

TOOLS FOR EDUCATORS

If You Know One DAW, You Know Them All...

Digital Audio Workstations (DAWs) are multitrack recording and editing software programs, which are key to any school's music technology department. These platforms provide opportunities for hands-on music making, with built-in loop libraries, MIDI and audio recording capabilities. Experienced music-makers and novices alike can experience immediate success due to the scaffolding provided by tempo and tuning controls. Many teachers also use DAWs to build custom practice tracks for ensemble students.

Many educators are comfortable with at least one DAW, often GarageBand or Mixcraft, which are the standard-bearers for introductory DAWs. But GarageBand, Mixcraft and such higher-end DAWs as Logic, Pro Tools, FL Studio, Ableton Live and Acid must be locally installed on computers and are not available for mobile devices. So, student access to the software has been limited to the time that they have access to the computer where the software has been installed. But the emergence of highly functional online DAWs have extended learning and music production beyond the classroom and music lab. Students can access cloud-based software at any time, provided that they have access to the internet. Any experienced musician knows the importance of capturing inspiration when the mood strikes, so 24-7 access is a game-changer for students.

With new DAWs emerging all the time, it can be daunting to imagine learning new software regularly. The good news is that DAWs tend to have many structural similarities, so skills learned on GarageBand or Mixcraft are often transferrable to another DAW. Watch a "getting started" tutorial, click around a little bit and you'll be using a new DAW in minutes. It's a bit like driving a car. All of the basic operating functions are the same from car to car; each has a steering wheel, gas pedal and dashboard, even if the lights, windshield wipers, mirrors and audio system may work a bit differently. You may prefer some features over others, but those essential functions are still the

The learning curve from computer-based Digital Audio Workstations to online versions is gentle – and the potential for use far greater.

By Marjorie LoPresti

same. With DAWs, all of the basic features and functionality are there, and even many of the shortcuts will be the same. You may need a minute to locate the transport window, recording features, loop library, editing tools, automation and additional functions, but the learning curve is gentle.

New DAWs enter the market regularly. The beauty of online software (or cloudware) is that developers can issue updates to the software and loop libraries, and individual users don't need to run any updates. Popular online DAWs in the education space include Soundtrap EDU and Soundation 4 Education. These DAWs offer closed environments and are compliant with COPPA, CIPA, FERPA and GDPR

regulations to protect student privacy. For this reason, these two online DAWs are included in MusicFirst's suite of available software. Soundtrap EDU offers the added benefit of collaboration between users, so students can create music together and give feedback in real time, though they may be geographically separated.

FUNDAMENTAL DAW FUNCTIONS

At their core, DAWs are multi-track sequencing and recording software, and each program will have these same basic functions.

Tracks and Regions. The main operating window of a DAW holds horizontal tracks, or layers of music. The track head is an area to the left indicating the track name and instrument designation. The track heads universally have "solo" and "mute" buttons, often represented as headphones and crossed-off speakers, respectively. They usually have a slider or knob to control the whole track volume. Some programs include a "record enable" button (a circle or R) and an automation indicator (line graph). Individual tracks may contain audio data represented as waveform, or MIDI data in the form of a bar graph or "piano roll."

Regions are the "blocks" of actual audio or MIDI content within a track. In every DAW, audio and MIDI tracks have different color designations. In many programs,

different types of audio tracks may be shown in different colors to reflect the source of the audio. Audio from the loop library may use one color, imported audio another, and audio recorded by the user yet another color. The key is to look at the content of a region: wave form = audio; bar graph = MIDI. Any audio region can be copied to another audio track, and any MIDI region can be copied to another MIDI track. In addition, the instrument designation for any MIDI track may be altered at will, as MIDI is simply audio data that informs how computer-generated audio will sound.

Loop Library. Every contemporary DAW comes with at least a limited library of pre-recorded loops. Loops can be MIDI or audio and will import into a project automatically when clicked and dragged into the working window. Hovering over the upper right corner of a region allows the user to replicate a loop by clicking and dragging. Most programs make it relatively easy for users to import external loops into the library, as well as to create new loops by recording them and adding them to the library.

Transport Window and Playhead. This set of buttons is relatively standard, like the dashboard of a car. Buttons universally include play (triangle), stop (square) and record (circle). Record buttons are almost always red, at least when active. Most, but not all, programs begin and stop playback with the spacebar. In addition, the transport window includes an indicator of the location of the playhead, the vertical line through the tracks showing the active location, like a cursor. The playhead location can be indicated numerically by measure and beat, or timecode by minutes and seconds. The



Marjorie LoPresti is the digital content manager for MusicFirst. She has more than 25 years of experience teaching elementary and secondary general/vocal music, piano, music technology, theory and composition. She serves as technology chair of the New Jersey Music Educators Association, and she has been named an NJMEA Master Music Teacher, as well as T.I.M.E Music Technology Teacher of the Year.

option to control whether it shows measures or time in the ruler is available in each program, though switching the view varies a bit among interfaces.

Editing Tools. Most DAWs allow regions (loops or recorded/imported audio) to be copied, cut, spliced and rejoined. Typically, these operations can happen in the main track area and in a detailed editing window, which opens by double-clicking a region or tapping an

“edit” button. Within the specific editing window, MIDI data can be edited note-by-note, transposed and quantized. In many DAWs, audio data can be transposed (auto-tuned) and sometimes stretched or time-shifted.

Automation and Effects. The term “automation” refers to applying volume fades, pan adjustment (left to right volume output) and other effects to a track via a connected line graph. Tracks start with volume at unity (all tracks equal) and pan up the middle (equal left-right). By clicking into automation mode and placing dots on the line and then dragging, users create volume fades. Pushing pan upward sends the sound more left, and downward is more to the right. Such effects as pan, EQ, reverb and compression can also be applied to entire tracks.

In sum, giving your students access to an online DAW can extend learning and music-making beyond the parameters of music class – which can help them become more flexible, resilient and independent musicians. **T**

