller, E. & Schneider, S. (2008). Planning and Performance. *Oxford Handbook of Music Psychology,* Oxford: Oxford University Press.

Bonneville-Roussy, A., & Bouffard, T. (2015). When quantity is not enough: Disentangling the roles of practice time, self-regulation and deliberate practice in musical achievement. *Psychology of Music,* 43(5), 686 – 704.

Wulf, G. and Mornell, A. (2008). Insights about practice from the perspective of motor learning: a review. *Music Performance Research* 2 (1 – 25).

Lerman, L. & Borstel, J. (2003). *Liz Lerman's Critical Response Process: A method for getting useful feedback on anything you make, from dance to dessert.* Liz Lerman Dance exchange.

Wellness

Hallam, S. & Gaunt, H. (2002). *Preparing for Success: A practical guide for young musicians.* London: IOE London.

Varied practice

Schmidt, R. & Wrisberg, C. (2008). *Motor Learning and Performance: A Situation-Based Learning Approach.* Champaign, IL: Human Kinetics.

Wulf, G. (2013). Attentional focus and motor learning: a review of 15 years. *International review of Sport Psychology,* 6 (1), 77 – 104

Random practice

Wulf, G. and Mornell, A. (2008). Insights about practice from the perspective of motor learning: a review. *Music Performance Research* 2 (1 – 25).

Bulletproof Musician: **http://www.bulletproofmusician.com**

REFERENCES AND SUGGESTED READING

Improvisation

Hallam, S. & Gaunt, H. (2002). *Preparing for Success: A practical guide for young musicians.* London: IOE London.

Werner, K. (1996). *Effortless Mastery: liberating the master musician within.* New Albany, IN: Jamey Aebersold Jazz.

Flow

Csikszentmihalyi, M. (1990). Flow: *The psychology of optimal experience.* New York, U.S.A.: Harper Perennial.

Csikszentmihalyi, M. (1997). *Finding Flow: The psychology of Engagement with Everyday Life.* New York, U.S.A.: Basic Books.

Csikszentmihalyi, M. (1997). *Creativity: Flow and the Psychology of Discovery and Invention.* New York, U.S.A.: Harper Collins.

Jackson, S. and Csikszentmihalyi, M. (1999). *Flow in Sports: The Keys to Optimal Experiences and Performances.* Champaign, U.S.A.: Human Kinetics.

Flowskills: **http://www.flowskills.com/intro.html**

Flow music method: **http://www.flowmusicmethod.com.au**

Observational practice

Wulf, G. & Mornell, A. (2008). Insights about practice from the perspective of motor learning: a review. Music *Performance Research,* 2 (1 – 25).

Mental training

Williamon, A. (Ed.). (2004). *Musical Excellence. Strategies and techniques to enhance performance.* Oxford. Oxford University Press.

External focus

Wulf, G. (2007). *Attention and Motor Skill Learning.* Champaign, IL: Human Kinetics.

Wulf, G. (2013). Attentional focus and motor learning: a review of 15 years. *International review of Sport Psychology,* 6 (1), 77 – 104.

Wulf, G. & Mornell, A. (2008). Insights about practice from the perspective of motor learning: a review. *Music Performance Research,* 2 (1 – 25).

Wulf, G & Lewthwaite, R (2016). Optimizing performance through intrinsic motivation and attention for learning: The OPTIMAL theory of motor learning. *Psychonomic Bulletin & Review.*

Audiation

Gordon, E. (1999). *All About Audiation and Music Aptitudes.* Music Educators Journal September 1999.

Gordon, E. (2001). *Preparatory Audiation, Audiation, and Music Learning Theory.* Chicago, USA: GIA Publications.

Keller, P. (2012). Mental imagery in music performance: underlying mechanisms and potential benefits. Ann. N.Y. *Acad. Sci.* ISSN 0077-8923.

Nelson, B. (Ed.). (2006). *Also Sprach Arnold Jacobs.* Mindelheim, Germany: Polymnia Press.

Trusheim, W. (1991). Audiation and Mental Imagery: Implications for Artistic Performance. *The Quarterly,* 2 (1 – 2), 238 – 247.

REFERENCES AND SUGGESTED READING

GENERAL REFERENCES & FURTHER READING

Altenmüller, A. (2007). Hirnphysiologische Grundlagen des Übens. Aus *Handbuch Üben.* U. Mahlert (Hrsg.). Wiesbaden: Breitkopf & Härtel.

