Conducting Pantless: Exploring Internet Communication Technologies to Rehearse Choirs at a Distance

Adam Adler

Nipissing University & Near North Voices, Ontario, Canada

Abstract

Near North Voices is a university-community choir in North Bay, Ontario. Founded in 2007, this ensemble has provided an "advanced" choral singing opportunity on the shared Nipissing University/Canadore College campus that has grown to serve the broader community. Rehearsals commence the first week of university classes in September, and follow the academic year with concerts in February and early April. Going into our sixth year of operation, Near North Voices was faced with an operational crisis – the injury and incapacitation of our Artistic Director. As questions of sustainability emerged, the Artistic Director and Advisory Board struggled to plan a path forward. Should the choir be suspended pending the Artistic Director's recovery? Would the choir survive as a cultural entity, or would a suspension wreak havoc on recruiting and retention?

Given the ensemble's remote location in a community with few professional musical leaders, as well as the absence of a budget for such a hiring, the possibility of recruiting stand-in conductor was an unlikely. When the choir's Assistant Conductor-in-Training valiantly stepped forward, questions of recruitment and retention emerged as they relate to the cult of personality within ensembles. Would choir members follow an amateur conductor who, while a capable musician, had minimal training in choir pedagogy and conducting? Meanwhile, assigned to home pending surgery, the Artistic Director's personal/professional need for continued professional practice as well as for connection with the community was challenged by requirements of the insurance company and university to live as a detached and non-operational "disabled" person.

This paper follows the ensemble's journey as we used distance technologies to achieve our musical and pedagogical goals the while maintaining a semblance of normalcy by allowing the Artistic Director to "conduct" from home. Later development of distance technologies also supported chorister engagement from remote locations. The challenges and benefits of using distance technologies in real-time and recorded ensemble rehearsal situations to facilitate conductor and chorister mobility are discussed from logistical, pedagogical and psychological perspectives. Several distance communication technologies are critically reviewed

.

Introduction

Near North Voices is a university-community choir in North Bay, Ontario. Founded by the author in 2007 as part of my Scholarly/Creative Activity as Assistant Professor of Music Education at Nipissing University, this ensemble has provided an "advanced" choral singing opportunity on the shared Nipissing University-Canadore College campus that has grown to serve the broader North Bay community. Rehearsals commence the first week of university classes in September, and follow the academic term to early December, with a second term running from early January to early April, minus reading weeks in each term. Given our short rehearsal season and limited weekly rehearsal time, the choir typically performs two concerts yearly in either November or February and early April: A shared concert with invited/touring choirs as part of our annual *Sharing Our Choral Art* concert series; and a concert on our own, often centering on multi-movement choral works with orchestra.

Near North Voices operates as an unincorporated community organization, fiscally independent but partnered with Nipissing University through the author's program of Research, Scholarly and Creative Activity. The choir is run as a "benevolent monarchy" headed by the founding Artistic Director, with a volunteer Advisory Committee who have some say in the ensemble's affairs by right of contributing time and effort to the group's operations. As students graduate and other members come and go the Advisory Committee' s roles and personnel change slightly year to year; at the time of the events discussed in this paper the Advisory Committee consisted of an External Operations Coordinator (who was also Assistant Conductor-in-Training), Choir Coordinator (combining Internal Operations and Community Liaison), Treasurer, Librarian, and Media Coordinator.

2012-2013: A Choir and Conductor's "Terrible, Horrible, No Good Very Bad…"[i] Year

In March 2012, with two concerts remaining in our five-concert season[ii] – one planned with orchestra – I suffered a catastrophic injury while helping to unload a wood pellet stove being delivered to my home. A ruptured cervical disc brought chronic pain and partial paralysis to my left shoulder, arm and hand, significantly reducing sleep and limiting my activities. I guided the choir successfully through the remaining concerts, conducting with one arm/hand and in significant pain, and then went on medical leave from the university, hoping that with rest the injury would heal itself. Limited recovery occurred through May, June and July, until another accident – this time, crashing my car onto a rocky outcropping while highway driving – aggravated the cervical injury beyond recovery. Surgery was scheduled for November.

