

# DELIBERATE PRACTICE

Research<sup>1</sup> has shown that the effectiveness of any kind of practice session, whether for musical performance or some other area of expertise, is greatly enhanced when done *deliberately*:

Deliberate practice *is*:

- Self-motivated and focused on achieving well-defined skills
- Challenging, always stretching your existing capabilities
- Built on previous learning (i.e. progressive)
- Reflective, noting both successes and failures
- Diagnostic, seeking explanations for both successes and failures
- Varied in its approach, using multiple methods to achieve the goal(s)
- Frequent, taking advantage of time(s) that are free

Deliberate practice is *not*:

- Doing the same thing(s) every practice session
- Focused on the familiar and comfortable
- Dismissive of problem areas
- Effortless, comfortable, euphoric
- Over-practice to the point of exhaustion or frustration

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<sup>1</sup>An excellent academic investigation of deliberate practice with focus on musical performance is K. Anders Ericsson's paper "The Role of Deliberate Practice in the Acquisition of Expert Performance" published in *Psychological Review*, Volume 100, Number 3, pages 363-406. A less academic treatment of the same topic is his book *Peak*.

# SKILL DOMAINS

Musicianship may be divided into separate domains of knowledge and skill, each of which may be a focal point during deliberate practice sessions. Please note that this list is not exhaustive:

**Instrument Technique** – the details of playing your particular instrument: strumming, bowing, plucking, fretting, sticking, dynamic control (i.e. volume), tone control, maintaining proper form, etc.

**Theory** – the logic and grammar of music: scales, keys, chords, circle of fifths, modes, harmony, counterpoint, etc.

**Pitch Recognition** – “ear training” to allow fast recognition and duplication of tones.

**Rhythm and Timing** – recognizing and duplicating various rhythms, recognizing and playing various time signatures, syncopations, polyrhythms, holding a steady beat, limb independence, etc.

**Sight-reading** – fluency reading sheetmusic.

**Music Memory** – retrieving songs, tunes, riffs, keys, rhythms, without external aids. Also, “listening” to music in your mind without actually making a sound – called *audiation*.

**Accompaniment** – playing to support other players in a group, appropriately responding to cues.

**Composition** – creating your own tunes.

**Improvisation** – creating and playing solos in real time to others’ accompaniment.

# PRACTICE MODES

These are different circumstances in which you might find yourself practicing music. For each mode of practice, multiple skill domains apply. This list is also not exhaustive:

**Learning New Tunes** – whether from sheetmusic or by ear, this involves the addition of new melodies, harmonies, and rhythms to your repertoire.

**Playing Scales** – loathed by many, scales can actually be very engaging if practiced creatively!

**Group Practice** – sessions of multiple musicians working together to enhance specific skills.

**Tune Maintenance** – rehearsing what you've already learned, to keep those memories fresh.

**Playing With Recordings** – accompanying or soloing or just playing in unison to the sound of pre-recorded music.

**Group Jams** – sessions of multiple musicians playing tunes, with protocol dependent on genre and group dynamics.

**Playing A Different Instrument** – highly recommended from time to time, this challenges you to apply what you have learned on your own instrument to something less familiar.

**No Instrument** – what to do when we find ourselves without an instrument. Hint: we all have natural instruments – hands, feet, vocal chords, etc.!

**Observing Other Musicians** – close observation of technique and body language for instructional purposes.

# PRACTICING SKILL DOMAINS WITHIN DIFFERENT MODES

Within each mode of practice (e.g. learning new tunes, playing scales, group jams) progress may be made on multiple skill domains (e.g. instrument technique, theory, pitch recognition). The following pages outline examples of how to do this, each page representing a particular mode of practice, with a set of skill domains listed in **bold-face type** complete with descriptions of what to do.

It is important to note that the examples given are merely *suggestions* on how to build musicianship in various ways. They are neither mandatory nor comprehensive in scope. Do not be daunted by their multitude – the goal here is to simply provide lots of ideas which you *may* incorporate into your own practice. Think of these as a menu of options, rather than a work-list of required exercises.

Some of these suggestions are mutually exclusive: for example when learning new tunes (shown on the next page), the “Pitch Recognition” skill domain suggests learning that tune by ear while the “Sight-Reading” skill domain suggests using only sheetmusic. This simply implies some skill domains must be developed separately in order to maintain the necessary level of challenge for rapid progress.

This approach is not unlike an athlete dedicating certain exercise sessions toward specific physical goals. An athlete might dedicate some exercise sessions to aerobic activities in order to build cardiovascular capacity, and then dedicate other sessions to weight-lifting activities in order to build muscular strength. Although both cardiovascular capacity and muscular strength are necessary for peak athletic performance, they are best developed through distinctly separate activities.

The philosophy of deliberate practice is that *we train hard so we can play easy*. Practice sessions should be challenging, focused, and goal-oriented. We do this so that when we play music for performance or just sheer enjoyment we will be well-equipped.

## PRACTICE MODE: *Learning new tunes*

There are so many different skills we may develop when learning tunes! Tune-learning is also important for its own sake, in building a repertoire you may share with other musicians.

**Instrument Technique** – Choose tunes offering specific instrumental challenges (e.g. tunes requiring challenging string crossings, unfamiliar keys, unfamiliar rhythms, faster tempos). Concentrate on playing challenging portions of the tune, after getting a feel for the tune as a whole.

**Theory** – Identify the key (A, B, C, E flat, etc.) and mode (major, minor, dorian, etc.) of the tune. Identify chords and progressions. Identify arpeggios (chord-tone sequences) in the melody. These determinations divide complex tune into “chunks” that are easier to play.

**Pitch Recognition** – Learn the tune by ear rather than by sheetmusic. Feel free to repeat a recording of the tune, especially on challenging sections, if necessary.

**Rhythm and Timing** – Play to a metronome at various tempos. If appropriate to the genre, add rhythmic ornaments (e.g. “turns” within Irish tunes). Learn tunes of a different genre which have different rhythmic structures.

**Sight-reading** – Learn the tune by sheetmusic rather than by ear. Feel free to focus on specific aspects of the tune separately (e.g. tap just the rhythm without tones, play just the tones without rhythm), if necessary. Force yourself to play without stopping when you make a mistake!

