Project Trans(m)it: Creating Dance Collaboratively via Technology

A Best Practices Overview

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Abstract:
Project Trans(m)it is a collaborative research project among a cohort of intercontinental artists exploring dance creation via technological platforms. This paper seeks to disseminate our practice-led research findings on "best practices" for transferring embodied information via technology, as well as posit how technology will shape and impact global dance education into the 21st century. Over the past two years, Project Trans(m)it has delved into the creation, production, and transference of movement between vast geological spaces in the production of a shared work, "Phase Two." Rehearsing weekly, the group rotated between various technological platforms, including but not limited to: Facebook Messenger, Gmail, Skype, Google Hangouts, Snapchat, and Rabbit. This collaborative interdisciplinary practice and knowledge exchange is a novel one stemming from the "global dance community," which is now an attainable and real phenomenon, shaped by the technologies allowing it to occur.

Keywords: Technology, Dance, Long-Distance Collaboration, Education, Choreography, Composition

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Introduction:

Project Trans(m)it has collaboratively created movement across long distances via technology for over two years. This paper presents an overview of Project Trans(m)it, a review of pre-existing research on technology in choreographic and dance educational environments, and the central question in our research: namely, what are the main learning outcomes from our process that can share and recommend for other practitioners interested in a long-distance collaboration via technology? To address this question, data was collected via the co-directors' post-rehearsal reflective journals and participant observations, interviews with other artists engaged in long-distance collaboration who joined the project during its research and development phase, and the post-performance reflections of Project Trans(m)it collaborators. Approaching the research from a grounded theory perspective, this data corpus was triangulated, coded, and analyzed using thematic analysis, yielding the findings of "best practices," which are presented as a set of main- and sub-themes within the paper. Finally, a short discussion of selected web-based platforms for use in long-distance collaborative processes is offered.

Project Trans(m)it: An Overview

Project Trans(m)it arose from a desire for Rebecca Weber (director of Somanaut Dance) to continue making work with colleagues Megan Mizanty (MizantyMoves) and Lora Allen (allendance) after moving to another country. In 2014, Weber was relocating from Philadelphia, PA to Coventry, England, to pursue a PhD in Dance Psychology at Coventry University's Centre for Dance Research (C-DaRE). At that same time, Mizanty was a freelance choreographer and performer in New York, and Allen was a freelance performer and choreographer in Philadelphia. We questioned: how could dancing together happen while living thousands of miles apart? We began to articulate our main research inquiries, to be investigated in a collaborative process that would become Project Trans(m)it. These included: the transmittance of embodied information, dance, and movement via technology; transference of choreographic ideas in different physical spaces; what is gained and lost in these transfers; and which technological platforms are best

used for which types of physical information transmission—as such, it led us to form a piece of practice-led action research.

Thus far, Project Trans(m)it has unfolded in phases: "Phase One" brought together the co-directors of Project Trans(m)it for the first time to begin the process of collaborating across distance via technology. In "Phase One," while we worked to discover the best tools for artistic collaborating, we used technology to collaborate on the production and promotion of a shared-bill performance of repertory work from our respective companies. “Phase One” was the first collaboratively produced performance for Project Trans(m)it.

In “Phase Two,” our research questions drove a process that was both practice-based and practice-led (Candy 2006) in which the experience of creating via technology was both the grounds for an immersive research practice and also fodder for the content of the work being created. Surprising insights emerged, methods of collaboration were tested and refined, and a variety of technological platforms for sharing practice were utilised in a research and development and rehearsal process spanning approximately 100 hours online. “Phase Two” was the choreographic work that resulted from this process, and was performed by the co-directors of the project in two sold-out performances in Philadelphia, PA in August 2016. The work was multidisciplinary in nature, featuring not only dance but also video projection and a bespoke sound score crafted from a variety of sources, including recordings from the rehearsal process. As a whole, “Phase Two” created an environment for the audience which reflected the experience of this type of technological collaboration—with all of its successes and failures, frustrations and magical moments of distinctly human connection. The performance itself was an experiment—three dancer/choreographers, having created and rehearsed entirely online, met in person for the first time and performed the work live for the first time at the show’s premiere. Two of the performers, Mizanty and Allen, had never danced together prior to the opening of this show. Much of the choreography created a haptic environment, which heavily featured partnering work, lifts, and intricate spatial patterns. The performance was a test of whether the

virtual collaboration was successful, and audiences responded very positively in post-show discussions.

"Phase Two" then entered the next level of experimentation—this time not only devising the work through virtual media—not only creating, but actually transmitting the already-crafted choreography and scoring to two new dancers an ocean away. Allen and Mizanty, both located in the US, transmitted their parts to two UK-based (London and Coventry) performers. "Phase Two" then repeated the experiment, putting together three dancers who had yet to perform together in a performance November 2016 at Coventry University's Centre for Dance Research in England. The event was well-attended by students, dance professionals, dance researchers, and lay-people/non-dancers alike. A lively Q&A was held with the audience following the performance, in which the dancers were again questioned about their experiences working through technology—evidencing the broader interest within the professional dance performance and research paradigms in working collaboratively through technology.

