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Quality of Sound

The initial musical impression of an ensemble is their quality of sound. Whether it is the Chicago Symphony, the Lincoln Center Jazz Orchestra, or the White Stripes, an ensemble's musical identity rests in its ensemble sound. Professional orchestras may sound different from one another, but listeners can identify their sounds as "beautiful" even though they are different. Indoor drumlines work in a similar manner. All WGI finalist indoor drumlines may not sound the same, but the quality of their ensemble sound can be recognized as mature and professional. The key for maximizing a unit's quality of sound is for instructors to refine their concept of sound. This is done through lots of listening. Listen to recordings of professional percussion ensembles, DCI finalist drum and bugle corps, and WGI finalist indoor drumlines. Notice the choices that they make from a tuning and blend perspective, and think critically about how those choices could transfer to your particular unit. Always keep in mind that every ensemble needs to deal with the problem that they perform inside a school gymnasium. Finally, take the four basic components of ensemble sound production (instrument quality, instrumentation, implement choice, and technique) and critically mold them to fit that "ultimate" quality of sound in your head.

>> I. INSTRUMENT QUALITY

It can be a hard fact to face—the sound of your ensemble can be drastically affected by the quality of your instruments. Mallet instruments with cracked keys, snare drums with missing snare guts, and timpani that are out of round won't make the same sounds as good equipment. Many units face budget issues that may prevent them from having completely new matched equipment, but regular maintenance and proper care can keep equipment sounding good for years. Sometimes skilled instructors that pay attention to the other aspects of sound production can overcome equipment limitations...sometimes they can't.

Try to stick to reputable brands and full sized instruments. Brand X may be cheap, but you could end up paying for it in sound quality and/or maintenance costs. It also may seem like a bargain to go with a combo vibe or 4 octave marimba, but the smaller bar size often produces a thin tone quality with a limited dynamic range. It helps to have matched brands. This may be impractical for some keyboard sections, but it should be standard that battery instruments are all of the same brand and same line. The consistency in materials and manufacturing process within same brand instruments can provide a little extra help with blend and, in keyboards, intonation.



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Make sure that equipment is maintained properly. Old and pitted heads can be difficult to tune well. A lot of sound quality issues can be improved by changing and/or tuning drumheads. There is information out on the web about the head selection and tuning scheme of many marching ensembles, and a close look at a WGI or DCI video can reveal a lot about the heads that they use. Keep in mind that you are in a gym. You may need to experiment with muffling and pitch selection when tuning, because inside is not the same as outside. The tuning for indoor lines tends to be a little higher and drier in order to provide greater clarity in an environment with lots of resonance.

>> II. INSTRUMENTATION

When picking instrumentation try to remember the following—you have a group of percussionists. If they have sticks or mallets in their hands, they have officially become percussionists. It doesn't matter that they played tenors in marching band (or for that matter flute in marching band). The truth is that if you go with five snares, three tenors, five basses, and four keyboards the battery and pit of your ensemble will almost never sound balanced. Make the hard choices from a personnel perspective to allow the instrumentation to help your unit sound balanced. It may take some smooth talking on your part, but the student that was on snare in the marching band will probably have a better time playing bass drum in a great sounding, successful ensemble than snare in an eight person snare line that is forced to play pianissimo dynamics at the edge of the drum for the entire show in order to balance against the two bass drums.

Recruit keyboard players. Everyone likes to hear a melody, and that is sometimes hard to hear in a gym when three mallet players compete against thirteen drummers. You can teach very simple techniques to inexperienced keyboard players and still be successful at the novice and A level. More importantly, you have a shot at balancing some of the naturally softest instruments (marimba/vibe) against some of the naturally loudest instruments (battery) in a very unkind acoustical environment.

Consider using electronics. Mallet players have a difficult time doing sustained passages well at the higher dynamics that are usually required in a marching setting. Synthesizers can add dynamics to your ensemble, help sustains, and offer sounds that are more exotic than what standard single keyboard instrumentation (1 bell, xylo, vibe and marimba) can offer. Bass guitars can give bottom to an ensemble that playing in the extreme low range of the marimba can't. They can also reinforce the sound of timpani. Amplification can add a depth of sound and help overall ensemble balance if done effectively. The important thing about all electronics is that their musical effectiveness is only as good as the equipment (see the previous section) and the ear of the instructor in front of them. Synths through bad amps won't make your group sound mature, and amplifying nasty, out of tune keyboards can just turn uncomfortable sounds into painfully uncomfortable sounds.



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>> III. THE IMPLEMENTS

The other factor that can instantly alter an ensemble's quality of sound is implement selection. Be conscious of the amount of contact sound and articulation versus the amount of fundamental tone and resonance. Those Lexan xylophone mallets and brass bell mallets may work well on specific passages, but they may not produce a quality sound from those instruments that is easy to blend with marimbas and vibes. This is especially true with limited instrumentation, where the brightness of the bells and xylophone tend to overpower the mellower tone quality of a single marimba and vibe. If budget is a concern (and it usually is), invest in good general mallet choices that mellow out the brighter instruments a little and maximize the fundamental tone that is possible out of the warmer vibes and marimba. The weight and wrapping material of the mallet are often much more important than the hardness of the mallet.