**Music Memory** – Hum, whistle, sing, and/or audiate (play mentally) the tune before trying to play it on an instrument. Do the same *while* playing it. Recall the tune from memory and hum/whistle/sing it when not with your instrument.

**Accompaniment** – Play just the chords, accompanying a recording of the melody if practicing alone. Experiment with varying volume (dynamics) according to the emotional flow of the tune.

**Composition** – Create your own harmony, and write in sheetmusic form.

**Improvisation** – Play multiple solos over a recording of the tune.

## PRACTICE MODE: *Playing scales*

Scales (sequentially playing a set of tones, usually all the tones of a particular key) have a bad reputation for being boring, but *properly practiced* are both engaging and invaluable for building a number of skills.

**Instrument Technique** – Perhaps the most obvious benefit of scales, as they force you to fluently navigate up and down your instrument’s range. Play each scale across the instrument’s entire range, not just one octave.

**Theory** – Play the scale in interesting orders: skip by fixed intervals (e.g. by thirds), play in up/down cycles (e.g. 1, 3, 5, 4, 2, 2, 4, 6, 5, 3, etc.). Play the scale as whole *chords* instead of individual notes (e.g. a C-major scale could be played as Cmaj, Dmin, Emin, Fmaj, Gmaj, etc.). Play scales of each key in the Circle of Fifths. Play arpeggios of all chords, plus all inversions of chords.

**Pitch Recognition** – Hum, whistle, or sing each pitch of the scale as you play it. For extra challenge, play the scale out of order and try to vocalize the correct pitch of the next note *before* you play it on your instrument.

**Rhythm and Timing** – Play to a metronome at various tempos. Experiment with different rhythmic patterns (e.g. “swing” the notes, apply percussion rudiments such as rolls, drags, triplets). Record yourself playing scales and then listen to that recording for rhythm inaccuracies. Play *arpeggios* instead of chords.

**Sight-reading** – Play scales written on sheetmusic, not just by ear.

**Music Memory** – A scale is just a key played in sequence. To learn the whole key and not just the sequence, try playing the scale in *random order* (note: wrong pitches will stand out very clearly if the key is familiar to you!).

**Accompaniment** – Play a harmony to a recording of repeated scales. Audiote (i.e. play back mentally) a harmony as you actually play a scale, or vice versa.

**Composition** – Create a simple melody based solely on scale tones.

**Improvisation** – Play a recording of a tune in a recognizable key, then create a solo based on the scale-tones of that key. Practice playing just the *pentatonic* tones of that key (the 1st, 2nd, 3rd, 5th, and 6th degrees of the major scale, or of the major scale relative to the key you’re practicing).

## PRACTICE MODE: *Group practice*

Group practice sessions are distinct from group performances or “jams” in that the focus is on the development of specific skills rather than entertainment. Highly valuable, they can be logistically challenging because they require a group of musicians seeking to improve the same skill(s). Musicians of mixed ability may all benefit, but only with well-planned activities designed to accommodate those differing levels of ability.

**Instrument Technique** – Watch other musicians’ form and technique. Ask questions. Experiment with different techniques and approaches. Get feedback from others in the group observing you.

**Theory** – One person plays a scale, and then others identify the key and mode of that scale.

**Pitch Recognition** – One person plays a note, or a sequence of notes, and then others try to mimic that same note/sequence. Start with tones belonging to a specific key, then expand to any and all tones. For additional challenge, the leader may span multiple octaves.

**Rhythm and Timing** – One person leads a tune, varying the tempo (*rubato*) as they go while others closely follow the changing tempo. One person introduces a rhythm, which then everyone repeats (e.g. drum circle).

**Sight-reading** – Everyone plays a new tune from sheetmusic at a slow tempo. It is important that no one stops at a mistake in order to keep everyone else moving! Cycle through the tune many times.

**Music Memory** – Each person plays a different portion of a common tune.

**Accompaniment** – Play accompanying chords/harmony to others’ melody playing.

**Composition** – Everyone contributes to a group composition, experimenting with melody lines, finding harmonies and accompanying chords. Use a computer to document the tune in sheetmusic form and then give electronic copies to all.

**Improvisation** – One player at a time plays a solo, while the others accompany with a backing rhythm and/or melody.

## PRACTICE MODE: *Tune maintenance*

Once you have built a repertoire of tunes, it becomes necessary to rehearse those tunes to keep them fresh in your memory and easier to recall when performing. Such tune “maintenance” may easily cease to be *deliberate* practice if rehearsals become too comfortable. The goal here is to challenge yourself even with the most familiar tune.

**Instrument Technique** – Choose to rehearse tunes offering specific instrumental challenges for you (e.g. tunes requiring challenging string crossings, unfamiliar keys, unfamiliar rhythms, faster tempos). Force yourself to vary your technique where applicable (e.g. different bowings, fingerings, positions than usual when playing the familiar tune). Concentrate on playing the most challenging portions of the tune if you find yourself making mistakes there. Record yourself playing complicated sections, then listen/watch your recording to locate and diagnose problem areas.

**Theory** – Transpose a tune into a different key. Alter a tune’s mode (e.g. from major to minor). Use new “inversions” of chords rather than the chords you’re familiar with. These alterations should be planned *before* playing so as to challenge your application of theory rather than rely on an intuitive sense of pitch (see next).

**Pitch Recognition** – Play a tune in multiple keys (there are twelve of them altogether) and/or alter the tune’s mode (e.g. from major to minor), relying strictly on your auditory sense of relative pitch and *intervals*.

**Rhythm and Timing** – Use a metronome when rehearsing. Challenge yourself to play familiar tunes at slow and fast tempos. Set the metronome for a relatively slow beat and then switch from normal time to double time and back.

**Sight-reading** – Start the tune from some point in the sheetmusic *other* than the beginning, in order to force more reliance on sightreading and less reliance on memory.

**Music Memory** – Rehearse tunes using no sheetmusic whatsoever.

**Composition** – If you only know the tune by ear, transcribe it on sheetmusic. While this is not strictly *composing* a new tune, there is some originality involved because there is usually more than one way to correctly notate the same melody.



