Music Theory Online

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Review of Music-Theory Web Sites for the Beginner

[1] Since the advent of the personal computer in the late 1970's and early 80's, music theory instruction has been at the forefront of technology, using a wide variety of CAI (computer aided instruction) programs to supplement classroom instruction. Today, CIA is in a state of transition, with the Internet continuously creating new ways to access and communicate information in a manner not possible a few years ago. The World Wide Web is transforming the study of music theory, expanding the source of learning beyond the traditional classroom. With technological advancements, it is possible to now create a learning environment that incorporates text, narration, graphics, animation, sound, and interactivity into a single multimedia experience that engages the user in cognitive thought processes that exceed the capabilities of written text.

[2] This review will examine the effectiveness of existing beginning music theory Web sites intended for beginners. The sites were selected from the Beginners Theory resource page at the Society of Music Theory [Music Theory Resource Page]. These sites reflect the Web's instant access to the world, with their physical locations in Puerto Rico, Nova Scotia, New York, and Illinois. Because this review is online, there will be links to the various Web sites in order to demonstrate features that serve to enhance or detract from the learning process.

[3] The most important feature of any curriculum is the content of the material considered. But the presentation of that content is nearly as important. For an instructional Web site multimedia and interactivity are crucial features since they can involve the user as an active participant in the learning process. A hypermedia design allows a user to follow a non-linear approach adding flexibility to the way that the user approaches the material. In this regard, the organization of the Web site is key, for the user must be able to follow a specific order of presentation, or take a

nonlinear approach and inquire about specific topics with ease. A Web site designer must allow the user easy and immediate access to the main index from any page within the site. If specific set-up requirements exist for the browser (certain plug-ins, applications), the site must clearly explain which are needed and how the proper support is acquired. The degree to which the Web site incorporates these various features can determine the effectiveness of the learning environment.

[4] A great site to start with is "Easy Music Theory," music theory lessons online created by Gary Ewer. Eighteen lessons are available with topics on the grand staff, note names, the piano keyboard, note durations, measures, intervals, scales, key signatures, time signatures, triads, Roman numerals, and key identification. A section on musical terms and definitions supplements the eighteen main topics. Each lesson includes a quiz that may be printed by the student, allowing him or her first to answer the questions and then to check the answers by clicking on a quiz-answer link.

[5] Ewer has done an outstanding job of combining text with supporting notation graphics, and the inclusion of MIDI files helps the user to "synthesize" the musical concepts [Example in Chapter 17, Triads and Roman Numerals]. The explanations are concise and written at a level that a beginning student can understand. Many of the examples have a step-by-step process that challenges the user to utilize critical thinking skills [See Chapter 14, Time Signatures- Measure Completion]. Preceding each lesson Ewer places a list of concepts from previous lessons necessary for mastering the new lesson. There are frequent hyperlinks to previous lessons during the new lesson allowing the user easy access to material for review.

[6] Navigation at this site is well organized and consistent. At the bottom of each lesson the user has the option of returning to the main index or clicking on a link to take the quiz for that lesson. At the quiz page, the user is instructed to print the page, complete the material, and then click on a link for the quiz answers. The user may also link back to the lesson for a better understanding of the material before attempting the quiz. At the end of the answer page links to the next lesson or back to the main index are present. The consistent pattern of navigation allows the user to find the exact location of any topic. The site even includes a forum where users may post questions and receive feedback from the author or participants that use this site.

[7] Ken Fansler's "Online Music Instruction Page" was created in connection with a graduate-level project in music education, and is a good example of using the Web to supplement a music education program. It begins with a welcome page, followed by helpful instructions on how to set-up the browser, a main index that allows the user to choose a skill level, and ultimately proceeds to instruction on selected topics. While this site includes some helpful information on certain music theory concepts, and the author's use of sound and graphics supports the material well, there are certain deficiencies in navigation and content. An exciting feature of hyperlinks is that they do not force the user into a linear path of instruction. Navigation at this site unfortunately does force the user to use a linear sequence of subjects. If a user is in the intermediate section and wishes to review the section "Notation", he or she is forced to follow a linear path that leads through "Beamed notes," "Articulation (Note Markings)," "Endings and Repeats," and "Ledger Lines." Similarly, the portions of the quiz addressing ledger lines are problematic, since the user must return to the section on beamed notes before reaching the section on ledger lines. Such a system is neither flexible nor intuitive. [Link to "Section One: Notation"] A similar example arises for the intermediate topic "Listen and Learn," with sections on triads and percussion instruments. In order to learn about percussion instruments, one must first review the lesson on triads, even though the two topics are not closely related. There are also problems with the content, such as incomplete information. The section on dynamics includes an explanation with sound examples of loud (f) and soft (p). Rather than completing the lesson by continuing with listings and explanations of the remaining dynamic marks pp, mp, mf, ff, Fansler diverges into a section on musical instruments. [Link to "Listen and Learn" - Dynamics]