Altenmüller, E. & Schneider, S. (2008). Planning and Performance. *Oxford Handbook of Music Psychology,* Oxford: Oxford University Press.

Araújo, M. V. (2016). Measuring self-regulated practice behaviours in highly skilled musicians. *Psychology of Music,* 44(2), 278 – 292.

Bandura, A. (1997). *Self-efficacy: The Exercise of Control.* New York: Freeman.

Bitzan, W. (2010). *Auswendig lernen und spielen. Uber das Memoriern in der Musik.* Frankfurt a. M.: Peter Lang.

Bonneville-Roussy, A., & Bouffard, T. (2015). When quantity is not enough: Disentangling the roles of practice time, self-regulation and deliberate practice in musical achievement. *Psychology of Music,* 43(5), 686 – 704.

Burzik, A. (2007). Üben im Flow. Aus *Handbuch Üben.* U. Mahlert (Hrsg.). Wiesbaden: Breitkopf & Härtel.

Chaffin, R., Imreh, G.,Crawford, M. (2002). *Practicing Perfection: Memory and Piano Performance.* Mahwah, N.J.: Lawrence Erlbaum Associates.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience.* New York, U.S.A.: Harper Perennial.

Csikszentmihalyi, M. (1997). *Finding Flow: The psychology of Engagement with Everyday Life.* New York, U.S.A.: Basic Books.

Csikszentmihalyi, M. (2012). *Flow - der Weg zum Glück: Der Entdecker des Flow-Prinzips erklärt seine Lebensphilosophie.* Freiburg im Bresgau: Herder.

Csikszentmihalyi, M. (1997). *Creativity: Flow and the Psychology of Discovery and Invention.* New York, U.S.A.: Harper Collins.

Dweck, C. (2000). *Self-Theories: Their Role in Motivation, Personality, and Development (Essays in Social Psychology).* Philadelphia: Psychology Press.

Dweck, C. (2008). *Mindset: The new psychology of success.* Random House.

Ericsson, A., Krampe, R & Tesch-Römer, C. (1993). The Role of Deliberate Practice in the Acquisition of Expert Performance. *Psychological Review* Vol. 100.No. 3, 363 – 406.

Ericsson, K. A. (Ed.) *The Road to Excellence: The Acquisition of Expert Performance in the Arts and Sciences, Sports, and Games.* Mahwah, N.J.: Lawrence Erlbaum.

Ericsson, K. A. und Smith, J. (1991). Prospects and Limits of the Empirical Study of Expertise: An Introduction. from. Ericsson, K. A. und Smith, J. (Eds.), *Toward a General Theory of Expertise.* Cambridge. Cambridge University Press. 1 – 37.

Ericsson, K. A. (2002) Attaining Excellence Through Deliberate Practice: Insights From the Study of Performance. From: Ferrari, M. (Ed.), *The Pursuit of Excellence Through Education.* Mahwah, N.J.: Lawrence Erlbaum. 21 – 55.

Gallway, T. & Green, B. (2015). *The Inner Game of Music.* Pan. Main Markete ed.

Gembris, H. (1998). Kritische Anmerkungen zum Expertise-Konzept. From: Gembris, H., Kraemer, R.D., Maas, G. (Eds.) *Musikpädagogische Forschungsberichte 1992.* Augsburg. WiBner. 35: 111 – 123.

Gordon, E. (1999). All About Audiation and Music Aptitudes. *Music Educators Journal* September 1999.

Gordon, E. (2001). *Preparatory Audiation, Audiation, and Music Learning Theory.* Chicago, USA: GIA Publications.

Greene, D. (2002). *Performance Success: performing your best under pressure.* New York: Routledge.

Harnoncourt, N. (1982). *Musik als Klangrede.* Salzburg und Wien: Residenz Verlag.

Harnoncourt, N. (1988). *Baroque Music Today: Music as Speech.* Portland Oregon, Amadeus Press.

Hallam, S. (1998). Was wissen wir über das Üben? Zu einem Modell als Synthese der Forschungsliteratur. From: Gembris, H., Kraemer, R.D., Maas, G. (Eds.) *Musikpädagogische Forschungsberichte 1997.* Augsburg: WiBner. 35: 13 – 65.

Hallam, S & Gaunt, H. (2002). *Preparing for Success: A practical guide for young musicians.* London: IOE London.