## PRACTICE MODE: *Playing with recordings*

This is an excellent way to simulate a group-playing environment when you are practicing by yourself. The available range of musical genres, playing styles, speed, and sophistication is limited only by the size of your music collection! It is interesting to note that a number of fantastically talented musicians (e.g. guitarist Frank Vignola, conga drummer Giovanni Hidalgo) learned much of their technique by listening to albums and playing along.

**Instrument Technique** – Choose recordings showcasing challenging techniques (e.g. ornaments, harmonics, etc.) and follow along as best you can.

**Theory** – Identify the key of the tune, and then predict chord sequences that should work with that tune.

**Pitch Recognition** – Learn the melody and/or harmony of the tune by ear, while it is playing at full speed (let the tune repeat as often as needed).

**Rhythm and Timing** – Regard the recording’s tempo as a metronome, playing as closely in sync as possible. Experiment with “back-beat” rhythms to complement the recording.

**Sight-reading** – If you have sheetmusic for the recording, read that music while simultaneously listening to the recording at full speed.

**Accompaniment** – Play chords to accompany the melody. Play your own harmony to complement the recording’s melody. Capture your accompaniment using an audio recorder, then play back for self-critique.

**Composition** – Transcribe your chord progressions, harmonies, counterpoint, etc. to sheetmusic, from your own audio recording if available. Transcribe the melody note-for-note by playing sections of it, duplicating on your instrument, and writing it down.

**Improvisation** – Play a solo (or “break”) during portions of the tune. Create a counterpoint to complement the recording’s melody. Capture your improvisations using an audio recorder, then play back for self-critique.

## PRACTICE MODE: *Group jams*

Technically, a “jam” is more of a *performance* activity than a *practice* activity, but there are still many things one may learn here. It is of paramount importance that your playing be tastefully executed so that you do not detract from the enjoyment of other players in the session. Play softly, and always respect whomever is leading the tune!

**Instrument Technique** – Observe the other players’ technique closely. Ask questions of other musicians if and when appropriate. It is not uncommon for informal jams to become mini-lessons to beginners, given the right mix of personalities.

**Theory** – Note the numbered progression of chords (e.g. 1-5-4), especially similar progressions in different keys. Identify instances of “passing” chords.

**Pitch Recognition** – If a tune leader launches into a tune without announcing chords, keys, or starting tones, play quietly until you identify all those attributes from ear.

**Rhythm and Timing** – Let the tune leader set the tempo, and do your best to follow along. Tap your foot to the rhythm of the leader’s playing. If the members get out of sync with each other, sync yourself to the leader and increase your volume if necessary. If you play a stringed instrument, try performing just percussion using “chops” or “chucks” during a jam.

**Sight-reading** – Play from sheetmusic if a tune leader brings copies to share.

**Music Memory** – Does your mind go blank when asked to suggest a tune during a jam session? Maintain a notebook with tune names and keys, with just a few of the opening tones written down to jog your memory. This will help you access your full repertoire of tunes without becoming completely reliant on charts.

**Accompaniment** – Pay closer attention to others’ playing than to your own, picking up on cues for chord changes, breaks, etc. Focus on good dynamic control (i.e. turning down your volume) to let others take the lead.

**Improvisation** – “Freestyle” playing where everyone improvises to a common key or chord progression. This works well following a familiar tune, where everyone’s minds and fingers are already in that mode.

## PRACTICE MODE: *Playing a different instrument*

At first, this may seem like an odd way to practice, especially if your goal is to improve on your chosen instrument. What playing a different instrument does for you, however, is force you to engage with the music differently. For example, when playing a different instrument it becomes impossible to rely on muscle memory developed with your regular instrument, which is a good thing if that muscle memory has become a “crutch” masking a weakness in some other aspect of your playing.

Playing a different instrument is just another way to practice any of the other modes (e.g. tune learning, playing scales). The following points explain how those skill domains may benefit as a result of using a different instrument.

**Instrument Technique** – Every instrument has its own unique technique, but different techniques may have “cross-over” application. Fretting strings on instruments with differently-sized fretboards (e.g. guitar versus banjo versus ukulele) challenges your fingering to be more versatile.

**Theory** – I highly recommend any serious student of music theory own some form of keyboard instrument (even a toy!) in order to easily experiment with intervals, chords, and other elements of music theory.

**Pitch Recognition** – The differing timbres of each instrument challenges your ability to identify tones and intervals. This is especially so if moving to an instrument with infinitely variable pitch, such as one with strings and no frets.

**Rhythm and Timing** – I highly recommend all musicians own a pair of drumsticks and use them as a training aid in developing rhythm, coordination, and hand-independence.

**Sight-reading** – Very challenging, as it forces you to “map” each written note to the new instrument.

**Music Memory** – Recall and slowly play tunes from your repertoire.

**Composition** – It is sometimes easier to compose an original tune on a instrument less familiar to you, because its different layout naturally suggests scales and melodies other than you may be accustomed to playing.

## PRACTICE MODE: *No instrument*

Don't forget to use the instruments you're born with: hands, fingers, feet, vocal cords, lips, etc.! Also, feel free to explore the range of smart-phone apps and computer software designed to train your sense of pitch and rhythm. Sheetmusic-writing software can be a useful training tool as well, when the software permits audio playback of your chart.

**Theory** – Find some good books on music theory and practice memorizing the various keys, modes, etc. Hum/whistle/sing scales, using a tuning fork or other pitch source as a starting-pitch reference.

**Pitch Recognition** – A variety of smart-phone apps and computer programs exist for ear training. Record yourself humming/whistling/singing a melody from memory, and then check the accuracy of the pitch against an instrument later, noting whether you tend to err on the side of sharp or flat.

**Rhythm and Timing** – Tap your fingers, toes, etc. to the beat of recorded music, especially pieces with tempos and/or rhythmic structures you find challenging.

**Sight-reading** – Read the pitch-letters from a piece of sheetmusic (e.g. read out loud, “C, B-flat, G-flat, etc.”) as fast as you can without making mistakes. Percussively play just the rhythm of the written music. Use computer software to write scales, then play those scales back as a MIDI track to check for correctness (also great for building your knowledge of music theory).

**Music Memory** – Recall tunes from your repertoire and “listen” to them mentally (this is called *audiation*), or feel free to hum/whistle/sing them.

**Accompaniment** – Hum/whistle/sing harmony to recorded music or with other singers.

**Composition** – Create a melody using computer software to write sheetmusic and play it back. Add chords and harmonies, each one with a different voice.