Jim Casella has written a good article on outdoor mallet selection that is available on the Innovative Percussion website, and Vic Firth's website contains many product sound samples and interviews with leaders in the marching activity. Use this information to aid you in making appropriate choices for your ensemble.

Battery implements are similar in their effect on sound quality. Remember that you are in a gym. Lines can get good results from using outdoor implements on battery instruments that have been tuned for indoor use. Other lines have altered both tuning scheme and implement selection to indoor model implements in order to help with balance and articulation, which are two of the most common ensemble sound problems for batteries. Smaller sticks are not necessarily the universal answer. For example, concert snare sticks used on battery instruments may balance better against the keyboards but create a very thin, top head type of a sound. Use the web or WGI/DCI videos to help you determine what implements could work best for your ensemble; implements that play well in a gym. It takes some experimentation to find the right balance of tuning scheme and implement selection for a battery, but the goal is that with appropriate orchestration the instruments can produce sounds that are good individually, blend well together, and are not extremely difficult to balance with each other.



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>> IV. TECHNIQUE

There are many different ways of playing percussion instruments. Many of the technique comments in the PA caption deal with uniformity of technique. This activity operates under the assumption that uniformity is a good thing. Uniformity of technique should help create uniform sounds, which should blend better and create a better ensemble sound (and it looks cool, too). Another reason for negative technique comments is that an individual or section's approach doesn't help them to make good individual sounds. Again, there are many different ways of playing percussion instruments, but here are a few constants:

Where you strike the instrument is important. Different striking areas produce different sounds. There are widely accepted playing zones for different instruments (center for battery, edge or center for keyboards, etc...), and it is important to pay attention to details as mundane as implement position because it has a direct affect on sound quality.

Don't interfere with the vibration of the stick/mallet/head/bar/cymbal. Use a technique that is relaxed, while still maintaining the ability to shift dynamics suddenly and play with consistency. There are a lot of different incarnations of this technical approach. Some use words like piston stroke, rebound stroke, legato stroke, etc... Even if the stroke has a low rebound (downstroke, staccato stroke, check stroke, whatever you want to call it) the important thing is that there is a certain degree of relaxation and rebound. Mature players tend to make this look easy.

Sustains are difficult to do on percussion instruments. They require attention, because they aren't natural to most of the percussion family. We sustain through buzz rolls, single stroke rolls, and double stroke rolls. It may seem obvious, but in order for listeners to register a quality sustained sound, all of the repeated notes must be as close to equal volume and tone quality as possible. Double stroke rolls can be rhythmically accurate by a snare or tenor line, but if the second beat of a double stroke is noticeably softer than the first beat of a double stroke the roll will sound ragged and immature. Keyboard rolls and tympani rolls have similar issues. Hand to hand balance, roll speed, implement position, and relaxation are important factors in creating sustained sounds and must be addressed by the instructor.



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>> V. ORCHESTRATION

The previous sections address basic sound quality of the ensemble. Orchestration gives that sound quality context and meaning. Writing for indoor is a little different than writing for marching band. Thickness and doubling of battery/cymbal parts are often used outside to support the sound of a wind section. Inside, there is no wind choir to support. Enjoy the opportunity for exposure. Instead of having four suspended cymbals rolling at an impact moment you can use one cymbal that truly isolates the pitch and timbre that you want. Instead of unison bass drum parts you can write bottom bass only or color with individual bass drums. Thin orchestration also gives you ability to draw focus to battery sections both musically and visually. The major virtue of thin writing is: YOU ARE PLAYING IN A GYM. There is a distinct difference in the minds of judges and audience members between ensembles that recognize that fact and ensembles that don't. The instrumentation of the typical indoor line (drums, keyboards, and maybe a few electronics) and the environment (boom-y, echoe-y, high school gyms with lots of hard surfaces) lead to sonic challenges that must be addressed in the orchestration. Tutti battery is difficult for the pit to balance against, so consider reserving the effect of tutti scoring in the battery for the couple of moments in the show that demand that thickness of sound. Study what WGI finalists are doing in terms of orchestration to address the problems inherent with playing percussion in a gym.

WRAPPING IT UP

Instructors have the power to drastically influence the quality of sound of their ensembles. Start with lots of study—listening and viewing—to get a concept of the sound that you want. Try to get your students on well maintained equipment that makes the best sounds possible. Make choices for balanced instrumentation, appropriate implement selection, and a technique program that will help achieve the concept of sound in your head. Write your show conscious of the fact that there are built-in acoustic challenges to this activity that must be addressed for your ensemble to have a great balanced and blended sound. Finally, remember that the audience's main musical connection to a unit begins with their impression of the unit's quality of sound.