Technology, Dance, and Dance Education

In the last few years, there has been an explosion of activity in what could be called "dance tech." Research has shown the impact of technologies in dance education (Risner and Anderson 2008; Tomczak 2011; Lepczyk 2009; Anonymous 2004; Anderson 2012); as stimulus in dance creation/choreography and performance (MacGregor 2002; Norman 2006; Roy 2001; Schiller 2002; Schiphorst 1992; Mulis 2013; Siccio 2014; Valverde and Cochrane 2014; Anker 2008); in scoring, archiving, documentation, and annotation (Whatley and Varney 2009; Blades 2015; Karreman 2013); among others (Bleeker 2016). Technology has even been used internationally as a tool for professional networking (Barrios Solano 2016). Furthermore, the proliferation of internet-connected devices has radically altered how audiences consume creative content (Skybetter 2014: 83).

Over the past 40 years, a boom in digital technology has occurred, and now technology has

become a part of everyday life for all. Many art forms have embraced the engagement with the digital. Dance as a field, however, has been slower than other fields to embrace the ever-presence of digital technologies; dance researchers Whatley and Varney (2009: 52) note "the relatively slow uptake of digital technologies as creatively enabling tools in the choreographic process," a sentiment echoed by digital dance researcher Scott deLahunta, when he states, "computer related technologies have not attained the level of integration within the field of dance as with the other art forms for the obvious reason that as a material the body in motion does not lend itself to digitization" (2002: 66).

However, despite its slower uptake, convergence between dance and technology is an increasingly rich area of exploration for dance researchers and practitioners alike, and many artists have begun to explore the interchange of the digital and the physical in choreographic practice. Some well-researched examples of this type of practice include Siobhan Davies' online Dance Archive (Whatley and Varney 2009); William Forsythe's Synchronous Objects (see http://synchronousobjects.osu.edu/), which translated and transformed his work *One Flat Thing* into new objects drawing on a variety of disciplines; the "living archive" exploring notation from Emio Greco|PC's Capturing Intention project (see http://www.ickamsterdam.com); and Wayne McGregor's autonomous Choreographic Language Agents project (see http://www.randomdance.org/r_research), which created an interactive, intelligent software for dancemaking (deLahunta and Zuniga Shaw 2006, 53-62). DeLahunta asserts that these are in addition to previous "periodic convergences" with technology in other high profile choreographers' previous projects, including Merce Cunningham and Trisha Brown, noting that these convergences have typically occurred when technology became financially viable or accessible to the non-tech layperson (2002: 66). Each of these projects is an example of technology and dance intertwining, primarily by large-scale, well-known (and well-funded) choreographers. In these examples, the more choreographic practice-focused (as opposed to archive, annotation, or documentation-centric) projects typically feature technologies developed in conjunction with choreographic processes. Project Trans(m)it, however, takes as an imperative

focus the use of widely-available technologies, for the benefit of choreographers or students of choreography who are working outside of funding streams that might support the development of bespoke technologies in their process—a democratisation of technological collaborative practice which is of particular relevance in an educational setting where students may be exploring the boundaries of their own choreographic creativity.

Risner and Anderson (2008: 120) identify this accessibility as a particular barrier for students, stating, "technology terminology, software, and equipment hardware are often unfamiliar to students who have little or no technology experience. Students' technology capital and access, continue to be a challenge for technology integration generally," and note that dance education researcher Parrish warns: "Perhaps the most pervasive discord in integrating technology in education is access and inequity […] one third of all children (US) ages 3–17 live in a household without a computer. Not surprisingly, the White and Asian children are more likely to have Internet access than Black and Hispanic children. Issues of inequity are strikingly apparent" (Parrish, as cited in Risner and Anderson 2008: 120-121).

Teenagers entering pre-professional and higher-education dance training, and developing their choreographic voices in these settings, are particularly of importance when considering the future of choreographic practice and technology. Dancer Michael Stroup notes, "Dance education causes students to use creative thinking. With the adaptation of technology in dance, creative thinking is broadened," while dancer Adam Reynolds states, "Because society today heavily relies on technology, dance is structured by the technology that surrounds us" (both in Anonymous 2004: 11-12). Indeed, even the technologies with which teens engage regularly have shifted in recent years, from sole pursuits driving leisure activity in the past to ever-more connected social media ventures of the present: Sandra Bohman states, "While television dominated teenagers' daily leisure activities for years, they have now come to prefer engaging in social networks or surfing and chatting online as ways of spending their downtime. Watching

television is a leisure time activity that is increasingly done weekly rather than daily" (Bohmann and Schupp 2016: 558). Since platforms like Facebook and Twitter are now the primary leisure activity for teens, this dramatically and inevitably affects the choreographic practice of young dancers and choreographers. According to popular media, 24% of teenagers are online "almost constantly," with 71% of teens on Facebook, half the teenage population using Instagram and 4 out of 10 using Snapchat (Detwiler 2015: 106). No other way of spending leisure time has experienced such a rapid dynamic development as electronic entertainment media – the internet above all, followed by chats, gaming, and engagement with social networks (Bohmann and Schupp 2016: 559). Young dancers and artists have technology as a constant presence in their lives, and its presence does not gender-discriminate (ibid.). The recent Pew Generations 2010 study shows that "students entering college have rapidly increasing familiarity with online tools and social media skills that were not prevalent even five years ago. The use of social networking services (SNS) has become a dominant activity for college students since it emerged in the mid-1990s" (Anderson 2012: 21). Thus, students' approaches to personal creative philosophies will reflect this impact, and there is a high probability that this generation of students will have interest in utilizing the technologies they have to inform their choreographic pursuits. However, though most higher education dance programs include at least some opportunity to enhance students' digital skillsets (Whatley and Varney 2009: 52), the dance studio is often a rare departure from the onslaught of technology, a space where cell phones and other devices are traditionally asked to be silenced and disregarded until class ends. A dance educator must inevitably wonder: where does technology live in my dance space, and how can it be a positive presence in a creative practice? And what tools may best serve the integration of the digital within a choreographic practice?