**Improvisation** – Hum/whistle/sing solos to recorded music, or just “play” solos in your mind as you listen to a melody.

## PRACTICE MODE: *Observing other musicians*

It may seem like the act of observing other people playing music is not even “practice” at all because you are not making a sound! However, the deliberate observation of other musicians’ playing affords many learning opportunities. Like all deliberate practice, this is not done for the sake of entertainment, and therefore requires a focused mind-set. The goal is to pay close attention to all the technical details of the performance, rather than focus on the emotional message of the playing.

**Instrument Technique** – If permitted, video-record a musician’s playing (zoomed-in if possible) for later playback where you may closely analyze their technique. Playing the video back frame-by-frame or in slow motion may reveal details you cannot see at full speed.

**Theory** – Identify scales, arpeggios, chords, and intervals used. Note where chord changes take place, and where (if at all) the tune changes key.

**Pitch Recognition** – Try to determine the key and mode of the tune strictly by ear.

**Rhythm and Timing** – Carefully note the coordination between the different musicians, as well as coordination of hands on a single instrument (e.g. pick versus fretting fingers).

**Sight-reading** – If the musicians are playing from sheetmusic, pay close attention to their use of that music: how often do they look at it, versus looking at their instrument? At which point(s) of the tune is their attention most focused on the chart?

**Music Memory** – When observing the performance of a tune you know, anticipate upcoming parts and melodic details based on what you remember of the tune. Audiate (i.e. “play” in your mind) along with the performance.

**Accompaniment** – Note body language and eye contact between musicians used to coordinate transitions in the tune.

**Improvisation** – Note the form of any solos: how the solo follows or deviates from the melody, how different musicians’ solos vary from each other, any common soloing patterns (e.g. riffs) used by each musician.

# RESOURCES

- **Books**

*Peak* by K. Anders Ericsson – written by a cognitive psychologist on the strategies used by masters in multiple disciplines to attain peak performance.

*Guitar Zero* by Gary Marcus – written by another cognitive psychologist on the topic of people learning to play music for the first time in their later years.

*The Art of Practicing, A Guide To Making Music From The Heart* by Madeline Bruser

*Making Music for the Joy of It* by Stephanie Judy

- **Research Papers**

*The Role of Deliberate Practice in the Acquisition of Expert Performance* by K. Anders Ericsson, Ralf Th. Krampe, and Clemens Tesch-Romer.

- **Software/apps**

*EasyABC* – a free program for writing and playing back sheetmusic, based on the “abc” markup language used to format tunes on Irish tune repository *The Session* (<https://thesession.org>).

*iReal Pro* – an Apple app for playing chord sequences, which you may improvise to.

*HarmonyCloud* – a new app for chord ear-training, which you may also improvise to.

*Amazing Slower Downer* – software/app by Roni Music, useful for slowing down a recording to make it easier to learn by ear.

*YouTube* – this popular web service now offers reduced-speed playing, which is very useful for learning tunes by ear.

- **Bellingham-based Lessons and Group Sessions**

*Irish and Folk Night* – every Monday evening in Bellingham at Greene’s Corner on James street. Mostly Irish session tunes during the open session, followed by a feature act.

*Ceili Club* – first Wednesday evening of most every month, at the Roeder Home in Bellingham. Mostly Irish session tunes played slowly at first, with the pace picking up at the evening goes on.

*Mojo Music* – this Bellingham music store hosts a range of “jams” – check their calendar for details.

*Turtle Session* – generally the first and third Thursday evenings of every month from 6-8 PM, a moderate-paced practice and tune-learning session of folk tunes new and old led by Colleen Freeman. Locations vary, but are always announced in advance via email.

*Slug Jam* – generally the second and fourth Thursday evenings of every month from 6-8 PM, a slow-paced practice and rehearsal session of traditional folk tunes led by Tony Kuphaldt. Locations vary, but are always announced in advance via email. Visit <https://slugjam.wordpress.com> for more information.

- **Bellingham-based Festivals**

*Subdued Stringband Jamboree* – generally held in early August at the Deming Logging Show campgrounds, this three-day event is a festival dominated by stage performances and informal jam sessions, but also offering a few workshops. All folk music genres represented!

*The Bellingham Folk Festival* – generally held in late January at the Bellingham Unitarian Fellowship on Ellsworth street, this three-day event is a musician’s music festival, filled with workshops, jam sessions, and feature performances.

*The Bellingham Irish Festival* – generally held in October in downtown Bellingham, this weekend event is a mix of workshops, performances, and open Irish tune sessions.

## ADVANTAGES OF LEARNING AS AN ADULT

Kids have it easy, right? Lots of free time, encouragement and guidance from parents, young and supple brains ready to absorb new information like a sponge . . . well, it's not that simple. Children certainly enjoy logistical advantages over adults when learning to play music, especially with regard to free time. However, there are some “super-powers” you possess as an adult learner:

- **Decades of music-listening experience** – this gives you an intuitive sense of many complex topics such as harmony, dissonance, tension, resolution, chord changes, key shifts, counterpoint, compositional arrangement, etc. even if you don't know the formal terms for these concepts or exactly how they work from a musician's perspective. As an adult, you probably know *hundreds* of songs already, giving you the foundation of a music repertoire that children simply do not yet possess.
- **Superior eye-hand coordination** – this varies from person to person, of course, but in general adults with years of experience handling utensils, tools, computer keyboards, and other objects have it much better than young children.
- **Motivation** – all other factors being equal, adults have far more drive and focus than children. You are doing this because *you* want to play music, not because your parent(s) want you to play music.
- **Capacity for learning music theory** – adults, especially those with well-developed analytical skills, pick up the abstractions of music theory much better than children. A basic knowledge of music theory gives you a fantastic advantage, saving you a lot of “trial and error” learning to play harmonious music.



# DISADVANTAGES OF LEARNING AS AN ADULT

This list is not meant to discourage anyone, but is presented merely to identify potential barriers and thereby help you overcome them.

