

Outreach, Piano Pedagogy and the Future with Technology

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While much of the country's population lives in metropolitan centres, a large portion living in our inland cities experience the remoteness and isolation that define Australia. Many regional communities have limited access to quality music education services and facilities, and some are without any. The Riverina Conservatorium of Music (RCM) in Wagga Wagga NSW, responsible for music education across the broader Riverina region, is addressing the issue of access to music education by supporting the development of Videoconferencing as an outreach music education tool. Not a new concept to business and university communities, Videoconferencing as applied to teaching music has only been made possible by significant advances in technology and the pioneering work of the Sydney Conservatorium. It is now a feasible medium for delivering music lessons to any destination regardless of distance. Today, the RCM provides music lessons in remote communities such as Hay and Griffith without requiring teachers to travel large distances at great cost. In 2004, RCM students were the first in Australia to participate in piano lessons delivered via Videoconferencing. While it is a useful tool for providing workshops, lessons and professional development opportunities for teachers and students alike, the development of this technology also brings with it new challenges for piano pedagogy.

Introduction

While much of the country's population lives in metropolitan centres, a large portion living in our inland cities experience the remoteness and isolation that define Australia. Many regional communities have limited access to quality music education services and facilities, and some are without any at all.

The NSW Association of Regional Conservatoriums is attempting to address the significant equity issues that exist across regional NSW. Currently seventeen NSW regional conservatoriums and music centres provide musical education services and in school music curriculum support for students from pre-school age to adult. In many cases, the local regional conservatorium or music centre is the student's only link to the possibility of higher education in music. It should be noted that these conservatoriums generally do not offer tertiary programs, though this will possibly change in time.

As one of the largest of the NSW regional conservatoriums, the Riverina Conservatorium of Music in Wagga Wagga, (RCM) serves approximately 1,400 students across the spectrum of instrumental and vocal studies. The RCM employs over 40 professional music educators, including seven piano teachers.

A myriad of workshops and masterclasses are offered in addition to numerous professional and student concerts and the RCM is responsible for music education across the broader Riverina region. To put Wagga on the map for you – the town (of 60,000) lies on the Sturt Highway, the main road between Adelaide and Sydney, 10 hours east of Adelaide. The Riverina region extends from Hay on the western end of the Sturt Highway to Tumut and Tumbarumba in the Snowy Mountains. In the region you'll find

the centres of Wagga Wagga, Griffith, Junee, Tumut, Tumbarumba, Leeton, Yanco and Narrandera. The rural nature of region means many students and music lovers live on isolated properties between these centres.

Since 2003, the RCM has taken some significant steps in addressing the issue of regional access to music education. Director Hamish Tait, who is also Executive Secretary of the NSW Association of Regional Conservatoriums, has fostered the development of Videoconferencing as an important outreach tool to facilitate music lessons in remote communities.

Pioneered by Mark Walton at the Sydney Conservatorium, Videoconferencing as applied to teaching music has become a feasible medium for delivering music lessons to any destination. Consequently, teachers or students across NSW no longer need to travel large distances simply to have a flute lesson. In 2004, the RCM with assistance from the Sydney Conservatorium became the first music education institution in Australia to offer piano lessons via Videoconferencing. Jeanell Carrigan of the Sydney Conservatorium was our co-conspirator, and continues to provide individual lessons to RCM students via videoconferencing from her base in Sydney. So far, videoconference lessons have also been conducted for students learning flute, classical guitar, violin, viola, clarinet and saxophone.

Videoconferencing Technology

Videoconferencing is just what the name suggests: a conferencing tool facilitated by the use of video. Its primary purpose is to allow communication between two or more geographically separated parties. As a technology, videoconferencing is not a new concept. Science-fiction invented it long before it was practical and the television industry has used the videoconferencing concept for many years to link remotely located studios to a central broadcasting station. Businesses and universities have used videoconferencing for many years to link international offices or geographically spaced campuses to enhance communication across the organisation.

The basic components of any Videoconferencing system are a camera, a sound component/speakers, computer hardware, video monitor and a telecommunications link. Generally, professional Videoconferencing uses specialised equipment that combines the audio/visual and computer hardware components into a single module.

I'd like to briefly explain the technological factors required for effective Videoconferencing before going on to discuss the impact of this technology on its application to teaching music.

The first factor is the need for similar equipment at both the delivering and receiving ends. International standards exist to ensure different brands of equipment interface with each other, but delivering music lessons via VC without expensive software and cameras is out of reach for most domestic computer users - for the moment.

Speed is the second factor - speed of the telecommunications link. While the physical hardware is important, the quality of the experience will largely depend on how fast the information is transferred between each VC point. To give you an idea of how fast the "speed of data transfer" needs to be, consider your average dial-up home internet connection. The speed of that is approximately 50 kilobytes per second. The ideal speed for a videoconferencing music lesson is no less than 512 kilobytes per second in both directions. In videoconferencing, this telecommunications component can be facilitated in one of two ways.