Some dance educators have begun to probe how the inclusion of technology within the classroom might affect students' learning (Anderson 2012; Risner and Anderson 2008, Smith-Autard 2003; Doughty et al 2009). Anderson and Risner state, "Like other artistic disciplines, dance now intertwines technological elements in teaching, performance and

choreography. By virtue of these technological advances, it has become increasingly important that undergraduate dance students possess and maintain the technological skills and advances currently utilised for creating, producing, and documenting creative and scholarly endeavours" (2008: 113). Doughty et al (2009: 141) demonstrated "how new technology might figure as an integral agent in the creative process" though using the interactive technology *Isadora* in compositional processes, allowing technology to become "integral to the generation and formulation of ideas" which challenged and grew students' existing choreographic skills. Similarly, Popat (2001) illustrated how an interactive art-making process, enabling participation in choreography via internet communications, created an inclusive learning environment. Incorporating collaborative choreographic practices via a range of technological platforms not only allows students to hone their collaborative skills, but also the vital digital literacy demanded in today's professional sphere. Anderson and Risner continue, stating, "Pedagogical innovations that utilise computer-mediated resources such as video editing, graphic design, and website development software not only advance students' professional career opportunities, but also spark student and faculty creativity through opportunities for collaboration with artists and scholars from other disciplines, fusing technology with innovative approaches to the creative process and performance" (2008: 124). Whatley and Varney also cite digital technologies as having potential "in breaking down some of the perceived barriers; and particularly the extent to which future dance practitioners might be born into a new social and cultural context in which to make work" (2009: 52). Incorporating technology-based collaborative practice within a compositional or choreographic pedagogy is essential in preparing students for the professional contexts to follow their education; Project Trans(m)it's "Best Practices" can help students and educators alike identify which tools may be best suited for which aspects of their practice, and can help practitioners avoid some of the pitfalls of newcomers to incorporating technology.

And pitfalls there are several—even for students who may be technologically-adept in their social lives; as Whatley and Varney claim, "dancers are keen to explore new technologies and extend the vocabularies of the discipline when the opportunities arise. However, the limitations

are also real. [...] Unless dancers are able to enter receptively to new temporal and aesthetic spaces, the inadequacies of the technologies prohibit further discovery and can mean breakdown and frustration" (Whatley and Varney 2009: 54). This potential for "breakdown and frustration" is echoed in our own initial efforts in Project Trans(m)it, as well as in other artists' initial encounters in their own forays into technology (Oliver 2015, for example), and are the precise type of "learning curve" that the best practices findings outlined below seek to mitigate. Whatley and Varney continue, "However, as dance makers become more confident with a different creative process and develop productive working relationships with new creative partners, what might be experienced initially as a dichotomous force can present very real opportunities for interdisciplinary collaboration and convergence" (Whatley and Varney 2009: 54). These "new creative partners" may be collaborators from a much broader—even global—network of artists through the reach of the technological platforms, and may also be thought to include the technologies themselves (deLahunta 2005), as we outline below.

One thing that dancers and dance researchers have noted in the integration of technology with dance practice is a reticence towards the ways in which technology changes dancers' movement and sense of embodiment; much research has been dedicated to questions of embodiment in digitally-mediated spaces (see: Broadhurst and Machon 2011; Causey, Meehan, and O'Dwyer 2015; Bleeker 2016). For instance, the 2004 article, "Does the increasing use of technology in dance detract from the human element?" in the *Journal of Physical Education, Recreation, and Dance* puts these reservations upfront in the title as it seeks multiple dancers' perspectives on the question (Anonymous 2004). Whatley and Varney note that in tech-riddled practice, "Adjustments have to be made to the rehearsal environment, rehearsal schedules and working methods" (2009: 53)—and other such adjustments noted below—are all changes which have an effect on dancers' experiences and the creative choices they make, or don't make. In another example, Hiekyoung Kim explains that she feels it is wrong to use computers choreographically, because of the way it alters a dancer's movement, as she feels dancers are the ones to imbue movement with meaning (in Schiller 2002: 164-195).