REFERENCES AND SUGGESTED READING

Jackson, S. and Csikszentmihalyi, M. (1999). *Flow in Sports: The Keys to Optimal Experiences and Performances.* Champaign, U.S.A.: Human Kinetics.

Jørgensen, H. (2009). *Research into Higher Music Education.* Oslo: Novus Press.

Keller, P. (2012). Mental imagery in music performance: underlying mechanisms and potential benefits. Ann. N.Y. *Acad. Sci.* ISSN 0077-8923.

Juslin, P.N. (2001). Communicating emotion in music performance: A review and theoretic framework. In P.N. Juslin & J.A.Sloboda (Eds.), *Music and emotion: Theory and research* (309 – 337). Oxford: Oxford University Press.

Juslin, P.N., & Persson, R.S. (2002). Emotional communication. In R. Parncutt & G.E. McPherson (Eds.), *The science and psychology of music performance* (219 – 236). Oxford: Oxford University Press.

Leonard, G. (1992). *Mastery: The keys to success and long-term fulfillment.* Middlesex: Plume.

Lehmann, A. C. (1998). Expertiseforschung als Alternative zur traditionellen Musikalitätsforschung. From: Gembris, H., Kraemer, R.D., Maas, G. (Eds.) *Musikpädagogische Forschungsberichte 1997.* Augsburg: WiBner. 35: 124 – 146.

Lehmann, A. C., & Ericsson, K. A. (1997). Research on expert performance and deliberate practice: Implications for the education of amateur musicians and music students. Psychomusicology: *A Journal of Research in Music Cognition,* 16 (1 – 2), 40.

Lerman, L. & Borstel, J. (2003). *Liz Lerman's Critical Response Process: A method for getting useful feedback on anything you make, from dance to dessert.* Liz Lerman Dance exchange.

Masters, R. S. (2012). Conscious and Unconscious Awareness in Learning and Performance. *The Oxford handbook of Sport and Performance Psychology.* Oxford: Oxford University Press.

Masters, R. S. & Poolton, J.M. (2012). Advances in Implicit Motor Learning. In Hodges, N. J. & Williams, A.M. (Eds.), *Skill Acquisition in Sport.* London: Routledge.

McPherson, G. E., Nielsen, S., & Renwick, J. (2013). Self-regulation interventions and the development of music expertise. In H. Bembenutty, T., J. Cleary, & A. Kitsantas (Eds.), *Applications of self-regulated learning across diverse disciplines: A tribute to Barry J. Zimmerman,* (357 – 382). Charlotte, NC: IAP.

Mornell, A. (2009). Der verschlungene Pfad zum musikalischen Ziel. Absichtsvoll Üben in drei Stufen auf dem Weg zur Expertise. In A. Dorschel (Ed.), *Kunst und Wissen in der Moderne.* Wien: Böhlau Verlag, 5. 273 – 288.

Mornell, A. (Ed.), (2009). *Art in Motion.* Frankfurt am Main: Peter Lang.

Mornell, A. (Ed.), (2012). *Art in Motion II.* Frankfurt am Main: Peter Lang.

Mornell, A. (2016). *Lampenfieber und Angst bei ausübenden Musikern.* Frankfurt am Main: Peter Lang.

Nelson, B. (Ed.) (2006). *Also Sprach Arnold Jacobs.* Mindelheim, Germany: Polymnia Press.

Parncutt, R & McPherson, G. (Eds.). (2002). *The Science and Psychology of Music Performance.* Oxford University Press.

Schmidt, R. and Wrisberg, C. (2008). *Motor Learning and Performance: A Situation-Based Learning Approach.* Champaign, IL: Human Kinetics.

Sloboda, J. A. (1996). The Acquisition of Musical Performance Expertise: Deconstructing the "Talent" Account of Individual Differences in Musical Expressivity. from: Ericsson, K. A. (Ed.), *The Road to Excellence: The Acquisition of Expert Performance in the Arts and Sciences, Sports, and Games.* Mahwah, N.J.: Lawrence Erlbaum. 107 – 126.

Sloboda, J. A., Davidson, J. W., Howe, M. J. A., Moore, D. G. (1996). The Role of Practice in the Development of Performing Musicians. *British Journal of Psychology* 87: 287 – 309.

Trusheim, W. (1991). Audiation and Mental Imagery: Implications for Artistic Performance. *The Quarterly,* 2 (1 – 2), 138 – 147.

