
Jazz in a Technological Age

This coming decade and the 21st century will be a learning age, not a teaching age, for all of us.

To work more effectively and efficiently with students who are in jazz education, it is an advantage for today's teachers to have knowledge of computer hardware and software. In a classroom environment it is an accepted fact that students learn more quickly by being active participants and can retain more information if images such as video, graphics and animation are also used. In addition, learning can be enhanced if students can work on a one-to-one basis with an instructor (or instruction) and if they can proceed at their own rate. And finally, it is to the students' benefit if they can enter an educational program at their own level of understanding or proficiency.

Computer-assisted instruction provides these exciting opportunities for students to learn and their teachers to teach. The computer was never meant to replace teachers, but to support their teaching by relieving them of repetitive tasks and providing creative ways to help teachers become better teachers.

JAZZ EDUCATION — THE POSSIBILITIES

It has been two centuries since the birth of the Industrial Revolution. The age of manufacturing has matured and is now showing signs of decline, and a



new age, the Information Age, is emerging. Bernard Gifford, School of Education at University of California-Berkeley, Berkeley, CA, has compared the consequences of teaching in the Industrial Age with the possibilities of teaching today in the Information Age. He presents the following comparisons:

Industrial Age Consequences

- Teacher as teller
- Student as sponge
- Standardized curriculum
- Standardized testing
- Standardized mediocrity

Information Age Possibilities

- Teacher as coach
- Student as participant
- Learning driven curriculum
- Individual assessment
- Educational excellence

What this means for jazz education in this coming decade and the 21st century is that it will be a learning age, not a teaching age, for all of us. There is so much information available that it is not possible to teach everything, but it is possible to make information available from which students can choose or pur-

sue their own interests, level of involvement and/or direction.

There is a good probability that the jazz educator of the future will have to be computer literate. Also, jazz educators and students may have to address new or different ideas on how students learn and how teachers teach. Some possibilities to consider are:

- A closer relationship between instructor and learner
- An improved accessibility to customized learning programs
- An increased use of modeling and simulation — new incentives for creativity
- An initiation of collaborative development between fields such as video, graphics, animation and text
- A re-evaluation of how students learn, how teachers teach and how to evaluate both

With the development of software programs such as Hypercard, Linkway, the Voyager Video and CD Audio Stacks, many creative ways now exist in which we can bring exciting, innovative ideas to teaching and learning. Analog-to-digital converters using MIDI interfaces and numerous software programs are currently available to make all our ideas and dreams come true. We are at a level of technological sophistication where it is now possible to provide the student with more help than ever before.

JAZZ IMPROVISATION — SOME PROBLEMS

The marketplace today is flooded with a plethora of jazz improvisation texts and methods. One could read for years without ever playing a note. However, jazz improvisation, an intellectual and aural skill, is best learned not only by reading books, but by listening to good improvisors, analyzing jazz artists' playing, practicing, playing and receiving feedback from a teacher or external source. The play-a-long records and CDs have helped many and will continue to do so. They provide the students with the opportunity to perform with a good rhythm section and, if recorded, can provide an opportunity for self or external evaluation. These do not give the students guidance on how to listen to or analyze artists' playing, how to apply what one



hears to practicing, or what to practice. In addition, students need to receive feedback on their playing.

COMPUTER ASSISTANCE FOR THE IMPROVISOR IN THE BIG BAND, COMBO OR VOCAL JAZZ GROUP

To fill the immediate needs of a majority of students who are now performing in big bands, combos and/or vocal jazz ensembles, a software program has been developed which can create rhythm section tracks for the student soloist to practice with . . . in a matter of minutes . . . and with excellent piano comping and voicings, bass lines and drum-set playing. Any section of the chart (or entire chart) can be programmed in varying styles, tempos and keys. This exciting new program is called *Band In A Box*. No longer do jazz ensemble soloists have to wait to record a rhythm section rehearsal before they can begin to practice with the changes. The computer software program is so user-friendly that teachers or students can create rhythm section tracks immediately. They can set their own tempo, key and style and record directly to a cassette recorder. In addition, a program such as this provides excellent examples for the teachers and the rhythm section players to listen to for stylistic interpretation. Also, should there be a situation in which horn players don't have a rhythm section

to practice with, or if the rhythm section is incomplete and missing a piano, bass or drum set, this software program will provide that missing instrument or rhythm section on any tune, in any key, at any tempo.

COMPUTER ASSISTANCE FOR JAZZ HISTORY, LISTENING AND ANALYZING JAZZ ARTISTS' SOLOS

Listening to and analyzing jazz artists' playing can be approached in a new and refreshing way with computer software authoring programs such as LinkWay, Hypercard and the Voyager Audio Stack. With these programs the instructors can provide information on the artists and/or their playing, the composition and/or any information they believe is important. Using a compact disk with a CD-ROM player, the students can call-up and play to the exact measure and beat, any selection or part of a selection on the CD the instructors have programmed. Should the instructors wish to provide any notation, they can insert this option at any point. The exciting part about these instructor-written programs is that they are student controlled. If the students wish to hear the excerpt again, they have the option to repeat an excerpt as often as they wish. If the students are familiar with the content, they can move to the next lesson or to any section in the program.

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multimedia software programs interfaced with CD's and optical disks are excellent ways to develop jazz history presentations. It will also be a short time until there are software programs developed which recognize musical notation that can be scanned-in using a regular text/graphic scanner. We will then be able to edit this page or piece of music, play it, and print it out. A software notational program may soon be developed to transcribe music from compact disks. Jazz combos will have the software necessary to input their group's playing into a computer and immediately print all the parts for analysis. Software programs will be available to teach piano players correct voicings, bass players good lines and drummers correct beats. There will be many individualized multimedia jazz programs where the teachers will serve as coaches to help guide students to their level of interest and involvement. Computers will help us by working with basic repetitive tasks such as those found in jazz fundamentals, jazz theory, jazz listening and they will be able to react to the students' input. Lastly, a new product, which is about to be released, will revolutionize the computer music industry. It is an inexpensive hardware device that will interface with any computer and analyze pitch, amplitude and duration. The computer will no longer have to do the complex task of analyzing sound, a process that uses excessive computer memory. These are just a few of the predictions that will probably happen in the next several years. Music technology has brought a renewed enthusiasm and interest to jazz education for both students and teachers. It is an exciting time to be in jazz education!

BEWARE!

With the Information Age upon us, many high schools and colleges are considering purchasing a large number of computers. Most institutions are usually concerned only with the cost of hardware. Thus, if a program receives an extra \$20,000 for music technology, thoughts go to how many computers, synthesizers, rhythm machines, interfaces and so forth can be purchased. **BEWARE!** Hardware may not be the biggest expense. At the writing of this article, most of the software companies are not providing site licenses to educational institutions. If one copy of a nota-

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