The article presents an exploration into the classroom application of podcasting in music study. Discussion is given regarding the various benefits and educational lessons which podcasting can foster for classroom activities, including technological literacy and community communication. Several sample classroom activities are given highlighting the creation and use of Internet publishing, music recordings, and supplementary lectures. Possible projects include producing radio-shows, providing supplemental materials outside the usual course requirements, and as a medium for department-event updates. A list of Internet music resources is also provided.
Educational Applications of Podcasting in the Music Classroom

With or without the ubiquitous iPod, there are Web-based programs that you and your students can access (or create) for expanded learning.

For the music teacher, keeping up with technology can be a daunting task. One of the latest forms of technology, podcasting, has seen explosive growth in educational use over the last two years. To keep in touch with music educators, MENC: The National Association for Music Education produces an occasional podcast titled "Notes from the Clef," which features interviews with MENC executives and informational public service announcements (www.menc.org/news/view/notes-from-the-clef-podcasts).

Podcasting is a technology that allows listeners to subscribe, download, and listen to audio or audiovisual files at their convenience. Like a magazine subscription delivered to your house, once you subscribe to a podcast, each episode is automatically delivered to your computer. There is no need to return to the Web page to search for and download each episode. This ability to subscribe separates podcasts from such other media services as YouTube. Subscribers can listen to the podcast on their computer or download it to a portable MP3 device such as an iPod for convenient on-the-go listening. In the case of video iPods, the technology can also store audiovisual files for viewing at anytime in any place. For simple step-by-step directions and links to Internet tutorials, see the sidebar titled "How to Create Your Own Podcast." If you are new to podcasting, there is an excellent series called Tech-Ease, produced by Louis F. Perez of the University of South Florida, Tampa. These informative podcasts can be accessed through its Web page (http://etc.usf.edu/te%5fwin/index.html for Windows, or http://etc.usf.edu/te%5fmac/index.html for Macintosh) or through the iTunesU section of iTunes. iTunes is a free program that can be used to access and download podcasts as well as purchase audio and video media (www.apple.com/itunes). It operates on both PC and Macintosh platforms, and you do not need an iPod to use iTunes.

Once you have mastered the technical side of podcasting, a larger and more pressing question is, "How can podcasting benefit the education of music students?" Investigating the educational applications of podcasting in other areas can offer some suggestions. In 2006, the Consortium of College and University Media Centers listed the following ideas for course content podcasts:

- Student assignments
- Supplemental course materials
- Presentations by visiting lecturers
- Training/tutorials
- Administrative meetings or updates
- Student, faculty, or staff "radio show" on various topics
- Campus updates for prospective students
In addition, the Duke University iPod First Year Experience Final Report (2005) described five academic uses for the iPod:

1. Course content dissemination
2. Classroom recording
3. Field recording
4. Study support
5. File transfer and storage

Access to podcasts does not require an iPod, and these content ideas can be easily turned into informative and educational podcasts for your classroom. Finally, educators Larry Johnson and Annette Lamb remind us that podcasts created by others can help enhance our music curricula.

The following is a hands-on guide to using this new technology to enrich the music classroom for course content dissemination, classroom recording, supplemental course materials, student assignments, presentation by visiting lecturers, campus updates for music programs, radio-show program on various topics, and acquiring and evaluating podcasts created as resources for use in your music classroom.

**Course Content**

Introducing new concepts in a music classroom can be challenging when music teachers do not meet with their students every day. In addition, student absences can hinder the continuity of the classroom. Wouldn’t it be convenient to offer a review of the materials for students to obtain from home? Try a podcast.

I use this technique with my elementary education (nonmusic) majors. Here, students are required to learn to play the recorder, as are many elementary school students. Using a short video podcast, I review new notes and fingerings on the recorder and demonstrate both proper fingering and breathing techniques. Students are able to have a verbal description and see each fingering in addition to the fingering chart located in the books. In addition, the students have a recording of the pitch, which provides an aural example, thereby helping the student correct poor technique prior to class.

**Classroom Recording**

In addition to being able to increase the contact time with your students, another benefit of podcasting is being able to share what happens in a typical music classroom. The temporal and intangible nature of the music class experience often makes it difficult to express to parents and administrators what is occurring inside the music room. After all, there can be months between public performances, and music projects are harder to take home and hang on the refrigerator.

Recording classroom activities is a way to share with parents and administrators the positive outcomes and hard work involved in every class. Showcasing a "student of the week" or "class of the week" can be one method of sharing with the school community some of the wonderful things that happen in your classroom every day. Your class can record melodic or rhythmic warm-ups, copyright-free songs and instrumental performances as some examples.

