

Notion 4 In The Classroom

By [Peter Lawrence Alexander](#) / August 4, 2013

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In writing about [Notion 4](#) in the classroom, first a bit of my background to source my remarks. I've written two books on Finale and supervised the writing of *The Street Smart Guides to Sibelius 5 and 6* by Max Tofone. I've written third party books on each of the major sequencing programs and also *How MIDI Works 6th Edition*. To this, I've observed in our online Alexander University, Inc. classes on orchestration, the pitfalls and pratfalls of seeing how music technology can cause such attention to itself that it can successfully derail the instruction.

DESIGN CONSIDERATIONS

Notion is unique in that it's specifically designed to be a fully integrated problem/solution software where notation with custom designed orchestral samples function seamlessly. The word *notion* actually means, "a conception of or belief about something." But its intended play on words suggests more that Notion is a tool for developing musical ideas.

In my view, six words best describe Notion 4 and what it does: write it, hear it, print it.

Notion 4 is a vast re-visioning of a music notation program originally designed for the PC by Dr. Jack Jarrett, former Chairman of Composition and Conducting at Berklee (1989-1999) called Music Printer Plus, originally distributed by Temporal Acuity Products in Bellevue, Washington.

Of all the notation programs I've seen, including those within sequencing programs, Jack Jarrett's design of Music Printer Plus was ahead of its time for its simplicity and execution. But it was Jack Jarrett's daughter Lori and her husband who developed Music Printer Plus into Notion. They went the unusual step of recording and editing their own samples using the London Symphony Orchestra. Then, coding was begun to enable Notion to respond to musical dynamics

All music notation programs somewhere are based on notation rules which the coding must emulate. For then, Music Printer Plus, and now Notion 4, the rules of notation are based on the work of the late Gardner Read's book *Notation*.

What few are aware of is that separate from notation rules, there are also rules for music engraving. Music engraving has to do with layouts and effective placement of pitches for easy reading. For many years, publishers used as the standard work, *The Art of Music Engraving and Processing: A Complete Manual, Reference and Text Book on Preparing Music For Reproduction and Print*, by Ted Ross and published by Hansen Music in Florida.

Consequently, any notation program, including Notion 4, is also a graphics program. Therefore, page layout and design is a factor for any notation program.

What companies like Adobe and Apple know (think *Pages 09*), is that while many users are accomplished graphic artists, the majority of users are not. So providing score templates for various projects, and easy to apply slur lines and dynamic markings placement is a must for any music notation publisher.

Statistically, there are very few professional music engravers. There are also very few professional music copyists to keep multiple notation software publishers afloat financially.

Consequently, the primary market worldwide for music notation programs has to be at the collegiate level since only about 400 U.S. high schools even teach harmony classes.

The secondary market are those composers wanting to hear their compositions but who just don't want to mess with sequencers, MIDI editing, and recording. And there's a lot more of these customers than most orchestral sample library developers realize.

From a design perspective, Notion 4 does what it set out to do.

The best example I can give is the graphic below which I created for the last video lecture of *Scoring Stages 1: Bruckner & Film Orchestration*. Including learning time at a rudimentary level, I produced this example in less than 35 minutes. Once I got the feel for how Notion handles enharmonics, my key-in time would have been lessened. Until this one example, all of the Bruckner course notation graphics had been handled in Logic 9 Notation. *Click graphic below to enlarge.*

The image shows a musical score for five instruments: Violins 1, Violins 2, Viola, Cello, and Basses. The music is in 3/4 time and features a key signature of three sharps (F#, C#, G#). The score is divided into five measures. The first measure has a dynamic marking of 'p' (piano). The second measure has 'mf' (mezzo-forte). The third measure has 'dim.' (diminuendo). The fourth measure has 'pp' (pianissimo). The fifth measure has 'pp'. The Viola part is written in treble clef, while the Cello and Basses parts are in bass clef. The Violins 1 part has a complex rhythmic pattern with many beamed eighth notes.

In Notion Score Setup, once you've selected an instrument, its sampled version is automatically assigned. So as you key in pitches or hear it on playback, you hear a more than adequate performance to check your work. Being new to the program, I moused in all the pitches. For ease of compositional instruction, I always write the basses where they sound when doing score study, and the violas in either treble or bass clef depending on the passage. It only takes a click to convert the violas back to the alto clef. Different from the original Haas engraving, I separated the grouped block of eighth notes into pairs.