However, developing an appreciation and approaching the technology as "a potential performing partner" (deLahunta 2002; deLahunta 2005) or choreographic agent (as in Oliver 2015), rather than a limitation, can mitigate some of this sense of unease with the process and facilitate full-body movement and a sense of embodiment co-created with the technological-platform-as-collaborator. Indeed, some researchers claim that engaging the digital may "affirm idiosyncratic expression" (Norman 2006: 23), or choreographers' unique creative voices. Incorporating technology, rather than being a nuisance in the generative process, can contribute to a broadening of not only an individual's' practice, but also the field itself. Indeed, "a widening knowledge base and acceptance by creators and audiences of 'experiencing' performance within radically re-defined spheres, will encourage a new generation of 'born digital' dancers and choreographers with the necessary skills and experience of digital performativity to enable them to develop and engage with much more intuitive digital tools to support and expand the horizons of the choreographic process" (Whatley and Varney 2009: 52). Connecting with other artists across vast distances through technology is an inevitable next step, for, as Negroponte stated over a decade ago, "We are not waiting on any invention. It is here. It is now. It is almost genetic in its nature, in that each generation will become more digital than the preceding one" (1995: 231). The impact of technology on choreographic practices has already begun; thus, it is imperative that as dance educators we consider how best to facilitate interdisciplinary investigations in dance-tech within choreographic training programs. For, "Choreography, as a conceptual and practical process, is continually changing, informed as much by the integration and exploitation of digital technologies in the making, documenting, and preservation of the work, as by the individual proclivities of dance artists" (Whatley 2015: 82).

Overcoming any preconceived qualms with how technology may impact a dancer's process may actually facilitate a deeper engagement with embodiment in technologically-supported practice. "The use of technology does not necessarily detract from the human element of any activity. It is

when people allow the technology to infiltrate their thinking that technology may hinder the human aspect of movement. This is true in dance, sport, and all forms of human movement. The trick is to use the science of technology to enhance the art of human movement, not stifle its creativity," states Dennis Docheff (Anonymous 2004: 11-12). Anderson also emphasises some of the benefits of working through technology in the dance classroom, stating, as social networking "usage evolves, web technologies have also evolved, giving students easy and intuitive access to previously complicated processes. For instance, laptops and smartphones equipped with built-in video cameras seamlessly integrate social media platforms, allowing users to record, edit, and share video with minimal effort" (2012: 21)—noting that the creative process is already, instantly and inherently, being documented in the process of collaborating over online networks. Furthermore, he states, "The ability to freely record, edit, and upload video to YouTube, Vimeo, Facebook, and Google+ allows for peers and teachers to view and comment on each student's progress in ways that augment the traditional classroom showing approach" (ibid: 22) —a benefit when considering the pedagogical implications for using technological processes in the choreographic and compositional classrooms.

Ultimately, as choreographer Wayne McGregor stresses, ''The integration of digital media facilitates an alternative form of artistic expression, which delights in the interplay of a range of content sources: live dance, virtual dance, digital film, 3D animation, intelligent lights, kinetic architecture, computer-generated music. Exploring the dialogue between dance and new media can provide us with challenging and refreshing stimuli for work. It gives valuable innovative ideas and shows us new perspectives" (2002: 330). Through a collaborative, rigorous process, dance's relationship to technology is a challenging, creative, and rewarding exploration. We hope this practice-led research can serve as a jumping off point for young choreographers to positively engage with technology, and that these best practice recommendations can facilitate their mining of digital and collaborative stimuli in their own practice.

Methods

Throughout the research and development, rehearsal, performance, and post-performance stages of "Phase Two," we took the subjective perspective, identified by Causey, Meehan, and O'Dwyer "which redefines technology as a phenomenon fundamentally intertwined with mankind" (2015: 2), and asked how this intertwining could be utilised in a collaborative choreographic environment as fundamentally as it infuses our everyday lives. Following grounded research methods, questions arose, were reflected upon, and refined as the process unfolded: for example, were we truly embodied when rehearsing with one another? How did the lack of a physical human next to us subvert the very idea of "dancing with" someone? How did our screens (the sheer size of them, the space they captured, and their positioning—fixed or not—within the rehearsal space) orchestrate the way we perceived and moved with others? In addition, our collaboration addressed the pre-consumption, or creation, of creative content. Early in the process, we realized there was no way to bracket our choreographic practice apart from the technologies through which it was being created. Rather, technology become a co-creator of the work, both informing and driving the content being made. Our collective's research into these themes is ongoing; for the purposes of this article, our main research question is: what are the learning outcomes from an online process that we can share and recommend for other practitioners interested in long-distance collaboration?

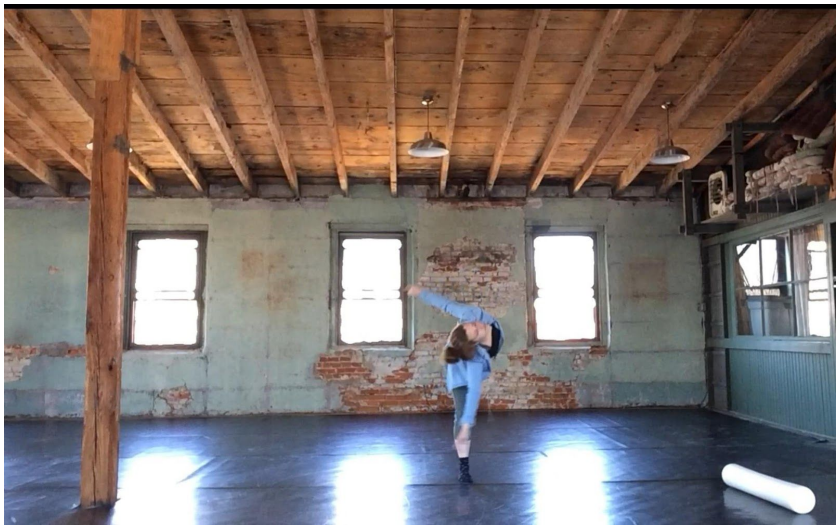
Candy (2006) distinguishes between *practice-based* and *practice-led* research, claiming that the former's contribution primarily takes the form of a creative artefact, whereas the latter seeks primarily to contribute new understandings about a practice to the field. As it is practice-based, our research supports the development of our collaborative performance work, "Phase Two," but another integral strand for Project Trans(m)it is this practice-led research, which, as Candy (2006: 1) notes, aims to develop "new knowledge that has operational significance for that practice." As such Project Trans(m)it, through a series of workshops and presentations has sought the dissemination of these "best practices" to other artists and educators interested in long-distance collaborative processes using technology—these will be the main focus of this article.