- **Less free time** – this requires no elaboration. *The key to success is prioritizing music in your life and making the best use of what time you do have.* Multiple tips for maximizing practice time are given on the next page.
- **Your musical tastes exceed your musical ability** – if you’ve been listening to professionally-made music for decades, you will feel as though your fledgling efforts sound *really awful*. Children’s musical tastes by contrast are less refined, and as such kids just don’t realize when they sound bad. This helps them get through the initial “awful-sounding” stage that discourages many adults. *What you as an adult need to keep in mind is that this phase is nothing to worry about, and will pass in time.*
- **Frustration comes easily** – this is due to your present mastery of many other skills in life. You’re good at card games, cooking food, managing your schedule, driving vehicles, etc., so why is this “simple” musical instrument giving you so much trouble? It is very easy to forget just how long it has taken you to achieve mastery in those other areas, and so we often set up false expectations of how long it should take us to learn something new. *Reflect on how you learned to do all the things you have mastered, and the actual time that all took. Perspective is everything!*
- **Bad habits** – having been alive for decades means we have had many years to cultivate habits, and some of these habits may be at odds with our goal of learning music (e.g. poor body posture, procrastination, ineffective study techniques). *The good news here is that habits are malleable, and in most cases any habits impeding your musical progress are bad for you in other ways too, so fixing them is a win-win scenario.*

## HOW TO MAKE PRACTICE TIME

Reserving time to practice is perhaps the single greatest challenge facing adult music learners. As with so much in life, a big part of the solution here is simply setting priorities. Making music a priority in life will help guide your decisions in such a way to carve out that time you need.

- **Kill your television** – or, if you just can't part with it, play music to whatever you watch (e.g. movie soundtracks, commercial jingles)!
- **Keep your instrument(s) ready to play at all times** – if your instrument(s) are always out and ready to play, you are more likely to play them.
- **Have multiple instruments in different places** – this is possible without spending too much money if you diversify to instruments such as drumsticks, harmonicas, miniature keyboards, even if these are not your primary instruments. Keep them in your office at work to play during lunch, in your car to play when stuck in traffic, etc. *Refer to “Practice Mode: Playing a different instrument” for ideas.*
- **Use any length of time available to you** – five minutes is not too short to do useful practice on your instrument! In fact, it is better to have lots of short practice sessions than to have infrequent and long practice sessions.
- **Schedule times for practice** – for those of us who need schedules to organize our busy lives, this really works.
- **Set manageable goals** – while this doesn't really create more free time, it does help you to better *match* the time(s) you do have to specific goals. Better matching of resources to needs means you use those resources more efficiently, effectively “making” more time.

## WHY MUSIC THEORY?

You might have noticed more than a few references to music theory, and how to integrate this into your practice sessions. Many *extremely* proficient musicians play quite well with little or no knowledge of music theory, so why should this be a priority for you? The answer is very practical and very simple: *a basic knowledge of music theory gives you “shortcuts” to finding tones that sound good together, so you don’t have to learn by trial and error.*

As an adult beginner, I have found theory to be tremendously helpful not only to find those nice-sounding tones, but also to be able to communicate intelligently with other musicians about what they play and what I would like to play. If you are like myself, and look back on your life with some measure of regret for not pursuing music at an earlier age, you should view music theory as *a powerful tool to make up for lost time.*

# THEORY: *Definitions and Uses*

Here are some important music theory terms (**bold**), along with explanations (*italic*) of why they are useful.

**Interval** – The ratio of pitch between two different tones, corresponding to the distance separating tones on a keyboard or a fretboard. One fret’s distance on a guitar is a *half-step* interval, while two frets’ distance is a *whole step*. Intervals may also be described in terms of the tones’ numbered position on a scale (e.g. a “perfect fourth” interval is the distance between the 1 and 4 tones of a major scale). *This is part of the essential vocabulary for music. You will find that the “feel” of music depends more on the intervals between notes than the notes themselves!*

**Octave** – A two-to-one ratio of musical pitch. Octave tones sound remarkably similar to each other, and use the same letter designators. “Middle C” on a piano keyboard represents a tone vibration of 261.6 cycles per second, while the next “C” an octave above that is precisely twice as fast (523.2 cycle per second) and the next “C” an octave below middle “C” is half as fast (130.8 cycles per second). *Octaves are why tones seem to repeat themselves up and down the scale of any wide-range instrument.*

**Sharp (#)** or **Flat (b)** – A raising or lowering of pitch. This may refer to a tone being off-pitch compared to a standard (e.g. tuning fork, electronic tuner), or it may refer to the relative pitches of tones on a musical scale. The Western “chromatic” scale (containing all tones) is divided into twelve tones per octave, some of them given letter names and others given letter names plus the “sharp” or “flat” designation: A-A<sup>#</sup>-B-C-C<sup>#</sup>-D-D<sup>#</sup>-E-F-F<sup>#</sup>-G-G<sup>#</sup> and back to A. Alternatively, A-B<sup>b</sup>-B-C-D<sup>b</sup>-D-E<sup>b</sup>-E-F-G<sup>b</sup>-G-A<sup>b</sup> and back to A. *This is part of the essential vocabulary for music.*

C<sup>#</sup> D<sup>#</sup>    F<sup>#</sup> G<sup>#</sup> A<sup>#</sup>    C<sup>#</sup> D<sup>#</sup>    F<sup>#</sup> G<sup>#</sup> A<sup>#</sup> ← "Sharp" (#) tones  
D<sup>b</sup> E<sup>b</sup>    G<sup>b</sup> A<sup>b</sup> B<sup>b</sup>    D<sup>b</sup> E<sup>b</sup>    G<sup>b</sup> A<sup>b</sup> B<sup>b</sup> ← "Flat" (b) tones

C D E F G A B C D E F G A B ← "Natural" (♮) tones

*Note: there is nothing "special" about sharp or flat tones. These designations are the result of using only **seven** alphabet letters to represent **twelve** unique tones!*

## THEORY: *Definitions and Uses (continued)*

**Scale** – A sequence of tones, usually played in ascending or descending order, constituting a musical “palette” useful for creating tunes or phrases. A closely related concept is that of a **Key**, which in Western music typically consists of the tones comprising a specific class of seven-note scale. *Mastery of scales and keys allows you to quickly find tones that sound well with any other tone, which is obviously useful (e.g. jamming, composing).*

**Degree** – A number label given to each of the seven tones comprising a key. For example, in the C-major key, C would be 1, D would be 2, E would be 3, etc. *Musicians often refer to intervals by these degree numbers.*