This passage is loaded with enharmonics. Notion 4 handled them with simplicity. For a B#, I just keyed in the B natural then applied the sharp sign. Notion 4 played it correct from there.

The musical playback with Notion's own sampled strings was more than adequate to give me an idea of what the excerpt sounded like.

For rapid pitch entering, Dr. Jarrett came up with identifying specific keys on the QWERTY keyboard with basic note values. Thus, w = whole note, h = half note, and so on. So the procedure is select the rhythm with the left hand and using the mouse, position and click for note entry. You can also do note entry in real time from a MIDI keyboard. The bottom line is this: you have several options to key in pitches and students can select the one best suited for them.

Dynamics are equally easy. Select the target pitch, type *p* or *f* repeatedly to get the correct dynamic.

Let's consider the design behind applying slurs and legato markings.

The slur over the string parts indicating legato bowing were really super simple to do. Once the feature is selected in the palette at screen bottom...



...you position a "placer" over the first pitch to be part of the slur, click once then move to the final pitch to be part of the legato bowing, and click a second time.



The deed is done. It's auto-placed and spaced for you. Other reviews have criticized Notion for not giving the end user more control to adjust and customize slur placement. If Notion cost \$599.95 list like Sibelius does, I'd agree. But within the context of Notion's design and mission, what you get is more than adequate. And on print-out the scores are inviting to look at and easy to read.

In the recording and mixing area, Notion has a basic virtual mixing board built into it.



With it, like a hardware audio mixing board, you set the basic volume for each instrument in use. From there, the dynamics you enter will handle the balance of the mix. The board enables you to add FX from a variety of companies including EW QLSpaces, IK Multimedia effects and the Vienna Suite from the Vienna Symphonic Library, to list three. For comp majors (and others!), Notion's mixing board can be a rudimentary starting point for teaching students to mix. In my [Visual Orchestration](#) video lecture series, I call this doing a live mix, which is what the conductor does in a live performance. The idea is to establish within the Notion samples where *p* is then *f* and from there, set the board accordingly. Since Notion reads the dynamics, this will give students a good starting handle on how to approach doing a virtual mix.

Aside from reading the orchestral samples that come with Notion, it also reads EW Play (QLSO), IK Multimedia's Miroslav Philharmonic and other effects, and the Vienna Symphonic Library's Vienna Instruments Player (including PRO), and the Vienna Suite. The advantage is that Notion already has "expression maps" for QLSO, Miroslav Philharmonic, and VSL's Special Edition libs. With this week's release of the new MIRx for Vienna Instruments 2.0, students can now import a room, like the Teldex studios, and then within the Vienna Instruments player, position the instruments by stage front to stage rear and stage left to stage right.

MIDI File Import and Export – I have to say that is really an excellent feature. When the MIDI file is first imported, it appears like a view in Piano Roll Edit.

The image displays a screenshot of a music score in Notion software, showing a piano roll view for an orchestral piece. The score is in 4/4 time with a key signature of two flats (B-flat and E-flat). The tempo is marked as quarter note = 120. The score includes staves for Vlns I, V2-Vas, Ces, Bas, Vln. I, Vln. II, Vla., Cell., and Bass. The piano roll view shows purple horizontal bars representing MIDI notes across seven measures. A vertical green line indicates the current playback position at the start of measure 1.

Highlight the whole example you imported, then in the Tools menu, select View As Notation and it converts right away. I tested several Bruckner MIDI exports I had done in Logic 9 and was very pleased with the results. I also exported from Notion 4 the Bruckner example I showed you earlier and it imported into Logic 9 with no problems. One note, in the above example I set it up to show you a before-and-after in a single graphic. After you've highlighted the MIDI and select View As Notation, Notion 4 does so without adding extra parts as you see above.

Notion iPad – Part of the Notion design is its iPad version for only \$14.99 (as of August 2, 2013). The screen capture below shows how notation looks in the iPad. Notice that for the iPad, there are two bars per system.

