Emily Andreas

English 4, Greco

Innovator Research Paper

Music Recording

There are many different steps you need to take when recording music, and there are different steps with each instrument. For our innovator project, we had to record vocals, drums, piano, electric bass, and acoustic guitar. Once everything has been recorded, it all has to be put together so it sounds coherent and smooth. This project was given to the seniors at Freestyle Academy with pretty much free reign. We could choose to do whatever we wanted, as long as it was approved by the staff. I wanted to write and record songs in our recording studio at Freestyle, and that's exactly what I did. I wanted to challenge myself and do something I had never done before, but something I am still passionate about. There are a lot of complications that can happen when recording music, and I wanted to explore those complications in this paper. For the entirety of this paper, I want to focus on the actual recording process for the first half, and then go into how people get their music out there and how self publishing can affect the music industry.

To start with, there are many different ways you can record an acoustic guitar. You can put mics around it, which is one of the more common ways to do it. "Generally, for tracking the acoustic guitar, I'll usually use one mic sort of near the twelfth fret out maybe 6 inches from the guitar. Then I'll have another mic, generally shoulder height and out maybe 2 feet from the guitar, probably kind of above the bridge or the general vicinity. If I then decide to double the acoustic guitar, I usually go over the far mic

because it is just too big. The doubling already gives you that extra warmth" (Clark). If your acoustic guitar is able to plug into an amp, you can put a mic in front of the amp and have it record from there.

For an electric bass, you can plug in directly to the computer and record it from there, which is the most widely used way to do it. Mark Hughes, a co-author for *Recording, Mixing, and Producing*, says "I show up with an assortment of basses. Usually my old standby Fender-ish fourstring. It is a bass that was never an actual instrument, but rather pieces we assembled in the mid '70s, and it worked! Then my five-string Dingwall, five-string Yamaha fretless, Hofner Beatle bass, and a Washburn five-string acoustic fretless. I use an iAMP 800 combo by Euphonic Audio. I try to have the engineer take me both direct, using my old Tube Works DI, and the amp. I leave that up to the engineer, for he knows how many inputs he has, and usually the bass is the first to be sacrificed for an extra channel. Maybe we just don't whine loud enough. But I do love the combination" (Hughes).

When recording bass tracks, you don't want to use just any random amplifier. You want to use a good bass amp, if it's available. Mark Hughes explains, "I always like to record a bass amp. I typically use a microphone like a Neumann U 47, an FET 47, or an RE20. I also like the M 49 quite a bit. For the placement, I generally go anywhere from a few inches to as far as a foot— but not typically— off of the cabinet in order to let the low frequencies develop off the speaker before they get to the microphone. A DI [direct input] is also very important because the DI will capture some of the low frequencies you lose focus of as they come off of the amp into the air. When the

recording is played back over a stereo, it's pretty much the first time those low frequencies from the DI have been released into an acoustic environment, and that can be very good for the low-end presentation… I also, whenever possible, like to have the amp next to me. I have never been paranoid about leakage. It is like a condiment. I like the feel of bass, not just the tone. Bass is a visceral thing." (Hughes, Mark).

Isolation is another thing you need to keep in mind when recording. You don't want any of the instrument tracks to bleed into each other when recording, if you all play together at the same time. For example, if you are recording just the bass track, you need to have some sort of isolation box or booth if you also have a guitar player playing their part. You can both be playing together at the same time, but the bass will be the only thing recording and, since it is in an isolation box/booth, that is the only thing you will hear on the track even if the guitar is playing at the same time during the actual recording session. Steve Savage, the author of *Art of Digital Audio Recording: A Practical Guide for Home and Studio*, says, "In regard to isolation, there are two main considerations and one basic rule. The things to consider are isolation from outside noise leaking in, and isolation of inside noise leaking out… If you are fortunate to work in an environment with little external noise and without sensitive neighbors, you may have far fewer concerns about isolation. If not, density and mass are your primary allies… What this means in practical terms is that a 12-inch-thick wall of dense concrete will isolate sound much better than a typical wall with two sides of sheetrock and an air cavity in between. Studios in highly problematic environments have been known to resort to sheets of lead as part of the wall structure." (Savage).

When recording drums, you need to keep in mind that there are multiple parts to the instrument, so you're going to need multiple mics. In our recording studio at Freestyle Academy, we have a lot of mics for the drums. There are two overhead mics that capture the entire drum kit, and then there are individual mics for each drum and cymbal. "It's basically a blend of three mics that create that sound. Two are Neumann U 87s placed at about 4 meters away from the drum kit. Maybe a bit higher, on tall boom mics at quite a tall height in the room and pointing down at an angle. They were then compressed with the SSL compressors on the desk. That particular SSL desk in Studio Two at Townhouse was a prototype called the B series. It had these very vicious DBX compressors built into it, which were much more vicious than the ones that you find in later SSLs, such as E, G, J, or K series. With gates on each channel, you didn't need any outboard equipment; it was simply a combination of those two Neumann mics and overdriving the desk until it distorted in a good way… The third mic used to get this sound was called the Ball and Biscuit, which was made by the BBC. The reason it was called the Ball and Biscuit was because it looked like a little biscuit— like a cracker, like a Ritz cracker— with a ball on top of it, and it was black in color. It would hang from the ceiling as a talkback mic, which went through an internal compressor in the SSL desk that was there purely for listening to the musicians. At the Townhouse, the maintenance staff made it possible to plug into the internal compressor so you could put it to tape. That's primarily how that sound was created." (Clark).

