

Music Notation Programs

Beware, Side Effects Not Listed on Label

by Roger Cichy

We live in a digital world, using digital technology in practically everything we do. But there can be negative side effects in using technology that may be obvious, and many that are not so obvious. In this article, I would like to address the use of music notation programs and their impact on students choosing to use them for composition.

Music notation programs were initially designed as a tool allowing composers, arrangers, and even music publishers the opportunity to “engrave” music on a personal computer. This was big! Up to that point, new (i.e., unpublished) music appeared only in manuscript, and the notation skills of the individual writing the music could make a huge difference to the musicians performing the music. Unfortunately, well-crafted pieces with poor manuscript were often denied performances. The only choices for composers with bad notation were to hire a professional copyist or take the time to develop better notational skills.

Music notation programs have greatly evolved since their introduction in the mid 1980’s. Among the many features now standard in all notation programs, perhaps the greatest is that of musical playback. Music notation programs have come down considerably in price and are even more affordable if you purchase the “academic” version, which is available to all teachers and students; additionally, some programs are available as free open source programs. The three most common notation apps that I have recently seen students use are Sibelius, Finale, and MuseScore, although there are a number of other ones available. All allow for playback and for most students, and this is gold!

I have judged a number of high school student composition contests and have also provided feedback to a number of other composition students on their work, and what I have observed is an overdependence on the playback feature. The musical playbacks are just not as realistic as they initially sound. I had the opportunity to attend a film music workshop taught by the great Buddy Baker, well known for his outstanding Disney scores. He made two rather profound statements that have stuck in my mind. First (and I’m paraphrasing), whether you are using Sibelius or Finale, they only provide a “window” of what your piece will sound like. Secondly, music is not music until it is played. At least in my mind (and hopefully yours), I believe that to be true. Baker’s statements reaffirmed that music notation programs are a tool, and only a tool. I don’t really compose better with them, but I am given a “window” of what the outcome will be using the playback feature. This seems to be where our student composers and I differ.

My earliest student pieces at The Ohio State University were products of exploration and experimentation, as I arranged a number of tunes for the basketball pep band. One arrangement led to another, and the excitement of having them played at basketball games and on campus concerts were real highlights of my undergraduate days. Successful arrangements led to original compositions, which led to published works, commissions, film scores, and so on. The key point was that I wrote for live ensembles, and live ensembles played my works.

NEGATIVE SIDE EFFECTS

Nowadays, students interested in trying their hand at composing and/or arranging have extremely useful tools available; however, they take too lightly the drawbacks (or as I like to call them, the negative side effects) of music notation programs. Pencil and paper are replaced by computer and software, but that should not dramatically change how one composes or arranges. I would like to focus on a number of troublesome tendencies that today’s student composers exhibit when using notation software.

Getting Attached to the Instrument Sounds in the Program

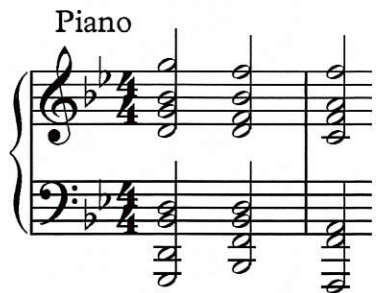
This is a biggie! I have had far too many students hear their pieces played live for the first time and the comments are always the same: “That’s not the way it sounded on Finale (Sibelius, etc.)” Through countless computer playbacks of their piece, students become accustomed to the program-generated sound, similar to the way they might become used to a specific version of a popular tune. That sound becomes their preference, and all other versions don’t stand up! To the student composer, the piece played live may sound “wrong” because they are familiar with the computer playback rendition. I once had a student comment to me, even before their large ensemble piece was ever played live, “I’ve heard my piece at least a thousand times.” I said, “Really, and you’re happy with the way the computer interpreted it?”

