

Try This Now

How to start learning and teaching the ways the brain learns music best

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Contextual Interference

The most important things to know

- **Desirable difficulty** Research shows that struggling through something after we have initially learned it improves that thing significantly in short periods of time. Faster, cleaner, better articulation *and* easier to play.
- **Contextual Interference** By varying the context of whatever it is we are trying to improve, such as playing it with a different rhythm, we create desirable difficulty and accelerated learning.
- **The goal is to create struggle** It will feel frustrating, and we might feel like we can't do it. We will likely feel we don't want to do it, and want to quit. It is in the struggle that high efficiency learning occurs even though it will look and feel like the opposite. Think of how many people would put up with this type of thing. The few that know about it and do it regularly seem talented and gifted. Isn't this worth 10-20 minutes of struggle to see if it works?

Try This Now

Varied Repetition

1. Pick a section that needs improvement. One that we can play, but sloppily or without enough control at tempo. If we're trying this in a group setting choose a section in which many or all play the same rhythms, if possible (have all of the notes at the same time). You may need to do this by instrumental/vocal section at first.
2. Using a metronome find a tempo at which we, or everyone participating, can play it technically perfect. It does not matter how slowly. Keep going slower until everything is under total control. Remember this metronome number.
3. Learn to play the section you are working with in even rhythms, all notes get the same duration. This will likely be the first moment of desirable difficulty, but should not be too hard.
 - To do this play each "sound event" as one beat. Go slow and play the note, chord or other sound then play the next sound after that. Ignore rests and silences. Everything gets the same duration.
4. Choose one of the following areas and go to that section.
 - A. I have never used dotted rhythms as a practice tool. (if you're not sure, choose this one)
 - B. I have used dotted rhythms before as a practice tool.

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A

I have never used dotted rhythms as a practice tool

6. Now learn to play the section with a dotted rhythm – dotted quarter to eighth. Work this up through the struggle. Spend several minutes improving this, however there is no need to perfect it. Move on after about 5 minutes if we have not done so already. There is no need to perfect this step. Anywhere around 85% accuracy is the time to move on.
 - If you don't read music, or otherwise don't know how to do dotted rhythms, see the **extra help** section for instruction.
7. Now go through the same process with a Scotch Snap (reverse dot) - eighth to dotted quarter.
8. Take a break from this work, 2-5 minutes. Practice something else, or just hang out. Clear the mind (recovery period). Don't practice anything related to this exercise.
9. Play the section, as written, at the metronome number from step 2. How does it feel?
10. Repeat the section, over and over, each time increasing the metronome number. As it starts to get significantly faster notice how it sounds, and ask how it feels to play it.
11. Keep going and see how far it gets. Where did we start and where did we end?
 - If the dotted rhythms were too easy for us and we did not improve much then try the B section for some harder variations.

Extra Help

If we have trouble understanding a dotted rhythm, or can't read them, try the following method.

Slowly count 4. For a dotted rhythm we should play on 1 and 4, and for reverse 1 and 2. Soon we will be able to feel it. At that point referring to dotted as, "Long-short," and reverse as, "Short long," can help understanding as we move away from the counting method.

Dot: **1** 2 3 **4** / **1** 2 3 **4** Reverse **1** 2 3 **4** / **1** 2 3 **4**
Count the numbers and play notes on the ones in bold

B

I've used dotted rhythms as a practice tool before

It is possible that the familiarity with those rhythms for practicing will make them easier to play. If we don't produce desirable difficulty then this won't work. Here are a couple of more advanced exercises that should do the trick.

When learning these variations there is no need to perfect them before moving on. About 85% accuracy is the ideal time to do so. After that the repetitions start becoming less beneficial.

Note grouping: Play the section with pauses between groups of 3 notes, 4 notes, 5 notes. The group of notes will set the regular beat and the pause should be one beat/note duration (i.e. 1, 2, 3, pause, 1, 2, 3, pause) Strive to play without pause. Depending upon the original rhythm some of the groupings may seem easy. Keep trying different ones as some should produce struggle.

Pro tip: As an extra step, or if a grouping is easy, start it on the second note. Once we get that try starting on the third note, etc.

Backwards: Learn to play the section backwards. One way to do this is by groups of 4. Play the first four notes forward then backward several times. Then do it with the next 4 and the 4 after that until we run out of notes. Then do the first 8 forward and backward several times, then the next 8 and so on. Add 4 notes to the group each time until completed

Remember, this is supposed to be hard or it won't work, so don't get discouraged.

6. Take a break, 2-5 minutes. Do something else, or just hang out. Clear the mind (recovery period). Don't practice anything related to this exercise.
7. Play the section, as written, at the metronome number from step 2. How does it feel?
8. Repeat the section, over and over, each time increasing the metronome number. As it starts to get significantly faster notice how it sounds, and ask how it feels to play it.
9. Keep going and see how far it gets. Where did we start, and where did we end?

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More information

- **The power law of learning.** Research shows that repeating something over and over will lead to improvement, but in short order the repetitions become less and less effective each time we do them. We experience this as a plateau in learning. Contextual interference resets this process.
- **Desirable difficulty.** The goal is not to play new rhythms, but to create the struggle necessary to create desirable difficulty. When dots become easy then move on to other devices that create struggle. Try all sorts of rhythms, play things backwards, with only one hand, whatever. The sound does not matter, just the struggle. There are many possibilities.
- **Mindset.** One aspect of this research is the role mistakes play in learning. They will make us feel frustrated and want to quit. This is where some people stop. If we know that struggling through the difficulty will produce results it is easier to push through the heavy mental lifting of struggle. Mistakes in this context are just desirable difficulty, and that is a gift. It is nothing to be upset about.

More

Keep coming up with new ways to create desirable difficulty. When one thing becomes easier, and the struggle diminishes, try a new variation.

References

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