The screenshot displays the Notion iPad interface for a musical score. At the top, the status bar shows 'iPad', '11:57 AM', and '29%'. The score title is 'Concerto for Clarinet, K. 622' by 'Wolfgang A. Mozart'. The tempo is 'Allegro (♩ = 124)'. The score is arranged in a system with two bars per system. The instruments listed are Fl. Gr., Fag., Hn. in A, Cl. in A, Vln., Vla., Vlc., and Cb. A green highlight is placed over the first measure of the Fl. Gr. staff. The bottom of the screen shows a control bar with various musical notation tools and playback controls.

Given the ubiquity of the iPad, requiring students to purchase Notion iPad at \$14.95 is hardly a financial burden (a bucket of KFC costs \$25 in my hometown). In fact, the full download version of Notion 4 at a \$99.00 street price is a real steal considering all that Notion does. Using iTunes, you can send MIDI files and XML files back and forth between teacher and student for the iPad version. A basic set of orchestral sounds comes with Notion iPad which you can expand at the iTunes store. To put Notion iPad into a second price perspective, Steinberg's Cubasis is \$49.95.

System Specs – One really great thing about Notion 4, especially if you have older computers either personally or on campus, is that Notion 4 is backwards compatible to Windows XP and OS 10.5. You need 2GB RAM. Be sure to check Notion Music for more detailed specs.

NOTION IN THE CLASSROOM

There is plenty more that Notion 4 does that I haven't covered. But what I have covered thus far directly applies to learning Notion in the classroom.

Speed of Learning – Granted, I have a background in working with notation programs and sequencing programs. Even so, those schools (often community colleges) who teach an actual class on a specific sequencing program need a semester to cover the fundamentals with at least two meetings a week. My contention is that if the instruction is well laid out, you could have a music technology orientation session for Notion and in two hours lay the foundation for entering up to four-part harmony, hearing playback, and exporting audio and MIDI files.

Notion Music has quite a few online training vids. So if the student wants to go beyond the basics taught in orientation, they can. But in two hours they can learn what they need to know to run the program and get musical results for homework exercises.

Delay this until the senior semester for orchestration, and you'll need a 6 hour plus orientation, especially if you want parts printed for live performance. But still, just 6 hours is pretty fast to learn a music notation program and how to hear playback. That's the beauty of Notion 4.

No MIDI Editing – Some will think this is heresy, but one of the chief things I like about Notion 4 and its onboard orchestral ensemble is that a student is not obligated to become a MIDI editing maven to get respectable results. The student can just focus on the music.

MIDI editing is an art to itself and it's not something that you can learn in six or eight hours. Although no one likes it when I say this, experience has shown that learning a sequencing program and MIDI editing with orchestral samples is a multi-hundred hour event. That's because you have to learn the sequencing program, the virtual instrument player of the library selected, then the individual instruments and how each responds to velocity, expression (CC11), and volume (CC7). After learning this intellectually, you must then practice to get it down.

So that you know how serious I am about this, in my company's online *Professional Orchestration* seminars, I eventually recommended not using either Finale or Sibelius to do score reductions for score analysis. That's because I found that more time by students was being spent learning the notation program than was learning how to do score reduction and score analysis. As I said earlier, this derailed the instruction and turned an orchestration seminar into a combination notation seminar as well. Given that most students only have 26 hours of orchestration instruction in the senior semester, trying to multitask in the classroom and teach both the software and the subject slows the learning curve of the teaching of orchestration.

Overall, using Notion in the classroom is a great tool, just do yourself and your students a favor by having an orientation session first, preferably late Friday or early Saturday so that everyone has time to practice for class on Monday.

Working With Non-Traditional Music Students – Many schools are now accepting students who’s primary experience is playing and creating by ear, who lack experience with reading music notation in time and knowing fundamental music basics. If you’re going to accept what some call a “non-traditional” student into the college classroom experience, you have to begin teaching them where they, not where you’d like them to be. This includes recognizing two potential strengths that you can build from.

The first strength is that if they’re playing by ear (often guitarists and bassists) check to see if they’ve learned how to do take downs. If they have, that’s a significant strength to build from because it’s specialized ear training. The teaching goal here is getting such students to re-task their existing take down skills in new directions.

The second strength is finding out if they’ve written songs or other types of computer-based compositions. If so, then you both know they can create.