Another common issue that crops up with computer playback is unrealistic balance. Computers generally can’t render the dynamic differences between brass and woodwinds, can’t compensate for parts that will be played by multiple players, and have no idea that (for example) flutes playing in the low range project much less than in their high range. On the positive side, the basic sounds of computer-generated instruments have improved greatly. A trombone now sounds very much like a trombone and not a low trumpet. A bari sax now sounds like a bari sax and not an alto sax an octave lower; however, musical balance is a complex subject and something a computer playback feature may never solve. Relating to my experience with

student compositions, I commonly see important musical lines that are severely underscored, mostly because the student composer hears them come through in computer playback, but in reality, they are buried in live rendition.

Overlooking the Human Factor

As I have said countless times to student composers, a computer does not need to breathe, it has an unlimited number of fingers to play piano, it has a bow of unlimited length, and it has no problem performing specific passages that are literally impossible to play on instruments, even by professionals. My personal favorite that I frequently see is a piano chord that spans an octave and a half or more for one hand.



When I see this, I usually ask the person to please play that chord on the piano, and the response after they try is always the same, "Oh!" Our students must realize that if you write for oboe, or clarinet, or any other instrument, eventually a real person will play it, not a computer.

Tendency to Over-Score

Having judged several student composition contests, I am impressed by the number of students who compose for a full ensemble, such as orchestra or symphonic band. Unfortunately, however, I have seen several pieces that go too far and enlarge the "large" ensemble into a "mega" ensemble which would make a Mahler-sized orchestra seem small. Most students play in their school bands and orchestras, and this naturally becomes the sound they hear want to write; unfortunately, most programs allow for an unlimited number of instrumental parts. If a student wants to include English Horn, three bassoons, contra bassoon, harp, and two sets of timpani in the instrumentation, that's easy with a simple mouse click. There's nothing stopping him or her, except the reality of it never getting played. Perhaps the lesson here for student composers is "less is more." Writing for a large ensemble is a huge undertaking – to be successful, don't make Mt. Everest your first climb. I must admit, the choral world has it easy. A typical mixed chorus can sound great with four vocal parts, and the musicians read off the score - no individual parts!

Tendency to Not Edit

As a composer, one of my popular sayings is "the most important tool I use is at the end of the pencil – the eraser." As I make musical decision after musical decision, I am constantly

trying to improve every detail that goes into my musical creations. I might reshape the slur groupings of a passage, or re-evaluate dynamic markings, or make some rhythmic changes, always thinking of how I want the piece to sound. The common tendency of many student composers using notation programs is to create something that sounds pleasing to them in playback, yet ignoring many details that make music more "musical." Students tend to compose to the computer playback with its limited musical expressiveness, rather than listening deeply to the sound in their head. I sometimes ask a student "how can this line be improved?" and they tend to look at me puzzled. I might specify "maybe you should consider slurring these three notes to create a better musical connection," and their response is almost always to quickly make the suggested edit and listen to the playback. My next question is, of course, "how would that sound if someone really played it?"

Over-Reliance on Copy and Paste

We are all familiar with musical patterns that reappear often, such as running sixteenth notes, a one-measure ostinato, or a repeated melodic figure. They are created for various reasons and textures and are important to the structure of the composition. It took a considerable amount of time to copy the same pattern over and over when I wrote my scores by hand. Enter the computer with "copy and paste" – what a timesaver! It certainly can be; however, one of the troublesome side effects is the ease of just pasting and pasting and pasting.

Running sixteenth-note patterns that go on forever are not very popular with musicians, but to the student composer, it sounds just fine on the computer, and it's easy to copy and



paste! Where are opportunities for players to breathe? Can that passage be divided up and dovetailed between two similar instruments? Those are calculated decisions that should be carefully thought through, not for the sake of the computer, but for the player who ultimately has to perform that part. I have seen one- or two-bar percussion patterns that go on for sixty-four-plus measures without changing to reinforce phrasing or complement and support other rhythmic structures that are changing. Exit creativity! Unfortunately, the overuse of the copy-and-paste function has become a significant drawback with computer notation. Student composers are flying through pieces only to be satisfied with a rapidly constructed piece, ignoring the craft that is necessary for a truly musical expression. Unfortunately, I find the mindset of many student composers tends towards quantity, rather than quality.