Finally, you need to mix the whole song and make it sound cohesive and nice to listen to. You need to get all the tracks together and put them in order of how you want

them to sound. “Usually, I will work out the pans first. I may go into the guitars and try to figure out what should be panned to the left and what should be panned right. I’ll start to set up the soundstage and try to picture everything visually and see where everybody is standing. Once I kind of get a visual thing happening, I will start going into individual sounds. I often work on the vocal sound pretty early in the mixing process. At this point, I will usually figure out what effect I want on the vocal in the context of this sort of rough mix that I have going. Sometimes I won’t put on any effects.” (Welch, Walter).

To get your music available to listen to, you’re going to need to put it out there. In this day and age, the most common way is through the Internet. You can have your songs be put on iTunes, Spotify, SoundCloud, YouTube, etc. The easier of those methods would be SoundCloud or Youtube, because you can directly upload the songs yourself. At a fundamental level, artists create (or produce) music, which consumers pay to listen to (and enjoy). The dissemination of music has used various forms and technologies over time. The effect of online sharing technologies on music sales is inconclusive and is largely based on anecdotal journalistic evidence. The proponents of online sharing argue that a lot of consumers download music to sample it and then subsequently purchase a CD is they like the music and sharing therefore serves a useful marketing function by broadening the market for music.” (Gopal, Ram).

Compared to being on a record label and putting out your music that way, self publishing music is a lot easier. While being on a record label gives you more recognition and a big boost for publicity, self publishing your work is also a good way to get your music out there. Personally, I know several people who have self published

their music, whether it be on Bandcamp, YouTube, or SoundCloud. For the actual recording process, you won't have a professional set up if you aren't on a record label or have a studio you can use, such as the one at Freestyle. But there are free programs you can get that will help your recording process (Shower acoustics can also be very good for recording). A friend of mine put out an EP on his own, and he recorded all of his music at home and released it on Bandcamp, which is a website and app that you can publish music on. So if you want to put your music out there, you don't necessarily need to be on a record label. If you want to get famous for your work, you just need to advertise your music and play in small places. With luck, you'll get recognized and possibly make it big someday.

During the recording process of our three songs, we didn't have too much trouble. For our first song, Guns For Hands by Twenty One Pilots, we started by recording the piano tracks. Our friend Sebastian knew how to play the piano, so we recruited him to play for us. He learned the music for the song, and we recorded the verse, chorus, and bridge, which we would repeat throughout the song digitally. We ended up having to re-record everything with a click track, so we knew he was on beat the whole time. Once we got the piano tracks recorded and in place, we started recording the drum tracks. Looking back on it, we probably should have recorded that first, but it worked out the way we did it. We had to re-record a lot because we started with using the normal drumset we had, but turned to using the electric drumset that Freestyle got when it came in. Once we got all of the drum tracks recorded and on beat with the piano tracks, we finished off with recording our vocals. Julianne did the vocals

for Guns For Hands, while I sat behind the computer making sure all the technicalities were worked out. We only had to do two or three takes for the vocals, which was nice. Once we got everything recorded, I worked on making sure the song sounded coherent and on beat.

For our next song, Scars to Your Beautiful by Alessia Cara, Julianne did most of the recording because I was out of school for a day or so. She recorded some simple piano chords and once she was done with that, we started recording vocals. We had to re-record the main vocal track two or three times, and then record a second vocal track for the bridge. After that, I mixed all of the tracks and made it sound good.

For our original song, which we recorded last, we used lyrics that Julianne had written and a guitar riff that Sebastian had written. I wrote the bass part, and once that was all done, we started to record. We started with recording both the acoustic guitar and electric bass guitar, which we lined in directly to the computer to record. We tried to record together with a click track, but that didn't work so we ended up recording the bass guitar first accompanied by a click track, and then recorded the acoustic guitar. After that was done, Sebastian worked on recording the drum part. We had to do several takes on that, because it just didn't sound the way we wanted it to. But eventually, we got it exactly how we wanted it, so we moved on to tracking vocals. Sebastian did the vocals for this song, and we only had to re-record once. When everything was recorded, I did my job in mixing everything and making sure it sounded good and coherent.

After I got done mixing all of the tracks for each of the songs, I bounced them out and converted them to MP3 and WAV files. This will enable me to use the songs to make our lyric videos for the rest of our projects.