Werner, K. (1996). *Effortless Mastery: liberating the master musician within.* New Albany: Jamey Abersold Jazz.

Williamon, A. (Ed.). (2004). *Musical Excellence. Strategies and techniques to enhance performance.* Oxford. Oxford University Press.

REFERENCES AND SUGGESTED READING

Williams, S. (2014). Guidelines for Performers and Teachers. *From Potential to Performance.* The Hague: Royal Conservatoire publications.

Winner, E. (1996). The rage to master: The decisive role of talent in the visual arts. From: Ericsson, K. A. (Ed.), *The Road to Excellence: The Acquisition of Expert performance in the Arts and Sciences, Sports, and Games.* Mahwah, N.J.: Lawrence Erlbaum. 271 – 301.

Wulf, G. (2007). *Attention and Motor Skill Learning.* Champaign, IL: Human Kinetics.

Wulf, G. (2013). Attentional focus and motor learning: a review of 15 years. *International review of Sport Psychology,* 6 (1), 77 – 104.

Wulf, G. (1ggg). Möglichkeiten der Effektivierung des Übens in der Musik aus der Siche der motorischen Lernforschung. Aus: Gembris, H., Kraemer, R.D., Maas, G. (Eds.), *Musikpädagogische Forschungsberichte 1997.* Augsburg. WiBner. 35: 208 – 221.

Wulf, G. & Mornell, A. (2008). Insights about practice from the perspective of motor learning: a review. *Music Performance Research,* 2 (1 – 25).

Wulf, G. & Lewthwaite, R. (2016). Optimizing Performance through Intrinsic Motivation and Attention for Learning: The OPTIMAL Theory of Motor Learning. *Psychonomic Bulletin & Review*, 23, 1382–1414.

Zimmerman, B. J. (1998a). Academic studying and the development of personal skill: A self-regulatory perspective. *Educational Psychologist,* 33 (2 – 3), 73 – 86.

Zimmerman, B. J. (1998b). Developing self-fulfilling cycles of academic regulation: An analysis of exemplary instructional models. In Schunk, D. H., & Zimmerman, B. J. (Eds.), *Self-regulated learning: From teaching to self-reflective practice.* NY: Guilford Press.

LINKS & WEBSITES

From Potential to Performance: **http://issuu.com/koninklijkconservatorium/docs/from_potential_to_performance_web/1?e=5813435/8128498**

From Potential to Performance: practicing tips for musicians: **http://practicing.feature.fi**

Itzhak Perlman's practice tips: **http://www.classicfm.com/artists/itzhak-perlman/practice-tips/#lJ6DgPsDXZtOUr35.97**

Flowskills: **http://www.flowskills.com/intro.html**

Flow music method: **http://www.flowmusicmethod.com.au**

Bullet proof Musician: **http://www.bulletproofmusician.com**

Mindset: **https://www.youtube.com/watch?v=pN34FNbOKXc**

The Divided Brain: **https://www.youtube.com/watch?v=dFs9WO2B8uI&feature=em-share_video_user**

Fearless Performance: **https://www.youtube.com/watch?v=-ko1pS9LeTg**

How to practice effectively: **http://ed.ted.com/lessons/how-to-practice-effectively-for-just-about-anything-annie-bosler-and-don-greene**

ABOUT THE AUTHOR

SUSAN WILLIAMS

Susan Williams is one of the world's most well known specialists in baroque trumpet, and has performed and recorded with many of Europe's finest early music ensembles as soloist, chamber musician, and in orchestras and has also studied applied kinesiology as well as psychology.

In addition to performing, Susan teaches at The Royal Conservatorium of The Hague and at the University of the Arts in Bremen, both in the early music department as well as teaching courses in practicing and performance preparation. She has been active in developing reform in conservatoires to further develop the training of practicing and strengthen its profile in curriculums.

Susan has presented at many conferences over the last few years on topics related to musicians' learning, practice and optimal performance – in particular the role of attentional focus. Her doctoral research investigates what kind of attentional focus facilitates musicians' skill acquisition and optimal performance.

www.susan-williams.com

COLOPHON

QUALITY PRACTICE

A musician's guide

Edited by
Susan Williams

Concept and content
Susan Williams

Co-editors
Matthias Jäger, Wayne Williams

Design
studio 37, Andreas Wilhelm. Worpswede (Germany)

ISBN No.: 978-3-00-056606-6

www.susan-williams.com