The learning goal here is getting the student to start at the beginning (Music 100) and build up to where they are and then, drive them forward. But this takes student participation, too, meaning that the “old dog” (the student) must be willing to learn new tricks, and be cooperative with the remedial training.

For example, here’s the C scale that I knocked out in literally a few seconds. The top line is the music notation and the bottom line is called Tablature.

The image displays a musical score for the C major scale in 4/4 time. The top staff is in treble clef with a tempo marking of ♩ = 90. The bottom staff is guitar tablature, with strings labeled T (Treble), A (Acoustic), and B (Bass) on the left. The tablature uses numbers 0-3 to indicate fret positions. The scale is written across four measures, ending with a circled 3 in the final measure of the tablature.

This next example is I IV V I in notes and Tablature. Again, my creation time was but a few seconds. In playback, Notion strums it for you, too.



So with just one hour of teacher creation time, you can cover the major scales in tab format, all the chords diatonic to each key, and you can teach them movable *Do* so they can learn to sing all the scales. Notion 4 plus a quality ear training book for Music 100 and these students are on their way. Those who are diligent and self-disciplined in their studies, will soar.

Ear Training – Notion is a great way to get started in ear training since it has playback for self checking and can also be used in teaching dictation. There are any number of ear training methods on the market Notion 4 or Notion iPad can “partner” with.

Harmony and Counterpoint – It was Rimsky-Korsakov who said that orchestration is composition. Although the various accreditation agencies don’t “permit” the formal teaching of orchestration until the senior year, you can sneak it in starting in the first semester by having students do harmony exercises in Notion. Students can do their harmony homework with string ensembles, brass ensembles and woodwind ensembles. With this approach, they begin learning scoring concepts starting in the first semester. What a great way for smaller schools to compete with larger schools.

FOR HIGH SCHOOL MUSIC INSTRUCTORS

A number of years ago I had the pleasure of dining with Dr. John Kuzmich, well known in jazz education circles. Here I learned a startling fact: less than 500 U.S. public high schools teach harmony courses. According to the U.S. Department of Education, as of 2007, there are 26,407 public high schools. Thus, only 1.9% of all U.S public high schools teach harmony. According to a study released in May 2013 by the Census Bureau, 75% of all U.S. homes have a computer. Consequently, a value-priced tool such as Notion 4 can be the springboard for developing music in the schools. And since Notion 4 is backwards compatible to Windows XP, the opportunity to build music labs, even with used, refurbished systems is achievable in many school districts. In short, you don’t need a hot new screaming system to run Notion 4 and to enhance music education across the U.S.

A little personal initiative will do the deed.

CREATING TEACHING AIDS WITH NOTION 4

Notion 4, like most notation programs, lacks graphic output except for PDFs. So, to create visual teaching aids you’ll need SnagIt, which is available for either Mac or PC. On the Mac, SnagIt shoots at 72DPI while on the PC it does 300DPI, which is required for printing. As I’m no graphics person, I rely on iWork 09 on the Mac to create a majority of my teaching documents (print = Pages, visual = Keynote). On the PC, you can use Word and PowerPoint.

If you’re on a budget, then check out [Apache OpenOffice](http://www.apache.org/licenses/LICENSE-2.0).

I'm now testing out Notion 4 in [Scoring Stages 2: Something From Nothing](#). Here I'm creating both notation and audio content. Thus far, the audio I've exported at 24bit is good enough to put into a commercial publication. So if it stands up to that rigor, then Notion 4 should do the job for class handouts.

CONCLUSION

With back to school right around the corner, I wanted to bring your attention to Notion 4 to give you some idea of the fire power it can bring to your school, and personal learning experience. Notion's design is ideal for the classroom. It's quick and easy to learn, and doesn't call attention to itself when doing homework. It can be learned in a strong functional way within a few hours, and of both Finale and Sibelius, it's the only notation program with an iPad app. It can be used effectively in lots of different classes. It has a standard font and a jazz font. It does lyrics, lead sheets and has jazz notation elements, too, if you have a jazz ensemble.

You can print out full score and parts.

For fundamental use in the classroom, and what it can do for your school, I encourage you to seriously review Notion 4 for the computer and Notion iPad. It's a great way to begin moving your school (and faculty!) into music technology at an extremely modest price.

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