As questions of sustainability emerged, the Advisory Committee and I struggled to plan a path forward for the ensemble. We considered suspending the choir pending my recovery, but worried that this might negatively impact recruiting and retention. Significant implications arose for my program of Scholarly Creative Activity of which the choir was a part. Many of our community members also sang and played in other community ensembles around town, and while they came to my choir for the advanced repertoire and learning it provided, they could get some of their musical "fix" elsewhere. Student chorister membership was heavily dependent upon a program of recruiting beginning in late August, which required my presence on campus. After working for five years previous to develop this ensemble as a cultural entity, would I have to start from "scratch" the following year?

Given the ensemble's location in a small, northern Ontario community with few professional musical leaders, as well as the absence of a budget for such a hiring, recruiting a stand-in conductor was not possible. When the choir's Assistant Conductor-in-training[iii] valiantly stepped forward to lead rehearsals, questions of recruitment and retention emerged as they relate to both conductor skill and the cult of personality within ensembles. Would our choristers follow an amateur conductor who, while a capable solo vocalist, had minimal training in choir pedagogy and conducting – for the "long haul"?

Meanwhile, assigned to home, my own need for continued professional practice as well as for connection with the community was challenged by requirements of the insurance company and university to live as an isolated and non-operational "disabled" person. I was discouraged from coming on campus, even for informal purposes. Some element of "stir craziness" had arisen even through the summer, which combined with the stress of potentially losing the choir and my program of research, could have negative implications for my physical recovery.

Taking a Lesson from Distance Music Education in Newfoundland and Labrador

For several years, I have been impressed by the teaching practices of my colleague Andrew Mercer[iv], E-Teacher Music at the Centre for Distance Learning and Innovation[v] in Newfoundland and Labrador, who uses distance education technologies to teach music to school students in remote communities across the province. Teaching/learning exchange is facilitated through a combination of file exchange (outside of real time) and real-time engagement in both individual and group situations. Andrew and his students utilize computers and tablets, SMART Boards and a variety of audio and video recording technologies to facilitate communication, exchange and engagement, as well as musical creation and collaboration.

Also in Newfoundland, while participating as a delegate at the Festival 500 International Choral Festival, I had observed an international choral conducting master class conducted via

distance technology. At the Festival location, the master conductor faced a computer camera and, and we watched/listened to the remote choir(s) on a projection screen. At the remote site, a similar setup allowed us to view/hear the remote choir and their conductor, while the master conductor appeared for them on a projection screen. The master conductor observed each remote choir performing, and provided a conducting coaching session to each of the remote conductors.

Inspired by these experiences, it struck me that we could use real-time distance technologies to facilitate choir rehearsals with a teacher-conductor at a remote location.

Distance Education Technologies at Nipissing University

Nipissing University offers some courses and in a variety of online formats, some with real-time components that can include live chat (both typed and audio/video). Many on-site courses also have websites where course-related materials such as handouts, readings, podcasts and videos can be posted. Many of our classrooms are wired for multi-campus teaching and meetings, and a portable distance-meeting lab can be moved to any room. Classes can be taught on either of our campuses in North Bay, Bracebridge or Brantford, and streamed to the other campuses with students/participants there streamed back and able to participate in real time. All classrooms have digital projectors and screens, and most classrooms used by the Schulich School of Education also have SMART Boards. Through our affiliation with Apple and our identification as an Apple program, all Education faculty members are furnished with a MacBook Pro computer. Education students are encouraged to come to the program with a Macbook computer, and beginning in September 2012 they are all provided with iPad Mini tablets.

While readily available, Nipissing's distance teaching/meeting technologies do have some weaknesses. In my observation, making and maintaining video connections between class/meeting rooms and remote campuses is inconsistent. Technicians and student assistants are available on weekdays, but with significantly reduced availability in the evenings and on weekends. Delays in accessing tech support can throw meetings and classes into disarray, and can negatively impact the experience of participants at satellite locations. Additionally, while these institutional distance technologies allow for exchange between campuses as well as other institutions, they do not easily allow for exchanges with non-institutional locations; teleconferencing is still used for this purpose. Faculty members often rely on Skype and the assistance of willing colleagues to "Skype in" to meetings from remote locations. Given the limited capacity for tech support during our evening rehearsals, and that we would be connecting to a private off-campus site using non-institutional distance technologies, it was apparent that we would have to proceed independently.