[8] An exciting feature of using a Web site in a learning environment is the availability of sound examples that reinforce graphic and textual information. The Online Music Theory Site augments concepts in musical notation by using digital audio files that are accessed by clicking on the actual notation [Example of Audio File]. Included in the site's "Question and Answer" section are

sounds for positive and negative feedback, though these can get annoying after hearing the same sounds with each answer. Feedback sounds are not generally needed, except with very young users. If feedback is included, there should be four or five different positive and negative response sounds so that the user does not become bored with the sound. One technical recommendation is to embed the audio feedback sound into the html document as a QuickTime movie, thereby avoiding the delay in waiting for the plug-in to turn on for each response when the answer page is loaded in the browser.

[9] One of the best interactive music theory Web sites is "Java Music Theory", maintained by Rob Whelan. This is an ideal site for the beginning user who needs drill and practice opportunities in basic music concepts. There are eight main categories, with a choice for sound or no sound with each Java applet. Each applet contains a section that explains how to use the program and provides options for selecting experience levels. The Java applets available include:

1) Note Reading Staff note reading tests the user by identifying notes on the entire grand staff or the treble or bass clef.

2) Piano Key Finder While similar to the Note Reading applet, it has the added dimension of matching the notes on a piano keyboard with the notes on the grand staff.

3) Music Speed Reading Challenges the user to identify notes as they move across the staff. An user option allows varying the speed with which the notes move across the screen.

4) C-Clef Note Reading Comparable to the Note Reading applet, but the user works within four possible C clefs, instead of the treble and bass clef.

5) Key Signature Drill An interactive technique for drill on key signatures, it also has an option for hearing the major or minor tonic chord or the scale. The program may also be set up to ask for the relative key.

6) Scale Building An interactive design that allows the user to create major or minor scales.

7) Interval Drills Gives the user a choice of identifying the interval on the screen or building new intervals based on the note presented.

8) Chord Drills Similar to the interval drill applet, but the user may identify or build triads or 7th chords.

[10] The main focus of each page is the Java applet. The size of the applets are designed to fit any monitor, with the directions for using the applet available immediately below the applet. Each page includes a consistent bottom footer that gives the user complete access to any applet on the Web site. The only problem that I encountered with this site is that the main page link for the applet Key Signature Drill is not working, though the footer links on the bottom of each page do connect to the applet. For a beginning theory user to utilize this site, it needs to be supplemented with a beginning theory class, textbook, or another basic online theory site, such as "Easy Music Theory." Once a basic understanding of music theory concepts has been acquired, this site could provide invaluable in reinforcing an understanding of this material.

[11] Music instruction and interactive Java applets are also included in another top-rated site, "Practical Music Theory," a bilingual Web site created by Jos?Rodr韣uez Alvira and dedicated to the study of music theory. In addition to Java applets on identification and construction exercises for intervals, chords, and scales, there is an online music theory book called Teor韆's Books, that includes instruction on intervals, chords, and scales. The combination of instruction and interactive learning makes this site a comprehensive source for the beginning theory user, yet there is sufficiently challenging material to make it equally valuable to the intermediate or advanced user. Each applet includes instructions on how to use the applet and allows users to select options

based on their ability level.

[12] The interval-construction applet allows the user to assemble intervals, while the interval-identification applet displays an interval and asks the user to identify the distance. The chord-construction-tool applet allows the user to see any type of chord, as well as the inversions of the chord. Not only does the applet display major, minor, diminished, and augmented triads, the user may select 7th, 9th, and augmented-6th chords. The chord-construction-exercise applet challenges the user to take the next step by having him or her build new chords that include all of the variations from the chord-construction-tool applet. The chord-identification-exercise applet has the user identify the listed chord and provides options for levels of difficulty and choices from major and minor triads, 7th, 9th, and augmented-6th chords. The scale-construction-tool applet displays any imaginable type of scale; besides major and minor scales, the user may view various modes and scales. Finally, the scale-identification applet presents various scales for recognition. This Web site contains a wealth of information on the elements of music theory and challenges the user to expand his or her knowledge of the elements of music through interactive exercises. This site is unique in that all of the information is available in English and Spanish.

[13] The purpose of this review has been to promote the unlimited potential for music theory instruction available through the World Wide Web. Multimedia tools continue to improve and it is important for music sites to remain current with the latest technology. Digital sound files incorporate large amounts of memory and take time to load across the Internet. Alternative technologies include MIDI files or Real Audio files that greatly reduce the size of the file while still preserving the integrity of the sound. The addition of Java applets adds interactive features to a Web site, drawing the student into an engaging learning experience. As a supplement to a music theory class, an online music class, or a learning site available to individuals with an interest in music theory, the Internet is evolving into a new and dynamic place to learn about the elements of music.

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