These best practice recommendations are themes that emerged from qualitative research drawing on data collected through ethnographic methods and open-ended interviews with participants during the creation and performance of "Phase Two." Data was collected through the project co-directors' reflective journals; their participant-observation during the creative process, performance, and the delivery of workshops on long-distance collaboration; open-ended interviews with the two dancers who performed in the UK presentation of "Phase Two;" as well as an interview with a director of an international "supergeographic"[1] dance theatre company, who along with his company members, digitally "joined" the co-directors for rehearsal during the research and development phase of the project.

Using the frameworks of concurrent data collection and analysis (Ezzy 2002), constant comparison of data throughout the course of research (Strauss & Corbin 1994; Ezzy 2002), and verification of theorising (Strauss & Corbin 1994) from grounded theory methodologies, Weber and Mizanty coded and analysed the data using thematic analysis (Braun & Clark 2006) to unearth the emergent themes shared between participants. Criteria for theme inclusion included that they were featured in multiple artists' data (a form of validity check) as well as occurring a minimum of ten times across the data corpus. Reliability was supported through cross-checks between the multiple data sources, and validity was evidenced through the aforementioned data triangulation as well as through peer debriefing and reflexivity, especially during a two-tiered process of coding conducted by both Mizanty and Weber. Themes were tested against Patton's (1990) dual criteria for judging categories on their internal homogeneity and external heterogeneity. These themes, which were inductive and often latent as well as semantic, were organised into three main themes, each with a few sub-themes. Main themes included: Practical Concerns, which encompasses both technical and space/location challenges; The Virtual Other, which addresses issues unique to working with others through technology; and Seeing the Limitations of Digital Technologies as Opportunities. These main- and sub-themes are presented

[1] This is the director's own term for his company, which has ensemble members spread across New York and Boston (USA), Gothenburg (Sweden), and Sydney (Australia).

in the following section of best practices.



"Suspended Moment in Time" Footage from Rehearsal, Dancer: Lora Allen, Photo Credit: Rebecca Weber (2016)

"Best Practices" in Collaboration via Technologies

Project Trans(m)it's "Phase Two" is one process that investigated how technology can be used to supplement—and even co-choreograph—the artistic process in dance. At the conclusion of "Phase Two," Project Trans(m)it co-directors have rehearsed approximately 100 hours online. As noted previously, after performing "Phase Two" in Philadelphia, the co-directors decided to transfer the movement, once again, to two dancers in England. These collaborators were both professional dancers in their early twenties, a British dancer (Dancer "A") based in London and a Polish dancer (Dancer "B") based in Coventry and rehearsing approximately ten hours online, as well as studying the previously recorded performance, before performed Phase Two with Weber to a live audience at Coventry University in November 2016. The following findings are a product of our "trial and error" mindsets as these rehearsals unfolded, with the goals of providing recommendations for any dance artists/educators interested in working in creative processes via technology, and offer excerpts from the co-directors' reflective journals and field notes as well as

post-performance reflections from Dancers A and B. These processes can aim toward creating an evening-length work, workshopping movement composition between two classrooms in different countries, or experimenting with various web-based platforms to transmit choreography. These findings are shared here so that others who wish to collaborate via technology may apply in their own practice.

Practical Concerns

- ***Pre-planning online rehearsals and what to expect***

Pre-planning for rehearsals is essential in this process. Expect and plan for 15 minutes minimum at the start of rehearsal to be used for troubleshooting. We ran into multiple rehearsals where someone's wifi connection was weak, when the application we were using was not supported on someone's device, or general audio/visual capabilities were not working as usual. Plan time not only for tech troubleshooting, but also for any traditional to warm-up or to touch base with your collaborators before fully diving into rehearsal. This dynamic may yield the greatest chances of "full dancing" within shared digital spaces.

Furthermore, if you are collaborating with 3+ dancers, and internet connectivity is lost, establish which collaborator will "re-connect" everyone. Although it may seem insignificant, it may save minutes of your rehearsal time to avoid multiple people calling at once (which may be important if you are paying for hourly rehearsal space).

- ***Consider locations and time zones***

Although seemingly obvious factors, double check your time-zones for confirming the correct rehearsal time. For example, Project Trans(m)it co-directors encountered a particularly important rehearsal during a Daylight Savings Time shift, which occurs on different dates in different countries. It is also beneficial to consider differing countries' holidays and resulting restrictions in access to space. Lastly, each rehearsal space should offer a stable internet connection.