**Major** versus **Minor** – These terms refer to two different qualities of tone-clusters (e.g. keys or chords) defined by the intervals between those tones. Major and minor are not the only types of quality in Western music, but they tend to be the most common. These qualities stand independent of the starting tone, which is why there are twelve “major keys” in Western music as well as twelve “minor keys” (i.e. each of these keys starting from one of twelve distinct tones within an octave). *Knowing all the major keys by heart gives you a great starting point to build any of the minor or “modal” keys.*

**Mode** – A variation on a key, created by altering the step-distances (**intervals**) separating tones in that key. Traditionally, there are seven modes, each given a Greek name. Major (ionian) and Natural Minor (aeolian) are two of them. *Some musical genres, especially Irish music and Jazz, make use of modes to create different “feelings” for tunes that are neither major nor minor.*

**Chord** – A set of three or more tones played simultaneously. Some instruments (e.g. autoharps) play nothing but chords, and others (e.g. guitars) are often played solely to form chords. Chords are used extensively to accompany melodies, and are often notated by simple letter symbols near lyrics which makes them easy to document in song music. *Knowing which tones make up a chord gives you multiple options to sing and/or play harmony to any melody.*

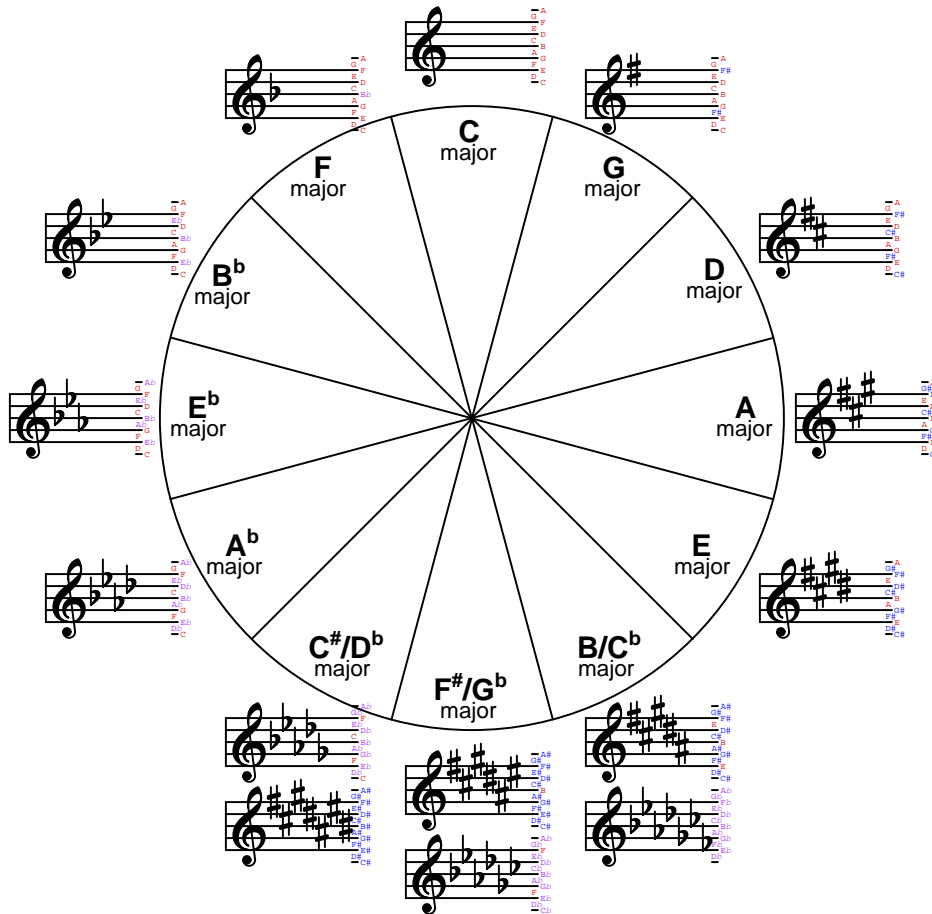
## THEORY: *Definitions and Uses (continued)*

**Arpeggio** – Italian for “chord played as on a harp,” this is simply the different tones making up a chord played one at a time instead of simultaneously. Guitar players: hold a chord pattern with your left hand while *picking* individual notes with your right hand instead of *strumming* the strings, and you will be playing an arpeggio! *Many melodies contain arpeggios, making them easy to play for anyone familiar with chords. Arpeggios sound more sophisticated and interesting than chords played in block-fashion. Any chord player need only play the notes individually to create a respectable harmony from a set of given chords.*

**Inverted chord** – A chord where the lowest tone is not the root. For example, a D major chord in “root” position consists of the tones D, F $\sharp$ , and A in ascending order. A D major chord in “first inversion” consists of F $\sharp$ , A, and the *next* D (one octave up), and is usually notated as “D/F $\sharp$ ”. A D major chord in “second inversion” consists of A, D, and F $\sharp$ , and is usually notated as D/A. *When playing a progression of chords in a tune, many inversions are easier to reach with your fingers and jump around less than a sequence of chords all played in root position.*

# THEORY: *The Circle of Fifths*

The circle of fifths shows all major keys in order of the number of sharps and/or flats they contain. The key of C major, for example, contains only “natural” tones with no sharps or flats (i.e. C-D-E-F-G-A-B-C). The key of G major contains all natural tones except for F $\sharp$  (i.e. G-A-B-C-D-E-F $\sharp$ -G).



You should practice scales in every one of these keys until you are comfortable playing *all* of them. This way, when you need to play a tune in a particular major key you will instinctively know which notes “belong” and which do not. This is tremendously helpful when improvising, accompanying, composing, and just learning new tunes by ear.

## THEORY: Major scales shown on a piano

Each scale is shown as a sequence of red numbers overlaid on piano keyboards, each number indicating the “degree” of that scale. The scales are arranged here in ascending order to represent clockwise steps on the circle of fifths. Note that there is nothing special about “major” scales, other than their prevalence in Western music. The “Do-Re-Mi” song from *The Sound of Music* is an example of a “major” tune. This cultural familiarity makes major scales easy to recognize and learn.