"Directing" the Choral Rehearsal from Home

The setup for our first rehearsal took some advance preparation. At my end, a guest bedroom was converted into a studio, with plug-in speakers for my laptop on top of my digital piano. An extra long Ethernet cable connected my laptop to the modem in another part of the house in order minimize the added communication "lag time" (signal latency) that can result from home wireless connections. At the university, our Advisory Committee took charge of rehearsal setup and take down. The Choir Coordinator's laptop was connected to the SMART Board and speakers at the front of the rehearsal room, also with a wired connection to minimize the effects of the poor wireless connection at that end of the building. The laptop's camera was oriented towards the ensemble, with the Assistant Conductor seated at a digital piano between the laptop and the ensemble.

Rehearsals required much more advance planning than was our norm. Each week our (newly promoted) Assistant Conductor and I met for a 2-hour planning session and conducting lesson. We developed his score study and analysis skills, and using notes from the previous week's rehearsal we worked on his choral pedagogy, rehearsal technique and conducting gesture. We developed a formula for conducting the rehearsal that would require the least conductor changeover and minimize distraction for the ensemble: The Assistant Conductor ran warm ups and taught the first and last parts of the rehearsal, while I observed (camera off to remove distraction for the ensemble) and took teaching notes for our next conducting lesson. Only when he was doing something blatantly inefficient or pedagogically problematic would I "chime in" in real time as a disembodied voice on their speakers. I taught the middle part of the rehearsal (camera on), using my studio piano and voice to model, but having our Assistant Conductor do any real-time support playing due to the lag time between my counting/gesturing them in and the sound and image I got back.

Internet Communication Software in the Choral Rehearsal

We started this project using free Skype software that provides free audio and/or video chat between registered users. Connections must be established in advance, i.e. each user must "add" the other to their contacts list in order to communicate; this was not a significant impediment at this stage of our project, since there were only two "users" involved.

Signal latency – the lag time between what one person says or does and when the other person sees/hears and responds to it – proved to be a distraction, as it disrupted the acoustic-temporal flow of the rehearsal, and removed my ability as conductor to sync with the ensemble and respond in a temporally appropriate manner. This relegated me to the role of coach rather than

conductor, and was both psychologically disruptive and time consuming. The choir also found the delay between audio and video to be a huge distraction, as my face/mouth and gestures were misaligned with my speech. By turning the video signal off and proceeding on audio-only, we found that this reduced some latency-related distraction for the ensemble. Even so, we found that the audio quality with Skype was inconsistent – more of a problem for me than for the ensemble, as I was not consistently able to hear them well using either speakers or headphones.

A colleague suggested trying Google Chat (now called Google Hangouts) to improve our experience. Google Hangouts is freely available to individual users and has the benefit of syncing with email contacts to initiate online audio or video chats. Like Skype, Google Hangouts requires the users to have added each other as contacts prior to connecting. Connecting in Google Hangouts is less intuitive than in Skype, and at times the ability to forge a "hangout" is illusive. When our Choir Coordinator had to be absent one week, the others were unable to make the connection work, and I inadvertently got the night off. Even so, for our purposes the improved audio and video and reduced audio-video misalignment still made Google Hangouts an improvement over Skype, and we were able to resume the video component with limited success. Video and audio quality and signal latency were also improved. While conducting gesture and even verbal coaching in real time were still not possible, at least my face synced with my speech.

Despite the improved audio and video, signal latency and its disruptive effects on conductor-ensemble functioning remained. Through researching this perennial problem, I discovered eJamming – an online tool designed to facilitate remote musical collaboration in real time. In their mission statement, they propose to "Enable musicians to play together in real time as if in the same room even if they are far from one another"[vi]. eJamming allows for audio-only collaboration between remote locations with no noticeable signal latency. While high quality microphones can improve this experience, all that is required is a computer with a built-in microphone and a high-speed Internet connection. Theoretically, this software should allow us to conduct a rehearsal in real time, with me as remote conductor coaching and even accompanying the ensemble from home, audio only[vii].