As to the National Standards for Music Education, I use podcasting to showcase how my students meet Standard 3 (improvising melodies, harmonies, and accompaniments) and Standard 4 (composing and arranging music within specified guidelines). As part of our
class, we listen to a recording of Prokofiev's Peter and the Wolf. The class is then divided into groups to represent characters in the story. Each group must compose a short theme song for its character with specified guidelines (8 measures, 4/4 time, and so on). In addition, each group improvises accompaniments for the actions of their character. This is difficult for students to accurately describe to their parents. Verbal descriptions or a student performing only his or her part in this project cannot adequately illustrate what occurs in the classroom. Recording the finished project and making it available through a podcast provide listeners with a true representation of the class. Not only do students love to share their creations with others, they also enjoy comparing and contrasting another class's work to their own.

**Supplemental Materials**

Podcasts can be an effective tool for providing supplemental materials to students in your music classes. Many music appreciation courses in higher education use podcasts to supply music for listening to course requirements. With video podcasting now available, pictures of composers and links to sites with more information can be made readily available to your students. You should, however, be aware that copyright law applies to podcasts. Currently, public domain (copyright-free) music may be used in your podcast. For more podcasting copyright information, check [http://wiki.creativecommons.org/Podcasting%5fLegal%5fGuide](http://wiki.creativecommons.org/Podcasting%5fLegal%5fGuide).

**Student Assignments**

The Duke University report includes recording interviews, field notes, sound, and audio data outside the classroom under the category of field study. This can be translated into the music classroom as a student-created project. Creating a podcast can be one such assignment.

This type of podcast can be used to meet Standard 9: understanding music in relation to history and culture. For example, an assignment can be to research the life and music of Percy Grainger. After acquiring the relevant data, the student must then create a well-written script for the podcast. Next, the student must record the script. Finally, the student must enhance the spoken dialogue of the script with an introduction, photos, Web links, and/or (copyright-free) music. By using the podcasts as an assignment, you can not only assess the information gained by the student but also share this with other students, parents, and administrators via posting to the Internet. [Kathy Schrock's Guide for Educators](http://school.discovery.com/schrockguide) has several links to rubrics for podcast assessment. In addition, see her Evaluation of Podcasts checklist on her Web site for ideas for creating your own rubric for student assessment.

**Visiting Lecturers**

Have you ever wished that you could remember the instrument-specific warm-ups presented by some of your visiting instructors? Try a podcast. Recording the presentations and rehearsal techniques provided by some of your associate staff can also increase the contact time they have with your students.

When I present flute master classes at local high schools, I like to leave a recording of proper flute warm-ups and breathing techniques. Although these techniques are explained and practiced during the sectional, often, students need an aural example of the exact technique. This provides students with the musical nuances that words cannot. By creating and producing a podcast of visiting artists, students are able to access the podcast at home.
at their convenience. Reducing the physical existence of the recording (on tape or CD) can also reduce the trouble created by cataloging and keeping track of these recordings.

**Music Program Updates**

Probably the most comfortable use of podcasts for many music educators is the program update. Many schoolwide podcasts contain this type of information. This can be an effective way to communicate the ideals and expectations of your music program directly with parents and administration. These informational podcasts can be used for two distinct purposes: to inform students and parents of what is currently happening in your program and to review all of the wonderful things that have happened during the year. Many school music programs have podcasts dedicated solely to communicating with parents. A complete review of the business side of music education can be shared with all parents via podcasts. For example, music educators can remind parents of important upcoming dates, forms to be turned in, fund-raising opportunities, and many other nonmusical requirements of top performance-based programs. These same informational podcasts can also be used to communicate the expectations of prospective students looking to enroll in your program in the future.

Another informational use of podcasting can be a summary podcast of the achievements of your program on a semester or yearly basis. The convenience of podcasting allows students to now share these accomplishments with members of their family who, for instance, would not be able to attend an end of the year banquet. Conveying the hard work and dedication of ensemble members to family and school administrators can provide a clearer picture of music education than presented by an hour-long concert at the end of the year.

**Radio-Show Program**

Radio-show-style programs allow music educators the freedom to show a different side of themselves. This is a great venue to introduce topics such as "My favorite pieces to conduct" or "What's on the director's iPod?" Additionally, this can serve as a venue to get to know members of the music staff, student leaders, administrators, and other teachers. A personal interview with a teacher outside of the music department can be great way to introduce National Standard 8: understanding relationships between music, the other arts, and disciplines outside the arts! While introducing a piece by Claude Debussy, you may not feel that you have done justice to comparing Impressionist music and visual art. Creating a podcast out of an interview with your school art teacher can help solidify that connection. Through video podcasting, your art teacher may be able to supply you with visual examples of Impressionism or links to his or her favorite art museum.