The diagram illustrates 12 major scales on a piano keyboard, arranged in two columns. Each scale is represented by a keyboard with red numbers 1-7 indicating fingerings. The scales are: B major, C<sup>b</sup> major, E major, A major, D major, G major, C major (left column); and F major, B<sup>b</sup> major, E<sup>b</sup> major, A<sup>b</sup> major, C<sup>#</sup> major, D<sup>#</sup> major, F<sup>#</sup> major, G<sup>b</sup> major (right column). Arrows indicate the relationship between adjacent scales: "Down a fourth" and "Up a fifth".

Note how every 5th degree of a scale becomes the 1st degree (i.e. the “tonic”) of the next scale *above* it, which gives the circle of *fifths* its name. Every 4th degree of a scale becomes the 1st degree of the next scale *below* it.



## THEORY: *Major and Minor Chords*

A “chord” is nothing more than a set of tones played simultaneously. An “arpeggio” are those same tones played one at a time. It is beneficial to all musicians to understand how chords are formed from individual notes, even if you only know chords based on finger-shapes (e.g. a fair number of guitarists do this), or if you play an instrument incapable of playing simultaneous tones (e.g. a wind instrument). Understanding chord structure will help you improvise to melodies, create harmonies, and “chunk” certain features of music into units that are easier to remember and to play.

Chords are identified by their *tonic* tone (e.g. the “root” tone letter that identifies the chord: A, B, C, F $\sharp$ ) as well as their *quality* (e.g. *major*, *minor*).

**Major chords** are formed from the first, third, and fifth degree tones of any major scale. Examples:

- C major chord = C, E, and G = 1, 3, and 5 of the C major scale
- E major chord = E, G $\sharp$ , and B = 1, 3, and 5 of the E major scale
- F $\sharp$  major chord = F $\sharp$ , A $\sharp$ , and C $\sharp$  = 1, 3, and 5 of the F $\sharp$  major scale
- A $\flat$  major chord = A $\flat$ , C, and E $\flat$  = 1, 3, and 5 of the A $\flat$  major scale

**Minor chords** are identical to major chords except that the third-degree tone is lowered (flatted) by a half step. Examples:

- C minor chord = C, E $\flat$ , and G = 1,  $\flat$ 3, and 5 of the C major scale
- E minor chord = E, G, and B = 1,  $\flat$ 3, and 5 of the E major scale
- F $\sharp$  minor chord = F $\sharp$ , A, and C $\sharp$  = 1,  $\flat$ 3, and 5 of the F $\sharp$  major scale
- A $\flat$  minor chord = A $\flat$ , B, and E $\flat$  = 1,  $\flat$ 3, and 5 of the A $\flat$  major scale

Repeated tones work, too: this happens when playing a simple “triad” (three-tone) chord on a guitar while strumming more than three strings. For example, a simple G major chord (G, B, and D) played on six strings contains three G tones, two B tones, and one D tone, the duplicate tones separated by an octave each. It’s the same chord as a G, B, and D triad, only with a “fuller” sound.

## THEORY: *Seventh Chords*

Chords containing more than three tones are called *extended*. A great many extended chords exist, each one designated by the appending the additional tone degree number(s). For example, a C major chord with an added sixth is designated C major 6 or Cmaj6 or CM6. Two very common extended chords in folk, country, and rock genres are the so-called *seventh* chords, adding either the seventh degree tone of the major scale or a flatted version of the seventh degree.

“**Major seventh**” chords simply add the seventh degree tone of the major scale. Examples:

- C major 7 chord (Cmaj7) = C, E, G, and B = 1, 3, 5, and 7 of the C major scale
- E major 7 chord (Emaj7) = E, G $\sharp$ , B, and D $\sharp$  = 1, 3, 5, and 7 of the E major scale
- F $\sharp$  major 7 chord (F $\sharp$ maj7) = F $\sharp$ , A $\sharp$ , C $\sharp$ , and F = 1, 3, 5, and 7 of the F $\sharp$  major scale
- A $\flat$  major 7 chord (A $\flat$ maj7) = A $\flat$ , C, E $\flat$ , and G = 1, 3, 5, and 7 of the A $\flat$  major scale

“**Dominant seventh**” chords differ from major seventh chords only in that the seventh degree tone is lowered (flatted) by a half-step. Examples:

- C dominant 7 chord (C7) = C, E, G, and B $\flat$  = 1, 3, 5, and  $\flat$ 7 of the C major scale
- E dominant 7 chord (E7) = E, G $\sharp$ , B, and D = 1, 3, 5, and 7 of the E major scale
- F $\sharp$  dominant 7 chord (F $\sharp$ 7) = F $\sharp$ , A $\sharp$ , C $\sharp$ , and E = 1, 3, 5, and 7 of the F $\sharp$  major scale
- A $\flat$  dominant 7 chord (A $\flat$ 7) = A $\flat$ , C, E $\flat$ , and G $\flat$  = 1, 3, 5, and 7 of the A $\flat$  major scale

Dominant seventh chords add a “bluesy” color to the chord, as well as a sense of “tension” inviting resolution to a different chord of that scale.

## THEORY: *Modes*

Any key may have its intervals (i.e. gaps between successive tones) modified to give a different “feel”. *Modes* are one way of doing this. So-called “major” and “minor” keys are examples of such modal modifications. Each mode of a given key has a different number of sharps or flats, giving each mode a different amount of “brightness” (more sharps) or “darkness” (more flats).