A month-long or annual user fee is required to use eJamming, which I paid twice to register our Choir Coordinator and myself in order to conduct a trial from different parts of my house. The eJamming software setup was not intuitive or user-friendly, requiring that the "ports" on each computer as well as the wireless router be "unblocked"[viii]. I had to pay fees to my router's manufacturer to be guided through this process on my router, and spent hours on the telephone with a technician at eJamming to be guided through this process for each of our laptop computers. In the end, while our Choir Coordinator was able to unblock the ports on her computer, I was not able to achieve this on my (institutionally owned) unit, likely due to institutional firewalls and security protocols. However, even with only one user's ports

unblocked the connection was possible, and as claimed no detectable latency occurred on our exchange between different parts of my house. Unforunately, we soon realized that the requirement to unblock the router ports would render an exchange between my home and the university impossible, since we would not be able to get access to the institution's "ports" due to security concerns. We subsequently abandoned our attempt, and resigned ourselves to the temporal limitations of Google Hangouts.

Facilitating Remote Chorister Engagement

Several rehearsals into our season, a chorister announced that she would be in another province for several rehearsals, and asked if she could "Google in" to rehearsals the same way I was. This was another benefit of switching from Skype, which at that time only allowed for two users in a video chat[ix], while Google Hangouts allows up to nine users in a free video "hangout". "Googling in," choristers experience rehearsals in real time, achieve more effective part learning and are able mark their scores with the conductor's instructions. Choristers can even sing along with the choir, so long as they turn their microphone off to prevent temporal interruption for the choir, and they are able to ask questions during the rehearsal. While still missing the psycho-acoustic "feeling" of being among others actually singing one's part, the experience remains more contextually authentic than simply listening to midi-files. With this addition to our practice, we went from a two location remote rehearsal to three or more remote locations.

The practice of remote chorister participation was continued after my post-recovery return to rehearsals. Choristers who "Google in" are not counted as absent. This has particularly benefitted students in our Bachelor of Education program while off campus for blocks of practice teaching, along with their professors who frequently travel for research during those periods. Choristers who are mildly ill and contagious but still functional can participate without being a risk to others. Having to add Google email contacts to one's "Circles" in advance in order to "invite" them to join a "hangout" remains cumbersome, and prevents some choristers from joining a rehearsal on extremely short notice. However, on balance remote choir attendance has been beneficial in reducing the negative effects of absenteeism on the ensemble's learning curve.

A still later development, I began recording rehearsals in order to address the needs of a chorister who was going absent for several weeks and unable to attend remotely in real time. Using the freeware Audacity and the built-in microphone on my computer, I recorded and edited rehearsals and uploaded them in mp3 format to a secure page on our choir website[x]. Some challenges arose around the placement of my computer in the room and how well it picked up my voice along with the choir's sound; however this was resolved with some experimentation, without the need for an external microphone. A later move to a rehearsal room with a better

acoustic significantly improved recording clarity, again without the need for an external microphone. Since then, choristers who are absent and unable to "Google in" are asked to spend the equivalent time with the rehearsal recording.

Rehearsal recordings have further benefitted the ensemble's learning curve as choristers who have attended rehearsals in real time are now able to review their parts and clarify score markings as home practice between rehearsals. As a conductor, I have also found these recordings helpful, as they enable me to listen for problems that may not be apparent while I am busy conducting or playing. I can then plan to address these problems in my next rehearsal and move the ensemble forward that much more efficiently.

The Negative Aspects of Hybrid Real-Remote-Recorded Choral Rehearsals

While remote rehearsal participation and virtual learning through rehearsal recordings can improve part learning and ensemble progress, it can also have a negative effect if not used in a balanced, responsible and coordinated way. In the year since we began this project, the availability of remote and virtual learning options has made it "easier" for choristers to be absent from rehearsals (at least, from the standpoint of the individual member) while the needs of the ensemble can be negatively impacted. Variable weekly member absence impacts rehearsal efficacy, as listening for intonation and blend are affected when we have a different group of singers each week, and particularly when voices appear in rehearsals who have not attended for several weeks.

While all choristers benefit from both learning formats (as compared to just being absent), the virtual learning through rehearsal recordings posted online is not presently traceable, making it difficult to know whether choristers have done their work. Going forward, it is suggested that some form of individualized sign-on may support user tracking. Choristers who do not read music do not appear to benefit as much from either remote or virtual participation as do their more skilled/experienced peers. In this regard, it appears that the psycho-acoustic, aural-physical element of singing amidst one's own section makes a difference in choral learning. The remote and/or virtual participation of choristers who are stronger readers and/or singers also reduces the support for our less experienced singers, and is particularly impacting on those who do not read music and who require the model of their peers' singing to learn their lines. As a result, the learning curve in some rehearsals is slowed depending on who is participating remotely.

