Having first discussed the idea of dance pedagogy and technology in 2001, we were unable to pursue it due to administrative responsibilities. When we stepped down from these positions and decided to pursue this idea through project-based research over the internet, we realized that neither of our institutions had resources which included dedicated spaces appropriate to this methodology. Seeking low-cost alternatives, we discovered that Temple had a license for a “talk heads” or conferencing software (at the time called Breeze, which has undergone a number of changes over the project) and both institutions were willing to dedicate limited times and spaces to pursue our idea.

We initially considered using cell phones and emailing videos, but felt that we needed to use the available resources that would allow us to focus on integrating the internet, creative process/choreography, and elements of learning. Since the fall of 2007, we have completed three separate but connected projects incorporating students from Temple University and John Moores University, designing three models of teaching and learning choreographic process using what has developed to the current title “Adobe Acrobat Connect Pro,” a conferencing software that archives work from the perspective of a camera lens and can be accessed by anyone who has the URL. In addition to access to all sessions, students and faculty also incorporated email, exchange of quicktime movies and Skype in planning, discussion, and analyzing ongoing work. With each project we sought to explore slightly different models, moving from strongly student-led sessions, to more student and faculty collaborations to a faculty-designed and mentored environment to create a work that was performed live via the internet between the two institutions with audiences at each site. Performance was followed by discussion and analysis of participants as well as audience members.

Students had the option of participating for credit or on a voluntary basis. The original course description promoted the course as one where there will be an experimental use of technology, specifically internet technology, regarding its use teaching, learning and creating in the choreographic process, and more particularly internationally. Our specific objectives were:

- To experiment with the use of internet technology in choreographic pedagogy.
- To develop basic knowledge and skills with internet technology.
- To design creative and educational projects for dance utilizing internet technology.
- To build a conceptual and practical foundation for further study and use of internet technology in dance.

Since faculty and staff were new to this application of the software and newly acquired hardware, time management often deterred our sincere attempts to keep a diary as the experience unfolded. We had to rely on notes we could take during the sessions when things were working or recall following the work. We found that the challenges were considerable and often frustrating, many times focused on the technology itself.
We established a pedagogic model where we guided students to experiment with new materials, to find workable structures, and employed strategies to enable them to get to know each other -- encountering on the way frequent misconceptions of our “common” culture and language. As their confidence grew, we encouraged them to take more responsibility in the sessions and the creative work. Three excerpts from journal entries of early meetings give an idea of the initial difficulties and frustrations we regularly faced:

With the limitations from ongoing issues with hardware, networking, software and cameras, we finalized the work that was created during the semester for the semester final showing on December 5, 2007. The performance was aired via the internet between invited audiences at both universities.

Ongoing issues included:

Audio lag
Reliability of connections
Frustration with software, hardware and connections
Institutional bureaucracy and procedures

First session assessment
Temple University agreed to fund a week-long trip to Liverpool for all of the US project members, which culminated in a shared performance at LJMU in March 2008. With this in mind, we agreed to continue to meet weekly during spring 2008. In addition to reviewing our first semester work, we added three more projects: experimentation with video at both sites to be combined with the interface of live dance with film at LJMU; a structured improvisation, (demonstrating the split screen with two spaces with the live audience in Liverpool), and a new, live group dance. These projects involved the students in new collaborations with each other, and further opportunities to explore working with each other and the media.
The many weekly problems rather outnumbered the unproblematic sessions, however, it was the power of the moments of success shared by both students and tutors that kept the project alive. As one student commented “this is a developing media and to be at the beginning of this cross-country exploration …is like being an early pioneer.” In spite of the tribulations, some of the successes were the:

- Persistence, excitement and dedication of students.
- Creative work accomplishments.
- Improvement of institutional interest and support.
- Future possible individual and collaborative efforts.
- Clarity of needs for continued developmental work.
- Production of cutting-edge research in transnational pedagogy and creative work.

At the end of Project 1 we were aware that there were a number of issues that continued to need to be addressed as we worked to develop ideas of using the internet for pedagogical research and creative practice. These included:

- Networking at institutional level – an inordinate amount of time has been spent on trying to find the right personnel across each university to trouble-shoot technical problems.
- Software for audio/video (DVTS) – Adobe Breeze is really a ‘talking-heads’ technology that we are pushing to stream movement and voice for performance work.
- Cameras (NTSC/PAL) – many of our problems come from having different formats for the media
- Delay and noise/echo – not easy when trying to teach (let alone dance in unison) to have your words or image appear seconds, even minutes later.
- Microphones for moving bodies – the technology exits, it is the funding for suitable equipment that is the challenge.
- Time zones for scheduling – compromise and constant vigilance are vital.
- Dedicated Technology Space - designed to allow more productive use of time for researcher, teacher, and student.