To conclude, the recording process went fairly smooth and everything came out just how we wanted it to be. During the recording process, I learned how to work the equipment in the recording studio at Freestyle as well as work ProTools, the application we used to record and mix all of our songs with. I learned how to track the electric drums as well as the digital piano and vocals. The process, for me, was very important because I want to go into music production and recording arts as my career. There is still a lot for me to learn, but this was a great head start into what I want to do.

Works Cited

"Recording Music." *Recording Music*. Web. 13 Jan. 2016.

RINGS, MICHAEL. "Covers And (Mere?) Remakes: A Reply To Lee B. Brown." *Journal Of Aesthetics & Art Criticism* 72.2 (2014): 195-199.*Academic Search Complete*. Web. 13 Jan. 2016.

Savage, Steve. *Art of Digital Audio Recording: A Practical Guide for Home and Studio*. Oxford UP, 2011. Print.

Clark, Rick, Mark Garvey, and Mark Hughes. *Mixing, Recording, and Producing Techniques of the Pros: Insights on Recording Audio for Music, Video, and Games*. 2nd ed. Course Technology / Cengage Learning, 2010. Print.

Welch, Walter L. "Recorded Music and Re-Recording Processes." *The American Archivist* 31.4 (1968): 379-83. *JSTOR*. Web.

Gopal, Ram D. "Do Artists Benefit from Online Music Sharing?" *The Journal of Business* 79.3 (2006): 1503-533. *JSTOR*. Web.

Rubric for the Innovator Research Paper:

	Level 1	Level 2	Level 3	Level 4
Focus	There is little or no sense of argument, and the paper wanders as a result. Generalizations and inconsistencies disorient the reader.	Central question(s) and thesis statement are present but fairly obvious. Argumentative focus is not consistently maintained or suffers from generalizations. The purpose and relevance of the discussion are not consistently clear for the audience.	Writer establishes central question(s) about the topic and a clear thesis (although it could be more complex). Writer typically maintains this argumentative focus throughout the paper. The audience gets a sense of purpose and relevance, although the argumentative structure could be better defined.	Writer establishes compelling central question(s) about the topic and a clear, argumentative thesis; this argumentative focus is honed throughout the paper. Writer communicates a clear purpose, making the relevance of the argument distinct for the audience.

Content / Organization	Introduction neither hooks the reader nor establishes appropriate context for the thesis. Body paragraphs are underdeveloped or lacking. Conclusion is missing or does not clearly bring closure to the paper. Transitions are incorrect or missing. Quotations are missing or are dropped into the text. Sentence structure and vocabulary are in need of serious improvement.	A hook is attempted, but ineffective. Context for the thesis is either thin or overdone. Body paragraphs might show some of the writer's original thinking about the topic, but they are underdeveloped or inconsistent. Conclusion basically restates the main argument but does not bring a meaningful sense of closure to the discussion or leave a lasting impression. Transitions are effective sometimes, but in other places they are incorrect or missing. Quotations are mostly dropped into the text or are not integrated smoothly. Sentence structure and vocabulary clearly need more development.	Introduction hooks the reader and establishes context for the thesis, although these elements could work more effectively. Body paragraphs develop the writer's thinking about the topic, but more varied patterns of development would improve the breadth and depth of the discussion. Conclusion makes clear how the central question(s) have been resolved, but could do more to add closure to the discussion and leave a lasting impression. Transitions are used effectively most of the time and most quotations are integrated smoothly into the text. Sentences tend to demonstrate sophistication in a couple of the following areas: variation, flow, creativity, mature vocabulary.	Introduction hooks the reader powerfully and efficiently establishes context for the thesis. Body paragraphs demonstrate breadth and depth of thought about the research topic through varied patterns of development. Conclusion is memorable, leaving the reader with a distinct sense of how the central question(s) have been resolved. Transitions link sentences and paragraphs smoothly and quotations are smoothly integrated into the text. Sentences are consistently sophisticated (varied, smooth, creative, mature vocabulary).
Use of Sources	Research sources are lacking or off-topic. Writer may string together quotations without taking time to	Research sources are fairly one-dimensional, focusing on a single perspective. Writer's own words are not	Research sources establish a couple of perspectives on the topic, but could be more thorough/varied. Writer does a	Research sources are thorough and varied, establishing different perspectives on the topic.

	paraphrase, comment, or analyze.	consistently balanced with quoted material.	good job of maintaining a balance of own words and quoted material.	Writer balances own words (paraphrasing, commentary, analysis) and quoted material compellingly.
Mechanics	Writing is seriously obscured by spelling, grammar, and punctuation errors.	Writing contains many errors. Errors affect reader's understanding.	Writing contains some errors, but not at the expense of understanding.	Writing is polished, free of spelling, grammar, and punctuation errors.

See draft for comments

Grade: Basic or Proficient