Challenges and Benefits

Despite any shortcomings, Internet communication technology can be a positive and productive tool to facilitate ensemble operations and chorister engagement. Remote chorister participation is superior to absenteeism, while virtual learning through rehearsal recordings can further support learning through home review and practice for both absent and attending choristers. Both formats facilitate learning and can improve an ensemble's learning curve, particularly in ensemble contexts where member diversity makes regular scheduling and commitment difficult. However, neither format can replace the benefits of having the entire ensemble present to learn and sing together on a regular basis.

As a conducting/directing tool, Internet communication technologies have great potential for choral master classes, adjudication and even private lessons by remote conductors and teachers. Rehearsals led by a remote conductor are superior to not rehearsing at all, and with advance preparation and support at the main rehearsal site can help maintain ensemble continuity in the short term. The acoustic-temporal disruption from signal latency inherent in current Internet communication technologies limits the remote conductor to the role of performance coach and requires the intervention of an assistant conductor or rehearsal facilitator at the actual rehearsal site. Technologies such as eJamming have the potential to remediate the need for an intermediary facilitator in cases where rehearsal contexts are within private locations where Internet firewall security is not an issue. Over time, it is anticipated that this effect will be reduced, allowing eJamming to be more widely useful at the institutional level. As other Internet communication technologies continue to develop, it is also anticipated that remote conducting in real time will become possible.

Post-Script

After working with the choir remotely for five months, I returned to teaching and to my role as active and present ensemble conductor. Near North Voices presented a successful season with a shared concert in early March and a concert on our own with orchestra in April, despite the challenges and thankful for the continuity that these technologies provided.

---

i This part of the heading was inspired and paraphrased from from Viorst, J. (1972). *Alexander and the Terrible, Horrible, No Good, Very Bad Day*. Illustrations by Ray Cruz. Simon and Schuster Children's Publishing.

[ii] In 2011-2012, Near North Voices inaugurated our *Sharing Our Choral Art* concert series by hosting four visiting ensembles from three countries, three for shared/collaborative concerts, in addition to our own end-of-season concert with orchestra. While productive for the choir and exciting for the community, this season proved to be too many concerts for one season, particularly for the conductor. Since then, the series has been limited to one shared concert with a touring choir annually.

[iii] Our Assistant Conductor-in-training was a founding member of the choir, at the time of this story a student completing a nursing diploma program. While he had a previous college diploma in vocal music performance, most of his training in conducting had been with me in supervised lab-rehearsals on the podium, and at most for a single work in any concert.

[iv] To view Andrew Mercer's website dedicated to using Audacity in music education, go to http://www.andrewmercer.ca/.

[v] Centre for Distance Learning and Innovation, Province of Newfoundland and Labrador. https://www.cdli.ca/

[vi] eJamming: About Us. http://ejamming.com/about-us/

[vii] Since the choir typically do more reading of their music and less watching of the conductor-at-the-piano in the earlier stages of learning our repertoire, it was anticipated that proceeding audio-only would not be a significant departure from our normal mode of operation.

[viii] Since that time, eJamming has developed free downloadable software protocols that they have indicated will unblock users' ports.

[ix] Roughly a year later, Skype began offering multi-user video chat, but for a fee, while Google Hangouts remains free for up to nine users in a session.

[x] Near North Voices. www.nearnorthvoices.com. This "website" is technically a blog hosted on Wordpress.com, but they provide functionality for blogs to appear and function as websites. Wordpress blog/sites are much more user-friendly and less time consuming to maintain than a regular website because there is no need for intermediary web design and conveyance software.

Resources and Recommended Reading

Skype. http://www.skype.com/en/

eJamming. http://ejamming.com/

Google Hangouts. http://www.google.com/+/learnmore/hangouts/

Audacity. http://audacity.sourceforge.net/about/

Wordpress. http://wordpress.com/

Rose, A., Hickey, A., & Mercer, A. (2012). E-teaching and learning in music education: A case study from Newfoundland and Labrador. In C. Beynon & K. Veblen (Eds.), *Critical perspectives in Canadian music education* (pp.147-164). Waterloo: Wilfrid Laurier University Press.