2008-2009, Project 2 Moving Forward…Refining the Process and Asking New Questions
Duet from Sudley Theatre, Liverpool

Following a review of the first year outcomes, we continued to be in contact and plan via email and Skype session.

Our specific objectives for the second project were:

- To investigate how web-cam and e-mail technology can serve dance pedagogy and creative process, specifically if and how it might engage students in the making of dances within a new spatial ‘frontier’.

- To use technology on a shared international project encouraging the development of international links and the practice of networking.

- To explore the potential for linking spaces and audiences via the internet with web-cam choreography, including performance experience and aesthetic pedagogy.
In the second project we experimented with an alternate model based on what we had learned the previous year. From the outset the students were to lead their own collaborative projects while we acted as tutors providing support and guidance either weekly or at set points during the semester. Three Temple University postgraduate dance students on the Master of Fine Arts (MFA) degree were paired up with LJMU undergraduate dance students, each with different levels and ways of collaborating in creating and learning dance. In some ways this went more smoothly:

- We knew the software better (opportunities and limitations) and it undergone some development/upgrading.
- We had some students who had previously worked with technology.
- The MFA students had more experience with choreography.
- We had a better idea of when to interject ourselves into the process.
- We provided more structure up-front and more time for development.

We paired up students early according to interests and provided semester one as time to develop ideas and the spring semester to move toward more finished works. Three student projects were developed:

1. **Carolina and Faye.** Their collaboration involved:
   - The use of visual image and the screen to influence their devising process.
   - Methods and devices included: improvisation, camera frame, on screen-off screen cues; unison complement/contrast, split-screen exploration.
   - Spatial and choreographic use of ‘cone of capture’.
   - Communication methods used: web-cam, email, Skype.
2. Colleen/Sarah/Amy. Their collaboration involved:
   • The use of their personal lives to influence devising, selection of props and text.
   • Methods and devices included: free associative writing, use of question and answer, improvisation, split-screen, camera frame (use of close-up, distance, body parts etc).
   • Spatial and choreographic use of the ‘cone of capture’
   • Communication methods used: web-cam, email, Skype.

Trio using text and props – Temple Perspective.
3. **Beau and Danielle.** Their collaboration used a cast of 7 and involved:
   - Use of previously created material by the MFA student, based from gesture.
   - Methods and devices included: accumulation formula, collaboration of ideas, autonomy of theme, numerical codes.
   - Spatial and choreographic use of the ‘cone of capture’.
   - Communication methods used: web-cam, email, Skype, You tube.
Group work from Liverpool perspective showing viewing cone area.
On April 30, 2009, we held a formal performance via the internet between the Sudley Theatre (LJMU) and Conwell Dance Theatre (Temple). Along with an introduction by a senior administrator from each institution, three student works and two faculty works were presented and followed by an audience discussion. We chose also to include two faculty (staff) works (one from each institution), as another alternative venue of sharing choreography. The performance is among the first ever cross-Atlantic university-based telematic performances.

As the projects have been about pedagogic and artistic research involving dance students and web-cam technology, it has always been important to hear the voice of the students involved in the projects. They were given opportunities to share their evaluations through group discussions and formal assessment submissions. Their critically analytical reflections comments have been a valuable part of our project evaluation process, and some of their comments are included below.

**Project Evaluation Comments - Artistic**

“It was interesting that we each tried to do something specific with the technology, as well as to consider the definitions of the space of both the live theatre and the screen, and [how we were able to layer] connections and collisions between the two.” (USA)

“It was not just about how the technology helped with the piece, but how the dancers became something else; for example, we became an interactive company of 7 on screen at the same time as being 3 or 4 live dancers interacting with varying numbers on the screen.” (UK)

“One choreographer makes the best of the awkwardness of adjusting to the technology… playing with the dancers going in and out of view.”