Beginning with the major mode of a key (called the *ionian* mode), we may achieve a different mode by raising (sharpening) or lowering (flattening) certain degrees. The following table shows how this is done for all seven of the traditional modes, with the major (ionian) mode as the default:

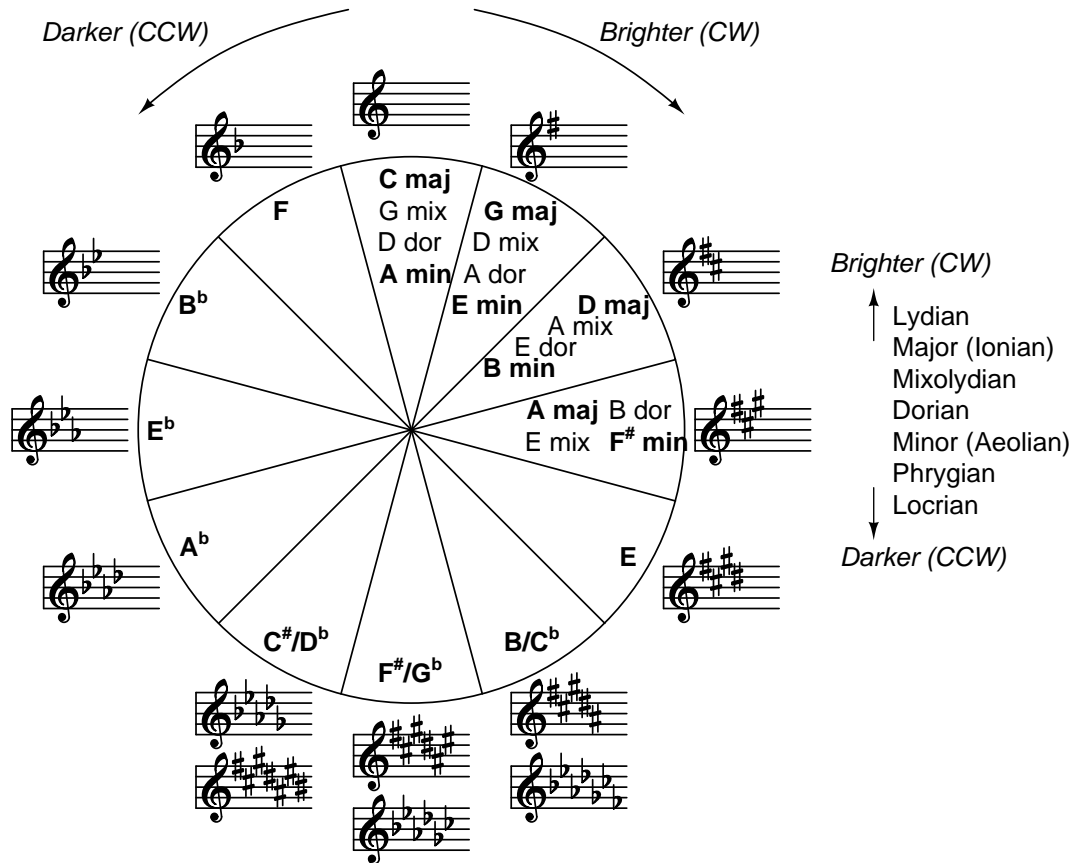
Modal scales and degree alterations							
Lydian – <i>brightest</i>	1	2	3	♯4	5	6	7
Ionian (Major)	1	2	3	4	5	6	7
Mixolydian	1	2	3	4	5	6	♭7
Dorian	1	2	♭3	4	5	6	♭7
Aeolian (Natural Minor)	1	2	♭3	4	5	♭6	♭7
Phrygian	1	♭2	♭3	4	5	♭6	♭7
Locrian – <i>darkest</i>	1	♭2	♭3	4	♭5	♭6	♭7

Interestingly, this progression toward “brighter” or “darker” corresponds with clockwise and counter-clockwise steps, respectively, on the Circle of Fifths. Take any major (ionian) key shown on the Circle of Fifths, and step clockwise to ascend into “brighter” modes; step counter-clockwise to descend into “darker” modes. For example, beginning with A major we may step once counter-clockwise to see the key signature for A mixolydian; two steps counter-clockwise to find the key signature for A dorian; three steps counter-clockwise to find the key signature for A aeolian (A minor), etc.

How is this helpful, you ask? Assuming you have practiced all your major scales until you are comfortable recalling and playing all twelve of them, you now have the ability to easily determine how to play any of the seven modes just by stepping around the circle. Example: **“This next tune is in G minor”**. You think to yourself, *“Start with the position of G major on the circle, then move three steps counter-clockwise to arrive at B-flat. This tells me G minor (G aeolian) shares the same tones as B-flat major – all natural tones except for B♭ and E♭”*.

## THEORY: Modes (continued)

The following Circle of Fifths is shown to illustrate the previous concept of relating modal shifts to steps around the circle. The most common modes in Western music, major (ionian) and minor (aeolian) are shown in **bold-face** type, with other common modes listed in normal font. Note that this circle far from complete, showing only some of the more common modes:



All keys/modes within a wedge of the Circle of Fifths are considered *relative* to each other. This is an important concept, as sometimes a tune will switch between major and minor modes to generate an emotional contrast, while using the same tones! This is the only way for certain instruments to switch between modes. For example, the only aeolian mode playable on a “D major” tin whistle is B minor.

## THEORY: *Pentatonic scales*

Pentatonic scales are sets of *five* tones taken from any given key that sound particularly harmonious with one another. Many wind chimes are built with bells tuned to a pentatonic scale, so that the wind chime will sound good no matter what sequence the bells ring. For this reason, pentatonic scales are particularly useful for building solos and other improvisational creations because those tones sound good in any order.

Any major pentatonic scale consists of the *first, second, third, fifth, and sixth* degrees of its corresponding major key. Another way of defining a major pentatonic scale is to say we *avoid* the fourth and seventh degrees of the major key, because those tones tend to build a feeling of tension in the listener, which demands resolution in a particular way (i.e. if you're going to use those tones, you lose the freedom to play them in any arbitrary order).

Interestingly, the tones within a *minor* pentatonic scale are the exact same pitches as the tones in the pentatonic scale of the relative major key. For example, the tones comprising the C major pentatonic scale are C-D-E-G-A, which are the same exact tones comprising the A minor pentatonic scale (A-C-D-E-G), because C major and A minor are *relative* keys (i.e. different modes sharing the same tones). Like the relative keys they are based on, the only difference between a major pentatonic scale and a minor pentatonic scale is which tone is considered the start (tonic).

# CREDITS

This document would not have been possible without the help of several musicians:

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[katbula.com/why-being-an-adult-learner-is-awesome/](http://katbula.com/why-being-an-adult-learner-is-awesome/)

- Cayley Schmid organizes the *Bellingham Folk School*, *Bellingham Folk Festival*, *Bellingham Irish Festival*, and *Ceili Club* which are all venues for musicians to learn and grow. Her leadership, encouragement, and instruction have been invaluable to the musical development of many people including myself.
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Any errors or omissions in this document are purely my own.

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