1. ISDN: Integrated Services Digital Network
2. IP: Internet Protocol (the internet)

ISDN is a sophisticated digital phone line system that works on the same principles as a normal phone line. Each videoconferencing point has a phone number and one simply calls the other. ISDN differs from normal phone lines in that each ISDN line represents a specific speed capability that you have to pay heavily for. Very high speeds are possible by connecting via multiple ISDN lines BUT the extremely high cost of the calls is largely unworkable. Remembering that the ideal connection speed is 512 kbps, a 128 kbps connection will cost around \$33 per hour.

Comparatively, IP or the internet, is a cost effective option. For VC to work effectively over the internet, each party needs a high bandwidth internet connection. Enter broadband. Most government institutions, universities and many businesses have had access to broadband internet for some time but it has only recently been accessible to the domestic market. The RCM has dedicated videoconferencing equipment that until May 2005, was used to deliver lessons via ISDN lines. The high cost to both organisation and students in effect defeated the very philosophy of equity that the outreach initiative was addressing. With the introduction of broadband, we have been delivering and receiving lessons via the internet at significantly reduced cost.

The application of this technology, particularly post-broadband, will not be restricted to individual tuition - the NSW Department of Education and Training is exploring the larger scale application. Public schools across the region are currently in discussion with the RCM, with a view to schools purchasing their own equipment and connections to provide lessons in the school music classroom.

Access to equipment

As this technology becomes more widespread – certainly in NSW regional music centres, TAFE colleges, local governments and businesses - so too are the opportunities growing for regional teachers and students. While videoconferencing has proved a useful tool for providing workshops, lessons and professional development opportunities for music teachers and students, it also brings with it new challenges for piano pedagogy.

Technical solutions need to be found to overcome some of the issues and specific methods of teaching must be developed to maximize the potential of the technology.

Application to piano pedagogy

At this point, I'd like to show you part of a piano videoconference session that was held at the RCM last month. The application for piano has been restricted to between the RCM and Sydney Conservatorium until now, but trial lessons from the RCM to remote communities are likely later this year. This will involve teachers at the RCM. You will see Jeanell Carrigan at her base in Sydney and student Julia in the hot seat. You will notice some restrictions of the technology as you watch, which I'll talk about afterwards. A couple of things to look out for are the viewpoint; and extent of visual communication that's possible. (DVD plays)

Restrictions of the technology

You will have noticed the lack of ability to view the student from a 360-degree perspective. This is possibly the most significant drawback of videoconferenced music lessons. Unlike a face-to-face lesson, you cannot move around the student in order to view the posture from behind. The teacher must develop methods of determining from the single viewpoint how the student is sitting or whether the opposite hand is positioned correctly. Having said that, some manipulation of the view is possible – the student's camera can be moved remotely without disrupting them while they play, much like a surveillance camera. It is difficult to see on today's DVD, but the resolution of the camera is extremely high, enabling close up viewing of the student's score, fingers or fingernails. The student is also able to zoom into the teacher to view any demonstration of fingering patterns or other technical details.

Another restriction of the technology is the inability of the teacher to physically demonstrate an arm or shoulder position to ease a student's posture or tension, so clarity of verbal communication becomes very important in this situation.

As I've mentioned, sound quality is critical to the success of any Videoconferencing program. You need good microphones and speakers to enhance audio aspect. Teachers do need to be aware of a small delay in the transmission that varies according to connection speeds. This aspect has improved with broadband connection and in our experience, the delay is naturally overcome and students are rarely bothered by it after the first minutes.

You will have noticed that with the restricted visual stimuli, the need for aural information was much greater. Because of this factor, teachers need to have a good knowledge of the repertoire being presented, which means access to scores prior to the lesson is important.

Most of us would accept that technical glitches are a natural occurrence with any technology. We've probably all wrestled with a computer or mobile phone at some stage because it failed to work properly. Videoconferencing is equally capable of committing technical crimes and crashing. The internet, while economical and generally very reliable, seems to be at the mercy of higher powers, so teachers using the equipment need to be trained and accept that some capacity to overcome small technical problems is necessary.

Conclusion

At its most basic, this technology gives students opportunities they might not have encountered otherwise. Students such as Julia, living in inland Australia, gain access to tertiary institutions in major cities. They get more options without having to leave home.

No music teacher will ever dispute that face-to-face lessons will always be the preferred means for teaching musical instruments, but tools such as this are breaking down the tyranny of distance and connecting a generation for whom technology is commonplace. In time, music lessons will happen between countries, not just across the continent. If, through this technology, students can experience a broader range of musical thought and acquire a more rounded music education than might otherwise be possible, then the use of it can only be a good thing.

About the Authors

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Bronwyn is a former student of the Elder School of Music, University of Adelaide. As Head of Piano and Keyboard Department at the Riverina Conservatorium in Wagga Wagga, Bronwyn facilitated developmental programs for seven piano staff and over 300 piano students. Bronwyn has recently relocated to Victoria, where she continues her involvement in music education.

Hamish Tait, *Riverina Conservatorium of Music*

Hamish Tait is the Director of the Riverina Conservatorium of Music, Wagga Wagga and Executive Secretary of the NSW Association of Regional Conservatoriums. A Master of Music graduate of the University of Southern Queensland, Hamish is also an accomplished pianist and teacher. Hamish has studied with Wendy Lorenz, Roy Howat and Nina Walker and appears frequently as a solo, chamber and duo pianist. In 2006 Hamish will complete a Master of Business Administration.

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