(USA)
Project Evaluation Comments - Pedagogic

“The project and the technology gave us the opportunity to share a journey in a personal relationship through dance collaboration. It was an overwhelming experience for being in contact with each other…it has been a nice experience to get to know you, and weird because I cannot touch you.” (USA)

“It feels strange to be part of a performance where we have built a relationship, yet cannot enjoy a post-performance social! Sharing the experience has enabled us to feel close.” (UK)

“The audience struggled to watch both live dancers and the screen sometimes.” (USA)

“It can be difficult for developing intimacy. The relationship between dancers is on display. The dancers have to try to build a connection with one another, talking in front of everyone, while watching their own image projected on a screen, and often hearing their voice in an echo.” (USA)

General Student Comments

- Ideas lost in translation-- Many ideas and thoughts were lost in translation over email because we did not understand each other’s intentions.
- Links to sessions -- Once I had links to the sessions, I would watch them during the week and piece together the phrase work.
- Audience accepted technical issues-- I received interesting and surprising feedback about our performance. Because of its structure, any technical difficulty that we experienced read to the audience as part of the piece.
- Learned about each other and technology-- This was a new way for me to create work and I think our performance reflected what we learned about each other and technology.
- Dancers were resourceful-- We dancers were resourceful, and willing to keep bending to the capabilities of the technology.
- Strangeness of navigating mediated presence- The strangeness of navigating mediated presence, the experience of connecting with another human being through a technological filter.
- Can’t sense subtle energetic shifts--You can’t really see them, you definitely can’t touch them, and you can’t sense those subtle energetic shifts that allow dancers to sync up their movement. ... At times, their movement feels purely mechanical to me. At the same time, certain human characteristics are amplified; one dancer leaves the microphone on and close to her mouth as she dances, and halfway through a lengthy piece, the sound of her breathing drowns out all other noise in the space.
- Exercise in letting go--This process has been an exercise in letting go, not only of the expectation of being able to work on any given day, but also of any previous ideas for the work because of communicating through this medium is so different than anything experienced before.
- Grasping for energy-- I feel like I am grasping for someone’s energy.
- Comfort with image-- I was becoming uncomfortably aware of her image at first, but then gradually settling into the experience of being larger than life.
- Prior experience helps-- The one choreographer who had the most prior experience... developed a very specific, cleanly geometric and gestural phrase. ... Even with this adjustment, he commented that teaching the phrase to the Liverpool counterparts took an inordinately long time.

Inspirations for future work

Despite the challenges, each choreographer felt that he or she had gained something positive from this process. Some comments regarding these benefits included:

“I had a connection with dancers half way around the world, and that this project enabled me to be connected to a global sense of a dance community”.

“This process increased confidence in using technology in work in the future”.

“This opportunity was valuable career skill building, enabling me to have at least a familiarity with technology that is becoming increasingly important in all fields”.

“As a dancer and a kinesthetically-oriented person, I still value personal contact over virtual. However these kinds of virtual connections offer a complementary education and communication tool that enable connections and information that would not be shared otherwise”.

Their suggestions for future projects included:

“Longer sessions might bring more humanity to the work. You would see the tiredness, the tension, readings that you get when you see a person”.

“If I worked with this technology again, I would most likely narrow down the scope of my project from the beginning. I also think that it would be helpful to have one person in charge of setting the choreography and the other performers could contribute input and creative ideas”.

Future work and continued considerations include:

- Exploration with students’ idea of new extended body through the use of technology and screen projection possibilities.
- Education of audiences regarding viewing of intermedial/telematic performances shown in theatre settings.
- Further networking at institutional level for support and help with development of software and resources.
- Software for audio/video (DVTS).
- Cameras (NTSC/PAL).
- Delay and noise/echo.
- Microphones for moving bodies.
- Time zones for scheduling.
- Development of dedicated technology space: designed to allow more productive use of time for researcher, teacher, and student.

Larger issues for Consideration

- How does the use of technology affect pedagogy and the creative process?
- Can traditional expectations be applied or do media-aesthetics need to be developed?
- How can this work be more widely used?
- How can international collaborations be developed into the regular curriculum?
- Where do we go for other technology?

Project 3  Woven Space Across the Pond

From previous two projects, we planned for the following

- Be restricted to semester 1 2009-10.
- Have a more developed structure to make best use of the shortened time period.
- Be a staff-directed work.
- Experiment with assisting the education of audience, by bringing them into key points of the process and involving them in dialogue with the creators and performers.