Overlooking Graphic Details

This practical matter has little to do with the creative process, but rather speaks to the notational conventions which are necessary for producing usable and easy-to-read score and parts. Whereas handwritten music manuscript often has issues with readability, computer notation can also contain many graphical errors. When hand-copying a part, you certainly wouldn't write a dynamic marking on top of an articulation; but in computer notation, I have often seen what can be only be called "bad computer notation" such as the following example.



Unfortunately, these errors aren't due to limitations of the software; the composer just hasn't taken the time to "fix" these simple graphical issues. Although some freeware notation programs do have limited capability in editing graphics, most give you full control of where all music symbols will appear. "Handles" allow the composer to drag dynamics, articulations, and other markings to an appropriate place, avoiding collisions and creating readable parts for the players.

IMPLICATIONS

I have taught composition classes for a number of years and every single composition project, large or small, is played by live musicians. On small projects, I will record them either on an instrument or on a keyboard; larger projects are performed live in class. I tell my students that they will learn more from hearing their own pieces played than from the feedback I provide. Hearing it live is the REAL test of what has been created; only there are issues with instrumentation, balance, range, etc., revealed. Remember Baker's comment: "Music is not music until it is played."

Students should write for their friends, their private lesson teacher, accomplished musicians who they have an acquaintance with, and the school ensemble that they play or sing in (as long as it is within the limitations of the ensemble). If they're friends with three clarinet players and a trombone player, they should write for three clarinets and trombone, and then have their friends play it! They can still use a notation program as a tool (being careful to avoid the negative side effects), but now their creation is tangible, not just something residing on their computer.

DIGITAL AUDIO WORKSTATIONS

There is something else to consider if students want to explore composition in a different form, one not requiring live musicians. A whole new breed of music composition using the digital audio workstation (DAW) has become widespread. Essentially, composers are creating and graphically notating sounds which are easily modified, edited, processed, and lay-

ered into fairly complex recorded music, without the step of rendering it into standard musical notation. Music created in this fashion is frequently heard in pop music and on television shows, video games, and movies. The computer is the performer and the outcome is a recording, not a notated piece of music intended for live performance. This could be a good avenue for some students to consider. Computer programs such as Logic, Pro Tools, Cubase, and Garage Band are popular programs for digital audio workstations. One bit of warning: if you chose to create music in this idiom, you need high-quality headset or speakers for playback/performance. Normal computer speakers or earbuds are too inferior for creating quality music in the digital audio workstation environment.

SUMMARY

Our students have incredible cravings for more opportunities to be creative, and music composition allows many music students an avenue to explore. Before computer technology, the composing process was more rigorous to undertake. At times, composers after much toil and work may never have heard their piece if it weren't played, which was extremely unrewarding. Now, our young composers have a great tool to aid in the creative process and are so excited to try their hand at creating musical works. Computer notation programs do have many negative side effects, as have been illustrated, and can be too much of a crutch in the process. Students should be made aware of these side effects and how they can have negative impact on their musical creations. If students choose to write for live performers, whether solo, small ensemble, or large ensemble, they should be encouraged to have it performed live!

Roger Cichy is a freelance composer and arranger with over 300 compositions and arrangements to his name, writing for high school, university and professional bands, professional orchestras, and the commercial music industry. He holds Bachelor of Music and Master of Arts in Music Education degrees from The Ohio State University. He has directed concert bands and marching bands at the elementary, high school and college levels, serving at both the University of Rhode Island and Iowa State University. Roger lives in Scituate with his wife, Patricia.

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