"The Virtual Other"

- ***Visuals of your collaborators may be lost when dancing far away from the screen, but having "others" in the space will remain.***

Multiple data sources reflected upon the phenomena of "dancing alone" versus "dancing with someone." For example, one co-director's journal entry reads "At times when [Allen] is talking to me (and I am still moving), she becomes something of a disembodied voice; I can't see her, but the audio instructions keep me moving. There is still accountability with having 'someone else' in the room, observing what you are doing."

- ***Cultivate a heightened sense of imagery***

Since you will not be with your collaborators in the same physical space, we have found it is integral to acquire the muscle memory of learning a piece, while simultaneously constantly imagining others in the space with you. This sophisticated level of "learning while imagining" requires taking into account the "invisible others" in your space. Dancer B commented on her "relation to other performers: firstly through imagination of their presence in the room and than while we were sharing the same space." A co-director's journal entry notes: "We are constantly imagining. We envision being in contact with one another: [Allen's] hand pushes the nape of my neck forward and down—the initiation for the movement. I imagine taking [Weber's] weight as I lean to the side (her hip aligned with mine)." You may be giving weight to them, taking their weight, moving into and away from their kinespheres. Stay flexible in your understanding of where they may be in space and practice vigilance in being a multi-aware, problem-solving mover.

- ***Negotiate leadership***

We found rehearsals between multiple screens to run the smoothest when there was one designated choreographer/leader/facilitator. For example, one director's journal entry reads, "As acting facilitator for this rehearsal, I verbally instruct them to move 'upstage or downstage,' so that their bodies match up in size on my screen. As they begin their movement simultaneously, I imagine them in the same space, looking for opportunities where one can cross in front of/behind/under/over/across one another." Though the "leader" role may switch during the process, an outside choreographic eye moves the online rehearsal along with clarity. We found it

to be the most easeful dynamic.

- ***Practice verbally stating directions in space to your dancers: right/left, downstage right/downstage left, upstage right/upstage left***

While working in a(n often mirrored) digital screen, it is probable that directions and points of initiations (right arm, left arm, etc.) may be misconstrued. If you are working as the director/choreographer, it is advised to often re-iterate which limb or side of the body is moving, and what direction you are facing. For example, one co-director's process notes offered the following direction: "My right elbow initiates the turn, as I moved downstage right. Then, turn over your right shoulder to face upstage left." Check in more often than you would in a "traditional" rehearsal setting where dancers share the same physical space.

During her post-performance reflection, Dancer A spoke of a "heightened awareness" of spatiality during the rehearsal process, stating:

> "You're working differently, so the things that you would learn if you were in a studio with dancing bodies doesn't become a part of your rehearsal process unless you actively attempt to include this, e.g. spatial relationships, contact with others, visual cues. But these things are present in the performance and so you need a strategy to be able to embody, learn and know these."

Dancer A also acknowledged needing a more rigorous thought process in remembering the movement and her theoretical distance to bodies dancing "next to her." She further states:

> "I really enjoyed the challenges that working through technology presented and found that it gave me new ways of how I think of making. I particularly feel that in a time when it is becoming harder to find space and time to come together, it is a really valuable tool – but then I also value the importance and beauty of then being able to come together in space after rehearsing and working through technology."

- ***Allow for fluidity and change in movement when meeting with "the virtual other" for the first time in person***

When meeting in person, after so many hours of rehearsing online, it became an inevitability to

adjust and work with an open understanding of movements. During our technical rehearsals, we ran into moments of realizing different conceptions of spatiality, directions and timing (even with the majority of our comprehension being on par with one another). For dancers who have not previously worked together, an adjustment to one's concept of a partner's size or weight may be necessary. For example, upon meeting for the first time, one co-director remarked on her surprise at the tallness of another collaborator, an aspect she had not fully envisioned when working together digitally.

Seeing the Limitations of Virtual Technologies as Opportunities

- ***Though utilizing technology, expect and plan for movement to change and 'fall through the cracks.'***

It will benefit your creative process as a whole, if you approach movement generation via technology as collaborative with your dancers. If you are teaching a phrase that you made, expect certain qualities, tempos, and directions of the movement to possibly change (subtly or dramatically) when passed via technology to your dancers. Embrace that possibility from the beginning, and use it to your advantage (e.g. it can produce an instant "theme and variation" in your movement, and may yield unexpectedly fresh movement sequences). An excerpt from one journal entry reads: "After transmitting, [Mizanty] finds it arduous to pass along the *exact same* movement; somewhere in the teaching period—perhaps from a variety of technological and spatial factors—subtle movement qualities shift, initiation points may change, small directional shift may change, etc. Just like the game of telephone, [where] words and pronunciations may be understood differently, forming a new word or phrase and thus a new understanding of what is being said [...] our movements change, and in the lense and limits of our technological mechanisms, we are 'at the mercy' of our devices. Tiny dance reconstructions abound."

If you are making work with multiple people spread across geographical distances, the first time coming together live may feel staggering. Moments and cues may be lost or gained, timing and spatial patterns may be misconstrued, and points of contact/partnering may renegotiate themselves in real time/space. Trust that it will happen, and use it to your advantage.