SEE INITIAL VERSION OF FOLLOWING

- 10 week project, 2 hours per week; 11 dancers; mixture of undergraduate and postgraduate
- One longer work created collaboratively by two academic tutors and one postgraduate MFA student
• Each choreographer worked uniquely with the technology and live performance, but collaboratively in order to create one cohesive piece
• Audience involved during process, providing performance feedback to help to shape the work for final evaluation
• Progressive development of use of the screen
• Exploration of use of the screen and live dance
  - entrance & exit to/from the screen
  - Exploration of live with virtual
  - use of perspective (near and far)
  - sharing authorship: choreographers, performers, audience

Auditence perspectives (Pauline)
Emerging questions

• How do issues/concepts regarding creating and teaching creative process and performance need to change/develop regarding integration of technology?
• What are the evolving aesthetic and pedagogical theories within a virtual and live shared environment?
• How is perception of creative work reshaped within this process?

Future goals and continued issues

• Creating an environment for creative and pedagogical concepts
• Providing live/real and virtual pathways for collaboration
• Offering international collaborative opportunities

Future goals
Artistic
• Layering of perception incorporated from previous projects
• Multiple audiences & performance sites: live and internet
• Audience & Performers are live and virtual
Pedagogic
Work with Ensemble semantic project and MIT Simile project (student-led design for technological tools to enhance learning for performers in a creative process)

• How does the use of technology affect pedagogy and creative process?
• Can traditional expectations be applied or do mediaesthetics need to be developed?
• How can this work be more widely used?
• How can international collaborations be developed into the regular curriculum?
• Where do we go for other technology?

Consistent goals
• Test software, hardware and traditional principles of choreography and pedagogy
• Develop creative work with the students
• Analyze creative and pedagogical opportunities and challenges

Changing goals
• Challenging software with creative and pedagogical issues
• Role of participants and of software/hardware in creative and pedagogical concepts
• Creating new ‘rules’ while exploring new spaces
• Addressing issues of perception for choreographer, performers and audiences in a telematic environment

Future project: 2010-2011

One site
Continue to Adobe Acrobat Connect Pro
Both researchers set up process/Kahlich returns to USA provide guidance over internet and serve as test internet audience
Possible audiences (live and internet) feedback
Possible connections with Temple students/faculty in process

Conclusion
This three year project has allowed both students and faculty at two institutions of higher education to work in an international venue, across timelines, within different curricular structures and over a three year time. The change in students can be seen as either a positive or limiting factor, but was the reality of the given institutions and the choice to work with higher level students. The common denominator of the directing faculty was a positive factor supporting both a continuing philosophical basis and an opportunity to develop methodology, process and goals. The researchers hope to continue this work and consider future projects with published results that will add to both the theory and questioning of dance pedagogy, creative process and learning theory in higher education.

Additional reflection on experience and feedback reveals other issues. These include both artistic and pedagogical aspects of this ongoing project. One important one is the different definitions and expectations of privacy between faculty and students, the latter of whom have grown up with technology embedded in their lives including twenty-four hour international news channels, public postings on youtube, wide ranging contact through social networks and mobile phones, which today are in fact traveling computers with access not only to other persons, but to information from almost anywhere and at anytime. Within this environment, there is a second important aspect, that of the connections between and boundaries of self and technology and how this plays out in the creative process and in the teaching/learning design and assessment. Thirdly, is the issue of authorship. Traditionally it was clear
who was the creator of a work of art, and was written into programs and even cemented legally through copyright. In projects such as this, it is the collaborative process that prevails, making this demarcation much more difficult, and perhaps less important. The next project will include a solely internet aspect which will present yet another layer in which there will be no live audience to see live dancers as in the previous three projects. The feedback of this new audience will be sought, analyzed and compared to that of the live audience who have observed the internet aspect along with a live element, albeit only one half of the dancers.

With these new aspects, more questions will come back regarding creating a work over the internet and how doing so as part of a pedagogical process is supported and challenged. It may be that the researchers need to find other or additional software and/or hardware to proceed with future experiments, particularly if they are to include additional international partners and more formally articulated in a curriculum. In any case, it is evident that this work exists in a world of ever evolving aesthetics and expectations regarding technology, artistic process and pedagogy. These projects continue to seek what Penley and Ross speak of a technoliteracy, an understanding of how technology works in order to make intelligent decisions regarding its use in specific situations and environments (Penley and Ross, 1991). The researchers agree with Travers and Decker, who state that this is the work of the classroom, or in the case of dance includes the studio laboratory and theatre. This undoubtedly challenges us to consider future planning and design of not only curricula, but the training of faculty who will teach it and the facilities in which the teaching and learning will take place, which in at least some cases will be radically different from what we have today. (http://radicalpedagogy.icaap.org/content/issue1_2/01travers1_2.html accessed 12 October 2010).

Referenced Material
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