

**Flute Intonation: Weeding out Problems**  
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Today most flutes, when played properly, have a relatively good scale even compared to instruments made as recently as twenty years ago. However, whether you're starting a player out or even if you are working with older players, it is still imperative that you lay the foundation for good intonation with good playing habits. Ideally, these habits should start immediately when the student first begins playing the flute. Periodic work in sectionals for all ages on tone, breathing, and intonation can save a lot of time in rehearsals.

Perhaps the most well-known method of adjusting pitch, rolling in and out, should be a last-resort effort. While it may seem to fix a problem quickly, chances are it won't be the same on the following day. This "solution" can get in the way by taking the student further from their basic pitch center, affecting the appropriate placement on the lip, and causing hand position problems from wriggling the flute about. The most effective approach would be to establish a good overall pitch center by building in good habits, and then remaining problems should be relatively minor and can be fixed with subtle approaches.

To lay the foundation for a more stable pitch center, start with the four areas discussed below: 1) posture and relaxation, 2) lip placement over the tone hole, 3) ) the amount the headjoint is pulled out, and 4) breathing.

First make sure the student maintains an upright posture, with the arms raised enough to allow the rib cage to expand. Have the stands raised to a height that will insure that the student's head also remains upright. If the student looks down too far, the flute will constantly be "rolled in" and the throat will also be choked off producing a small tone with a flat quality. It is also important that your ensemble set-up allows plenty of room between players so they can fully extend the arms without hitting their neighbor. If there is plenty of room, they will not be tempted to rest their elbows on the backs of their chairs. Angling the seats toward each other in pairs will also allow more freedom.

The next area, placement of the lip over the tone hole, is greatly affected by posture. The student should cover approximately 1/4 - 1/3 of the hole with the bottom lip and blow straight across. Some students discover that they can play longer with less effort by looking down and covering more of the hole. This leads to more pitch problems and tone difficulties between different registers, and should be corrected immediately. The more the hole is uncovered, the larger the tone. However, if all of the hole is uncovered, the student will have difficulties in the

upper register and trouble with control. One method some young students use is 'kissing' the embouchure hole to find their placement on their lip. This should be avoided! It usually leads to the entire hole being uncovered. The amount the hole is covered also affects pitch, therefore establishing a consistency on this point is important. Obviously if a student doesn't keep the lip in approximately the same place, or if they move the head up and down, the amount the hole is covered will vary causing tone quality and the pitch center to suffer. The student should also know how far to pull out the headjoint. On most instruments, approximately 1/3 of an inch is appropriate. Many young players hastily assemble their flutes. I recommend taking time in a sectional to find the best configuration for each member of your section and then use nail polish to paint a small line from the body to the headjoint so the entire section will be more consistent in their daily assembly. It is a good idea to check several notes in different octaves, both loud and soft, with a tuner to find the best compromise.

The last area, breathing, should perhaps be the first subject taught to wind players. Most young flutists don't have a good concept of just how much air is required to play the flute well. Push your students in the area of quantity first, and then they will have the tools needed to work on the idea of support. Generally, you should simply encourage your flute students to maintain a very relaxed embouchure, rather than the tight "smile" embouchure, and to use as much air as possible. If you're working with beginners it may seem to take them longer to hold long phrases, but they will soon develop a larger capacity.

If your students are well established in these physical aspects of playing the flute, they will be better equipped to produce a good tone with a stable pitch center. The next step is to approach the problem of intonation tendencies within dynamic changes. For instance, the flute tends to go flat in softer dynamics - while your clarinetists go sharp! This is where the importance of understanding the concept of "support" becomes so important. When working on soft dynamics a very simple explanation for young students that seems to work is: "fill your stomach up with air, and then let out the smallest amount of air possible through a tiny hole in your lips - like a leaky tire." For *forte* passages, the student should use a very relaxed embouchure with an open throat (thinking "oh"), and simply use a lot of air. For solutions to specific occasional pitch problems in spite of these measures, use subtle changes such as raising the head very slightly to raise the pitch a bit, or lowering the head just a little and opening the throat even more to lower a sharp note. Rolling in or out usually makes too big a change and the student may adjust too far. These very subtle changes of the head are easier to control and will also keep the focus on listening to the pitch, rather than on moving the instrument and hands.

While some of these guidelines are flute specific, many can be reinforced during your band warm-up time because they apply to all instruments.