- ***You can use technology not only as a conduit, but as an informer and inspirer to your process***

You will be co-existing in multiple spaces, and these spaces will inevitably differ from one another in depth, length, amount of light, texture of the floor, etc. These spaces can work to create tension between collaborators, and also to inform how your process may unfold. The sensual components—touch, smell, sight, sound—can be intriguing impetus for your work.

The digital dynamic of pauses and fast forwards enables something not possible in "real time/space" rehearsals. As Broadhurst and Machon note, technology "morphs and extends the performing body, thus engendering an altered corporeal experience" (2011: xvi)—an altered experience that can serve as a stimulus in your movement research and development. Project Trans(m)it has worked to use these "blips" to our creative advantage; for example, Weber used various forms of "dropping out" within an improvisational score in her section. This was inspired by the moments during the rehearsals where someone would temporarily freeze—or their call would be "dropped" completely. We have had countless moments of patiently (or impatiently) waiting for our internet connections to "catch up" with our moving bodies in space. Instead of viewing this as a negative factor in the creative process, we attempted to embrace the temporal breaks as much as possible. In many ways, the technology itself formed a fourth collaborator, and, as deLahunta (2005) terms, "a potential performing partner."

Comments on Specific Web-based Platforms for Long-Distance Collaboration:

Previous research on technology in choreographic practice (e.g. *Isadora* from Doughty et al 2009) has generally utilized technology that is bespoke or requires installation fees. Project Trans(m)it, however, focused on using existing, free online platforms, to facilitate accessibility for any artists wishing to collaborate via technology. Limited-access platforms were investigated in preliminary phases but discarded as tools of transmission for this reason. For instance, some popular options, e.g. Apple's "Facetime" are not included because of its limitation to Apple devices (iPhone, Macbook, iPad, etc.), which may be prohibitively expensive for some students

and/or practitioners. The following freely-available and device non-specific platforms were found most helpful during our process.

1.) Snapchat

Provides quick, fleeting and close-up movements; Snapchat can create compelling and immediate movement prompts for your dancers. Since the images can be fragmented body parts, it can also create theme and variation amongst your multiple collaborators. It can help choreographers avoid habitual facings or approaches to crafting audiences' perspectives. Snapchats can be downloaded to your phone for multiple viewings using other apps, or saved under your "MyStory" for a continuous loops of clips.

2.) *Gmail*

Text prompts from this platform can also create immediate theme and variation, as well as inclusive creative tasks for collaborators. Below is an example of a prompt sent via Gmail to participants of Decoda's Groundwork workshop series (Coventry University, England, March 2016):

Please follow these instructions to create a movement sequence:

Stand.

Raise your right hand and place it in the center of your chest, above your heart. Push yourself softly back, enough so your feet take one or two steps back. Slide your right hand to your left shoulder and push, causing you to turn around. When you turn, freeze and count to three. Then, swivel your right hip around to face the way you started. Step to the side with your left leg, bending your knee and swaying your upper body. Come back to standing, the way you started. Hop three times - like you are on a pogo stick - to your right diagonal. Reach your left arm, snakelike, up to the ceiling. Let the rest of your body follow upwards. Take a deep breath. When you exhale, crumple your entire body to the floor.

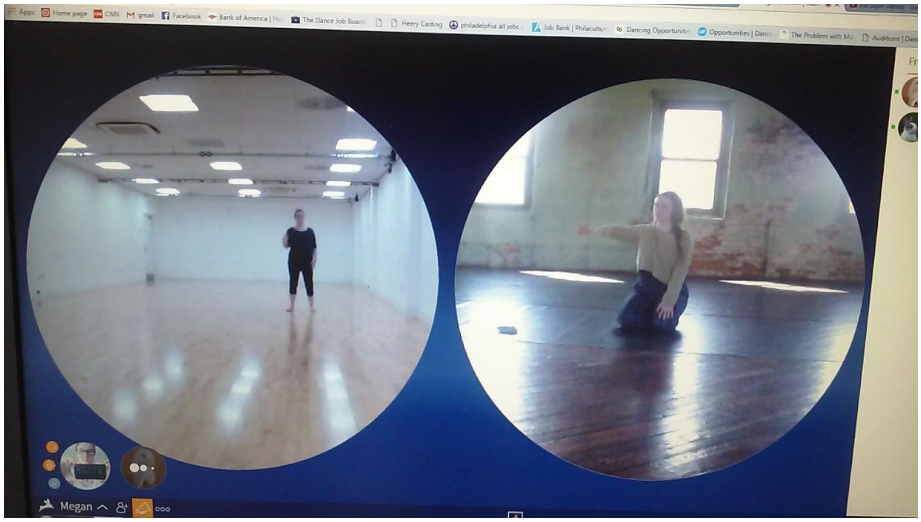
Footage from "Groundwork" (Coventry, UK) 2015. Participants using text to create movement

Participants created movement independently before sharing their work to one another. They discussed the similarities and differences to their decisions in making their phrases, and progressed into combining the prompts into various contact-based duets, evidencing the diversity that can occur in textual scoring, instantly shared through digital platforms.

3.) *Rabb.it*

This online video chatting platform—comparable to Google Hangouts and Skype—is unique in that it allows multiple users to see one another simultaneously. We found viewing two dancers at once (from different locations) helpful, and it also enabled them to be the same size on-screen.