**Podcasts as Resources**

Finally, you do not have to rely solely on self-created podcasts. There are several educational podcasts available for use in your classroom. Lamb and Johnson provide some guidelines for evaluating podcasts as sources for use in your classroom. To select high-quality podcasts for your classroom, you must first define the needs of your students, the listeners. A podcast created for elementary students will vary in content, depth of information, and delivery style from that of a podcast created for a high school student. Second, you must evaluate the content quality of the podcast. You must consider the authority of the producers of the podcast when presenting it to your students. In addition, you should seek out podcasts that connect with the listeners. These should have engaging dialogue and quality musical examples.
Next, you should consider the design of the podcast. Some podcasts can be quite lengthy and may not be user friendly in a class with time constraints. For best results, look for short, single-concept podcasts that can be used by both teachers and students. In addition to the overall design of the podcast, you should consider the technical quality of the program. You will find that some programs are poorly edited, with inferior quality of sound, volume control, and other issues that interfere with listening. Additionally, you should consider the size of the file in relation to the speed of your Internet connection for ease of downloading. Finally, search out other instructional items that may be included with the podcast. Some podcasts also provide scripts, study guides, links to Web sites, and other supplemental materials. Also, series podcasts, may have interactive component where students can submit questions to be answered in future podcasts.

A Flexible Medium
Podcasting can be an easy technical addition to any music classroom. The flexibility of this medium allows the music teacher to achieve a multitude of musical goals. Podcasts allow music teachers to introduce or review classroom content; share activities with parents and administrators; access the knowledge of visiting class lecturers at the students' leisure; convey accurate music program updates to parents, administration, and staff; provide personal interviews with people of interest; and allow students access to music worlds beyond their classroom door. Applications of podcasting are only limited to the imagination of the podcaster. Happy podcasting!

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Some Good Internet Tutorials on Podcasting

- Tech-Ease from the University of South Florida. Excellent podcast series on podcasting, iPod applications, Blackboard, working with digital video, and much more. Also has downloadable print (PDF) files. You may subscribe to the podcast via the Web site (http://etc.usf.edu/te%5fwin/index.html for Windows, or http://etc.usf.edu/te%5fmac/index.html for Macintosh). It is also available on iTunes (free).
- CNET.com is a tutorial to produce your first podcast as a "weekend project." Has both text and video. http://reviews.cnet.com/4520-11293%5f7-6246557-1.html.

How to Create Your Own Podcast
Here are the basic steps to create a podcast:

1. Create, record, and edit your audio/audiovisual content. Audacity (www.audacity.sourceforge.net) is a free audio recording and editing program for Mac and Windows. Mac users can use the program Garage Band.
2. Convert the content to .mp3 format for audio and .mp4 for video.
3. Upload your files to your Internet server. This is where the files are physically stored.
4. Create your podcast news feed. Podcast feeds are Really Simple Syndication (RSS) file that describe your podcast, along with information for each show. An RSS file is just a text file that links to your MP3 file.

5. Validate it using an online RSS validator. Like many computer programs, if the RSS feed is incorrect by one digit or character, it will not work.

6. Publish your podcast news feed. Transfer your podcast RSS file to your Web server as you did for the podcast file itself.

Some Current Musical Podcasts

- From the Top: Live from Carnegie Hall Video Podcasts. http://www.carnegiehall.org/article/sound%5finsights/Podcasts/art%5fintro_podcasts.html
- NY Philharmonic Podcast: http://nyphil.org/broadcast/podcasts/index.cfm
- American Public Media: Composer's Datebook: http://composersdatebook.publicradio.org/
- Dallas Symphony Orchestra: www.dallassymphony.com
- Dallas Wind Symphony: www.dws.org
- City of Birmingham Symphony Orchestra: www.cbso.co.uk
- Premier Opera: http://premiereopera.libsyn.com/
- San Francisco Opera: http://podcast.sfopera.com/
- Behind the Curtain with the L.A. Opera: www.behindthecurtainpodcast.com
- www.digitalpodcast.com: has a music directory with links to specific genres of music including Opera, Indian, Barbershop Quartet, Americana, Music Instruments and Music Technology, Women's Music, and many more

NOTES

5. Johnson and Lamb, "Podcasting."

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