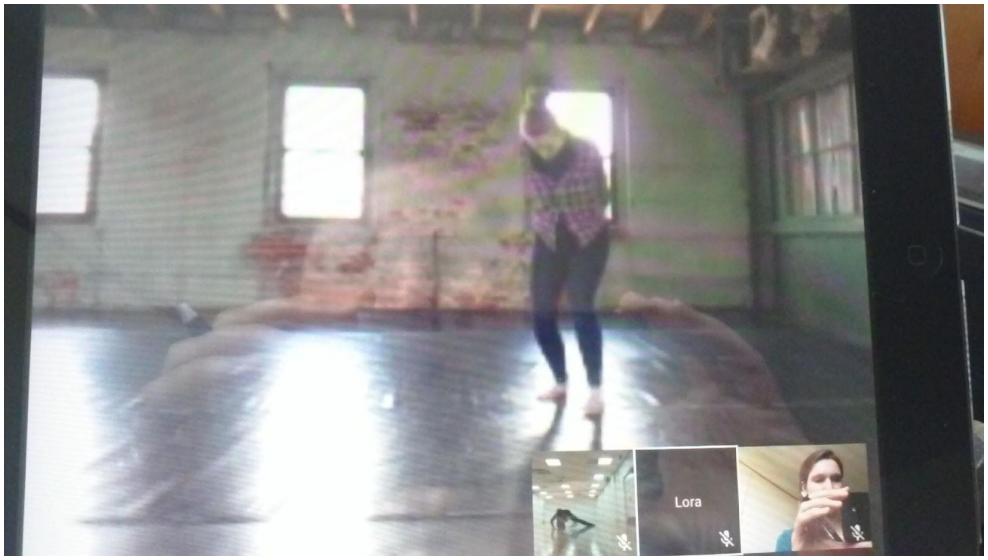
Both of these aspects aided the external choreographer in visualising the dancers' interactions for when they were in a shared location.



Screenshots from rehearsal on "Rabb.it" Photo Credit: Megan Mizanty (2016)

4.) *Google Hangouts*

Hangouts enables a "full screen" image of one of your collaborators at a time (the other participants are shown in small squares in the corner of your screen). You can program your hangouts to show the largest screen of the person talking. This can allow for quick shifts between who is the largest visible mover on the screen, and closer inspection of one performer for guidance, corrections, etc.



Online Rehearsal held via Google Hangouts. Photo credit: Megan Mizanty (2016)

4.) *Skype*

Most comparable with Google Hangouts, Skype provides full-screen images of one dancer at a time. If you are using anything other than a laptop (cell phone, ipod, etc), visuals may not be available if there are more than two participants.

Online Rehearsal held via Skype Photo credit: Rebecca Weber (2016)

Conclusions

Dance is encountering exciting new territories with technology in the 21st century. Collaborating with others long distance, via technological platforms, is a possible and obstacle-riddled phenomenon. However, following our research into this process, we discovered a set of 'best practices' which reflect themes of Practical Concerns, the Virtual Other, and Seeing the Limitations of Digital Technologies as Opportunities. By following these recommendations, choreographers working via technology can generate unexpected and fresh movement; provide a rigorous intellectual, physical, and creative experience for dancers involved; and cultivate new collaborative ventures worldwide. These theoretical ensembles—spanning towns, countries and continents—are now available to anyone with a space to move and a wifi connection. This dynamic has the potential to be one of the newest and most engaging experiences for young choreographers, artists that are already engrossed in their respective technological devices. By practicing choreographic skills through technology from a young age, they can begin the

negotiate and bridge the spaces between embodiment and the digital, opening new and unchartered territories for dance in the future.

Biographies

Lora Allen is the artistic director of allendance. Her work has been presented throughout the US and abroad. She was an artist- in- residence with Birds on a Wire Dance Theater's HATCH program, Wilson College (PA), University of Kansas (KS), and a visiting speaker at DeSales University (PA) and The College of Charleston (SC). Allen is the director of The Iron Factory, a space that works to support the challenging and experimental work of performance artists. Allen has danced for artists Tori Lawrence + Co, FRED Dance Co., From The Earth Dance Co., Darcy Lyons, Nicole Bindler (PHL), Isabel Gotkowsky (NYC), Jenny Sawyer (PHL), and Invisible River (PHL). She was the managing director for The Leah Stein Dance Company. Lora has a BA in Dance from DeSales University. www.allendance.org. www.theironfactory.org.

Megan Mizanty, MFA, is the artistic director of MizantyMoves Dance Works. Her work bridges live sound with movement, entangling these disciplines with collaboration at its heart. She has danced professionally with companies in New York and Philadelphia. She received a BA in English Literature from Ithaca College, and an MFA in Dance from Temple University. Mizanty was a Dance in Leadership Scholarship recipient from Dance/USA, awarded by the Andrew Mellon Foundation. She is currently a Visiting Assistant Professor of Dance at Wilson College. www.mizantymoves.com.

Rebecca Weber, MFA, MA, RSME investigates the intersections between dance, science, and Somatics. Weber is a PhD candidate at Coventry University's Centre for Dance Research while working on the Leverhulme Trust funded project, "In the Dancer's Mind." Her research is

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